

Namespace HwpxIO

Classes

[HwpxDocument](#)

[PropertiesEqualityComparer](#)

Class HwpDocument

Namespace: [HwpIO](#)

Assembly: HwpIO.dll

```
public class HwpDocument : IHwpDocument, IHwpObject
```

Inheritance

[object](#) ← HwpDocument

Implements

[IHwpDocument](#), [IHwpObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.GetCharShapeType\(HwpDocument, CharShapeType\)](#) ,
[HwpDocumentExtensions.GetCharShapeType\(HwpDocument, Action<CharShapeTypeBuilder>, CharShapeType\)](#) ,
[HwpDocumentExtensions.GetCharShapeType\(HwpDocument, string\)](#) ,
[HwpDocumentExtensions.GetFont\(HwpDocument, FontfaceTypeLang, FontfaceTypeFont\)](#) ,
[HwpDocumentExtensions.GetFont\(HwpDocument, FontfaceTypeLang, Action<FontBuilder>, FontfaceTypeFont\)](#) ,
[HwpDocumentExtensions.GetFont\(HwpDocument, FontfaceTypeLang, string\)](#) ,
[HwpDocumentExtensions.GetStyle\(HwpDocument, StyleType\)](#) ,
[HwpDocumentExtensions.GetStyle\(HwpDocument, Action<StyleTypeBuilder>, StyleType\)](#) ,
[HwpDocumentExtensions.ItemCountValidate\(HwpDocument, bool\)](#) ,
[HwpDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[HwpDocumentUtils.GetCharProperties\(IHwpDocument\)](#) ,
[HwpDocumentUtils.GetFontfaces\(IHwpDocument\)](#) ,
[HwpDocumentUtils.GetParaProperties\(IHwpDocument\)](#) ,
[HwpDocumentUtils.GetStyles\(IHwpDocument\)](#) ,
[HwpDocumentUtils.GetTabProperties\(IHwpDocument\)](#) ,
[HwpDocumentUtils.TextExtraction\(IHwpDocument, TextWriter\)](#) ,
[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#)

Properties

ApplicationSetting

```
public HWPAplicationSetting ApplicationSetting { get; set; }
```

Property Value

[HWPAplicationSetting](#)

BinData

```
public Dictionary<string, byte[]> BinData { get; set; }
```

Property Value

[Dictionary](#) <[string](#), [byte](#)[]>

ContainerRdf

```
public ContainerRdf ContainerRdf { get; set; }
```

Property Value

[ContainerRdf](#)

ContentHpf

```
public ContentHpf ContentHpf { get; set; }
```

Property Value

[ContentHpf](#)

HeadType

```
public HWPMHeadType HeadType { get; set; }
```

Property Value

[HWPMHeadType](#)

Mime

```
public string Mime { get; set; }
```

Property Value

[string](#)

OcfContainer

```
public OcfContainer OcfContainer { get; set; }
```

Property Value

[OcfContainer](#)

OdfManifest

```
public OdfManifest OdfManifest { get; set; }
```

Property Value

[OdfManifest](#)

PreviewImage

```
public byte[] PreviewImage { get; set; }
```

Property Value

[byte](#)[]

PreviewText

```
public string PreviewText { get; set; }
```

Property Value

[string](#)

Scripts

```
public Dictionary<string, string> Scripts { get; set; }
```

Property Value

[Dictionary](#)<[string](#), [string](#)>

SectionTypes

```
public List<SectionType> SectionTypes { get; set; }
```

Property Value

[List](#)<[SectionType](#)>

Version

```
public HCFVersion Version { get; set; }
```

Property Value

[HCFVersion](#)

Methods

CreateEmpty()

빈 문서를 생성합니다.

```
public static HpxxDocument CreateEmpty()
```

Returns

[HpxxDocument](#)

GetBinData(string)

```
public byte[] GetBinData(string id)
```

Parameters

id [string](#)

Returns

[byte](#)[]

GetBorderFillType(BorderFillType, bool)

```
public BorderFillType GetBorderFillType(BorderFillType necessity, bool addIfMissing = true)
```

Parameters

necessity [BorderFillType](#)

addIfMissing [bool](#)

Returns

[BorderFillType](#)

GetBorderFillType(Action<BorderFillTypeBuilder>, bool)

```
public BorderFillType GetBorderFillType(Action<BorderFillTypeBuilder> necessity, bool addIfMis:
```

Parameters

necessity [Action](#)<[BorderFillTypeBuilder](#)>

addIfMissing [bool](#)

Returns

[BorderFillType](#)

GetCharShapeType(CharShapeType, bool)

```
public CharShapeType GetCharShapeType(CharShapeType necessity, bool addIfMissing = true)
```

Parameters

necessity [CharShapeType](#)

addIfMissing [bool](#)

Returns

[CharShapeType](#)

GetCharShapeType(Action<CharShapeTypeBuilder>, bool)

```
public CharShapeType GetCharShapeType(Action<CharShapeTypeBuilder> necessity, bool addIfMissing)
```

Parameters

necessity [Action](#)<[CharShapeTypeBuilder](#)>

addIfMissing [bool](#)

Returns

[CharShapeType](#)

GetFont(FontfaceTypeFont, FontfaceTypeLang, bool)

```
public FontfaceTypeFont GetFont(FontfaceTypeFont necessity, FontfaceTypeLang lang, bool addIfMissing)
```

Parameters

necessity [FontfaceTypeFont](#)

lang [FontfaceTypeLang](#)

addIfMissing [bool](#)

Returns

[FontfaceTypeFont](#)

GetParaShapeType(ParaShapeType, bool)

```
public ParaShapeType GetParaShapeType(ParaShapeType necessity, bool addIfMissing = true)
```

Parameters

necessity [ParaShapeType](#)

`addIfMissing` [bool ↗](#)

Returns

[ParaShapeType](#)

GetStyleType(StyleType, bool)

`public StyleType GetStyleType(StyleType necessity, bool addIfMissing = true)`

Parameters

`necessity` [StyleType](#)

`addIfMissing` [bool ↗](#)

Returns

[StyleType](#)

GetStyleType(Action<StyleTypeBuilder>, bool)

`public StyleType GetStyleType(Action<StyleTypeBuilder> necessity, bool addIfMissing = true)`

Parameters

`necessity` [Action ↗ <StyleTypeBuilder>](#)

`addIfMissing` [bool ↗](#)

Returns

[StyleType](#)

GetTabDefType(TabDefType, bool)

```
public TabDefType GetTabDefType(TabDefType necessity, bool addIfMissing = true)
```

Parameters

necessity [TabDefType](#)

addIfMissing [bool](#)

Returns

[TabDefType](#)

GetTabDefType(Action<TabDefTypeBuilder>, bool)

```
public TabDefType GetTabDefType(Action<TabDefTypeBuilder> necessity, bool addIfMissing = true)
```

Parameters

necessity [Action](#)<[TabDefTypeBuilder](#)>

addIfMissing [bool](#)

Returns

[TabDefType](#)

Class PropertiesEqualityComparer

Namespace: [HpxIO](#)

Assembly: HpxIO.dll

```
public class PropertiesEqualityComparer : IEqualityComparer<object>
```

Inheritance

[object](#) ← PropertiesEqualityComparer

Implements

[IEqualityComparer](#) <[object](#)>

Inherited Members

[object.Equals\(object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Methods

Equals(object, object)

```
public bool Equals(object x, object y)
```

Parameters

x [object](#)

y [object](#)

Returns

[bool](#)

GetHashCode(object)

```
public int GetHashCode(object obj)
```

Parameters

obj [object](#)

Returns

[int](#)

Namespace HwpxIO.Builder

Classes

[BuilderExtensions](#)

[ContainerRdfBuilder](#)

[ContentHpfBuilder](#)

[HCFVersionBuilder](#)

[HWPAplicationSettingBuilder](#)

[HwpxBuilder](#)

[HwpxBuilderException](#)

[OcfContainerBuilder](#)

Interfaces

[IBuilderableModel<T>](#)

[ICopyToBuilderableModel<T>](#)

Class BuilderExtensions

Namespace: [HwpIO.Builder](#)

Assembly: HwpIO.dll

```
public static class BuilderExtensions
```

Inheritance

[object](#) ← BuilderExtensions

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Methods

CreateTable(IHwpBuilder, Action<TableBuilder>)

```
public static TableType CreateTable(this IHwpBuilder hwpBuilder, Action<TableBuilder> builder
```

Parameters

hwpBuilder [IHwpBuilder](#)

builderAction [Action](#)<[TableBuilder](#)>

Returns

[TableType](#)

CreateText(IHwpBuilder, Action<PTypeRunTBuilder>)

```
public static PTypeRunT CreateText(this IHwpBuilder hwpBuilder, Action<PTypeRunTBuilder> bui
```

Parameters

hpxBuilder [IHpxBuilder](#)

builderAction [Action](#)<[PTypeRunTBuilder](#)>

Returns

[PTypeRunT](#)

CreateText(IHpxBuilder, string, string)

```
public static PTypeRunT CreateText(this IHpxBuilder hpxBuilder, string text, string charStyleIDRef)
```

Parameters

hpxBuilder [IHpxBuilder](#)

text [string](#)

charStyleIDRef [string](#)

Returns

[PTypeRunT](#)

EnclosingWithPType(PTypeRunT, Action<PTypeBuilder>, Action<PTypeRunBuilder>, IHpxBuilder)

```
public static PType EnclosingWithPType(this PTypeRunT t, Action<PTypeBuilder> pTypeBuilderAction, Action<PTypeRunBuilder> pTypeRunBuilderAction, IHpxBuilder hpxBuilder)
```

Parameters

t [PTypeRunT](#)

pTypeBuilderAction [Action](#)<[PTypeBuilder](#)>

pTypeRunBuilderAction [Action](#)<[PTypeRunBuilder](#)>

hpxBuilder [IHpxBuilder](#)

Returns

[PType](#)

EnclosingWithPType(TableType, Action<PTypeBuilder>, Action<PTypeRunBuilder>, IHpxBuilder)

```
public static PType EnclosingWithPType(this TableType table, Action<PTypeBuilder> pTypeBuilder, Action<PTypeRunBuilder> pTypeRunBuilder, IHpxBuilder hpxBuilder)
```

Parameters

table [TableType](#)

pTypeBuilderAction [Action<PTypeBuilder>](#)

pTypeRunBuilderAction [Action<PTypeRunBuilder>](#)

hpxBuilder [IHpxBuilder](#)

Returns

[PType](#)

EnclosingWithParaList(PType, Action<ParaListTypeBuilder>, IHpxBuilder)

```
public static ParaListType EnclosingWithParaList(this PType pType, Action<ParaListTypeBuilder> paraListTypeBuilderAction, IHpxBuilder hpxBuilder)
```

Parameters

pType [PType](#)

paraListTypeBuilderAction [Action<ParaListTypeBuilder>](#)

hpxBuilder [IHpxBuilder](#)

Returns

[ParaListType](#)

EnclosingWithParaList(PTypeRunT,
Action<ParaListTypeBuilder>, Action<PTypeBuilder>,
Action<PTypeRunBuilder>, IHwpxBUILDER)

```
public static ParaListType EnclosingWithParaList(this PTypeRunT t, Action<ParaListTypeBuilder>
```

Parameters

t [PTypeRunT](#)

paraListTypeBuilderAction [Action](#)<ParaListTypeBuilder>

pTypeBuilderAction [Action](#)<PTypeBuilder>

pTypeRunBuilderAction [Action](#)<PTypeRunBuilder>

hwpxBUILDER [IHwpxBUILDER](#)

Returns

[ParaListType](#)

EnclosingWithParaList(TableType,
Action<ParaListTypeBuilder>, Action<PTypeBuilder>,
Action<PTypeRunBuilder>, IHwpxBUILDER)

```
public static ParaListType EnclosingWithParaList(this TableType table, Action<ParaListTypeBuilder>
```

Parameters

table [TableType](#)

paraListTypeBuilderAction [Action](#)<ParaListTypeBuilder>

pTypeBuilderAction [Action](#)<PTypeBuilder>

pTypeRunBuilderAction [Action<PTypeRunBuilder>](#)

hpxBuilder [IHpxBuilder](#)

Returns

[ParaListType](#)

EnclosingWithRun(PTypeRunT, CharShapeType, IHpxBuilder)

```
public static PTypeRun EnclosingWithRun(this PTypeRunT t, CharShapeType charShapeType, IHpxBu:
```

Parameters

t [PTypeRunT](#)

charShapeType [CharShapeType](#)

hpxBuilder [IHpxBuilder](#)

Returns

[PTypeRun](#)

EnclosingWithRun(PTypeRunT, Action<PTypeRunBuilder>, IHpxBuilder)

```
public static PTypeRun EnclosingWithRun(this PTypeRunT t, Action<PTypeRunBuilder> pTypeRunBuild:
```

Parameters

t [PTypeRunT](#)

pTypeRunBuilderAction [Action<PTypeRunBuilder>](#)

hpxBuilder [IHpxBuilder](#)

Returns

[PTypeRun](#)

EnclosingWithRun(PTypeRunT, string, IHwpxBuilder)

```
public static PTypeRun EnclosingWithRun(this PTypeRunT t, string charPrIDRef, IHwpxBuilder hwp
```

Parameters

t [PTypeRunT](#)

charPrIDRef [string](#)

hwpxBuilder [IHwpxBuilder](#)

Returns

[PTypeRun](#)

EnclosingWithRun(TableType, Action<PTypeRunBuilder>, IHwpxBuilder)

```
public static PTypeRun EnclosingWithRun(this TableType table, Action<PTypeRunBuilder> pTypeRunB
```

Parameters

table [TableType](#)

pTypeRunBuilderAction [Action](#)<[PTypeRunBuilder](#)>

hwpxBuilder [IHwpxBuilder](#)

Returns

[PTypeRun](#)

GetOrAddIfMissing(IHwpBuilder, BorderFillType)

```
public static BorderFillType GetOrAddIfMissing(this IHwpBuilder hwpBuilder, BorderFillType border)
```

Parameters

hwpBuilder [IHwpBuilder](#)

border [BorderFillType](#)

Returns

[BorderFillType](#)

GetOrAddIfMissing(IHwpBuilder, CharShapeType)

```
public static CharShapeType GetOrAddIfMissing(this IHwpBuilder hwpBuilder, CharShapeType charShape)
```

Parameters

hwpBuilder [IHwpBuilder](#)

charShape [CharShapeType](#)

Returns

[CharShapeType](#)

GetOrAddIfMissing(IHwpBuilder, FontfaceTypeFont, FontfaceTypeLang)

```
public static FontfaceTypeFont GetOrAddIfMissing(this IHwpBuilder hwpBuilder, FontfaceTypeFont fontfaceTypeFont, FontfaceTypeLang fontfaceTypeLang)
```

Parameters

hwpBuilder [IHwpBuilder](#)

`font` [FontfaceTypeFont](#)

`lang` [FontfaceTypeLang](#)

Returns

[FontfaceTypeFont](#)

GetOrAddIfMissing(IHwpxBUILDER, ParaShapeType)

```
public static ParaShapeType GetOrAddIfMissing(this IHwpxBUILDER hwpxBUILDER, ParaShapeType paraShapeType)
```

Parameters

`hwpxBUILDER` [IHwpxBUILDER](#)

`paraShapeType` [ParaShapeType](#)

Returns

[ParaShapeType](#)

GetOrAddIfMissing(IHwpxBUILDER, StyleType)

```
public static StyleType GetOrAddIfMissing(this IHwpxBUILDER hwpxBUILDER, StyleType style)
```

Parameters

`hwpxBUILDER` [IHwpxBUILDER](#)

`style` [StyleType](#)

Returns

[StyleType](#)

GetOrAddIfMissing(IHwpxBUILDER, TabDefType)

```
public static TabDefType GetOrAddIfMissing(this IHpxBuilder hpxBuilder, TabDefType tab)
```

Parameters

hpxBuilder [IHpxBuilder](#)

tab [TabDefType](#)

Returns

[TabDefType](#)

GetOrAddIfMissing(BorderFillType, IHpxBuilder)

```
public static BorderFillType GetOrAddIfMissing(this BorderFillType border, IHpxBuilder hpxBu:
```

Parameters

border [BorderFillType](#)

hpxBuilder [IHpxBuilder](#)

Returns

[BorderFillType](#)

GetOrAddIfMissing(BorderFillType, HpxxDocument)

```
public static BorderFillType GetOrAddIfMissing(this BorderFillType border, HpxxDocument hpxDoc
```

Parameters

border [BorderFillType](#)

hpxxDocument [HpxxDocument](#)

Returns

[BorderFillType](#)

GetOrAddIfMissing(CharShapeType, IHpxBuilder)

```
public static CharShapeType GetOrAddIfMissing(this CharShapeType charShape, IHpxBuilder hpxB
```

Parameters

charShape [CharShapeType](#)

hpxBuilder [IHpxBuilder](#)

Returns

[CharShapeType](#)

GetOrAddIfMissing(CharShapeType, HpxDocument)

```
public static CharShapeType GetOrAddIfMissing(this CharShapeType charShape, HpxDocument hpxD
```

Parameters

charShape [CharShapeType](#)

hpxDocument [HpxDocument](#)

Returns

[CharShapeType](#)

GetOrAddIfMissing(FontfaceTypeFont, FontfaceTypeLang, IHpxBuilder)

```
public static FontfaceTypeFont GetOrAddIfMissing(this FontfaceTypeFont font, FontfaceTypeLang :
```

Parameters

font [FontfaceTypeFont](#)

lang [FontfaceTypeLang](#)

hwpxBUILDER [IHwpxBUILDER](#)

Returns

[FontfaceTypeFont](#)

GetOrAddIfMissing(FontfaceTypeFont, FontfaceTypeLang,
HwpxDокумент)

```
public static FontfaceTypeFont GetOrAddIfMissing(this FontfaceTypeFont font, FontfaceTypeLang :
```

Parameters

font [FontfaceTypeFont](#)

lang [FontfaceTypeLang](#)

hwpxDокумент [HwpxDocument](#)

Returns

[FontfaceTypeFont](#)

GetOrAddIfMissing(ParaShapeType, IHwpxBUILDER)

```
public static ParaShapeType GetOrAddIfMissing(this ParaShapeType paraShape, IHwpxBUILDER hwpxBi
```

Parameters

paraShape [ParaShapeType](#)

hwpxBUILDER [IHwpxBUILDER](#)

Returns

[ParaShapeType](#)

GetOrAddIfMissing(ParaShapeType, HwpDocument)

```
public static ParaShapeType GetOrAddIfMissing(this ParaShapeType paraShape, HwpDocument hwpDocument)
```

Parameters

paraShape [ParaShapeType](#)

hwpDocument [HwpDocument](#)

Returns

[ParaShapeType](#)

GetOrAddIfMissing(StyleType, IHpxBuilder)

```
public static StyleType GetOrAddIfMissing(this StyleType style, IHpxBuilder hpxBuilder)
```

Parameters

style [StyleType](#)

hpxBuilder [IHpxBuilder](#)

Returns

[StyleType](#)

GetOrAddIfMissing(StyleType, HpxDocument)

```
public static StyleType GetOrAddIfMissing(this StyleType style, HpxDocument hpxDocument)
```

Parameters

`style` [StyleType](#)

`hpxDocument` [HpxDocument](#)

Returns

[StyleType](#)

GetOrAddIfMissing(TabDefType, IHpxBuilder)

```
public static TabDefType GetOrAddIfMissing(this TabDefType tab, IHpxBuilder hpxBuilder)
```

Parameters

`tab` [TabDefType](#)

`hpxBuilder` [IHpxBuilder](#)

Returns

[TabDefType](#)

GetOrAddIfMissing(TabDefType, HpxDocument)

```
public static TabDefType GetOrAddIfMissing(this TabDefType tab, HpxDocument hpxDocument)
```

Parameters

`tab` [TabDefType](#)

`hpxDocument` [HpxDocument](#)

Returns

[TabDefType](#)

GetStyleType(IHpxBuilder, string)

```
public static StyleType GetStyleType(this IHpxBuilder builder, string styleName)
```

Parameters

builder [IHpxBuilder](#)

styleName [string](#)

Returns

[StyleType](#)

Class ContainerRdfBuilder

Namespace: [HwpvIO.Builder](#)

Assembly: HwpvIO.dll

```
public sealed class ContainerRdfBuilder : HwpvBuilderCore<ContainerRdf>
```

Inheritance

[object](#) ← [HwpvBuilderCore<ContainerRdf>](#) ← ContainerRdfBuilder

Inherited Members

[HwpvBuilderCore<ContainerRdf>.Build\(\)](#) , [HwpvBuilderCore<ContainerRdf>.Value](#) ,
[HwpvBuilderCore<ContainerRdf>.HwpvBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Constructors

ContainerRdfBuilder(IHwpvBuilder)

```
public ContainerRdfBuilder(IHwpvBuilder hwpvBuilder = null)
```

Parameters

hwpvBuilder [IHwpvBuilder](#)

ContainerRdfBuilder(ContainerRdf, IHwpvBuilder)

```
public ContainerRdfBuilder(ContainerRdf value, IHwpvBuilder hwpvBuilder = null)
```

Parameters

value [ContainerRdf](#)

`hwpxBuilde` [IHwpxBuilde](#)

Methods

AddDescription(ContainerRdfDescription)

`public ContainerRdfBuilder AddDescription(ContainerRdfDescription description)`

Parameters

`description` [ContainerRdfDescription](#)

Returns

[ContainerRdfBuilder](#)

AddDescription(string, ContainerRdfDescriptionHasPart, ContainerRdfDescriptionType)

`public ContainerRdfBuilder AddDescription(string about, ContainerRdfDescriptionHasPart hasPart,`

Parameters

`about` [string](#)

`hasPart` [ContainerRdfDescriptionHasPart](#)

`type` [ContainerRdfDescriptionType](#)

Returns

[ContainerRdfBuilder](#)

AddDescription(string, string, string)

```
public ContainerRdfBuilder AddDescription(string about, string hasPart, string type)
```

Parameters

about [string](#)

hasPart [string](#)

type [string](#)

Returns

[ContainerRdfBuilder](#)

Class ContentHpfBuilder

Namespace: [Hwp\(IO\).Builder](#)

Assembly: HwpIO.dll

```
public sealed class ContentHpfBuilder : HpxBuilderCore<ContentHpf>
```

Inheritance

[object](#) ← [HpxBuilderCore<ContentHpf>](#) ← ContentHpfBuilder

Inherited Members

[HpxBuilderCore<ContentHpf>.Build\(\)](#) , [HpxBuilderCore<ContentHpf>.Value](#) ,
[HpxBuilderCore<ContentHpf>.HpxBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

ContentHpfBuilder(IHpxBuilder)

```
public ContentHpfBuilder(IHpxBuilder hpxBuilder = null)
```

Parameters

hpxBuilder [IHpxBuilder](#)

ContentHpfBuilder(ContentHpf, IHpxBuilder)

```
public ContentHpfBuilder(ContentHpf value, IHpxBuilder hpxBuilder = null)
```

Parameters

value [ContentHpf](#)

hpxBuilder [IHpxBuilder](#)

Methods

AddManifestItem(ContentHpfManifestItem)

`public ContentHpfBuilder AddManifestItem(ContentHpfManifestItem item)`

Parameters

`item` [ContentHpfManifestItem](#)

Returns

[ContentHpfBuilder](#)

AddManifestItem(string, string, string, string, string, string, string, bool, int, bool)

`public ContentHpfBuilder AddManifestItem(string id = null, string href = null, string mediaType = null, string fallback = null, int requiredNamespace = null, bool requiredModules = null, string encryption = null)`

Parameters

`id` [string](#)

`href` [string](#)

`mediaType` [string](#)

`fallback` [string](#)

`fallbackStyle` [string](#)

`requiredNamespace` [string](#)

`requiredModules` [string](#)

`encryption` [bool](#)

`fileSize` [int](#)

`isEmbeded` [bool](#)

Returns

[ContentHpfBuilder](#)

AddMeta(ContentHpfMetadataMeta)

`public ContentHpfBuilder AddMeta(ContentHpfMetadataMeta meta)`

Parameters

`meta` [ContentHpfMetadataMeta](#)

Returns

[ContentHpfBuilder](#)

AddMeta(string, string, string)

`public ContentHpfBuilder AddMeta(string name, string content, string text)`

Parameters

`name` [string](#)

`content` [string](#)

`text` [string](#)

Returns

[ContentHpfBuilder](#)

AddSpineItemRef(ContentHpfSpineItemRef)

```
public ContentHpfBuilder AddSpineItemRef(ContentHpfSpineItemRef itemRef)
```

Parameters

itemRef [ContentHpfSpineItemRef](#)

Returns

[ContentHpfBuilder](#)

AddSpineItemRef(string, string)

```
public ContentHpfBuilder AddSpineItemRef(string idref = null, string linear = null)
```

Parameters

idref [string](#)

linear [string](#)

Returns

[ContentHpfBuilder](#)

SetId(int)

```
public ContentHpfBuilder SetId(int id)
```

Parameters

id [int](#)

Returns

[ContentHpfBuilder](#)

SetId(string)

```
public ContentHpfBuilder SetId(string id)
```

Parameters

id [string](#)

Returns

[ContentHpfBuilder](#)

SetMetadata(string, string, string, string, string, string)

```
public ContentHpfBuilder SetMetadata(string title, string creator, string publisher, string language, string subject, string description)
```

Parameters

title [string](#)

creator [string](#)

publisher [string](#)

language [string](#)

subject [string](#)

description [string](#)

Returns

[ContentHpfBuilder](#)

SetUniqueId(string)

```
public ContentHpfBuilder SetUniqueIdentifier(string uniqueIdentifier)
```

Parameters

uniqueIdentifier [string](#)

Returns

[ContentHpfBuilder](#)

SetVersion(string)

```
public ContentHpfBuilder SetVersion(string version)
```

Parameters

version [string](#)

Returns

[ContentHpfBuilder](#)

Class HCFVersionBuilder

Namespace: [HwpvIO.Builder](#)

Assembly: HwpvIO.dll

```
public sealed class HCFVersionBuilder : HwpvBuilderCore<HCFVersion>
```

Inheritance

[object](#) ← [HwpvBuilderCore<HCFVersion>](#) ← HCFVersionBuilder

Inherited Members

[HwpvBuilderCore<HCFVersion>.Build\(\)](#) , [HwpvBuilderCore<HCFVersion>.Value](#) ,
[HwpvBuilderCore<HCFVersion>.HwpvBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

HCFVersionBuilder(IHwpvBuilder)

```
public HCFVersionBuilder(IHwpvBuilder hwpvBuilder = null)
```

Parameters

hwpvBuilder [IHwpvBuilder](#)

HCFVersionBuilder(HCFVersion, IHwpvBuilder)

```
public HCFVersionBuilder(HCFVersion value, IHwpvBuilder hwpvBuilder = null)
```

Parameters

value [HCFVersion](#)

`hwpxBuilde` [IHwpxBuilde](#)

Methods

SetAppVersion(string)

`public HCFVersionBuilder SetAppVersion(string appVersion)`

Parameters

`appVersion` [string](#)

Returns

[HCFVersionBuilder](#)

SetApplication(string)

`public HCFVersionBuilder SetApplication(string application)`

Parameters

`application` [string](#)

Returns

[HCFVersionBuilder](#)

SetOs(string)

`public HCFVersionBuilder SetOs(string os)`

Parameters

`os` [string](#)

Returns

[HCFVersionBuilder](#)

SetTargetApplication(VersionTagetApplication)

오피스 문서 형식 중의 하나만 표현함

```
public HCFVersionBuilder SetTargetApplication(VersionTagetApplication tagetApplication)
```

Parameters

tagetApplication [VersionTagetApplication](#)

Returns

[HCFVersionBuilder](#)

SetVersion(int, int, int, int)

문서의 파일 형식 버전 정보를 표현하기 위한 요소이다

```
public HCFVersionBuilder SetVersion(int major, int minor, int micro, int buildNumber)
```

Parameters

major [int](#)

minor [int](#)

micro [int](#)

buildNumber [int](#)

Returns

[HCFVersionBuilder](#)

SetXmlVersion(string)

```
public HCFVersionBuilder SetXmlVersion(string xmlVersion)
```

Parameters

`xmlVersion` [string](#)

Returns

[HCFVersionBuilder](#)

Class HWPAplicationSettingBuilder

Namespace: [HwpvIO.Builder](#)

Assembly: HwpvIO.dll

```
public sealed class HWPAplicationSettingBuilder : HwpvBuilderCore<HWPAplicationSetting>
```

Inheritance

[object](#) ← [HwpvBuilderCore<HWPAplicationSetting>](#) ← HWPAplicationSettingBuilder

Inherited Members

[HwpvBuilderCore<HWPAplicationSetting>.Build\(\)](#) ,
[HwpvBuilderCore<HWPAplicationSetting>.Value](#) ,
[HwpvBuilderCore<HWPAplicationSetting>.HwpvBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Constructors

HWPAplicationSettingBuilder(IHwpvBuilder)

```
public HWPAplicationSettingBuilder(IHwpvBuilder hwpvBuilder = null)
```

Parameters

hwpvBuilder [IHwpvBuilder](#)

HWPAplicationSettingBuilder(HWPAplicationSetting, IHwpvBuilder)

```
public HWPAplicationSettingBuilder(HWPAplicationSetting value, IHwpvBuilder hwpvBuilder = null)
```

Parameters

`value` [HWPApplicationSetting](#)

`hpxBuilder` [IHpxBuilder](#)

Methods

AddConfigItem(ConfigItem)

```
public HWPApplicationSettingBuilder AddConfigItem(ConfigItem item)
```

Parameters

`item` [ConfigItem](#)

Returns

[HWPApplicationSettingBuilder](#)

AddConfigItem(string, string, string)

```
public HWPApplicationSettingBuilder AddConfigItem(string name, string type, string text)
```

Parameters

`name` [string](#)

`type` [string](#)

`text` [string](#)

Returns

[HWPApplicationSettingBuilder](#)

SetCaretPosition(CaretPosition)

```
public HWPAplicationSettingBuilder SetCaretPosition(CaretPosition caretPosition)
```

Parameters

caretPosition [CaretPosition](#)

Returns

[HWPAplicationSettingBuilder](#)

SetCaretPosition(string, string, string)

```
public HWPAplicationSettingBuilder SetCaretPosition(string listIDRef, string paraIDRef, string pos)
```

Parameters

listIDRef [string](#)

paraIDRef [string](#)

pos [string](#)

Returns

[HWPAplicationSettingBuilder](#)

SetConfigItemSetName(string)

```
public HWPAplicationSettingBuilder SetConfigItemSetName(string name)
```

Parameters

name [string](#)

Returns

[HWPAplicationSettingBuilder](#)

SetDocDistribute(DocDistribute)

```
public HWPAplicationSettingBuilder SetDocDistribute(DocDistribute docDistribute)
```

Parameters

docDistribute [DocDistribute](#)

Returns

[HWPAplicationSettingBuilder](#)

SetDocDistribute(string, bool, bool)

```
public HWPAplicationSettingBuilder SetDocDistribute(string key, bool nocopy, bool nowrap)
```

Parameters

key [string](#)

nocopy [bool](#)

nowrap [bool](#)

Returns

[HWPAplicationSettingBuilder](#)

Class HpxxBuilder

Namespace: [HpxxIO.Builder](#)

Assembly: HpxxIO.dll

```
public sealed class HpxxBuilder : HpxxBuilderCore<HpxxDocument>, IHpxxBuilder
```

Inheritance

[object](#) ← [HpxxBuilderCore<HpxxDocument>](#) ← HpxxBuilder

Implements

[IHpxxBuilder](#)

Inherited Members

[HpxxBuilderCore<HpxxDocument>.Build\(\)](#) , [HpxxBuilderCore<HpxxDocument>.Value](#) ,
[HpxxBuilderCore<HpxxDocument>.HpxxBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[BuilderExtensions.CreateTable\(IHpxxBuilder, Action<TableBuilder>\)](#) ,
[BuilderExtensions.CreateText\(IHpxxBuilder, Action<PTypeRunTBuilder>\)](#) ,
[BuilderExtensions.CreateText\(IHpxxBuilder, string, string\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(IHpxxBuilder, BorderFillType\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(IHpxxBuilder, CharShapeType\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(IHpxxBuilder, FontfaceTypeFont, FontfaceTypeLang\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(IHpxxBuilder, ParaShapeType\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(IHpxxBuilder, StyleType\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(IHpxxBuilder, TabDefType\)](#) ,
[BuilderExtensions.GetStyleType\(IHpxxBuilder, string\)](#) , [GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

HpxxBuilder()

```
public HpxxBuilder()
```

HwpxBUILDER(HwpxDOCUMENT)

```
public HwpxBUILDER(HwpxDOCUMENT document)
```

Parameters

document [HwpxDOCUMENT](#)

Properties

HwpxDOCUMENT

```
public HwpxDOCUMENT HwpxDOCUMENT { get; }
```

Property Value

[HwpxDOCUMENT](#)

Methods

AddBinData(string, byte[])

```
public HwpxBUILDER AddBinData(string name, byte[] data)
```

Parameters

name [string](#)

data [byte](#)[]

Returns

[HwpxBUILDER](#)

AddImage(byte[], string, out string)

```
public HwpxBUILDER AddImage(byte[] imgBytes, string extension, out string imageId)
```

Parameters

imgBytes [byte\[\]](#)

extension [string](#)

imageId [string](#)

Returns

[HwpxBUILDER](#)

AddImage(string, out string)

```
public HwpxBUILDER AddImage(string filePath, out string imageId)
```

Parameters

filePath [string](#)

imageId [string](#)

Returns

[HwpxBUILDER](#)

AddOdfManifestFileEntry(OdfManifestFileEntry)

```
public HwpxBUILDER AddOdfManifestFileEntry(OdfManifestFileEntry fileEntry)
```

Parameters

fileEntry [OdfManifestFileEntry](#)

Returns

[HpxBuilder](#)

AddOdfManifestFileEntry(string, string, long, EncryptionData)

```
public HpxBuilder AddOdfManifestFileEntry(string fullPath = null, string mediaType = null, long size, EncryptionData encryptionData)
```

Parameters

fullPath [string](#)

mediaType [string](#)

size [long](#)

encryptionData [EncryptionData](#)

Returns

[HpxBuilder](#)

AddScript(string, string)

```
public HpxBuilder AddScript(string name, string script)
```

Parameters

name [string](#)

script [string](#)

Returns

[HpxBuilder](#)

AddSectionType(SectionType)

```
public HwpxBUILDER AddSectionType(SectionType sectionType)
```

Parameters

sectionType [SectionType](#)

Returns

[HwpxBUILDER](#)

AddSectionType(Action<SectionTypeBuilder>, SectionType)

```
public HwpxBUILDER AddSectionType(Action<SectionTypeBuilder> builderAction, SectionType sectionType)
```

Parameters

builderAction [Action](#)<[SectionTypeBuilder](#)>

sectionType [SectionType](#)

Returns

[HwpxBUILDER](#)

SetApplicationSetting(HWPApplicationSetting)

```
public HwpxBUILDER SetApplicationSetting(HWPApplicationSetting applicationSetting)
```

Parameters

applicationSetting [HWPApplicationSetting](#)

Returns

[HwpxBUILDER](#)

SetApplicationSetting(Action<HWPApplicationSettingBuilder>, HWPApplicationSetting)

```
public HwpxBUILDER SetAPPLICATIONSETTING(Action<HWPApplicationSettingBuilder> builderAction, HWPApplicationSetting applicationSetting)
```

Parameters

builderAction [Action](#)<[HWPApplicationSettingBuilder](#)>

applicationSetting [HWPApplicationSetting](#)

Returns

[HwpxBUILDER](#)

SetContainerRdf(ContainerRdf)

```
public HwpxBUILDER SetCONTAINERRDF(ContainerRdf containerRdf)
```

Parameters

containerRdf [ContainerRdf](#)

Returns

[HwpxBUILDER](#)

SetContainerRdf(Action<ContainerRdfBuilder>, ContainerRdf)

```
public HwpxBUILDER SetCONTAINERRDF(Action<ContainerRdfBuilder> builderAction, ContainerRdf containerRdf)
```

Parameters

builderAction [Action](#)<[ContainerRdfBuilder](#)>

containerRdf [ContainerRdf](#)

Returns

[HpxBuilder](#)

SetContentHpf(ContentHpf)

```
public HpxBuilder SetContentHpf(ContentHpf contentHpf)
```

Parameters

contentHpf [ContentHpf](#)

Returns

[HpxBuilder](#)

SetContentHpf(Action<ContentHpfBuilder>, ContentHpf)

```
public HpxBuilder SetContentHpf(Action<ContentHpfBuilder> builderAction, ContentHpf contentHpf)
```

Parameters

builderAction [Action](#)<[ContentHpfBuilder](#)>

contentHpf [ContentHpf](#)

Returns

[HpxBuilder](#)

SetHeadType(HWPMLHeadType)

```
public HpxBuilder SetHeadType(HWPMLHeadType headType)
```

Parameters

headType [HWPMLHeadType](#)

Returns

[HpxBuilder](#)

SetHeadType(Action<HWPMLHeadTypeBuilder>,
HWPMLHeadType)

```
public HpxBuilder SetHeadType(Action<HWPMLHeadTypeBuilder> builderAction, HWPMLHeadType headT
```

Parameters

builderAction [Action](#)<[HWPMLHeadTypeBuilder](#)>

headType [HWPMLHeadType](#)

Returns

[HpxBuilder](#)

SetMime(string)

```
public HpxBuilder SetMime(string mime)
```

Parameters

mime [string](#)

Returns

[HpxBuilder](#)

SetOcfContainer(OcfContainer)

```
public HwpxBUILDER SetOcfContainer(OcfContainer ocfContainer)
```

Parameters

ocfContainer [OcfContainer](#)

Returns

[HwpxBUILDER](#)

SetOcfContainer(Action<OcfContainerBuilder>, OcfContainer)

```
public HwpxBUILDER SetOcfContainer(Action<OcfContainerBuilder> builderAction, OcfContainer ocfContainer)
```

Parameters

builderAction [Action](#)<[OcfContainerBuilder](#)>

ocfContainer [OcfContainer](#)

Returns

[HwpxBUILDER](#)

SetPreviewImage(byte[])

```
public HwpxBUILDER SetPreviewImage(byte[] image)
```

Parameters

image [byte](#)[]

Returns

[HwpxBUILDER](#)

SetPreviewImage(string)

```
public HwpxBUILDER SetPreviewImage(string imagePath)
```

Parameters

imagePath [string](#)

Returns

[HwpxBUILDER](#)

SetPreviewText(string)

```
public HwpxBUILDER SetPreviewText(string text)
```

Parameters

text [string](#)

Returns

[HwpxBUILDER](#)

SetVersion(HCFVersion)

```
public HwpxBUILDER SetVersion(HCFVersion version)
```

Parameters

version [HCFVersion](#)

Returns

[HwpxBUILDER](#)

SetVersion(Action<HCFVersionBuilder>, HCFVersion)

```
public HwpXBuilder SetVersion(Action<HCFVersionBuilder> builderAction, HCFVersion version = null)
```

Parameters

builderAction [Action](#)<[HCFVersionBuilder](#)>

version [HCFVersion](#)

Returns

[HwpXBuilder](#)

UpdateApplicationSettingBuilder(Action<HWPApplicationSettingBuilder>)

```
public HwpXBuilder UpdateApplicationSettingBuilder(Action<HWPApplicationSettingBuilder> builderAction)
```

Parameters

builderAction [Action](#)<[HWPApplicationSettingBuilder](#)>

Returns

[HwpXBuilder](#)

UpdateContainerRdfBuilder(Action<ContainerRdfBuilder>)

```
public HwpXBuilder UpdateContainerRdfBuilder(Action<ContainerRdfBuilder> builderAction)
```

Parameters

builderAction [Action](#)<[ContainerRdfBuilder](#)>

Returns

[HpxBuilder](#)

UpdateContentHpfBuilder(Action<ContentHpfBuilder>)

```
public HpxBuilder UpdateContentHpfBuilder(Action<ContentHpfBuilder> builderAction)
```

Parameters

builderAction [Action](#)<[ContentHpfBuilder](#)>

Returns

[HpxBuilder](#)

UpdateHeadTypeBuilder(Action<HWPMLHeadTypeBuilder>)

```
public HpxBuilder UpdateHeadTypeBuilder(Action<HWPMLHeadTypeBuilder> builderAction)
```

Parameters

builderAction [Action](#)<[HWPMLHeadTypeBuilder](#)>

Returns

[HpxBuilder](#)

UpdateOcfContainerBuilder(Action<OcfContainerBuilder>)

```
public HpxBuilder UpdateOcfContainerBuilder(Action<OcfContainerBuilder> builderAction)
```

Parameters

builderAction [Action](#)<[OcfContainerBuilder](#)>

Returns

[HpxBuilder](#)

UpdateSectionTypeBuilder(Action<SectionTypeBuilder>, int)

```
public HpxBuilder UpdateSectionTypeBuilder(Action<SectionTypeBuilder> builderAction, int index)
```

Parameters

builderAction [Action](#)<[SectionTypeBuilder](#)>

index [int](#)

Returns

[HpxBuilder](#)

Class HpxxBuilderException

Namespace: [HpxxIO.Builder](#)

Assembly: HpxxIO.dll

```
public class HpxxBuilderException : Exception, ISerializable
```

Inheritance

[object](#) ← [Exception](#) ← HpxxBuilderException

Implements

[ISerializable](#)

Inherited Members

[Exception.GetBaseException\(\)](#) , [Exception.GetObjectData\(SerializationInfo, StreamingContext\)](#) ,
[Exception.GetType\(\)](#) , [Exception.ToString\(\)](#) , [Exception.Data](#) , [Exception.HelpLink](#) ,
[Exception.HResult](#) , [Exception.InnerException](#) , [Exception.Message](#) , [Exception.Source](#) ,
[Exception.StackTrace](#) , [Exception.TargetSite](#) , [Exception.SerializeObjectState](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(I, Action<T>\)](#).

Constructors

HpxxBuilderException()

```
public HpxxBuilderException()
```

HpxxBuilderException(SerializationInfo, StreamingContext)

```
protected HpxxBuilderException(SerializationInfo info, StreamingContext context)
```

Parameters

info [SerializationInfo](#)

context [StreamingContext](#)

HpxBuilderException(string)

public HpxBuilderException([string](#) message)

Parameters

message [string](#)

HpxBuilderException(string, Exception)

public HpxBuilderException([string](#) message, [Exception](#) innerException)

Parameters

message [string](#)

innerException [Exception](#)

Interface IBuilderableModel<T>

Namespace: [HwpXI0.Builder](#)

Assembly: HwpXI0.dll

```
public interface IBuilderableModel<T>
```

Type Parameters

T

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Methods

UpdateBuilder(Action<T>, IHpxBuilder)

```
T UpdateBuilder(Action<T> updateBuilderAction = null, IHpxBuilder hpxBuilder = null)
```

Parameters

updateBuilderAction [Action<T>](#)

hpxBuilder [IHpxBuilder](#)

Returns

T

Interface ICopyToBuilderableModel<T>

Namespace: [HwpXIOP.Builder](#)

Assembly: HwpXIOP.dll

```
public interface ICopyToBuilderableModel<T> : ICloneable
```

Type Parameters

T

Inherited Members

[ICloneable.Clone\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Methods

CopyToBuilder(Action<T>, IHwpXIOP.Builder)

```
T CopyToBuilder(Action<T> copyToBuilderAction = null, IHwpXIOP.Builder hwpXIOPBuilder = null)
```

Parameters

copyToBuilderAction [Action](#)<T>

hwpXIOPBuilder [IHwpXIOP.Builder](#)

Returns

T

Class OcfContainerBuilder

Namespace: [Hwp\(IO\).Builder](#)

Assembly: HwpIO.dll

```
public sealed class OcfContainerBuilder : HwpBuilderCore<OcfContainer>
```

Inheritance

[object](#) ← [HwpBuilderCore<OcfContainer>](#) ← OcfContainerBuilder

Inherited Members

[HwpBuilderCore<OcfContainer>.Build\(\)](#) , [HwpBuilderCore<OcfContainer>.Value](#) ,
[HwpBuilderCore<OcfContainer>.HwpBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Constructors

OcfContainerBuilder(IHwpBuilder)

```
public OcfContainerBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

OcfContainerBuilder(OcfContainer, IHwpBuilder)

```
public OcfContainerBuilder(OcfContainer value, IHwpBuilder hwpBuilder = null)
```

Parameters

value [OcfContainer](#)

`hwpxBuilde` [IHwpxBuilde](#)

Methods

AddRootFile(OcfContainerRootFile)

```
public OcfContainerBuilder AddRootFile(OcfContainerRootFile rootFile)
```

Parameters

`rootFile` [OcfContainerRootFile](#)

Returns

[OcfContainerBuilder](#)

AddRootFile(string, string)

```
public OcfContainerBuilder AddRootFile(string fullPath, string mediaType)
```

Parameters

`fullPath` [string](#)

`mediaType` [string](#)

Returns

[OcfContainerBuilder](#)

ClearRootFile()

```
public OcfContainerBuilder ClearRootFile()
```

Returns

[OcfContainerBuilder](#)

Namespace HpxxIO.Builder.Abstract Classes

[HpxxBuilderCore<T>](#)

[HpxxSwitchableBuilder<T>](#)

Class HwpxBUILDERCore<T>

Namespace: [HwpxBUILDER.Builder.Abstract](#)

Assembly: HwpxBUILD.dll

```
public abstract class HwpxBUILDERCore<T>
```

Type Parameters

T

Inheritance

[object](#) ← HwpxBUILDERCore<T>

Derived

[HwpxBUILDERSwitchableBuilder<T>](#), [ContainerRdfBuilder](#), [ContentHpfBuilder](#), [HCFVersionBuilder](#),
[HWPApplicationSettingBuilder](#), [FontBuilder](#), [HWPMLHeadTypeBuilder](#), [TrackChangeAuthorBuilder](#),
[HwpxBUILDER](#), [OcfContainerBuilder](#), [PTypeBuilder](#), [ParaListTypeBuilder](#), [HeaderFooterTypeBuilder](#),
[PTypeRunBuilder](#), [TableTypeTCBuilder](#), [TableTypeTRBuilder](#), [SectionDefinitionTypePageBorderFillBuilder](#),
[SectionTypeBuilder](#), [SwitchBuilder<T>](#), [SwitchableBuilder<T>](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

HwpxBUILDERCore(T, IHwpxBUILDER)

```
protected HwpxBUILDERCore(T value, IHwpxBUILDER hwpxBUILDER)
```

Parameters

value T

`hpxBuilder` [IHpxBuilder](#)

Fields

`_hpxBuilder`

`protected IHpxBuilder _hpxBuilder`

Field Value

[IHpxBuilder](#)

`_value`

`protected T _value`

Field Value

`T`

Properties

`HpxBuilder`

`public IHpxBuilder HpxBuilder { get; }`

Property Value

[IHpxBuilder](#)

`Value`

`public virtual T Value { get; }`

Property Value

T

Methods

Build()

```
public virtual T Build()
```

Returns

T

Class HwpxBuildableBuilder<T>

Namespace: [HwpxBuildableBuilder](#)

Assembly: HwpxBuildableBuilder.dll

```
public abstract class HwpxBuildableBuilder<T> : HwpxBuildableBuilderCore<T> where T : Buildable
```

Type Parameters

T

Inheritance

[object](#) ← [HwpxBuildableBuilderCore](#)<T> ← HwpxBuildableBuilder<T>

Derived

[BorderFillTypeBuilder](#), [BulletTypeBuilder](#), [CharShapeTypeBuilder](#), [FontfaceTypeBuilder](#),
[MemoShapeTypeBuilder](#), [NumberingTypeBuilder](#), [ParaShapeTypeBuilder](#), [StyleTypeBuilder](#),
[TabDefTypeBuilder](#), [TrackChangeBuilder](#), [PTypeRunTBuilder](#)

Inherited Members

[HwpxBuildableBuilderCore<T>.value](#), [HwpxBuildableBuilderCore<T>.Build\(\)](#), [HwpxBuildableBuilderCore<T>.Value](#),
[HwpxBuildableBuilderCore<T>.hwpxBuildableBuilder](#), [HwpxBuildableBuilderCore<T>.HwpxBuildableBuilder](#), [object.Equals\(object\)](#),
[object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#),
[object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

HwpxBuildableBuilder(T, IHwpxBuildableBuilder)

```
public HwpxBuildableBuilder(T value, IHwpxBuildableBuilder hwpxBuildable = null)
```

Parameters

value T

`hpxBuilder` [IHpxBuilder](#)

Methods

AddSwitch(Switch)

```
public virtual HpxSwitchableBuilder<T> AddSwitch(Switch @switch)
```

Parameters

`switch` [Switch](#)

Returns

[HpxSwitchableBuilder](#)<T>

AddSwitch(Action<SwitchBuilder<T>>)

```
public virtual HpxSwitchableBuilder<T> AddSwitch(Action<SwitchBuilder<T>> builderAction)
```

Parameters

`builderAction` [Action](#)<[SwitchBuilder](#)<T>>

Returns

[HpxSwitchableBuilder](#)<T>

Namespace HwpxIO.Builder.Contracts

Interfaces

[IHwpxBuilder](#)

Interface IHpxxBUILDER

Namespace: [HpxxIO.Builder.Contracts](#)

Assembly: HpxxIO.dll

```
public interface IHpxxBUILDER
```

Extension Methods

[BuilderExtensions.CreateTable\(IHpxxBUILDER, Action<TableBuilder>\)](#) ,
[BuilderExtensions.CreateText\(IHpxxBUILDER, Action<PTypeRunTBuilder>\)](#) ,
[BuilderExtensions.CreateText\(IHpxxBUILDER, string, string\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(IHpxxBUILDER, BorderFillType\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(IHpxxBUILDER, CharShapeType\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(IHpxxBUILDER, FontfaceTypeFont, FontfaceTypeLang\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(IHpxxBUILDER, ParaShapeType\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(IHpxxBUILDER, StyleType\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(IHpxxBUILDER, TabDefType\)](#) ,
[BuilderExtensions.GetStyleType\(IHpxxBUILDER, string\)](#) , [GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Properties

HpxxDocument

```
HpxxDocument HpxxDocument { get; }
```

Property Value

[HpxxDocument](#)

Methods

UpdateApplicationSettingBuilder(Action<HWPApplicationSettingBuilder>)

```
HpxxBuilder UpdateApplicationSettingBuilder(Action<HWPApplicationSettingBuilder> builderAction)
```

Parameters

`builderAction Action<HWPApplicationSettingBuilder>`

Returns

[HpxBuilder](#)

UpdateContainerRdfBuilder(Action<ContainerRdfBuilder>)

`HpxBuilder UpdateContainerRdfBuilder(Action<ContainerRdfBuilder> builderAction)`

Parameters

`builderAction Action<ContainerRdfBuilder>`

Returns

[HpxBuilder](#)

UpdateContentHpfBuilder(Action<ContentHpfBuilder>)

`HpxBuilder UpdateContentHpfBuilder(Action<ContentHpfBuilder> builderAction)`

Parameters

`builderAction Action<ContentHpfBuilder>`

Returns

[HpxBuilder](#)

UpdateHeadTypeBuilder(Action<HWPMHeadTypeBuilder>)

`HpxBuilder UpdateHeadTypeBuilder(Action<HWPMHeadTypeBuilder> builderAction)`

Parameters

`builderAction Action<HWPMLHeadTypeBuilder>`

Returns

[HwpxBUILDER](#)

UpdateOcfContainerBuilder(Action<OcfContainerBuilder>)

`HwpxBUILDER UpdateOcfContainerBuilder(Action<OcfContainerBuilder> builderAction)`

Parameters

`builderAction Action<OcfContainerBuilder>`

Returns

[HwpxBUILDER](#)

UpdateSectionTypeBuilder(Action<SectionTypeBuilder>, int)

`HwpxBUILDER UpdateSectionTypeBuilder(Action<SectionTypeBuilder> builderAction, int index = 0)`

Parameters

`builderAction Action<SectionTypeBuilder>`

`index int`

Returns

[HwpxBUILDER](#)

Namespace HpxxIO.Builder.HeadType

Classes

[HWPMLHeadTypeBuilder](#)

Class HWPMLHeadTypeBuilder

Namespace: [HwpIO.Builder.Heading](#)

Assembly: HwpIO.dll

```
public sealed class HWPMLHeadTypeBuilder : HwpBuilderCore<HWPMLHeadType>
```

Inheritance

[object](#) ← [HwpBuilderCore<HWPMLHeadType>](#) ← HWPMLHeadTypeBuilder

Inherited Members

[HwpBuilderCore<HWPMLHeadType>.Build\(\)](#) , [HwpBuilderCore<HWPMLHeadType>.Value](#) ,
[HwpBuilderCore<HWPMLHeadType>.HwpBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Constructors

HWPMLHeadTypeBuilder(IHwpBuilder)

```
public HWPMLHeadTypeBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

HWPMLHeadTypeBuilder(HWPMLHeadType, IHwpBuilder)

```
public HWPMLHeadTypeBuilder(HWPMLHeadType value, IHwpBuilder hwpBuilder = null)
```

Parameters

value [HWPMLHeadType](#)

`hwpxBuilde` [IHwpxBuilde](#)

Methods

AddBorderFill(BorderFillType)

`public HWPMHeadTypeBuilder AddBorderFill(BorderFillType borderFillType)`

Parameters

`borderFillType` [BorderFillType](#)

Returns

[HWPMHeadTypeBuilder](#)

AddBorderFill(Action<BorderFillTypeBuilder>, BorderFillType)

`public HWPMHeadTypeBuilder AddBorderFill(Action<BorderFillTypeBuilder> builderAction, BorderFi`

Parameters

`builderAction` [Action](#)<[BorderFillTypeBuilder](#)>

`borderFillType` [BorderFillType](#)

Returns

[HWPMHeadTypeBuilder](#)

AddBullet(BulletType)

`public HWPMHeadTypeBuilder AddBullet(BulletType bulletType)`

Parameters

`bulletType` [BulletType](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddCharShape(CharShapeType)

`public HWPMLHeadTypeBuilder AddCharShape(CharShapeType charShapeType)`

Parameters

`charShapeType` [CharShapeType](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddCharShape(Action<CharShapeTypeBuilder>, CharShapeType)

`public HWPMLHeadTypeBuilder AddCharShape(Action<CharShapeTypeBuilder> builderAction, CharShapeType charShapeType)`

Parameters

`builderAction` [Action](#)<[CharShapeTypeBuilder](#)>

`charShapeType` [CharShapeType](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddFont(FontfaceTypeLang, FontfaceTypeFont)

```
public HWPMHeadTypeBuilder AddFont(FontfaceTypeLang lang, FontfaceTypeFont font)
```

Parameters

lang [FontfaceTypeLang](#)

font [FontfaceTypeFont](#)

Returns

[HWPMHeadTypeBuilder](#)

AddFont(FontfaceTypeLang, Action<FontBuilder>, FontfaceTypeFont)

```
public HWPMHeadTypeBuilder AddFont(FontfaceTypeLang lang, Action<FontBuilder> builderAction, F
```

Parameters

lang [FontfaceTypeLang](#)

builderAction [Action](#)<[FontBuilder](#)>

font [FontfaceTypeFont](#)

Returns

[HWPMHeadTypeBuilder](#)

AddFontface(FontfaceType)

```
public HWPMHeadTypeBuilder AddFontface(FontfaceType fontface)
```

Parameters

fontface [FontfaceType](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddFontface(Action<FontfaceTypeBuilder>, FontfaceType)

```
public HWPMLHeadTypeBuilder AddFontface(Action<FontfaceTypeBuilder> builderAction, FontfaceType
```

Parameters

builderAction [Action](#)<[FontfaceTypeBuilder](#)>

fontface [FontfaceType](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddForbiddenWord(string)

```
public HWPMLHeadTypeBuilder AddForbiddenWord(string word)
```

Parameters

word [string](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddMemoSharp(MemoShapeType)

```
public HWPMLHeadTypeBuilder AddMemoSharp(MemoShapeType memoShapeType)
```

Parameters

`memoShapeType` [MemoShapeType](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddMemoSharp(Action<MemoShapeTypeBuilder>,
MemoShapeType)

```
public HWPMLHeadTypeBuilder AddMemoSharp(Action<MemoShapeTypeBuilder> builderAction, MemoShapeT
```

Parameters

`builderAction` [Action](#)<[MemoShapeTypeBuilder](#)>

`memoShapeType` [MemoShapeType](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddNumbering(NumberingType)

```
public HWPMLHeadTypeBuilder AddNumbering(NumberingType numberingType)
```

Parameters

`numberingType` [NumberingType](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddNumbering(Action<NumberingTypeBuilder>,
NumberingType)

```
public HWPMHeadTypeBuilder AddNumbering(Action<NumberingTypeBuilder> builderAction, NumberingType numberingType)
```

Parameters

builderAction [Action](#)<[NumberingTypeBuilder](#)>

numberingType [NumberingType](#)

Returns

[HWPMHeadTypeBuilder](#)

AddParaShape(ParaShapeType)

```
public HWPMHeadTypeBuilder AddParaShape(ParaShapeType paraShapeType)
```

Parameters

paraShapeType [ParaShapeType](#)

Returns

[HWPMHeadTypeBuilder](#)

AddParaShape(Action<ParaShapeTypeBuilder>, ParaShapeType)

```
public HWPMHeadTypeBuilder AddParaShape(Action<ParaShapeTypeBuilder> builderAction, ParaShapeType paraShapeType)
```

Parameters

builderAction [Action](#)<[ParaShapeTypeBuilder](#)>

paraShapeType [ParaShapeType](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddStyle(StyleType)

```
public HWPMLHeadTypeBuilder AddStyle(StyleType styleType)
```

Parameters

styleType [StyleType](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddStyle(Action<StyleTypeBuilder>, StyleType)

```
public HWPMLHeadTypeBuilder AddStyle(Action<StyleTypeBuilder> builderAction, StyleType styleType)
```

Parameters

builderAction [Action](#)<[StyleTypeBuilder](#)>

styleType [StyleType](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddTabProperty(TabDefType)

```
public HWPMLHeadTypeBuilder AddTabProperty(TabDefType tabDefType)
```

Parameters

tabDefType [TabDefType](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddTabProperty(Action<TabDefTypeBuilder>, TabDefType)

```
public HWPMLHeadTypeBuilder AddTabProperty(Action<TabDefTypeBuilder> builderAction, TabDefType
```

Parameters

builderAction [Action](#)<[TabDefTypeBuilder](#)>

tabDefType [TabDefType](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddTrackChange(TrackChange)

```
public HWPMLHeadTypeBuilder AddTrackChange(TrackChange trackChange)
```

Parameters

trackChange [TrackChange](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddTrackChange(Action<TrackChangeBuilder>, TrackChange)

```
public HWPMLHeadTypeBuilder AddTrackChange(Action<TrackChangeBuilder> builderAction, TrackChange
```

Parameters

builderAction [Action](#)<[TrackChangeBuilder](#)>

trackChange [TrackChange](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddTrackChangeAuthor(TrackChangeAuthor)

public HWPMLHeadTypeBuilder **AddTrackChangeAuthor**(TrackChangeAuthor trackChangeAuthor)

Parameters

trackChangeAuthor [TrackChangeAuthor](#)

Returns

[HWPMLHeadTypeBuilder](#)

AddTrackChangeAuthor(Action<TrackChangeAuthorBuilder>, TrackChangeAuthor)

public HWPMLHeadTypeBuilder **AddTrackChangeAuthor**(Action<TrackChangeAuthorBuilder> builderAction

Parameters

builderAction [Action](#)<[TrackChangeAuthorBuilder](#)>

trackChangeAuthor [TrackChangeAuthor](#)

Returns

[HWPMLHeadTypeBuilder](#)

SetBeginNum(HWPMLHeadTypeBeginNum)

문서 내에서 사용되는 번호의 시작값을 설정합니다.

```
public HWPMLHeadTypeBuilder SetBeginNum(HWPMLHeadTypeBeginNum beginNum)
```

Parameters

beginNum [HWPMLHeadTypeBeginNum](#)

Returns

[HWPMLHeadTypeBuilder](#)

SetBeginNum(int, int, int, int, int, int)

문서 내에서 사용되는 번호의 시작값을 설정합니다.

```
public HWPMLHeadTypeBuilder SetBeginNum(int page = 1, int footnote = 1, int endnote = 1, int pic = 1, int tbl = 1, int form = 1)
```

Parameters

page [int](#)

페이지 시작 번호

footnote [int](#)

각주 시작 번호

endnote [int](#)

미주 시작 번호

pic [int](#)

그림 시작 번호

tbl [int](#)

표 시작 번호

equation [int](#)

수식 시작 번호

Returns

[HWPMLHeadTypeBuilder](#)

SetCompatibleDocumentLayoutCompatibility(CompatibleDocumentTypeLayoutCompatibility)

```
public HWPMLHeadTypeBuilder SetCompatibleDocumentLayoutCompatibility(CompatibleDocumentTypeLayoutCompatibility)
```

Parameters

layoutCompatibility [CompatibleDocumentTypeLayoutCompatibility](#)

Returns

[HWPMLHeadTypeBuilder](#)

SetCompatibleDocumentTypeTargetProgram(CompatibleDocumentTypeTargetProgram)

```
public HWPMLHeadTypeBuilder SetCompatibleDocumentTypeTargetProgram(CompatibleDocumentTypeTargetProgram)
```

Parameters

targetProgram [CompatibleDocumentTypeTargetProgram](#)

Returns

[HWPMLHeadTypeBuilder](#)

SetDocOption(DocOption)

```
public HWPMHeadTypeBuilder SetDocOption(DocOption docOption)
```

Parameters

docOption [DocOption](#)

Returns

[HWPMHeadTypeBuilder](#)

SetSectionCount(int)

```
public HWPMHeadTypeBuilder SetSectionCount(int secCnt)
```

Parameters

secCnt [int](#)

Returns

[HWPMHeadTypeBuilder](#)

SetTrackchangeConfig(HWPMHeadTypeTrackchageConfig)

```
public HWPMHeadTypeBuilder SetTrackchangeConfig(HWPMHeadTypeTrackchageConfig trackchangeConf)
```

Parameters

trackchangeConfig [HWPMHeadTypeTrackchageConfig](#)

Returns

[HWPMHeadTypeBuilder](#)

SetVersion(string)

```
public HWPMHeadTypeBuilder SetVersion(string version = "1.0")
```

Parameters

version [string](#)

Returns

[HWPMHeadTypeBuilder](#)

UpdateFontface(FontfaceTypeLang, Action<FontfaceTypeBuilder>)

```
public HWPMHeadTypeBuilder UpdateFontface(FontfaceTypeLang lang, Action<FontfaceTypeBuilder> t
```

Parameters

lang [FontfaceTypeLang](#)

builderAction [Action](#)<[FontfaceTypeBuilder](#)>

Returns

[HWPMHeadTypeBuilder](#)

UpdateSectionCount()

```
public HWPMHeadTypeBuilder UpdateSectionCount()
```

Returns

[HWPMHeadTypeBuilder](#)

Namespace HpxxIO.Builder.Heading.Border Fills

Classes

[BorderFillTypeBuilder](#)

Class BorderFillTypeBuilder

Namespace: [Hwploquent.Builder.Heading.BorderFills](#)

Assembly: Hwploquent.dll

```
public sealed class BorderFillTypeBuilder : HwploquentSwitchableBuilder<BorderFillType>
```

Inheritance

[object](#) ← [HwploquentBuilderCore<BorderFillType>](#) ← [HwploquentSwitchableBuilder<BorderFillType>](#) ← BorderFillTypeBuilder

Inherited Members

[HwploquentSwitchableBuilder<BorderFillType>.AddSwitch\(Action<SwitchBuilder<BorderFillType>>\)](#) ,
[HwploquentSwitchableBuilder<BorderFillType>.AddSwitch\(Switch\)](#) ,
[HwploquentBuilderCore<BorderFillType>.Build\(\)](#) , [HwploquentBuilderCore<BorderFillType>.Value](#) ,
[HwploquentBuilderCore<BorderFillType>.HwploquentBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

BorderFillTypeBuilder(IHwploquentBuilder)

```
public BorderFillTypeBuilder(IHwploquentBuilder hwploquentBuilder = null)
```

Parameters

hwploquentBuilder [IHwploquentBuilder](#)

BorderFillTypeBuilder(BorderFillType, IHwploquentBuilder)

```
public BorderFillTypeBuilder(BorderFillType value, IHwploquentBuilder hwploquentBuilder = null)
```

Parameters

value [BorderFillType](#)

hpxBuilder [IHpxBuilder](#)

Methods

SetAttributes(string, bool, bool, BorderFillTypeCenterLine, bool)

```
public BorderFillTypeBuilder SetAttributes(string id = null, bool threeD = false, bool shadow : 
```

Parameters

id [string](#)

threeD [bool](#)

shadow [bool](#)

centerLine [BorderFillTypeCenterLine](#)

breakCellSeparateLine [bool](#)

Returns

[BorderFillTypeBuilder](#)

SetBackSlash(SlashType)

backSlash 대각선 모양 설정

```
public BorderFillTypeBuilder SetBackSlash(SlashType slash)
```

Parameters

slash [SlashType](#)

Returns

[BorderFillTypeBuilder](#)

SetBackSlash(SlashTypeType?, bool?, bool?)

backSlash 대각선 모양 설정

```
public BorderFillTypeBuilder SetBackSlash(SlashTypeType? type = null, bool? crooked = null, bo
```

Parameters

type [SlashTypeType](#)?

crooked [bool](#)?

isCounter [bool](#)?

Returns

[BorderFillTypeBuilder](#)

SetBottomBorder(BorderType)

아래쪽 테두리

```
public BorderFillTypeBuilder SetBottomBorder(BorderType borderType)
```

Parameters

borderType [BorderType](#)

Returns

[BorderFillTypeBuilder](#)

SetBottomBorder(LineType2?, LineWidth?, string)

아래쪽 테두리

```
public BorderFillTypeBuilder SetBottomBorder(LineType2? type = LineType2.NONE, LineWidth? width = null, string color = null)
```

Parameters

type [LineType2?](#)

width [LineWidth?](#)

color [string](#)

Returns

[BorderFillTypeBuilder](#)

SetBreakCellSeparateLine(bool)

자동으로 나눈 표의 경계선 설정 여부.

```
public BorderFillTypeBuilder SetBreakCellSeparateLine(bool breakCellSeparateLine)
```

Parameters

breakCellSeparateLine [bool](#)

Returns

[BorderFillTypeBuilder](#)

SetCenterLine(BorderFillTypeCenterLine)

중심선 종류

```
public BorderFillTypeBuilder SetCenterLine(BorderFillTypeCenterLine centerLine)
```

Parameters

`centerLine` [BorderFillTypeCenterLine](#)

Returns

[BorderFillTypeBuilder](#)

SetDiagonal(BorderType)

대각선

```
public BorderFillTypeBuilder SetDiagonal(BorderType borderType)
```

Parameters

`borderType` [BorderType](#)

Returns

[BorderFillTypeBuilder](#)

SetDiagonal(LineType2?, LineWidth?, string)

대각선

```
public BorderFillTypeBuilder SetDiagonal(LineType2? type = LineType2.NONE, LineWidth? width = 1,
```

Parameters

`type` [LineType2?](#)

`width` [LineWidth?](#)

`color` [string](#) ↗

Returns

[BorderFillTypeBuilder](#)

SetGradation(FillBrushTypeGradation)

그러데이션 효과

```
public BorderFillTypeBuilder SetGradation(FillBrushTypeGradation gradationType)
```

Parameters

gradationType [FillBrushTypeGradation](#)

Returns

[BorderFillTypeBuilder](#)

SetId(int)

테두리/배경/채우기 정보를 구별하기 위한 아이디

```
public BorderFillTypeBuilder SetId(int id)
```

Parameters

id [int](#)

Returns

[BorderFillTypeBuilder](#)

SetId(string)

테두리/배경/채우기 정보를 구별하기 위한 아이디

```
public BorderFillTypeBuilder SetId(string id)
```

Parameters

id [string](#)

Returns

[BorderFillTypeBuilder](#)

SetImageBrush(FillBrushTypeImgBrush)

그림으로 채우기

```
public BorderFillTypeBuilder SetImageBrush(FillBrushTypeImgBrush imgBrush)
```

Parameters

imgBrush [FillBrushTypeImgBrush](#)

Returns

[BorderFillTypeBuilder](#)

SetLeftBorder(BorderType)

왼쪽 테두리

```
public BorderFillTypeBuilder SetLeftBorder(BorderType borderType)
```

Parameters

borderType [BorderType](#)

Returns

[BorderFillTypeBuilder](#)

SetLeftBorder(LineType?, LineWidth?, string)

왼쪽 테두리

```
public BorderFillTypeBuilder SetLeftBorder(LineType2? type = LineType2.NONE, LineWidth? width =
```

Parameters

type [LineType2?](#)

width [LineWidth?](#)

color [string](#) ↗

Returns

[BorderFillTypeBuilder](#)

SetRectangle(LineType2, LineWidth, string)

```
public BorderFillTypeBuilder SetRectangle(LineType2 lineType = LineType2.SOLID, LineWidth lineWidth =
```

Parameters

lineType [LineType2](#)

lineWidth [LineWidth](#)

color [string](#) ↗

Returns

[BorderFillTypeBuilder](#)

SetRectangle(BorderType)

```
public BorderFillTypeBuilder SetRectangle(BorderType borderType)
```

Parameters

borderType [BorderType](#)

Returns

[BorderFillTypeBuilder](#)

SetRightBorder(BorderType)

오른쪽 테두리

```
public BorderFillTypeBuilder SetRightBorder(BorderType borderType)
```

Parameters

borderType [BorderType](#)

Returns

[BorderFillTypeBuilder](#)

SetRightBorder(LineType2?, LineWidth?, string)

오른쪽 테두리

```
public BorderFillTypeBuilder SetRightBorder(LineType2? type = LineType2.NONE, LineWidth? width
```

Parameters

type [LineType2?](#)

width [LineWidth?](#)

color [string](#) ↗

Returns

[BorderFillTypeBuilder](#)

SetShadow(bool)

그림자 효과의 사용 여부

```
public BorderFillTypeBuilder SetShadow(bool shadow)
```

Parameters

shadow [bool](#)?

Returns

[BorderFillTypeBuilder](#)

SetSlash(SlashType)

slash 대각선 모양 설정

```
public BorderFillTypeBuilder SetSlash(SlashType slash)
```

Parameters

slash [SlashType](#)

Returns

[BorderFillTypeBuilder](#)

SetSlash(SlashTypeType?, bool?, bool?)

slash 대각선 모양 설정

```
public BorderFillTypeBuilder SetSlash(SlashTypeType? type = null, bool? crooked = null, bool? :
```

Parameters

type [SlashTypeType](#)?

crooked [bool](#)?

`isCounter` [bool](#)?

Returns

[BorderFillTypeBuilder](#)

SetThreeD(bool)

3D 효과의 사용 여부

```
public BorderFillTypeBuilder SetThreeD(bool threeD)
```

Parameters

`threeD` [bool](#)

Returns

[BorderFillTypeBuilder](#)

SetTopBorder(BorderType)

위쪽 테두리

```
public BorderFillTypeBuilder SetTopBorder(BorderType borderType)
```

Parameters

`borderType` [BorderType](#)

Returns

[BorderFillTypeBuilder](#)

SetTopBorder(LineType2?, LineWidth?, string)

위쪽 테두리

```
public BorderFillTypeBuilder SetTopBorder(LineType2? type = LineType2.NONE, LineWidth? width =
```

Parameters

type [LineType2?](#)

width [LineWidth?](#)

color [string](#)

Returns

[BorderFillTypeBuilder](#)

SetWinBrush(FillBrushTypeWinBrush)

면 채우기

```
public BorderFillTypeBuilder SetWinBrush(FillBrushTypeWinBrush winBrush)
```

Parameters

winBrush [FillBrushTypeWinBrush](#)

Returns

[BorderFillTypeBuilder](#)

SetWinBrush(string, float)

```
public BorderFillTypeBuilder SetWinBrush(string faceColor, float alpha = 1)
```

Parameters

faceColor [string](#)

alpha [float](#)

Returns

[BorderFillTypeBuilder](#)

Namespace HpxxIO.Builder.Heading.Bullets

Classes

[BulletTypeBuilder](#)

Class BulletTypeBuilder

Namespace: [Hwp\(IO.Builder.Heading.Bullets\)](#)

Assembly: HwpIO.dll

```
public sealed class BulletTypeBuilder : HwpSwitchableBuilder<BulletType>
```

Inheritance

[object](#) ← [HwpBuilderCore<BulletType>](#) ← [HwpSwitchableBuilder<BulletType>](#) ← BulletTypeBuilder

Inherited Members

[HwpSwitchableBuilder<BulletType>.AddSwitch\(Action<SwitchBuilder<BulletType>>\)](#) ,
[HwpSwitchableBuilder<BulletType>.AddSwitch\(Switch\)](#) , [HwpBuilderCore<BulletType>.Build\(\)](#) ,
[HwpBuilderCore<BulletType>.Value](#) , [HwpBuilderCore<BulletType>.HwpBuilder](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

BulletTypeBuilder(IHwpBuilder)

```
public BulletTypeBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

BulletTypeBuilder(BulletType, IHwpBuilder)

```
public BulletTypeBuilder(BulletType value, IHwpBuilder hwpBuilder = null)
```

Parameters

value [BulletType](#)

hpxBuilder [IHpxBuilder](#)

Methods

SetAttributes(string, string, string, bool?)

```
public BulletTypeBuilder SetAttributes(string id = null, string @char = null, string checkedChar = null, bool? useImage)
```

Parameters

id [string](#)

char [string](#)

checkedChar [string](#)

useImage [bool](#)?

Returns

[BulletTypeBuilder](#)

SetChar(string)

```
public BulletTypeBuilder SetChar(string @char)
```

Parameters

char [string](#)

Returns

[BulletTypeBuilder](#)

SetCheckedChar(string)

```
public BulletTypeBuilder SetCheckedChar(string checkedChar)
```

Parameters

checkedChar [string](#)

Returns

[BulletTypeBuilder](#)

SetId(int)

```
public BulletTypeBuilder SetId(int id)
```

Parameters

id [int](#)

Returns

[BulletTypeBuilder](#)

SetId(string)

```
public BulletTypeBuilder SetId(string id)
```

Parameters

id [string](#)

Returns

[BulletTypeBuilder](#)

SetImg(ImageType)

```
public BulletTypeBuilder SetImg(ImageType img)
```

Parameters

img [ImageType](#)

Returns

[BulletTypeBuilder](#)

SetImg(string, int?, int?, ImageTypeEffect?, float?)

```
public BulletTypeBuilder SetImg(string binaryItemIDRef = null, int? bright = null, int? contrast = null, ImageTypeEffect? effect = null, float? alpha = null)
```

Parameters

binaryItemIDRef [string](#)?

bright [int](#)?

contrast [int](#)?

effect [ImageTypeEffect](#)?

alpha [float](#)?

Returns

[BulletTypeBuilder](#)

SetParaHead(ParaHeadType)

```
public BulletTypeBuilder SetParaHead(ParaHeadType paraHead)
```

Parameters

paraHead [ParaHeadType](#)

Returns

[BulletTypeBuilder](#)

SetParaHead(int?, ParaHeadTypeAlign?, bool?, bool?, long?,
ParaHeadTypeTextOffsetType?, long?, NumberType1?, string,
bool?, string)

```
public BulletTypeBuilder SetParaHead(int? level = null, ParaHeadTypeAlign? align = null, bool?
```

Parameters

level [int](#)?

align [ParaHeadTypeAlign](#)?

useInstWidth [bool](#)?

autoIndent [bool](#)?

widthAdjust [long](#)?

textOffsetType [ParaHeadTypeTextOffsetType](#)?

textOffset [long](#)?

numFormat [NumberType1](#)?

charPrIDRef [string](#)

checkable [bool](#)?

text [string](#)

Returns

[BulletTypeBuilder](#)

SetUseImage(bool)

```
public BulletTypeBuilder SetUseImage(bool useImage)
```

Parameters

useImage [bool](#)

Returns

[BulletTypeBuilder](#)

Namespace HpxxIO.Builder.Heading.Char Properties

Classes

[CharShapeTypeBuilder](#)

Class CharShapeTypeBuilder

Namespace: [Hwp\(IO.Builder.Heading.CharProperties\)](#)

Assembly: HwpIO.dll

```
public sealed class CharShapeTypeBuilder : HwpSwitchableBuilder<CharShapeType>
```

Inheritance

[object](#) ← [HwpBuilderCore<CharShapeType>](#) ← [HwpSwitchableBuilder<CharShapeType>](#) ← CharShapeTypeBuilder

Inherited Members

[HwpSwitchableBuilder<CharShapeType>.AddSwitch\(Action<SwitchBuilder<CharShapeType>>\)](#) ,
[HwpSwitchableBuilder<CharShapeType>.AddSwitch\(Switch\)](#) ,
[HwpBuilderCore<CharShapeType>.Value](#) , [HwpBuilderCore<CharShapeType>.HwpBuilder](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

CharShapeTypeBuilder(IHwpBuilder)

```
public CharShapeTypeBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

CharShapeTypeBuilder(CharShapeType, IHwpBuilder)

```
public CharShapeTypeBuilder(CharShapeType value, IHwpBuilder hwpBuilder = null)
```

Parameters

value [CharShapeType](#)

hpxBuilder [IHpxBuilder](#)

Methods

Build()

```
public override CharShapeType Build()
```

Returns

[CharShapeType](#)

SetAttributes(string, long, string, string, bool, bool,
CharShapeTypeSymMark, string)

```
public CharShapeTypeBuilder SetAttributes(string id = null, long height = 0, string textColor :
```

Parameters

id [string](#)

height [long](#)

textColor [string](#)

shadeColor [string](#)

useFontSpace [bool](#)

useKerning [bool](#)

symMark [CharShapeTypeSymMark](#)

borderFillIDRef [string](#)

Returns

[CharShapeTypeBuilder](#)

SetBold(bool)

글자 속성: 진하게.

```
public CharShapeTypeBuilder SetBold(bool bold = true)
```

Parameters

bold [bool](#)

Returns

[CharShapeTypeBuilder](#)

SetBorderFillIDRef(string)

글자 테두리 기능. 만약 글자 테두리를 사용한다면 해당 속성이 존재하고, 속성의 값은 테두리/채우기 정보의 아이디 참조이다

```
public CharShapeTypeBuilder SetBorderFillIDRef(string borderFillIDRef)
```

Parameters

borderFillIDRef [string](#)

Returns

[CharShapeTypeBuilder](#)

SetEmboss(bool)

글자 속성: 양각

```
public CharShapeTypeBuilder SetEmboss(bool emboss = true)
```

Parameters

emboss [bool](#)

Returns

[CharShapeTypeBuilder](#)

SetEngrave(bool)

글자 속성: 음각

```
public CharShapeTypeBuilder SetEngrave(bool engrave = true)
```

Parameters

engrave [bool](#)

Returns

[CharShapeTypeBuilder](#)

SetFontByName(string, string, string, string, string, string, string)

폰트 이름으로 폰트를 설정합니다.

```
public CharShapeTypeBuilder SetFontByName(string hangul = null, string latin = null, string han
```

Parameters

hangul [string](#)

latin [string](#)

hanja [string](#)

japanese [string](#)

other [string](#)

symbol [string](#)

user [string](#)

Returns

[CharShapeTypeBuilder](#)

SetFontRef(CharShapeTypeFontRef)

언어별글꼴. 각 글꼴타입에맞는(한글이면 한글글꼴 타입) 참조글꼴 ID를 기술.

```
public CharShapeTypeBuilder SetFontRef(CharShapeTypeFontRef fontRef)
```

Parameters

fontRef [CharShapeTypeFontRef](#)

Returns

[CharShapeTypeBuilder](#)

SetFontRef(FontfaceTypeFont, FontfaceTypeFont, FontfaceTypeFont, FontfaceTypeFont, FontfaceTypeFont, FontfaceTypeFont, FontfaceTypeFont)

언어별글꼴. 각 글꼴타입에맞는(한글이면 한글글꼴 타입) 참조글꼴 ID를 기술.

```
public CharShapeTypeBuilder SetFontRef(FontfaceTypeFont hangul, FontfaceTypeFont latin = null,
```

Parameters

hangul [FontfaceTypeFont](#)

latin [FontfaceTypeFont](#)

hanja [FontfaceTypeFont](#)

japanese [FontfaceTypeFont](#)

other [FontfaceTypeFont](#)

symbol [FontfaceTypeFont](#)

user [FontfaceTypeFont](#)

Returns

[CharShapeTypeBuilder](#)

SetFontRef(string, string, string, string, string, string, string)

언어별글꼴. 각 글꼴타입에맞는(한글이면 한글글꼴 타입) 참조글꼴 ID를 기술.

```
public CharShapeTypeBuilder SetFontRef(string hangul = null, string latin = null, string hanja
```

Parameters

hangul [string](#)

latin [string](#)

hanja [string](#)

japanese [string](#)

other [string](#)

symbol [string](#)

user [string](#)

Returns

[CharShapeTypeBuilder](#)

SetFontRefAll(FontfaceTypeFont)

```
public CharShapeTypeBuilder SetFontRefAll(FontfaceTypeFont font)
```

Parameters

font [FontfaceTypeFont](#)

Returns

[CharShapeTypeBuilder](#)

SetHeight(long)

글자 크기 (hwpunit 단위, 10 pt = 1000 hwpunit)

```
public CharShapeTypeBuilder SetHeight(long height)
```

Parameters

height [long](#)

Returns

[CharShapeTypeBuilder](#)

SetId(int)

글자 모양 아이디

```
public CharShapeTypeBuilder SetId(int id)
```

Parameters

`id` [int](#)

Returns

[CharShapeTypeBuilder](#)

SetId(string)

글자 모양 아이디

```
public CharShapeTypeBuilder SetId(string id)
```

Parameters

`id` [string](#)

Returns

[CharShapeTypeBuilder](#)

SetItalic(bool)

글자 속성: 기울임.

```
public CharShapeTypeBuilder SetItalic(bool italic = true)
```

Parameters

`italic` [bool](#)

Returns

[CharShapeTypeBuilder](#)

SetOffset(CharShapeTypeOffset)

언어별 오프셋. 단위는 %.

```
public CharShapeTypeBuilder SetOffset(CharShapeTypeOffset offset)
```

Parameters

offset [CharShapeTypeOffset](#)

Returns

[CharShapeTypeBuilder](#)

SetOffset(int)

언어별 오프셋. 단위는 %.

```
public CharShapeTypeBuilder SetOffset(int offset)
```

Parameters

offset [int](#)?

Returns

[CharShapeTypeBuilder](#)

SetOffset(int?, int?, int?, int?, int?, int?, int?)

언어별 오프셋. 단위는 %.

```
public CharShapeTypeBuilder SetOffset(int? hangul = null, int? latin = null, int? hanja = null,
```

Parameters

hangul [int](#)?

latin [int](#)?

hanja [int](#)?

japanese [int](#)?

other [int](#)?

symbol [int](#)?

user [int](#)?

Returns

[CharShapeTypeBuilder](#)

SetOutline(LineType1)

글자 속성: 외각선

```
public CharShapeTypeBuilder SetOutline(LineType1 type = LineType1.NONE)
```

Parameters

type [LineType1](#)

Returns

[CharShapeTypeBuilder](#)

SetOutline(CharShapeTypeOutline)

글자 속성: 외각선

```
public CharShapeTypeBuilder SetOutline(CharShapeTypeOutline outline)
```

Parameters

outline [CharShapeTypeOutline](#)

Returns

[CharShapeTypeBuilder](#)

SetRatio(CharShapeTypeRatio)

언어별 장평. 단위는 %.

```
public CharShapeTypeBuilder SetRatio(CharShapeTypeRatio ratio)
```

Parameters

ratio [CharShapeTypeRatio](#)

Returns

[CharShapeTypeBuilder](#)

SetRatio(int)

언어별 장평. 단위는 %.

```
public CharShapeTypeBuilder SetRatio(int ratio)
```

Parameters

ratio [int](#)

Returns

[CharShapeTypeBuilder](#)

SetRatio(int?, int?, int?, int?, int?, int?, int?)

언어별 장평. 단위는 %.

```
public CharShapeTypeBuilder SetRatio(int? hangul = null, int? latin = null, int? hanja = null,
```

Parameters

hangul [int](#)?

latin [int](#)?

hanja [int](#)?

japanese [int](#)?

other [int](#)?

symbol [int](#)?

user [int](#)?

Returns

[CharShapeTypeBuilder](#)

SetRelSz(CharShapeTypeRelSz)

언어별 글자의 상대 크기. 단위는 %.

```
public CharShapeTypeBuilder SetRelSz(CharShapeTypeRelSz relSz)
```

Parameters

relSz [CharShapeTypeRelSz](#)

Returns

[CharShapeTypeBuilder](#)

SetRelSz(int)

언어별 글자의 상대 크기. 단위는 %.

```
public CharShapeTypeBuilder SetRelSz(int relSz)
```

Parameters

relSz [int↗](#)

Returns

[CharShapeTypeBuilder](#)

SetRelSz(int?, int?, int?, int?, int?, int?, int?)

언어별 글자의 상대 크기. 단위는 %.

```
public CharShapeTypeBuilder SetRelSz(int? hangul = null, int? latin = null, int? hanja = null,
```

Parameters

hangul [int↗?](#)

latin [int↗?](#)

hanja [int↗?](#)

japanese [int↗?](#)

other [int↗?](#)

symbol [int↗?](#)

user [int↗?](#)

Returns

[CharShapeTypeBuilder](#)

SetShadeColor(string)

음영색

```
public CharShapeTypeBuilder SetShadeColor(string shadeColor = "none")
```

Parameters

shadeColor [string](#)

Returns

[CharShapeTypeBuilder](#)

SetShadow(CharShapeTypeShadowType, string, int, int, float)

글자 속성: 그림자

```
public CharShapeTypeBuilder SetShadow(CharShapeTypeShadowType type = CharShapeTypeShadowType.NC,
```

Parameters

type [CharShapeTypeShadowType](#)

color [string](#)

offsetX [int](#)

offsetY [int](#)

alpha [float](#)

Returns

[CharShapeTypeBuilder](#)

SetShadow(CharShapeTypeShadow)

글자 속성: 그림자

```
public CharShapeTypeBuilder SetShadow(CharShapeTypeShadow shadow)
```

Parameters

shadow [CharShapeTypeShadow](#)

Returns

[CharShapeTypeBuilder](#)

SetSpacing(CharShapeTypeSpacing)

언어별 자간. 단위는 %.

```
public CharShapeTypeBuilder SetSpacing(CharShapeTypeSpacing spacing)
```

Parameters

spacing [CharShapeTypeSpacing](#)

Returns

[CharShapeTypeBuilder](#)

SetSpacing(int)

언어별 자간. 단위는 %.

```
public CharShapeTypeBuilder SetSpacing(int spacing)
```

Parameters

spacing [int](#)

Returns

[CharShapeTypeBuilder](#)

SetSpacing(int?, int?, int?, int?, int?, int?, int?)

언어별 자간. 단위는 %.

```
public CharShapeTypeBuilder SetSpacing(int? hangul = null, int? latin = null, int? hanja = null)
```

Parameters

hangul [int](#)?

latin [int](#)?

hanja [int](#)?

japanese [int](#)?

other [int](#)?

symbol [int](#)?

user [int](#)?

Returns

[CharShapeTypeBuilder](#)

SetStrikeout(LineType2, string)

글자 속성: 취소선

```
public CharShapeTypeBuilder SetStrikeout(LineType2 shape = LineType2.NONE, string color = "#000000")
```

Parameters

shape [LineType2](#)

color [string](#)?

Returns

[CharShapeTypeBuilder](#)

SetStrikeout(CharShapeTypeStrikeout)

글자 속성: 취소선

```
public CharShapeTypeBuilder SetStrikeout(CharShapeTypeStrikeout strikeout)
```

Parameters

strikeout [CharShapeTypeStrikeout](#)

Returns

[CharShapeTypeBuilder](#)

SetSubScript(bool)

글자 속성: 아래첨자

```
public CharShapeTypeBuilder SetSubScript(bool subscript = true)
```

Parameters

subscript [bool](#)

Returns

[CharShapeTypeBuilder](#)

SetSuperScript(bool)

글자 속성: 위첨자

```
public CharShapeTypeBuilder SetSuperScript(bool supscript = true)
```

Parameters

supscript [bool](#)

Returns

[CharShapeTypeBuilder](#)

SetSymMark(CharShapeTypeSymMark)

강조점 종류.

```
public CharShapeTypeBuilder SetSymMark(CharShapeTypeSymMark symMark)
```

Parameters

symMark [CharShapeTypeSymMark](#)

Returns

[CharShapeTypeBuilder](#)

SetTextColor(string)

글자색

```
public CharShapeTypeBuilder SetTextColor(string textColor = "#000000")
```

Parameters

textColor [string](#)

Returns

[CharShapeTypeBuilder](#)

SetUnderline(CharShapeTypeUnderlineType, LineType2, string)

글자 속성: 밑줄.

```
public CharShapeTypeBuilder SetUnderline(CharShapeTypeUnderlineType type = CharShapeTypeUnderli
```

Parameters

type [CharShapeTypeUnderlineType](#)

shape [LineType2](#)

color [string](#)

Returns

[CharShapeTypeBuilder](#)

SetUnderline(CharShapeTypeUnderline)

글자 속성: 밑줄.

```
public CharShapeTypeBuilder SetUnderline(CharShapeTypeUnderline underline)
```

Parameters

underline [CharShapeTypeUnderline](#)

Returns

[CharShapeTypeBuilder](#)

SetUseFontSpace(bool)

글꼴에 어울리는 빈칸

```
public CharShapeTypeBuilder SetUseFontSpace(bool useFontSpace = true)
```

Parameters

useFontSpace [bool](#)

Returns

[CharShapeTypeBuilder](#)

SetUseKerning(bool)

커닝

```
public CharShapeTypeBuilder SetUseKerning(bool useKerning = true)
```

Parameters

useKerning [bool](#)

Returns

[CharShapeTypeBuilder](#)

Namespace HpxxIO.Builder.OfType.Fontface Classes

[FontBuilder](#)

[FontfaceTypeBuilder](#)

Class FontBuilder

Namespace: [Hwp\(IO.Builder.Heading.Fontface\)](#)

Assembly: HwpIO.dll

```
public sealed class FontBuilder : HwpBuilderCore<FontfaceTypeFont>
```

Inheritance

[object](#) ← [HwpBuilderCore<FontfaceTypeFont>](#) ← FontBuilder

Inherited Members

[HwpBuilderCore<FontfaceTypeFont>.Build\(\)](#) , [HwpBuilderCore<FontfaceTypeFont>.Value](#) ,
[HwpBuilderCore<FontfaceTypeFont>.HwpBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Constructors

FontBuilder(IHwpBuilder)

```
public FontBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

FontBuilder(FontfaceTypeFont, IHwpBuilder)

```
public FontBuilder(FontfaceTypeFont value, IHwpBuilder hwpBuilder = null)
```

Parameters

value [FontfaceTypeFont](#)

hwpxBuilde [IHwpxBuilde](#)

Methods

SetAttributes(string, FontfaceTypeFontType)

```
public FontBuilder SetAttributes(string face, FontfaceTypeFontType type)
```

Parameters

face [string](#)

type [FontfaceTypeFontType](#)

Returns

[FontBuilder](#)

SetAttributes(string, string, FontfaceTypeFontType, bool, string)

```
public FontBuilder SetAttributes(string id = null, string face = null, FontfaceTypeFontType type, bool isEmbedded, string binaryItemIDRef)
```

Parameters

id [string](#)

face [string](#)

type [FontfaceTypeFontType](#)

isEmbedded [bool](#)

binaryItemIDRef [string](#)

Returns

[FontBuilder](#)

SetBinaryItemIDRef(string)

```
public FontBuilder SetBinaryItemIDRef(string binaryItemIDRef)
```

Parameters

binaryItemIDRef [string](#)

Returns

[FontBuilder](#)

SetFace(string)

```
public FontBuilder SetFace(string face)
```

Parameters

face [string](#)

Returns

[FontBuilder](#)

SetId(int)

```
public FontBuilder SetId(int id)
```

Parameters

id [int](#)

Returns

[FontBuilder](#)

SetId(string)

```
public FontBuilder SetId(string id)
```

Parameters

`id` [string](#)

Returns

[FontBuilder](#)

SetIsEmbedded(bool)

```
public FontBuilder SetIsEmbedded(bool isEmbedded)
```

Parameters

`isEmbedded` [bool](#)

Returns

[FontBuilder](#)

SetSubstFont(FontfaceTypeFontSubstFont)

```
public FontBuilder SetSubstFont(FontfaceTypeFontSubstFont substFont)
```

Parameters

`substFont` [FontfaceTypeFontSubstFont](#)

Returns

[FontBuilder](#)

SetSubstFont(string, FontfaceTypeFontSubstFontType, bool, string)

```
public FontBuilder SetSubstFont(string face, FontfaceTypeFontSubstFontType type, bool isEmbedded, string binaryItemIDRef)
```

Parameters

face [string](#)

type [FontfaceTypeFontSubstFontType](#)

isEmbedded [bool](#)

binaryItemIDRef [string](#)

Returns

[FontBuilder](#)

SetType(FontfaceTypeFontType)

```
public FontBuilder SetType(FontfaceTypeFontType type)
```

Parameters

type [FontfaceTypeFontType](#)

Returns

[FontBuilder](#)

SetFontTypeInfo(FontfaceTypeFontTypeInfoFamilyType, string, long, long, long, long, long, long, long, long)

```
public FontBuilder SetTypeInfo(FontfaceTypeFontTypeInfoFamilyType familyType, string serifStyle,
```

Parameters

familyType [FontfaceTypeFontTypeInfoFamilyType](#)

serifStyle [string](#)

weight [long](#)

proportion [long](#)

contrast [long](#)

strokeVariation [long](#)

armStyle [long](#)

letterform [long](#)

midline [long](#)

xHeight [long](#)

Returns

[FontBuilder](#)

SetFontTypeInfo(FontfaceTypeFontTypeInfo)

```
public FontBuilder SetTypeInfo(FontfaceTypeFontTypeInfo typeInfo)
```

Parameters

typeInfo [FontfaceTypeFontTypeInfo](#)

Returns

[FontBuilder](#)

Class FontfaceTypeBuilder

Namespace: [Hwp\(IO.Builder.Heading.Fontface\)](#)

Assembly: HwpIO.dll

```
public sealed class FontfaceTypeBuilder : HwpSwitchableBuilder<FontfaceType>
```

Inheritance

[object](#) ← [HwpBuilderCore<FontfaceType>](#) ← [HwpSwitchableBuilder<FontfaceType>](#) ←
FontfaceTypeBuilder

Inherited Members

[HwpSwitchableBuilder<FontfaceType>.AddSwitch\(Action<SwitchBuilder<FontfaceType>>\)](#) ,
[HwpSwitchableBuilder<FontfaceType>.AddSwitch\(Switch\)](#) , [HwpBuilderCore<FontfaceType>.Build\(\)](#) ,
[HwpBuilderCore<FontfaceType>.Value](#) , [HwpBuilderCore<FontfaceType>.HwpBuilder](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

FontfaceTypeBuilder(IHwpBuilder)

```
public FontfaceTypeBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

FontfaceTypeBuilder(FontfaceType, IHwpBuilder)

```
public FontfaceTypeBuilder(FontfaceType value, IHwpBuilder hwpBuilder = null)
```

Parameters

value [FontfaceType](#)

hwpxBUILDER [IHpxBuilder](#)

Methods

AddFont(FontfaceTypeFont)

```
public FontfaceTypeBuilder AddFont(FontfaceTypeFont font)
```

Parameters

font [FontfaceTypeFont](#)

Returns

[FontfaceTypeBuilder](#)

AddFont(Action<FontBuilder>, FontfaceTypeFont)

```
public FontfaceTypeBuilder AddFont(Action<FontBuilder> builderAction, FontfaceTypeFont font = i
```

Parameters

builderAction [Action](#)<[FontBuilder](#)>

font [FontfaceTypeFont](#)

Returns

[FontfaceTypeBuilder](#)

ClearFonts()

```
public FontfaceTypeBuilder ClearFonts()
```

Returns

[FontfaceTypeBuilder](#)

SetLang(FontfaceTypeLang)

```
public FontfaceTypeBuilder SetLang(FontfaceTypeLang lang)
```

Parameters

lang [FontfaceTypeLang](#)

Returns

[FontfaceTypeBuilder](#)

UpdateFont(FontfaceTypeFont, Action<FontBuilder>)

```
public FontfaceTypeBuilder UpdateFont(FontfaceTypeFont font, Action<FontBuilder> builderAction)
```

Parameters

font [FontfaceTypeFont](#)

builderAction [Action](#)<[FontBuilder](#)>

Returns

[FontfaceTypeBuilder](#)

Namespace HpxxIO.Builder.OfType.Memo Properties

Classes

[MemoShapeTypeBuilder](#)

Class MemoShapeTypeBuilder

Namespace: [HwpIO.Builder.Heading.MemoProperties](#)

Assembly: HwpIO.dll

```
public sealed class MemoShapeTypeBuilder : HwpSwitchableBuilder<MemoShapeType>
```

Inheritance

[object](#) ← [HwpBuilderCore<MemoShapeType>](#) ← [HwpSwitchableBuilder<MemoShapeType>](#) ← MemoShapeTypeBuilder

Inherited Members

[HwpSwitchableBuilder<MemoShapeType>.AddSwitch\(Action<SwitchBuilder<MemoShapeType>>\)](#) ,
[HwpSwitchableBuilder<MemoShapeType>.AddSwitch\(Switch\)](#) ,
[HwpBuilderCore<MemoShapeType>.Build\(\)](#) , [HwpBuilderCore<MemoShapeType>.Value](#) ,
[HwpBuilderCore<MemoShapeType>.HwpBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

MemoShapeTypeBuilder(IHwpBuilder)

```
public MemoShapeTypeBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

MemoShapeTypeBuilder(MemoShapeType, IHwpBuilder)

```
public MemoShapeTypeBuilder(MemoShapeType value, IHwpBuilder hwpBuilder = null)
```

Parameters

value [MemoShapeType](#)

hwpxBuIlder [IHpxBuIlder](#)

Methods

SetActiveColor(string)

```
public MemoShapeTypeBuilder SetActiveColor(string activeColor)
```

Parameters

activeColor [string](#)

Returns

[MemoShapeTypeBuilder](#)

SetAttributes(string, int?, LineType2?, string, string, string, MemoShapeTypeMemoType?, string)

```
public MemoShapeTypeBuilder SetAttributes(string id = null, int? width = null, LineType2? line-
```

Parameters

id [string](#)

width [int](#)?

lineType [LineType2](#)?

lineColor [string](#)

fillColor [string](#)

activeColor [string](#)

`memoType MemoShapeTypeMemoType?`

`lineWidth string` ↗

Returns

[MemoShapeTypeBuilder](#)

SetFillColor(string)

`public MemoShapeTypeBuilder SetFillColor(string fillColor)`

Parameters

`fillColor string` ↗

Returns

[MemoShapeTypeBuilder](#)

SetId(int)

`public MemoShapeTypeBuilder SetId(int id)`

Parameters

`id int` ↗

Returns

[MemoShapeTypeBuilder](#)

SetId(string)

`public MemoShapeTypeBuilder SetId(string id)`

Parameters

`id` [string](#)

Returns

[MemoShapeTypeBuilder](#)

SetLineColor(string)

```
public MemoShapeTypeBuilder SetLineColor(string lineWidth)
```

Parameters

`lineColor` [string](#)

Returns

[MemoShapeTypeBuilder](#)

SetLineType(LineType2)

```
public MemoShapeTypeBuilder SetLineType(LineType2 lineType)
```

Parameters

`lineType` [LineType2](#)

Returns

[MemoShapeTypeBuilder](#)

SetLineWidth(string)

```
public MemoShapeTypeBuilder SetLineWidth(string lineWidth)
```

Parameters

`lineWidth` [string](#)

Returns

[MemoShapeTypeBuilder](#)

SetMemoType(MemoShapeTypeMemoType)

```
public MemoShapeTypeBuilder SetMemoType(MemoShapeTypeMemoType memoType)
```

Parameters

`memoType` [MemoShapeTypeMemoType](#)

Returns

[MemoShapeTypeBuilder](#)

SetWidth(int)

```
public MemoShapeTypeBuilder SetWidth(int width)
```

Parameters

`width` [int](#)

Returns

[MemoShapeTypeBuilder](#)

Namespace HpxxIO.Builder.HeadingType. Numberings

Classes

[NumberingTypeBuilder](#)

Class NumberingTypeBuilder

Namespace: [Hwploquent.Builder.Heading.Numberings](#)

Assembly: Hwploquent.dll

```
public sealed class NumberingTypeBuilder : HwploquentSwitchableBuilder<NumberingType>
```

Inheritance

[object](#) ← [HwploquentBuilderCore<NumberingType>](#) ← [HwploquentSwitchableBuilder<NumberingType>](#) ← NumberingTypeBuilder

Inherited Members

[HwploquentSwitchableBuilder<NumberingType>.AddSwitch\(Action<SwitchBuilder<NumberingType>>\)](#) ,
[HwploquentSwitchableBuilder<NumberingType>.AddSwitch\(Switch\)](#) ,
[HwploquentBuilderCore<NumberingType>.Build\(\)](#) , [HwploquentBuilderCore<NumberingType>.Value](#) ,
[HwploquentBuilderCore<NumberingType>.HwploquentBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

NumberingTypeBuilder(IHwploquentBuilder)

```
public NumberingTypeBuilder(IHwploquentBuilder hwploquentBuilder = null)
```

Parameters

hwploquentBuilder [IHwploquentBuilder](#)

NumberingTypeBuilder(NumberingType, IHwploquentBuilder)

```
public NumberingTypeBuilder(NumberingType value, IHwploquentBuilder hwploquentBuilder = null)
```

Parameters

value [NumberingType](#)

hpxBuilder [IHpxBuilder](#)

Methods

AddParaHead(ParaHeadType2)

```
public NumberingTypeBuilder AddParaHead(ParaHeadType2 paraHead)
```

Parameters

paraHead [ParaHeadType2](#)

Returns

[NumberingTypeBuilder](#)

AddParaHead(int?, int?, ParaHeadTypeAlign?, bool?, bool?, long?, ParaHeadTypeTextOffsetType?, long?, NumberType1?, string, bool?, string)

```
public NumberingTypeBuilder AddParaHead(int? start = null, int? level = null, ParaHeadTypeAlign?
```

Parameters

start [int](#)?

level [int](#)?

align [ParaHeadTypeAlign](#)?

useInstWidth [bool](#)?

autoIndent [bool](#)?

widthAdjust [long](#)?

textOffsetType [ParaHeadTypeTextOffsetType](#)?

textOffset [long](#)?

numFormat [NumberType1](#)?

charPrIDRef [string](#)

checkable [bool](#)?

text [string](#)

Returns

[NumberingTypeBuilder](#)

SetAttributes(string, int?)

```
public NumberingTypeBuilder SetAttributes(string id = null, int? start = null)
```

Parameters

id [string](#)

start [int](#)?

Returns

[NumberingTypeBuilder](#)

SetId(int)

```
public NumberingTypeBuilder SetId(int id)
```

Parameters

id [int](#)

Returns

[NumberingTypeBuilder](#)

SetId(string)

`public NumberingTypeBuilder SetId(string id)`

Parameters

`id string`

Returns

[NumberingTypeBuilder](#)

SetStart(int)

`public NumberingTypeBuilder SetStart(int start)`

Parameters

`start int`

Returns

[NumberingTypeBuilder](#)

Namespace HpxxIO.Builder.OfType.Para Properties

Classes

[ParaShapeTypeBuilder](#)

Class ParaShapeTypeBuilder

Namespace: [Hwp\(IO.Builder.OfType.ParaProperties\)](#)

Assembly: HwpIO.dll

```
public sealed class ParaShapeTypeBuilder : HwpSwitchableBuilder<ParaShapeType>
```

Inheritance

[object](#) ← [HwpBuilderCore<ParaShapeType>](#) ← [HwpSwitchableBuilder<ParaShapeType>](#) ← ParaShapeTypeBuilder

Inherited Members

[HwpSwitchableBuilder<ParaShapeType>.AddSwitch\(Action<SwitchBuilder<ParaShapeType>>\)](#) ,
[HwpSwitchableBuilder<ParaShapeType>.AddSwitch\(Switch\)](#) ,
[HwpBuilderCore<ParaShapeType>.Value](#) , [HwpBuilderCore<ParaShapeType>.HwpBuilder](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

ParaShapeTypeBuilder(IHwpBuilder)

```
public ParaShapeTypeBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

ParaShapeTypeBuilder(ParaShapeType, IHwpBuilder)

```
public ParaShapeTypeBuilder(ParaShapeType value, IHwpBuilder hwpBuilder = null)
```

Parameters

value [ParaShapeType](#)

hwpxBuIlder [IHwpxBuIlder](#)

Methods

Build()

```
public override ParaShapeType Build()
```

Returns

[ParaShapeType](#)

SetAlign(ParaShapeTypeAlignHorizontal, ParaShapeTypeAlignVertical)

문단 내 정렬 설정

```
public ParaShapeTypeBuilder SetAlign(ParaShapeTypeAlignHorizontal horizontal, ParaShapeTypeAli
```

Parameters

horizontal [ParaShapeTypeAlignHorizontal](#)

vertical [ParaShapeTypeAlignVertical](#)

Returns

[ParaShapeTypeBuilder](#)

SetAlign(ParaShapeTypeAlign)

문단 내 정렬 설정

```
public ParaShapeTypeBuilder SetAlign(ParaShapeTypeAlign align)
```

Parameters

align [ParaShapeTypeAlign](#)

Returns

[ParaShapeTypeBuilder](#)

SetAutoSpacing(ParaShapeTypeAutoSpacing)

문단 자동 간격 조절 설정

```
public ParaShapeTypeBuilder SetAutoSpacing(ParaShapeTypeAutoSpacing autoSpacing)
```

Parameters

autoSpacing [ParaShapeTypeAutoSpacing](#)

Returns

[ParaShapeTypeBuilder](#)

SetAutoSpacing(bool, bool)

문단 자동 간격 조절 설정

```
public ParaShapeTypeBuilder SetAutoSpacing(bool eAsianEng, bool eAsianNum)
```

Parameters

eAsianEng [bool](#)

한글과 영어 간격을 자동 조절 여부

eAsianNum [bool](#)

한글과 숫자 간격을 자동 조절 여부

Returns

[ParaShapeTypeBuilder](#)

SetBorder(ParaShapeTypeBorder)

문단 테두리 설정

```
public ParaShapeTypeBuilder SetBorder(ParaShapeTypeBorder border)
```

Parameters

border [ParaShapeTypeBorder](#)

Returns

[ParaShapeTypeBuilder](#)

SetBorder(string, long, long, long, long, long, bool, bool)

문단 테두리 설정

```
public ParaShapeTypeBuilder SetBorder(string borderFillIdRef, long offsetLeft, long offsetRight,
```

Parameters

borderFillIdRef [string](#)

offsetLeft [long](#)

offsetRight [long](#)

offsetTop [long](#)

offsetBottom [long](#)

connect [bool](#)

`ignoreMargin` [bool ↗](#)

Returns

[ParaShapeTypeBuilder](#)

`SetBreakSetting(ParaShapeTypeBreakSettingBreakLatinWord,
ParaShapeTypeBreakSettingBreakNonLatinWord, bool, bool,
bool, bool, ParaShapeTypeBreakSettingLineWrap)`

문단 줄나눔 설정

```
public ParaShapeTypeBuilder SetBreakSetting(ParaShapeTypeBreakSettingBreakLatinWord breakLatinW
```

Parameters

`breakLatinWord` [ParaShapeTypeBreakSettingBreakLatinWord](#)

`breakNonLatinWord` [ParaShapeTypeBreakSettingBreakNonLatinWord](#)

`widowOrphan` [bool ↗](#)

`keepWithNext` [bool ↗](#)

`keepLines` [bool ↗](#)

`pageBreakBefore` [bool ↗](#)

`lineWrap` [ParaShapeTypeBreakSettingLineWrap](#)

Returns

[ParaShapeTypeBuilder](#)

`SetBreakSetting(ParaShapeTypeBreakSetting)`

문단 줄나눔 설정

```
public ParaShapeTypeBuilder SetBreakSetting(ParaShapeTypeBreakSetting breakSetting)
```

Parameters

`breakSetting` [ParaShapeTypeBreakSetting](#)

Returns

[ParaShapeTypeBuilder](#)

SetChecked(bool)

선택 글머리표 여부

```
public ParaShapeTypeBuilder SetChecked(bool @checked)
```

Parameters

`checked` [bool](#)

Returns

[ParaShapeTypeBuilder](#)

SetCondense(int)

공백 최소값. 단위는 %.

```
public ParaShapeTypeBuilder SetCondense(int condense)
```

Parameters

`condense` [int](#)

Returns

[ParaShapeTypeBuilder](#)

SetFontLineHeight(bool)

글꼴에 어울리는 줄 높이 사용 여부

```
public ParaShapeTypeBuilder SetFontLineHeight(bool fontLineHeight)
```

Parameters

fontLineHeight [bool](#)

Returns

[ParaShapeTypeBuilder](#)

SetHeading(ParaShapeTypeHeadingType, int, string)

문단 머리 번호/글머리표 설정

```
public ParaShapeTypeBuilder SetHeading(ParaShapeTypeHeadingType type, int level, string idRef :
```

Parameters

type [ParaShapeTypeHeadingType](#)

level [int](#)

idRef [string](#)

Returns

[ParaShapeTypeBuilder](#)

SetHeading(ParaShapeTypeHeading)

문단 머리 번호/글머리표 설정

```
public ParaShapeTypeBuilder SetHeading(ParaShapeTypeHeading heading)
```

Parameters

heading [ParaShapeTypeHeading](#)

Returns

[ParaShapeTypeBuilder](#)

SetId(int)

문단 모양 정보를 구별하기 위한 아이디

```
public ParaShapeTypeBuilder SetId(int id)
```

Parameters

id [int](#)

Returns

[ParaShapeTypeBuilder](#)

SetId(string)

문단 모양 정보를 구별하기 위한 아이디

```
public ParaShapeTypeBuilder SetId(string id)
```

Parameters

id [string](#)

Returns

[ParaShapeTypeBuilder](#)

SetLineSpacing(ParaShapeTypeLineSpacingType, int,

ParaShapeTypeLineSpacingUnit)

줄 간격 설정

```
public ParaShapeTypeBuilder SetLineSpacing(ParaShapeTypeLineSpacingType type, int value, ParaS
```

Parameters

type [ParaShapeTypeLineSpacingType](#)

value [int](#)

unit [ParaShapeTypeLineSpacingUnit](#)

Returns

[ParaShapeTypeBuilder](#)

SetLineSpacing(ParaShapeTypeLineSpacing)

줄 간격 설정

```
public ParaShapeTypeBuilder SetLineSpacing(ParaShapeTypeLineSpacing lineSpacing)
```

Parameters

lineSpacing [ParaShapeTypeLineSpacing](#)

Returns

[ParaShapeTypeBuilder](#)

SetMargin(HWPValue, HWPValue, HWPValue, HWPValue, HWPValue)

문단 여백 설정

```
public ParaShapeTypeBuilder SetMargin(HWPValue intent, HWPValue left, HWPValue right, HWPValue
```

Parameters

intent [HWPValue](#)

left [HWPValue](#)

right [HWPValue](#)

prev [HWPValue](#)

next [HWPValue](#)

Returns

[ParaShapeTypeBuilder](#)

SetMargin(ParaShapeTypeMargin)

문단 여백 설정

```
public ParaShapeTypeBuilder SetMargin(ParaShapeTypeMargin margin)
```

Parameters

margin [ParaShapeTypeMargin](#)

Returns

[ParaShapeTypeBuilder](#)

SetMargin(long, long, long, long, long)

문단 여백 설정

```
public ParaShapeTypeBuilder SetMargin(long intent = 0, long left = 0, long right = 0, long prev = 0, long next = 0)
```

Parameters

intent [long](#)

`left` [long↗](#)

`right` [long↗](#)

`prev` [long↗](#)

`next` [long↗](#)

Returns

[ParaShapeTypeBuilder](#)

SetSnapToGrid(bool)

편집 용지의 줄 격자 사용 여부

```
public ParaShapeTypeBuilder SetSnapToGrid(bool snapToGrid)
```

Parameters

`snapToGrid` [bool↗](#)

Returns

[ParaShapeTypeBuilder](#)

SetSuppressLineNumbers(bool)

줄 번호 건너뜀

```
public ParaShapeTypeBuilder SetSuppressLineNumbers(bool suppressLineNumbers)
```

Parameters

`suppressLineNumbers` [bool↗](#)

Returns

[ParaShapeTypeBuilder](#)

SetTabPrIDRef(TabDefType)

```
public ParaShapeTypeBuilder SetTabPrIDRef(TabDefType tabDefType)
```

Parameters

tabDefType [TabDefType](#)

Returns

[ParaShapeTypeBuilder](#)

SetTabPrIDRef(string)

탭 정의 아이디 참조 값

```
public ParaShapeTypeBuilder SetTabPrIDRef(string tabPrIDRef)
```

Parameters

tabPrIDRef [string](#)

Returns

[ParaShapeTypeBuilder](#)

Namespace HpxxIO.Builder.Heading.Styles

Classes

[StyleTypeBuilder](#)

Class StyleTypeBuilder

Namespace: [Hwploquent.Builder.Heading.Styles](#)

Assembly: Hwploquent.dll

```
public sealed class StyleTypeBuilder : HwploquentSwitchableBuilder<StyleType>
```

Inheritance

[object](#) ← [HwploquentBuilderCore<StyleType>](#) ← [HwploquentSwitchableBuilder<StyleType>](#) ← [StyleTypeBuilder](#)

Inherited Members

[HwploquentSwitchableBuilder<StyleType>.AddSwitch\(Action<SwitchBuilder<StyleType>>\)](#) ,
[HwploquentSwitchableBuilder<StyleType>.AddSwitch\(Switch\)](#) , [HwploquentBuilderCore<StyleType>.Build\(\)](#) ,
[HwploquentBuilderCore<StyleType>.Value](#) , [HwploquentBuilderCore<StyleType>.HwploquentBuilder](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

StyleTypeBuilder(IHwploquentBuilder)

```
public StyleTypeBuilder(IHwploquentBuilder hwploquentBuilder = null)
```

Parameters

hwploquentBuilder [IHwploquentBuilder](#)

StyleTypeBuilder(StyleType, IHwploquentBuilder)

```
public StyleTypeBuilder(StyleType value, IHwploquentBuilder hwploquentBuilder = null)
```

Parameters

value [StyleType](#)

hpxBuilder [IHpxBuilder](#)

Methods

SetAttributes(string, StyleTypeType?, string, string, string, string, string, bool?)

```
public StyleTypeBuilder SetAttributes(string id = null, StyleTypeType? type = null, string name = null, string engName = null, string paraPrIDRef = null, string charPrIDRef = null, string nextStyleIDRef = null, string langID = null, bool? lockForm = null)
```

Parameters

id [string](#)

type [StyleTypeType](#)?

name [string](#)

engName [string](#)

paraPrIDRef [string](#)

charPrIDRef [string](#)

nextStyleIDRef [string](#)

langID [string](#)

lockForm [bool](#)?

Returns

[StyleTypeBuilder](#)

SetCharPrIDRef(string)

```
public StyleTypeBuilder SetCharPrIDRef(string charPrIDRef)
```

Parameters

charPrIDRef [string](#) ↗

Returns

[StyleTypeBuilder](#)

SetEngName(string)

```
public StyleTypeBuilder SetEngName(string engName)
```

Parameters

engName [string](#) ↗

Returns

[StyleTypeBuilder](#)

SetId(int)

```
public StyleTypeBuilder SetId(int id)
```

Parameters

id [int](#) ↗

Returns

[StyleTypeBuilder](#)

SetId(string)

```
public StyleTypeBuilder SetId(string id)
```

Parameters

`id` [string](#)

Returns

[StyleTypeBuilder](#)

SetLangID(string)

```
public StyleTypeBuilder SetLangID(string langID)
```

Parameters

`langID` [string](#)

Returns

[StyleTypeBuilder](#)

SetLockForm(bool)

```
public StyleTypeBuilder SetLockForm(bool lockForm)
```

Parameters

`lockForm` [bool](#)

Returns

[StyleTypeBuilder](#)

SetName(string)

```
public StyleTypeBuilder SetName(string name)
```

Parameters

name [string](#)

Returns

[StyleTypeBuilder](#)

SetNextStyleIDRef(string)

```
public StyleTypeBuilder SetNextStyleIDRef(string nextStyleIDRef)
```

Parameters

nextStyleIDRef [string](#)

Returns

[StyleTypeBuilder](#)

SetParaPrIDRef(ParaShapeType)

```
public StyleTypeBuilder SetParaPrIDRef(ParaShapeType para)
```

Parameters

para [ParaShapeType](#)

Returns

[StyleTypeBuilder](#)

SetParaPrIDRef(string)

```
public StyleTypeBuilder SetParaPrIDRef(string paraPrIDRef)
```

Parameters

paraPrIDRef [string](#)

Returns

[StyleTypeBuilder](#)

SetType(StyleTypeType)

public StyleTypeBuilder **SetType**(StyleTypeType type)

Parameters

type [StyleTypeType](#)

Returns

[StyleTypeBuilder](#)

Namespace HpxxIO.Builder.Heading.Tab

Properties

Classes

[TabDefTypeBuilder](#)

Class TabDefTypeBuilder

Namespace: [Hwp\(IO.Builder.Heading.TabProperties\)](#)

Assembly: HwpIO.dll

```
public sealed class TabDefTypeBuilder : HwpSwitchableBuilder<TabDefType>
```

Inheritance

[object](#) ← [HwpBuilderCore<TabDefType>](#) ← [HwpSwitchableBuilder<TabDefType>](#) ←
TabDefTypeBuilder

Inherited Members

[HwpSwitchableBuilder<TabDefType>.AddSwitch\(Action<SwitchBuilder<TabDefType>>\)](#) ,
[HwpSwitchableBuilder<TabDefType>.AddSwitch\(Switch\)](#) , [HwpBuilderCore<TabDefType>.Build\(\)](#) ,
[HwpBuilderCore<TabDefType>.Value](#) , [HwpBuilderCore<TabDefType>.HwpBuilder](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

TabDefTypeBuilder(IHwpBuilder)

```
public TabDefTypeBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

TabDefTypeBuilder(TabDefType, IHwpBuilder)

```
public TabDefTypeBuilder(TabDefType value, IHwpBuilder hwpBuilder = null)
```

Parameters

value [TabDefType](#)

hwpxBuIlder [IHwpxBuIlder](#)

Methods

AddTabItem(TabDefTypeTabItem)

```
public TabDefTypeBuilder AddTabItem(TabDefTypeTabItem tabItem)
```

Parameters

tabItem [TabDefTypeTabItem](#)

Returns

[TabDefTypeBuilder](#)

AddTabItem(long, TabDefTypeTabItemType, LineType2, HWPValueUnit)

```
public TabDefTypeBuilder AddTabItem(long pos = 0, TabDefTypeTabItemType type = TabDefTypeTabItem.
```

Parameters

pos [long](#)

type [TabDefTypeTabItemType](#)

leader [LineType2](#)

unit [HWPValueUnit](#)

Returns

[TabDefTypeBuilder](#)

SetAttributes(string, bool, bool)

```
public TabDefTypeBuilder SetAttributes(string id = null, bool autoTabLeft = false, bool autoTabRight = true)
```

Parameters

`id` [string](#)

`autoTabLeft` [bool](#)

`autoTabRight` [bool](#)

Returns

[TabDefTypeBuilder](#)

SetAutoTabLeft(bool)

문단 왼쪽 끝 자동 텁(내어쓰기용 자동 텁)

```
public TabDefTypeBuilder SetAutoTabLeft(bool autoTabLeft)
```

Parameters

`autoTabLeft` [bool](#)

Returns

[TabDefTypeBuilder](#)

SetAutoTabRight(bool)

문단 오른쪽 끝 자동 텁 여부

```
public TabDefTypeBuilder SetAutoTabRight(bool autoTabRight)
```

Parameters

`autoTabRight` [bool ↗](#)

Returns

[TabDefTypeBuilder](#)

`SetId(int)`

탭 정보를 구별하기 위한 아이디

```
public TabDefTypeBuilder SetId(int id)
```

Parameters

`id` [int ↗](#)

Returns

[TabDefTypeBuilder](#)

`SetId(string)`

탭 정보를 구별하기 위한 아이디

```
public TabDefTypeBuilder SetId(string id)
```

Parameters

`id` [string ↗](#)

Returns

[TabDefTypeBuilder](#)

Namespace HpxxIO.Builder.HeadingType.Track ChangeAuthors

Classes

[TrackChangeAuthorBuilder](#)

Class TrackChangeAuthorBuilder

Namespace: [Hwp\(IO.Builder.HeadingType.TrackChangeAuthors\)](#)

Assembly: HwpIO.dll

```
public sealed class TrackChangeAuthorBuilder : HwpBuilderCore<TrackChangeAuthor>
```

Inheritance

[object](#) ← [HwpBuilderCore<TrackChangeAuthor>](#) ← TrackChangeAuthorBuilder

Inherited Members

[HwpBuilderCore<TrackChangeAuthor>.Build\(\)](#) , [HwpBuilderCore<TrackChangeAuthor>.Value](#) ,
[HwpBuilderCore<TrackChangeAuthor>.HwpBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Constructors

TrackChangeAuthorBuilder(IHwpBuilder)

```
public TrackChangeAuthorBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

TrackChangeAuthorBuilder(TrackChangeAuthor, IHwpBuilder)

```
public TrackChangeAuthorBuilder(TrackChangeAuthor value, IHwpBuilder hwpBuilder = null)
```

Parameters

value [TrackChangeAuthor](#)

`hwpxBuilde` [IHwpxBuilde](#)

Methods

SetAttributes(string, bool?, string, string)

```
public TrackChangeAuthorBuilder SetAttributes(string name = null, bool? mark = null, string color = null, string id = null)
```

Parameters

`name` [string](#)

`mark` [bool](#)?

`color` [string](#)

`id` [string](#)

Returns

[TrackChangeAuthorBuilder](#)

SetColor(string)

```
public TrackChangeAuthorBuilder SetColor(string color)
```

Parameters

`color` [string](#)

Returns

[TrackChangeAuthorBuilder](#)

SetId(int)

```
public TrackChangeAuthorBuilder SetId(int id)
```

Parameters

id [int](#)

Returns

[TrackChangeAuthorBuilder](#)

SetId(string)

```
public TrackChangeAuthorBuilder SetId(string id)
```

Parameters

id [string](#)

Returns

[TrackChangeAuthorBuilder](#)

SetMark(bool)

```
public TrackChangeAuthorBuilder SetMark(bool mark)
```

Parameters

mark [bool](#)

Returns

[TrackChangeAuthorBuilder](#)

SetName(string)

```
public TrackChangeAuthorBuilder SetName(string name)
```

Parameters

name [string](#)

Returns

[TrackChangeAuthorBuilder](#)

Namespace HpxxIO.Builder.Heading.TrackChanges

Classes

[TrackChangeBuilder](#)

Class TrackChangeBuilder

Namespace: [Hwploquent.Builder.HeadingType.TrackChanges](#)

Assembly: Hwploquent.dll

```
public sealed class TrackChangeBuilder : HwploquentSwitchableBuilder<TrackChange>
```

Inheritance

[object](#) ← [HwploquentBuilderCore<TrackChange>](#) ← [HwploquentSwitchableBuilder<TrackChange>](#) ← TrackChangeBuilder

Inherited Members

[HwploquentSwitchableBuilder<TrackChange>.AddSwitch\(Action<SwitchBuilder<TrackChange>>\)](#) ,
[HwploquentSwitchableBuilder<TrackChange>.AddSwitch\(Switch\)](#) , [HwploquentBuilderCore<TrackChange>.Build\(\)](#) ,
[HwploquentBuilderCore<TrackChange>.Value](#) , [HwploquentBuilderCore<TrackChange>.HwploquentBuilder](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

TrackChangeBuilder(IHwploquentBuilder)

```
public TrackChangeBuilder(IHwploquentBuilder hwploquentBuilder = null)
```

Parameters

hwploquentBuilder [IHwploquentBuilder](#)

TrackChangeBuilder(TrackChange, IHwploquentBuilder)

```
public TrackChangeBuilder(TrackChange value, IHwploquentBuilder hwploquentBuilder = null)
```

Parameters

value [TrackChange](#)

hpxBuilder [IHpxBuilder](#)

Methods

SetAttributes(TrackChangeType?, SystemTimeType?, int?, int?, int?, bool?, string)

```
public TrackChangeBuilder SetAttributes(TrackChangeType? type = null, SystemTimeType? date = n
```

Parameters

type [TrackChangeType](#)?

date [SystemTimeType](#)?

authorID [int](#)?

charShapeID [int](#)?

paraShapeID [int](#)?

hide [bool](#)?

id [string](#)

Returns

[TrackChangeBuilder](#)

SetAuthorID(int)

```
public TrackChangeBuilder SetAuthorID(int authorID)
```

Parameters

`authorID` [int](#)

Returns

[TrackChangeBuilder](#)

SetCharShapeID(int)

`public TrackChangeBuilder SetCharShapeID(int charShapeID)`

Parameters

`charShapeID` [int](#)

Returns

[TrackChangeBuilder](#)

SetDate(SystemTimeType)

`public TrackChangeBuilder SetDate(SystemTimeType date)`

Parameters

`date` [SystemTimeType](#)

Returns

[TrackChangeBuilder](#)

SetHide(bool)

`public TrackChangeBuilder SetHide(bool hide)`

Parameters

`hide` `bool` ↗

Returns

[TrackChangeBuilder](#)

SetId(int)

```
public TrackChangeBuilder SetId(int id)
```

Parameters

`id` `int` ↗

Returns

[TrackChangeBuilder](#)

SetId(string)

```
public TrackChangeBuilder SetId(string id)
```

Parameters

`id` `string` ↗

Returns

[TrackChangeBuilder](#)

SetParaShapeID(int)

```
public TrackChangeBuilder SetParaShapeID(int paraShapeID)
```

Parameters

paraShapeID [int](#)

Returns

[TrackChangeBuilder](#)

SetType(TrackChangeType)

```
public TrackChangeBuilder SetType(TrackChangeType type)
```

Parameters

type [TrackChangeType](#)

Returns

[TrackChangeBuilder](#)

Namespace HwpxlO.Builder.Section

Classes

[PTypeBuilder](#)

[ParaListTypeBuilder](#)

[SectionDefinitionTypeBuilder](#)

[SectionDefinitionTypePageBorderFillBuilder](#)

[SectionTypeBuilder](#)

Class PTypeBuilder

Namespace: [HpxIO.Builder.Section](#)

Assembly: HpxIO.dll

```
public sealed class PTypeBuilder : HpxBuilderCore<PType>
```

Inheritance

[object](#) ← [HpxBuilderCore<PType>](#) ← PTypeBuilder

Inherited Members

[HpxBuilderCore<PType>.Value](#) , [HpxBuilderCore<PType>.HpxBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

PTypeBuilder(IHpxBuilder)

```
public PTypeBuilder(IHpxBuilder hpxBuilder = null)
```

Parameters

hpxBuilder [IHpxBuilder](#)

PTypeBuilder(PType, IHpxBuilder)

```
public PTypeBuilder(PType value, IHpxBuilder hpxBuilder = null)
```

Parameters

value [PType](#)

hpxBuilder [IHpxBuilder](#)

Methods

AddLineSeg(LineSeg)

`public PTypeBuilder AddLineSeg(LineSeg lineSeg)`

Parameters

`lineSeg` [LineSeg](#)

Returns

[PTypeBuilder](#)

AddLineSeg(long, int, int, int, int, int, int, int, long)

`public PTypeBuilder AddLineSeg(long textpos, int vertpos, int vertsize, int textheight, int basel`

Parameters

`textpos` [long](#)

`vertpos` [int](#)

`vertsize` [int](#)

`textheight` [int](#)

`baseline` [int](#)

`spacing` [int](#)

`horzpos` [int](#)

`horzsize` [int](#)

`flags` [long](#)

Returns

[PTypeBuilder](#)

AddRun(PTypeRun)

구역 속성 정보

```
public PTypeBuilder AddRun(PTypeRun run)
```

Parameters

run [PTypeRun](#)

Returns

[PTypeBuilder](#)

AddRun(Action<PTypeRunBuilder>, PTypeRun)

구역 속성 정보

```
public PTypeBuilder AddRun(Action<PTypeRunBuilder> builderAction, PTypeRun run = null)
```

Parameters

builderAction [Action](#)<[PTypeRunBuilder](#)>

run [PTypeRun](#)

Returns

[PTypeBuilder](#)

Build()

```
public override PType Build()
```

Returns

[PType](#)

SetAttributes(bool, bool, bool, string, string, int)

```
public PTypeBuilder SetAttributes(bool pageBreak = false, bool columnBreak = false, bool merged = false, string paraPrIDRef = null, string styleIDRef = null, int paraTcId = 0)
```

Parameters

pageBreak [bool](#)

columnBreak [bool](#)

merged [bool](#)

paraPrIDRef [string](#)

styleIDRef [string](#)

paraTcId [int](#)

Returns

[PTypeBuilder](#)

SetColumnBreak(bool)

```
public PTypeBuilder SetColumnBreak(bool columnBreak)
```

Parameters

columnBreak [bool](#)

Returns

[PTypeBuilder](#)

SetId(string)

```
public PTypeBuilder SetId(string id)
```

Parameters

`id` [string](#)

Returns

[PTypeBuilder](#)

SetLineSegArray(LineSegArray)

```
public PTypeBuilder SetLineSegArray(LineSegArray lineSegArray)
```

Parameters

`lineSegArray` [LineSegArray](#)

Returns

[PTypeBuilder](#)

SetMerged(bool)

```
public PTypeBuilder SetMerged(bool merged)
```

Parameters

`merged` [bool](#)

Returns

[PTypeBuilder](#)

SetPageBreak(bool)

```
public PTypeBuilder SetPageBreak(bool pageBreak)
```

Parameters

pageBreak [bool](#)

Returns

[PTypeBuilder](#)

SetParaPrIDRef(ParaShapeType)

```
public PTypeBuilder SetParaPrIDRef(ParaShapeType paraShapeType)
```

Parameters

paraShapeType [ParaShapeType](#)

Returns

[PTypeBuilder](#)

SetParaPrIDRef(string)

```
public PTypeBuilder SetParaPrIDRef(string paraPrIDRef = null)
```

Parameters

paraPrIDRef [string](#)

Returns

[PTypeBuilder](#)

SetParaTcId(int)

```
public PTypeBuilder SetParaTcId(int paraTcId = 0)
```

Parameters

paraTcId [int](#)

Returns

[PTypeBuilder](#)

SetStyleIDRef(StyleType)

```
public PTypeBuilder SetStyleIDRef(StyleType style)
```

Parameters

style [StyleType](#)

Returns

[PTypeBuilder](#)

SetStyleIDRef(string)

```
public PTypeBuilder SetStyleIDRef(string styleIDRef = null)
```

Parameters

styleIDRef [string](#)

Returns

[PTypeBuilder](#)

UpsertLineSeg(params LineSeg[])

```
public PTypeBuilder UpsertLineSeg(params LineSeg[] lineSegs)
```

Parameters

lineSegs [LineSeg\[\]](#)

Returns

[PTypeBuilder](#)

Class ParaListTypeBuilder

Namespace: [Hwp\(IO.Builder.Section\)](#)

Assembly: HwpIO.dll

```
public sealed class ParaListTypeBuilder : HwpBuilderCore<ParaListType>
```

Inheritance

[object](#) ← [HwpBuilderCore<ParaListType>](#) ← ParaListTypeBuilder

Inherited Members

[HwpBuilderCore<ParaListType>.Value](#) , [HwpBuilderCore<ParaListType>.HwpBuilder](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

ParaListTypeBuilder(IHwpBuilder)

```
public ParaListTypeBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

ParaListTypeBuilder(ParaListType, IHwpBuilder)

```
public ParaListTypeBuilder(ParaListType value, IHwpBuilder hwpBuilder = null)
```

Parameters

value [ParaListType](#)

`hpxBuilder` [IHpxBuilder](#)

Methods

AddP(PType)

`public ParaListTypeBuilder AddP(PType pType)`

Parameters

`pType` [PType](#)

Returns

[ParaListTypeBuilder](#)

AddP(Action<PTypeBuilder>, PType)

`public ParaListTypeBuilder AddP(Action<PTypeBuilder> builderAction, PType pType = null)`

Parameters

`builderAction` [Action](#)<[PTypeBuilder](#)>

`pType` [PType](#)

Returns

[ParaListTypeBuilder](#)

Build()

`public override ParaListType Build()`

Returns

[ParaListType](#)

SetAttributes(string, ParaListTypeTextDirection?,
ParaListTypeLineWrap?, ParaListTypeVertAlign?, string, string,
int?, int?, bool?, bool?)

```
public ParaListTypeBuilder SetAttributes(string id = null, ParaListTypeTextDirection? textDirec
```

Parameters

`id` [string](#) ↗

`textDirection` [ParaListTypeTextDirection](#)?

`lineWrap` [ParaListTypeLineWrap](#)?

`vertAlign` [ParaListTypeVertAlign](#)?

`linkListIDRef` [string](#) ↗

`linkListNextIDRef` [string](#) ↗

`textWidth` [int](#) ↗?

`textHeight` [int](#) ↗?

`hasTextRef` [bool](#) ↗?

`hasNumRef` [bool](#) ↗?

Returns

[ParaListTypeBuilder](#)

SetHasNumRef(bool)

```
public ParaListTypeBuilder SetHasNumRef(bool hasNumRef)
```

Parameters

`hasNumRef` `bool` ↗

Returns

[ParaListTypeBuilder](#)

SetHasTextRef(bool)

```
public ParaListTypeBuilder SetHasTextRef(bool hasTextRef)
```

Parameters

`hasTextRef` `bool` ↗

Returns

[ParaListTypeBuilder](#)

SetId(int)

```
public ParaListTypeBuilder SetId(int id)
```

Parameters

`id` `int` ↗

Returns

[ParaListTypeBuilder](#)

SetId(string)

```
public ParaListTypeBuilder SetId(string id)
```

Parameters

`id` [string](#)

Returns

[ParaListTypeBuilder](#)

SetLineWrap(ParaListTypeLineWrap)

```
public ParaListTypeBuilder SetLineWrap(ParaListTypeLineWrap lineWrap)
```

Parameters

`lineWrap` [ParaListTypeLineWrap](#)

Returns

[ParaListTypeBuilder](#)

SetLinkListIDRef(string)

```
public ParaListTypeBuilder SetLinkListIDRef(string linkListIDRef)
```

Parameters

`linkListIDRef` [string](#)

Returns

[ParaListTypeBuilder](#)

SetLinkListNextIDRef(string)

```
public ParaListTypeBuilder SetLinkListNextIDRef(string linkListNextIDRef)
```

Parameters

`linkListNextIDRef` [string](#)

Returns

[ParaListTypeBuilder](#)

SetTextDirection(ParaListTypeTextDirection)

```
public ParaListTypeBuilder SetTextDirection(ParaListTypeTextDirection textDirection)
```

Parameters

`textDirection` [ParaListTypeTextDirection](#)

Returns

[ParaListTypeBuilder](#)

SetTextHeight(int)

```
public ParaListTypeBuilder SetTextHeight(int textHeight)
```

Parameters

`textHeight` [int](#)

Returns

[ParaListTypeBuilder](#)

SetTextWidth(int)

```
public ParaListTypeBuilder SetTextWidth(int textWidth)
```

Parameters

`textWidth` [int](#)

Returns

[ParaListTypeBuilder](#)

SetVertAlign(ParaListTypeVertAlign)

```
public ParaListTypeBuilder SetVertAlign(ParaListTypeVertAlign vertAlign)
```

Parameters

`vertAlign` [ParaListTypeVertAlign](#)

Returns

[ParaListTypeBuilder](#)

Class SectionDefinitionTypeBuilder

Namespace: [Hwp\(IO.Builder.Section\)](#)

Assembly: HwpIO.dll

```
public sealed class SectionDefinitionTypeBuilder : SwitchableBuilder<SectionDefinitionType>
```

Inheritance

[object](#) ← [HwpBuilderCore<SectionDefinitionType>](#) ← [SwitchableBuilder<SectionDefinitionType>](#) ← [SectionDefinitionTypeBuilder](#)

Inherited Members

[SwitchableBuilder<SectionDefinitionType>.AddSwitch\(Switch\)](#) ,
[SwitchableBuilder<SectionDefinitionType>.AddSwitch\(Action<SwitchBuilder<SectionDefinitionType>>\)](#) ,
[HwpBuilderCore<SectionDefinitionType>.Build\(\)](#) , [HwpBuilderCore<SectionDefinitionType>.Value](#) ,
[HwpBuilderCore<SectionDefinitionType>.HwpBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

SectionDefinitionTypeBuilder(IHwpBuilder)

```
public SectionDefinitionTypeBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

SectionDefinitionTypeBuilder(SectionDefinitionType, IHwpBuilder)

```
public SectionDefinitionTypeBuilder(SectionDefinitionType value, IHwpxBUILDER hpxBuilder = null)
```

Parameters

value [SectionDefinitionType](#)

hpxBuilder [IHwpxBUILDER](#)

Methods

AddMasterPage(SectionDefinitionTypeMasterPage)

```
public SectionDefinitionTypeBuilder AddMasterPage(SectionDefinitionTypeMasterPage masterPage)
```

Parameters

masterPage [SectionDefinitionTypeMasterPage](#)

Returns

[SectionDefinitionTypeBuilder](#)

AddMasterPage(string)

```
public SectionDefinitionTypeBuilder AddMasterPage(string idRef)
```

Parameters

idRef [string](#)

Returns

[SectionDefinitionTypeBuilder](#)

AddPageBorderFill(SectionDefinitionTypePageBorderFill)

```
public SectionDefinitionTypeBuilder AddPageBorderFill(SectionDefinitionTypePageBorderFill pageF
```

Parameters

pageBorderFill [SectionDefinitionTypePageBorderFill](#)

Returns

[SectionDefinitionTypeBuilder](#)

AddPageBorderFill(Action<SectionDefinitionTypePageBorderFil
IBuilder>, SectionDefinitionTypePageBorderFill)

```
public SectionDefinitionTypeBuilder AddPageBorderFill(Action<SectionDefinitionTypePageBorderFil
```

Parameters

builderAction [Action](#)<[SectionDefinitionTypePageBorderFillBuilder](#)>

pageBorderFill [SectionDefinitionTypePageBorderFill](#)

Returns

[SectionDefinitionTypeBuilder](#)

Default(SectionDefinitionType, IHpxBuilder)

```
public static SectionDefinitionTypeBuilder Default(SectionDefinitionType value = null, IHpxBu:
```

Parameters

value [SectionDefinitionType](#)

hpxBuilder [IHpxBuilder](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetAttributes(string, SectionDefinitionTypeTextDirection?, int?, int?, int?, HWValueUnit?, string, string, bool?, int?)

```
public SectionDefinitionTypeBuilder SetAttributes(string id = null, SectionDefinitionTypeTextD:
```

Parameters

`id` [string](#)?

`textDirection` [SectionDefinitionTypeTextDirection](#)?

`spaceColumns` [int](#)?

`tabStop` [int](#)?

`tabStopVal` [int](#)?

`tabStopUnit` [HWValueUnit](#)?

`outlineShapeIDRef` [string](#)?

`memoShapeIDRef` [string](#)?

`textVerticalWidthHead` [bool](#)?

`masterPageCnt` [int](#)?

Returns

[SectionDefinitionTypeBuilder](#)

SetEndNotePr(AutoNumFormatType, NoteShapeTypeNoteLine, NoteShapeTypeNoteSpacing, EndNoteShapeTypeNumbering, EndNoteShapeTypePlacement)

```
public SectionDefinitionTypeBuilder SetEndNotePr(AutoNumFormatType autoNumFormat, NoteShapeType
```

Parameters

autoNumFormat [AutoNumFormatType](#)

noteLine [NoteShapeTypeNoteLine](#)

noteSpacing [NoteShapeTypeNoteSpacing](#)

numbering [EndNoteShapeTypeNumbering](#)

placement [EndNoteShapeTypePlacement](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetEndNotePr(EndNoteShapeType)

```
public SectionDefinitionTypeBuilder SetEndNotePr(EndNoteShapeType endNoteShapeType)
```

Parameters

endNoteShapeType [EndNoteShapeType](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetFootNotePr(AutoNumFormatType, NoteShapeTypeNoteLine, NoteShapeTypeNoteSpacing, FootNoteShapeTypeNumbering, FootNoteShapeTypePlacement)

```
public SectionDefinitionTypeBuilder SetFootNotePr(AutoNumFormatType autoNumFormat, NoteShapeTy
```

Parameters

autoNumFormat [AutoNumFormatType](#)

`noteLine` [NoteShapeTypeNoteLine](#)

`noteSpacing` [NoteShapeTypeNoteSpacing](#)

`numbering` [FootNoteShapeTypeNumbering](#)

`placement` [FootNoteShapeTypePlacement](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetFootNotePr(FootNoteShapeType)

`public SectionDefinitionTypeBuilder SetFootNotePr(FootNoteShapeType footNoteShapeType)`

Parameters

`footNoteShapeType` [FootNoteShapeType](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetGrid(SectionDefinitionTypeGrid)

`public SectionDefinitionTypeBuilder SetGrid(SectionDefinitionTypeGrid grid)`

Parameters

`grid` [SectionDefinitionTypeGrid](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetGrid(int, int, bool)

```
public SectionDefinitionTypeBuilder SetGrid(int lineGrid, int charGrid, bool wonggojiFormat = true)
```

Parameters

lineGrid [int](#)

charGrid [int](#)

wonggojiFormat [bool](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetId(int)

```
public SectionDefinitionTypeBuilder SetId(int id)
```

Parameters

id [int](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetId(string)

```
public SectionDefinitionTypeBuilder SetId(string id)
```

Parameters

id [string](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetLineNumberShape(LineNumberShape)

```
public SectionDefinitionTypeBuilder SetLineNumberShape(LineNumberShape lineNumberShape)
```

Parameters

lineNumberShape [LineNumberShape](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetLineNumberShape(int, int, int, int)

```
public SectionDefinitionTypeBuilder SetLineNumberShape(int restartType, int countBy, int distance, int startNumber)
```

Parameters

restartType [int](#)

countBy [int](#)

distance [int](#)

startNumber [int](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetMasterPageCnt(int)

```
public SectionDefinitionTypeBuilder SetMasterPageCnt(int masterPageCnt)
```

Parameters

masterPageCnt [int](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetMemoShapeIDRef(string)

```
public SectionDefinitionTypeBuilder SetMemoShapeIDRef(string memoShapeIDRef)
```

Parameters

memoShapeIDRef [string](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetOutlineShapeIDRef(string)

```
public SectionDefinitionTypeBuilder SetOutlineShapeIDRef(string outlineShapeIDRef)
```

Parameters

outlineShapeIDRef [string](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetPagePr(SectionDefinitionTypePagePr)

```
public SectionDefinitionTypeBuilder SetPagePr(SectionDefinitionTypePagePr pagePr)
```

Parameters

pagePr [SectionDefinitionTypePagePr](#)

Returns

[SectionDefinitionTypeBuilder](#)

**SetPagePr(SectionDefinitionTypePagePrMargin,
SectionDefinitionTypePagePrLandscape, long, long,
SectionDefinitionTypePagePrGutterType)**

`public SectionDefinitionTypeBuilder SetPagePr(SectionDefinitionTypePagePrMargin margin, SectionDefinitionTypePagePrLandscape landscape, long width, long height, SectionDefinitionTypePagePrGutterType gutterType)`

Parameters

margin [SectionDefinitionTypePagePrMargin](#)

landscape [SectionDefinitionTypePagePrLandscape](#)

width [long](#)

height [long](#)

gutterType [SectionDefinitionTypePagePrGutterType](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetParameterset(ParameterList)

`public SectionDefinitionTypeBuilder SetParameterset(ParameterList parameterset)`

Parameters

parameterset [ParameterList](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetPresentation(SectionDefinitionTypePresentation)

```
public SectionDefinitionTypeBuilder SetPresentation(SectionDefinitionTypePresentation presentation)
```

Parameters

presentation [SectionDefinitionTypePresentation](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetSpaceColumns(int)

```
public SectionDefinitionTypeBuilder SetSpaceColumns(int spaceColumns)
```

Parameters

spaceColumns [int](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetStartNum(SectionDefinitionTypeStartNumPageStartsOn, int, int, int, int)

```
public SectionDefinitionTypeBuilder SetStartNum(SectionDefinitionTypeStartNumPageStartsOn pageStartsOn, int num, int count, int offset, int limit)
```

Parameters

`pageStartsOn` [SectionDefinitionTypeStartNumPageStartsOn](#)

`page` [int](#)

`pic` [int](#)

`tbl` [int](#)

`equation` [int](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetStartNum(SectionDefinitionTypeStartNum)

`public` [SectionDefinitionTypeBuilder](#) [SetStartNum](#)([SectionDefinitionTypeStartNum](#) `startNum`)

Parameters

`startNum` [SectionDefinitionTypeStartNum](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetTabStop(int)

`public` [SectionDefinitionTypeBuilder](#) [SetTabStop](#)([int](#) `tabStop`)

Parameters

`tabStop` [int](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetTabStopUnit(HWPValueUnit)

```
public SectionDefinitionTypeBuilder SetTabStopUnit(HWPValueUnit tabStopUnit)
```

Parameters

tabStopUnit [HWPValueUnit](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetTabStopVal(int)

```
public SectionDefinitionTypeBuilder SetTabStopVal(int tabStopVal)
```

Parameters

tabStopVal [int](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetTextDirection(SectionDefinitionTypeTextDirection)

```
public SectionDefinitionTypeBuilder SetTextDirection(SectionDefinitionTypeTextDirection textDir)
```

Parameters

textDirection [SectionDefinitionTypeTextDirection](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetTextVerticalWidthHead(bool)

```
public SectionDefinitionTypeBuilder SetTextVerticalWidthHead(bool textVerticalWidthHead)
```

Parameters

textVerticalWidthHead [bool](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetVisibility(SectionDefinitionTypeVisibility)

```
public SectionDefinitionTypeBuilder SetVisibility(SectionDefinitionTypeVisibility visibility)
```

Parameters

visibility [SectionDefinitionTypeVisibility](#)

Returns

[SectionDefinitionTypeBuilder](#)

SetVisibility(bool, bool, bool, VisibilityValue, VisibilityValue, bool, bool, bool)

```
public SectionDefinitionTypeBuilder SetVisibility(bool hideFirstHeader, bool hideFirstFooter, I
```

Parameters

hideFirstHeader [bool](#)

hideFirstFooter [bool](#)

hideFirstMasterPage [bool](#)

`border VisibilityValue`

`fill VisibilityValue`

`hideFirstPageNum bool`

`hideFirstEmptyLine bool`

`showLineNumber bool`

Returns

[SectionDefinitionTypeBuilder](#)

Class SectionDefinitionTypePageBorderFillBuilder

Namespace: [Hwploquent.Builder.Section](#)

Assembly: Hwploquent.dll

```
public sealed class SectionDefinitionTypePageBorderFillBuilder : HwploquentBuilderCore<SectionDefinitionTypePageBorderFill>
```

Inheritance

[object](#) ← [HwploquentBuilderCore<SectionDefinitionTypePageBorderFill>](#) ←
SectionDefinitionTypePageBorderFillBuilder

Inherited Members

[HwploquentBuilderCore<SectionDefinitionTypePageBorderFill>.Build\(\)](#) ,
[HwploquentBuilderCore<SectionDefinitionTypePageBorderFill>.Value](#) ,
[HwploquentBuilderCore<SectionDefinitionTypePageBorderFill>.HwploquentBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

SectionDefinitionTypePageBorderFillBuilder(IHwploquentBuilder)

```
public SectionDefinitionTypePageBorderFillBuilder(IHwploquentBuilder hwploquentBuilder = null)
```

Parameters

hwploquentBuilder [IHwploquentBuilder](#)

SectionDefinitionTypePageBorderFillBuilder(SectionDefinitionTypePageBorderFill, IHwploquentBuilder)

```
public SectionDefinitionTypePageBorderFillBuilder(SectionDefinitionTypePageBorderFill value, I
```

Parameters

value [SectionDefinitionTypePageBorderFill](#)

hpxBuilder [IHpxBuilder](#)

Methods

SetAttributes(SectionDefinitionTypePageBorderFillType?,
string, SectionDefinitionTypePageBorderFillTextBorder?, bool?,
bool?, SectionDefinitionTypePageBorderFillFillArea?)

```
public SectionDefinitionTypePageBorderFillBuilder SetAttributes(SectionDefinitionTypePageBorder
```

Parameters

type [SectionDefinitionTypePageBorderFillType](#)?

borderFillIDRef [string](#)?

textBorder [SectionDefinitionTypePageBorderFillTextBorder](#)?

headerInside [bool](#)?

footerInside [bool](#)?

fillArea [SectionDefinitionTypePageBorderFillFillArea](#)?

Returns

[SectionDefinitionTypePageBorderFillBuilder](#)

SetBorderFillIDRef(string)

```
public SectionDefinitionTypePageBorderFillBuilder SetBorderFillIDRef(string borderFillIDRef)
```

Parameters

`borderFillIDRef` [string](#)

Returns

[SectionDefinitionTypePageBorderFillBuilder](#)

SetFillArea(SectionDefinitionTypePageBorderFillFillArea)

```
public SectionDefinitionTypePageBorderFillBuilder SetFillArea(SectionDefinitionTypePageBorderF:
```

Parameters

`fillArea` [SectionDefinitionTypePageBorderFillFillArea](#)

Returns

[SectionDefinitionTypePageBorderFillBuilder](#)

SetFooterInside(bool)

```
public SectionDefinitionTypePageBorderFillBuilder SetFooterInside(bool footerInside)
```

Parameters

`footerInside` [bool](#)

Returns

[SectionDefinitionTypePageBorderFillBuilder](#)

SetHeaderInside(bool)

```
public SectionDefinitionTypePageBorderFillBuilder SetHeaderInside(bool headerInside)
```

Parameters

`headerInside` [bool](#)

Returns

[SectionDefinitionTypePageBorderFillBuilder](#)

SetOffset(SectionDefinitionTypePageBorderFillOffset)

```
public SectionDefinitionTypePageBorderFillBuilder SetOffset(SectionDefinitionTypePageBorderFil:
```

Parameters

`offset` [SectionDefinitionTypePageBorderFillOffset](#)

Returns

[SectionDefinitionTypePageBorderFillBuilder](#)

SetOffset(int, int, int, int)

```
public SectionDefinitionTypePageBorderFillBuilder SetOffset(int left = 1417, int top = 1417, int:
```

Parameters

`left` [int](#)

`top` [int](#)

`right` [int](#)

`bottom` [int](#)

Returns

[SectionDefinitionTypePageBorderFillBuilder](#)

SetTextBorder(SectionDefinitionTypePageBorderFillTextBorder)

```
public SectionDefinitionTypePageBorderFillBuilder SetTextBorder(SectionDefinitionTypePageBorder
```

Parameters

textBorder [SectionDefinitionTypePageBorderFillTextBorder](#)

Returns

[SectionDefinitionTypePageBorderFillBuilder](#)

SetType(SectionDefinitionTypePageBorderFillType)

```
public SectionDefinitionTypePageBorderFillBuilder SetType(SectionDefinitionTypePageBorderFillT
```

Parameters

type [SectionDefinitionTypePageBorderFillType](#)

Returns

[SectionDefinitionTypePageBorderFillBuilder](#)

Class SectionTypeBuilder

Namespace: [HpxIO.Builder.Section](#)

Assembly: HpxIO.dll

```
public sealed class SectionTypeBuilder : HpxBuilderCore<SectionType>
```

Inheritance

[object](#) ← [HpxBuilderCore<SectionType>](#) ← SectionTypeBuilder

Inherited Members

[HpxBuilderCore<SectionType>.Build\(\)](#) , [HpxBuilderCore<SectionType>.Value](#) ,
[HpxBuilderCore<SectionType>.HpxBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Constructors

SectionTypeBuilder(IHpxBuilder)

```
public SectionTypeBuilder(IHpxBuilder hpxBuilder = null)
```

Parameters

hpxBuilder [IHpxBuilder](#)

SectionTypeBuilder(SectionType, IHpxBuilder)

```
public SectionTypeBuilder(SectionType value, IHpxBuilder hpxBuilder = null)
```

Parameters

value [SectionType](#)

`hwpxBuilde` [IHwpxBuilde](#)

Methods

AddNewPage()

`public SectionTypeBuilder AddNewPage()`

Returns

[SectionTypeBuilder](#)

AddNewPage(Action<PTypeBuilder>)

`public SectionTypeBuilder AddNewPage(Action<PTypeBuilder> builderAction)`

Parameters

`builderAction` [Action](#) <[PTypeBuilder](#)>

Returns

[SectionTypeBuilder](#)

AddP(PType)

문단

`public SectionTypeBuilder AddP(PType pType)`

Parameters

`pType` [PType](#)

Returns

[SectionTypeBuilder](#)

AddP(Action<PTypeBuilder>, PType)

문단

```
public SectionTypeBuilder AddP(Action<PTypeBuilder> builderAction, PType pType = null)
```

Parameters

builderAction [Action](#)<[PTypeBuilder](#)>

pType [PType](#)

Returns

[SectionTypeBuilder](#)

AddTable(Action<TableTypeBuilder>)

```
public SectionTypeBuilder AddTable(Action<TableTypeBuilder> tableBuilder)
```

Parameters

tableBuilder [Action](#)<[TableTypeBuilder](#)>

Returns

[SectionTypeBuilder](#)

LastPTypeBuilder(Action<PTypeBuilder>)

```
public SectionTypeBuilder LastPTypeBuilder(Action<PTypeBuilder> lastPTypeAction)
```

Parameters

`lastPTypeAction Action<PTypeBuilder>`

Returns

[SectionTypeBuilder](#)

SetSectionDefinitionType(SectionDefinitionType)

`public SectionTypeBuilder SetSectionDefinitionType(SectionDefinitionType sectionDefinitionType);`

Parameters

`sectionDefinitionType SectionDefinitionType`

Returns

[SectionTypeBuilder](#)

SetSectionDefinitionType(Action<SectionDefinitionTypeBuilder>)

`public SectionTypeBuilder SetSectionDefinitionType(Action<SectionDefinitionTypeBuilder> builder);`

Parameters

`builderAction Action<SectionDefinitionTypeBuilder>`

Returns

[SectionTypeBuilder](#)

Namespace HwpxIO.Builder.Section.Run

Classes

[PTypeRunBuilder](#)

Class PTypeRunBuilder

Namespace: [Hwp\(IO.Builder.Section.Run\)](#)

Assembly: HwpIO.dll

```
public sealed class PTypeRunBuilder : HwpBuilderCore<PTypeRun>
```

Inheritance

[object](#) ← [HwpBuilderCore<PTypeRun>](#) ← PTypeRunBuilder

Inherited Members

[HwpBuilderCore<PTypeRun>.Build\(\)](#) , [HwpBuilderCore<PTypeRun>.Value](#) ,
[HwpBuilderCore<PTypeRun>.HwpBuilder](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Constructors

PTypeRunBuilder(IHwpBuilder)

```
public PTypeRunBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

PTypeRunBuilder(PTypeRun, IHwpBuilder)

```
public PTypeRunBuilder(PTypeRun value, IHwpBuilder hwpBuilder = null)
```

Parameters

value [PTypeRun](#)

`hwpxBuilde` [IHwpxBuilde](#)

Methods

AddArc(ArcType)

`public PTypeRunBuilder AddArc(ArcType arcType)`

Parameters

`arcType` [ArcType](#)

Returns

[PTypeRunBuilder](#)

AddBtn(PTypeRunBtn)

`public PTypeRunBuilder AddBtn(PTypeRunBtn btn)`

Parameters

`btn` [PTypeRunBtn](#)

Returns

[PTypeRunBuilder](#)

AddChart(PTypeRunChart)

`public PTypeRunBuilder AddChart(PTypeRunChart chart)`

Parameters

`chart` [PTypeRunChart](#)

Returns

[PTypeRunBuilder](#)

AddCheckBtn(PTypeRunCheckBtn)

```
public PTypeRunBuilder AddCheckBtn(PTypeRunCheckBtn checkBtn)
```

Parameters

checkBtn [PTypeRunCheckBtn](#)

Returns

[PTypeRunBuilder](#)

AddComboBox(ComboBoxType)

```
public PTypeRunBuilder AddComboBox(ComboBoxType comboBox)
```

Parameters

comboBox [ComboBoxType](#)

Returns

[PTypeRunBuilder](#)

AddCompose(PTypeRunCompose)

```
public PTypeRunBuilder AddCompose(PTypeRunCompose compose)
```

Parameters

compose [PTypeRunCompose](#)

Returns

[PTypeRunBuilder](#)

AddConnectLine(ConnectLineType)

```
public PTypeRunBuilder AddConnectLine(ConnectLineType connectLineType)
```

Parameters

connectLineType [ConnectLineType](#)

Returns

[PTypeRunBuilder](#)

AddContainer(ContainerType)

```
public PTypeRunBuilder AddContainer(ContainerType containerType)
```

Parameters

containerType [ContainerType](#)

Returns

[PTypeRunBuilder](#)

AddCtrl(PTypeRunCtrl)

```
public PTypeRunBuilder AddCtrl(PTypeRunCtrl ctrl)
```

Parameters

`ctrl` [PTypeRunCtrl](#)

Returns

[PTypeRunBuilder](#)

AddCtrl(Action<PTypeRunCtrlBuilder>, PTypeRunCtrl)

```
public PTypeRunBuilder AddCtrl(Action<PTypeRunCtrlBuilder> builderAction, PTypeRunCtrl ctrl = i
```

Parameters

`builderAction` [Action](#)<[PTypeRunCtrlBuilder](#)>

`ctrl` [PTypeRunCtrl](#)

Returns

[PTypeRunBuilder](#)

AddCurve(CurveType)

```
public PTypeRunBuilder AddCurve(CurveType curveType)
```

Parameters

`curveType` [CurveType](#)

Returns

[PTypeRunBuilder](#)

AddDutmal(PTypeRunDutmal)

```
public PTypeRunBuilder AddDutmal(PTypeRunDutmal dutmal)
```

Parameters

dutmal [PTypeRunDutmal](#)

Returns

[PTypeRunBuilder](#)

AddEdit(EditType)

```
public PTypeRunBuilder AddEdit(EditType edit)
```

Parameters

edit [EditType](#)

Returns

[PTypeRunBuilder](#)

AddEllipse(EllipseType)

```
public PTypeRunBuilder AddEllipse(EllipseType ellipseType)
```

Parameters

ellipseType [EllipseType](#)

Returns

[PTypeRunBuilder](#)

AddEquation(EquationType)

```
public PTypeRunBuilder AddEquation(EquationType equationType)
```

Parameters

equationType [EquationType](#)

Returns

[PTypeRunBuilder](#)

AddLine(LineType)

```
public PTypeRunBuilder AddLine(LineType lineType)
```

Parameters

lineType [LineType](#)

Returns

[PTypeRunBuilder](#)

AddListBox(ListBoxType)

```
public PTypeRunBuilder AddListBox(ListBoxType listBox)
```

Parameters

listBox [ListBoxType](#)

Returns

[PTypeRunBuilder](#)

AddOle(OLEType)

```
public PTypeRunBuilder AddOle(OLEType oleType)
```

Parameters

oleType [OLEType](#)

Returns

[PTypeRunBuilder](#)

AddPic(PictureType)

```
public PTypeRunBuilder AddPic(PictureType pictureType)
```

Parameters

pictureType [PictureType](#)

Returns

[PTypeRunBuilder](#)

AddPic(Action<PictureTypeBuilder>, PictureType)

```
public PTypeRunBuilder AddPic(Action<PictureTypeBuilder> builderAction, PictureType pictureType)
```

Parameters

builderAction [Action](#)<[PictureTypeBuilder](#)>

pictureType [PictureType](#)

Returns

[PTypeRunBuilder](#)

AddPolygon(PolygonType)

```
public PTypeRunBuilder AddPolygon(PolygonType polygonType)
```

Parameters

`polygonType` [PolygonType](#)

Returns

[PTypeRunBuilder](#)

AddRadioBtn(PTypeRunRadioBtn)

```
public PTypeRunBuilder AddRadioBtn(PTypeRunRadioBtn radioBtn)
```

Parameters

`radioBtn` [PTypeRunRadioBtn](#)

Returns

[PTypeRunBuilder](#)

AddRect(RectangleType)

```
public PTypeRunBuilder AddRect(RectangleType rectangleType)
```

Parameters

`rectangleType` [RectangleType](#)

Returns

[PTypeRunBuilder](#)

AddScrollBar(ScrollBarType)

```
public PTypeRunBuilder AddScrollBar(ScrollBarType scrollBar)
```

Parameters

scrollBar [ScrollBarType](#)

Returns

[PTypeRunBuilder](#)

AddT(PTypeRunT)

```
public PTypeRunBuilder AddT(PTypeRunT pTypeRunT)
```

Parameters

pTypeRunT [PTypeRunT](#)

Returns

[PTypeRunBuilder](#)

AddT(Action<PTypeRunTBuilder>, PTypeRunT)

```
public PTypeRunBuilder AddT(Action<PTypeRunTBuilder> builderAction, PTypeRunT pTypeRunT = null)
```

Parameters

builderAction [Action](#)<[PTypeRunTBuilder](#)>

pTypeRunT [PTypeRunT](#)

Returns

[PTypeRunBuilder](#)

AddTbl(TableName)

```
public PTypeRunBuilder AddTbl(TableName tableName)
```

Parameters

tableName [TableName](#)

Returns

[PTypeRunBuilder](#)

AddTbl(Action<TableTypeBuilder>, TableName)

```
public PTypeRunBuilder AddTbl(Action<TableTypeBuilder> builderAction, TableName tableName = null)
```

Parameters

builderAction [Action](#)<[TableTypeBuilder](#)>

tableName [TableName](#)

Returns

[PTypeRunBuilder](#)

AddTextart(PTypeRunTextart)

```
public PTypeRunBuilder AddTextart(PTypeRunTextart textart)
```

Parameters

textart [PTypeRunTextart](#)

Returns

[PTypeRunBuilder](#)

AddVideo(PTypeRunVideo)

```
public PTypeRunBuilder AddVideo(PTypeRunVideo video)
```

Parameters

video [PTypeRunVideo](#)

Returns

[PTypeRunBuilder](#)

SetAttributes(string, int?)

```
public PTypeRunBuilder SetAttributes(string charPrIDRef = null, int? charTcId = null)
```

Parameters

charPrIDRef [string](#)?

charTcId [int](#)?

Returns

[PTypeRunBuilder](#)

SetCharPrIDRef(CharShapeType)

```
public PTypeRunBuilder SetCharPrIDRef(CharShapeType charShapeType)
```

Parameters

charShapeType [CharShapeType](#)

Returns

[PTypeRunBuilder](#)

SetCharPrIDRef(string)

```
public PTypeRunBuilder SetCharPrIDRef(string charPrIDRef)
```

Parameters

charPrIDRef [string](#)

Returns

[PTypeRunBuilder](#)

SetCharTcId(int)

```
public PTypeRunBuilder SetCharTcId(int charTcId)
```

Parameters

charTcId [int](#)

Returns

[PTypeRunBuilder](#)

SetSecPr(SectionDefinitionType)

```
public PTypeRunBuilder SetSecPr(SectionDefinitionType secPr)
```

Parameters

secPr [SectionDefinitionType](#)

Returns

[PTypeRunBuilder](#)

SetSecPr(Action<SectionDefinitionTypeBuilder>,
SectionDefinitionType)

```
public PTypeRunBuilder SetSecPr(Action<SectionDefinitionTypeBuilder> builderAction, SectionDefi
```

Parameters

builderAction [Action](#)<[SectionDefinitionTypeBuilder](#)>

secPr [SectionDefinitionType](#)

Returns

[PTypeRunBuilder](#)

Namespace HwpxIO.Builder.Section.Run.Ctrl

Classes

[HeaderFooterTypeBuilder](#)

[PTypeRunCtrlBuilder](#)

Class HeaderFooterTypeBuilder

Namespace: [HwpIO.Builder.Section.Run.Ctrl](#)

Assembly: HwpIO.dll

```
public class HeaderFooterTypeBuilder : HwpBuilderCore<HeaderFooterType>
```

Inheritance

[object](#) ← [HwpBuilderCore<HeaderFooterType>](#) ← HeaderFooterTypeBuilder

Inherited Members

[HwpBuilderCore<HeaderFooterType>.value](#) , [HwpBuilderCore<HeaderFooterType>.Build\(\)](#) ,
[HwpBuilderCore<HeaderFooterType>.Value](#) , [HwpBuilderCore<HeaderFooterType>.hwpBuilder](#) ,
[HwpBuilderCore<HeaderFooterType>.HwpBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

HeaderFooterTypeBuilder(IHwpBuilder)

```
public HeaderFooterTypeBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

HeaderFooterTypeBuilder(HeaderFooterType, IHwpBuilder)

```
public HeaderFooterTypeBuilder(HeaderFooterType value, IHwpBuilder hwpBuilder = null)
```

Parameters

`value` [HeaderFooterType](#)

`hpxBuilder` [IHpxBuilder](#)

Methods

SetApplyPageType(HeaderFooterTypeApplyPageType)

`public` HeaderFooterTypeBuilder **SetApplyPageType**(HeaderFooterTypeApplyPageType `applyPageType`)

Parameters

`applyPageType` [HeaderFooterTypeApplyPageType](#)

Returns

[HeaderFooterTypeBuilder](#)

SetId(int)

`public` HeaderFooterTypeBuilder **SetId**(`int` `id`)

Parameters

`id` [int](#)

Returns

[HeaderFooterTypeBuilder](#)

SetId(string)

`public` HeaderFooterTypeBuilder **SetId**(`string` `id`)

Parameters

`id` `string`

Returns

[HeaderFooterTypeBuilder](#)

SetSubList(ParaListType)

`public HeaderFooterTypeBuilder SetSubList(ParaListType subList)`

Parameters

`subList` [ParaListType](#)

Returns

[HeaderFooterTypeBuilder](#)

SetSubList(Action<ParaListTypeBuilder>, ParaListType)

`public HeaderFooterTypeBuilder SetSubList(Action<ParaListTypeBuilder> builderAction, ParaListT`

Parameters

`builderAction` [Action](#)<[ParaListTypeBuilder](#)>

`subList` [ParaListType](#)

Returns

[HeaderFooterTypeBuilder](#)

Class PTypeRunCtrlBuilder

Namespace: [HpxxIO.Builder.Section.Run.Ctrl](#)

Assembly: HpxxIO.dll

```
public sealed class PTypeRunCtrlBuilder : SwitchableBuilder<PTypeRunCtrl>
```

Inheritance

[object](#) ← [HpxxBuilderCore<PTypeRunCtrl>](#) ← [SwitchableBuilder<PTypeRunCtrl>](#) ←
PTypeRunCtrlBuilder

Inherited Members

[SwitchableBuilder<PTypeRunCtrl>.AddSwitch\(Switch\)](#) ,
[SwitchableBuilder<PTypeRunCtrl>.AddSwitch\(Action<SwitchBuilder<PTypeRunCtrl>>\)](#) ,
[HpxxBuilderCore<PTypeRunCtrl>.Build\(\)](#) , [HpxxBuilderCore<PTypeRunCtrl>.Value](#) ,
[HpxxBuilderCore<PTypeRunCtrl>.HpxxBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

PTypeRunCtrlBuilder(IHpxxBuilder)

```
public PTypeRunCtrlBuilder(IHpxxBuilder hpxxBuilder = null)
```

Parameters

hpxxBuilder [IHpxxBuilder](#)

PTypeRunCtrlBuilder(PTypeRunCtrl, IHpxxBuilder)

```
public PTypeRunCtrlBuilder(PTypeRunCtrl value, IHpxxBuilder hpxxBuilder = null)
```

Parameters

value [PTypeRunCtrl](#)

hwpxBuIlder [IHpxBuIlder](#)

Methods

SetAutoNum(AutoNumNewNumType)

```
public PTypeRunCtrlBuilder SetAutoNum(AutoNumNewNumType autoNum)
```

Parameters

autoNum [AutoNumNewNumType](#)

Returns

[PTypeRunCtrlBuilder](#)

SetBookmark(PTypeRunCtrlBookmark)

```
public PTypeRunCtrlBuilder SetBookmark(PTypeRunCtrlBookmark bookmark)
```

Parameters

bookmark [PTypeRunCtrlBookmark](#)

Returns

[PTypeRunCtrlBuilder](#)

SetColPr(ColumnDefType)

```
public PTypeRunCtrlBuilder SetColPr(ColumnDefType colPr)
```

Parameters

`colPr` [ColumnDefType](#)

Returns

[PTypeRunCtrlBuilder](#)

SetEndNote(NoteType)

```
public PTypeRunCtrlBuilder SetEndNote(NoteType noteType)
```

Parameters

`noteType` [NoteType](#)

Returns

[PTypeRunCtrlBuilder](#)

SetFieldBegin(PTypeRunCtrlFieldBegin)

```
public PTypeRunCtrlBuilder SetFieldBegin(PTypeRunCtrlFieldBegin fieldBegin)
```

Parameters

`fieldBegin` [PTypeRunCtrlFieldBegin](#)

Returns

[PTypeRunCtrlBuilder](#)

SetFieldEnd(PTypeRunCtrlFieldEnd)

```
public PTypeRunCtrlBuilder SetFieldEnd(PTypeRunCtrlFieldEnd fieldEnd)
```

Parameters

`fieldEnd` [PTypeRunCtrlFieldEnd](#)

Returns

[PTypeRunCtrlBuilder](#)

SetFootNote(NoteType)

```
public PTypeRunCtrlBuilder SetFootNote(NoteType footNote)
```

Parameters

`footNote` [NoteType](#)

Returns

[PTypeRunCtrlBuilder](#)

SetFooter(HeaderFooterType)

```
public PTypeRunCtrlBuilder SetFooter(HeaderFooterType footer)
```

Parameters

`footer` [HeaderFooterType](#)

Returns

[PTypeRunCtrlBuilder](#)

SetFooter(Action<HeaderFooterTypeBuilder>, HeaderFooterType)

```
public PTypeRunCtrlBuilder SetFooter(Action<HeaderFooterTypeBuilder> builderAction, HeaderFooterType headerFooterType)
```

Parameters

builderAction [Action](#)<[HeaderFooterTypeBuilder](#)>

headerFooterType [HeaderFooterType](#)

Returns

[PTypeRunCtrlBuilder](#)

SetHeader(HeaderFooterType)

```
public PTypeRunCtrlBuilder SetHeader(HeaderFooterType header)
```

Parameters

header [HeaderFooterType](#)

Returns

[PTypeRunCtrlBuilder](#)

SetHeader(Action<HeaderFooterTypeBuilder>, HeaderFooterType)

```
public PTypeRunCtrlBuilder SetHeader(Action<HeaderFooterTypeBuilder> builderAction, HeaderFooterType headerFooterType)
```

Parameters

builderAction [Action](#)<[HeaderFooterTypeBuilder](#)>

headerFooterType [HeaderFooterType](#)

Returns

[PTypeRunCtrlBuilder](#)

SetHiddenComment(PTypeRunCtrlHiddenComment)

```
public PTypeRunCtrlBuilder SetHiddenComment(PTypeRunCtrlHiddenComment hiddenComment)
```

Parameters

hiddenComment [PTypeRunCtrlHiddenComment](#)

Returns

[PTypeRunCtrlBuilder](#)

SetIndexmark(PTypeRunCtrlIndexmark)

```
public PTypeRunCtrlBuilder SetIndexmark(PTypeRunCtrlIndexmark indexmark)
```

Parameters

indexmark [PTypeRunCtrlIndexmark](#)

Returns

[PTypeRunCtrlBuilder](#)

SetNewNum(AutoNumNewNumType)

```
public PTypeRunCtrlBuilder SetNewNum(AutoNumNewNumType newNum)
```

Parameters

newNum [AutoNumNewNumType](#)

Returns

[PTypeRunCtrlBuilder](#)

SetPageHiding(PTypeRunCtrlPageHiding)

```
public PTypeRunCtrlBuilder SetPageHiding(PTypeRunCtrlPageHiding pageHiding)
```

Parameters

pageHiding [PTypeRunCtrlPageHiding](#)

Returns

[PTypeRunCtrlBuilder](#)

SetPageNum(PTypeRunCtrlPageNum)

```
public PTypeRunCtrlBuilder SetPageNum(PTypeRunCtrlPageNum pageNum)
```

Parameters

pageNum [PTypeRunCtrlPageNum](#)

Returns

[PTypeRunCtrlBuilder](#)

SetPageNumCtrl(PTypeRunCtrlPageNumCtrl)

```
public PTypeRunCtrlBuilder SetPageNumCtrl(PTypeRunCtrlPageNumCtrl pageNumCtrl)
```

Parameters

pageNumCtrl [PTypeRunCtrlPageNumCtrl](#)

Returns

[PTypeRunCtrlBuilder](#)

Namespace HwpIO.Builder.Section.Run.Pic

Classes

[PictureTypeBuilder](#)

Class PictureTypeBuilder

Namespace: [Hwp\(IO.Builder.Section.Run.Pic](#)

Assembly: HwpIO.dll

```
public sealed class PictureTypeBuilder : SwitchableBuilder<PictureType>
```

Inheritance

[object](#) ← [HwpBuilderCore<PictureType>](#) ← [SwitchableBuilder<PictureType>](#) ← PictureTypeBuilder

Inherited Members

[SwitchableBuilder<PictureType>.AddSwitch\(Switch\)](#) ,
[SwitchableBuilder<PictureType>.AddSwitch\(Action<SwitchBuilder<PictureType>>\)](#) ,
[HwpBuilderCore<PictureType>.Build\(\)](#) , [HwpBuilderCore<PictureType>.Value](#) ,
[HwpBuilderCore<PictureType>.HwpBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

PictureTypeBuilder(IHwpBuilder)

```
public PictureTypeBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

PictureTypeBuilder(PictureType, IHwpBuilder)

```
public PictureTypeBuilder(PictureType value, IHwpBuilder hwpBuilder = null)
```

Parameters

`value` [PictureType](#)

`hpxBuilder` [IHpxBuilder](#)

Methods

SetCurSz(int, int)

```
public PictureTypeBuilder SetCurSz(int width, int height)
```

Parameters

`width` [int](#)

`height` [int](#)

Returns

[PictureTypeBuilder](#)

SetCurSzFromCentimeter(float, float)

```
public PictureTypeBuilder SetCurSzFromCentimeter(float width, float height)
```

Parameters

`width` [float](#)

`height` [float](#)

Returns

[PictureTypeBuilder](#)

SetEffects(EffectsType)

```
public PictureTypeBuilder SetEffects(EffectsType effects)
```

Parameters

effects [EffectsType](#)

Returns

[PictureTypeBuilder](#)

SetFlip(bool, bool)

```
public PictureTypeBuilder SetFlip(bool horizontal = false, bool vertical = false)
```

Parameters

horizontal [bool](#)

vertical [bool](#)

Returns

[PictureTypeBuilder](#)

SetImg(ImageType)

```
public PictureTypeBuilder SetImg(ImageType img)
```

Parameters

img [ImageType](#)

Returns

[PictureTypeBuilder](#)

SetImg(string, float, int, int, ImageTypeEffect)

```
public PictureTypeBuilder SetImg(string imageId, float alpha = 0, int bright = 0, int contrast
```

Parameters

imageId [string](#)

alpha [float](#)

bright [int](#)

contrast [int](#)

effect [ImageTypeEffect](#)

Returns

[PictureTypeBuilder](#)

SetImgClip(PictureTypeImgClip)

```
public PictureTypeBuilder SetImgClip(PictureTypeImgClip imgClip)
```

Parameters

imgClip [PictureTypeImgClip](#)

Returns

[PictureTypeBuilder](#)

SetImgClip(int, int, int, int)

```
public PictureTypeBuilder SetImgClip(int left, int right, int top, int bottom)
```

Parameters

`left` [int](#)

`right` [int](#)

`top` [int](#)

`bottom` [int](#)

Returns

[PictureTypeBuilder](#)

SetImgDim(PictureTypeImgDim)

`public PictureTypeBuilder SetImgDim(PictureTypeImgDim imgDim)`

Parameters

`imgDim` [PictureTypeImgDim](#)

Returns

[PictureTypeBuilder](#)

SetImgDim(long, long)

`public PictureTypeBuilder SetImgDim(long width, long height)`

Parameters

`width` [long](#)

`height` [long](#)

Returns

[PictureTypeBuilder](#)

SetImgRect(PictureTypeImgRect)

```
public PictureTypeBuilder SetImgRect(PictureTypeImgRect imgRect)
```

Parameters

imgRect [PictureTypeImgRect](#)

Returns

[PictureTypeBuilder](#)

SetImgRect(long, long)

```
public PictureTypeBuilder SetImgRect(long width, long height)
```

Parameters

width [long](#)

height [long](#)

Returns

[PictureTypeBuilder](#)

SetInMargin(InsideMarginType)

```
public PictureTypeBuilder SetInMargin(InsideMarginType inMargin)
```

Parameters

inMargin [InsideMarginType](#)

Returns

[PictureTypeBuilder](#)

SetInMargin(long, long, long, long)

```
public PictureTypeBuilder SetInMargin(long left, long top, long right, long bottom)
```

Parameters

left [long](#)

top [long](#)

right [long](#)

bottom [long](#)

Returns

[PictureTypeBuilder](#)

SetLineShape(LineShapeType)

```
public PictureTypeBuilder SetLineShape(LineShapeType lineShape)
```

Parameters

lineShape [LineShapeType](#)

Returns

[PictureTypeBuilder](#)

SetLock(bool)

```
public PictureTypeBuilder SetLock(bool locked = true)
```

Parameters

`locked` [bool](#)

Returns

[PictureTypeBuilder](#)

SetOffset(long, long)

```
public PictureTypeBuilder SetOffset(long xOffset = 0, long yOffset = 0)
```

Parameters

`xOffset` [long](#)

`yOffset` [long](#)

Returns

[PictureTypeBuilder](#)

SetOrgSz(int, int)

```
public PictureTypeBuilder SetOrgSz(int width, int height)
```

Parameters

`width` [int](#)

`height` [int](#)

Returns

[PictureTypeBuilder](#)

SetOrgSzFromCentimeter(float, float)

```
public PictureTypeBuilder SetOrgSzFromCentimeter(float width, float height)
```

Parameters

width [float](#)

height [float](#)

Returns

[PictureTypeBuilder](#)

SetPos(AbstractShapeObjectTypePos)

```
public PictureTypeBuilder SetPos(AbstractShapeObjectTypePos pos)
```

Parameters

pos [AbstractShapeObjectTypePos](#)

Returns

[PictureTypeBuilder](#)

SetRenderingInfo(AbstractShapeComponentTypeRenderingInfo)

```
public PictureTypeBuilder SetRenderingInfo(AbstractShapeComponentTypeRenderingInfo renderingInfo)
```

Parameters

renderingInfo [AbstractShapeComponentTypeRenderingInfo](#)

Returns

[PictureTypeBuilder](#)

SetRenderingInfo(params MatrixType[])

```
public PictureTypeBuilder SetRenderingInfo(params MatrixType[] matrixTypes)
```

Parameters

matrixTypes [MatrixType\[\]](#)

Returns

[PictureTypeBuilder](#)

SetReverse(bool)

```
public PictureTypeBuilder SetReverse(bool reverse)
```

Parameters

reverse [bool](#)

Returns

[PictureTypeBuilder](#)

SetRotationInfo(int, int, int)

```
public PictureTypeBuilder SetRotationInfo(int angle, int centerX, int centerY)
```

Parameters

angle [int](#)

centerX [int](#)

centerY [int](#)

Returns

[PictureTypeBuilder](#)

SetSz(AbstractShapeObjectTypeSZ)

```
public PictureTypeBuilder SetSz(AbstractShapeObjectTypeSZ sz)
```

Parameters

sz [AbstractShapeObjectTypeSZ](#)

Returns

[PictureTypeBuilder](#)

SetSz(int, int)

```
public PictureTypeBuilder SetSz(int width, int height)
```

Parameters

width [int](#)

height [int](#)

Returns

[PictureTypeBuilder](#)

SetTextWrap(AbstractShapeObjectTypeTextWrap)

```
public PictureTypeBuilder SetTextWrap(AbstractShapeObjectTypeTextWrap textWrap)
```

Parameters

textWrap [AbstractShapeObjectTypeTextWrap](#)

Returns

[PictureTypeBuilder](#)

Namespace HwpxIO.Builder.Section.Run.T

Classes

[PTypeRunTBuilder](#)

Class PTypeRunTBuilder

Namespace: [Hwploquent.Builder.Section.Run.T](#)

Assembly: Hwploquent.dll

```
public sealed class PTypeRunTBuilder : HwploquentSwitchableBuilder<PTypeRunT>
```

Inheritance

[object](#) ← [HwploquentBuilderCore<PTypeRunT>](#) ← [HwploquentSwitchableBuilder<PTypeRunT>](#) ←
PTypeRunTBuilder

Inherited Members

[HwploquentSwitchableBuilder<PTypeRunT>.AddSwitch\(Action<SwitchBuilder<PTypeRunT>>\)](#) ,
[HwploquentSwitchableBuilder<PTypeRunT>.AddSwitch\(Switch\)](#) , [HwploquentBuilderCore<PTypeRunT>.Build\(\)](#) ,
[HwploquentBuilderCore<PTypeRunT>.Value](#) , [HwploquentBuilderCore<PTypeRunT>.HwploquentBuilder](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

PTypeRunTBuilder(IHwploquentBuilder)

```
public PTypeRunTBuilder(IHwploquentBuilder hwploquentBuilder = null)
```

Parameters

hwploquentBuilder [IHwploquentBuilder](#)

PTypeRunTBuilder(PTypeRunT, IHwploquentBuilder)

```
public PTypeRunTBuilder(PTypeRunT value, IHwploquentBuilder hwploquentBuilder = null)
```

Parameters

`value` [PTypeRunT](#)

`hpxBuilder` [IHpxBuilder](#)

Methods

AddDeleteBegin(DeleteBegin)

변경 추적 삭제 시작지점

```
public PTypeRunTBuilder AddDeleteBegin(DeleteBegin deleteBegin)
```

Parameters

`deleteBegin` [DeleteBegin](#)

Returns

[PTypeRunTBuilder](#)

AddDeleteEnd(DeleteEnd)

변경 추적 삭제 끝지점

```
public PTypeRunTBuilder AddDeleteEnd(DeleteEnd deleteEnd)
```

Parameters

`deleteEnd` [DeleteEnd](#)

Returns

[PTypeRunTBuilder](#)

AddFwSpace()

고정폭 빈칸

```
public PTypeRunTBuilder AddFwSpace()
```

Returns

[PTypeRunTBuilder](#)

AddHyphen()

하이픈

```
public PTypeRunTBuilder AddHyphen()
```

Returns

[PTypeRunTBuilder](#)

AddInsertBegin(InsertBegin)

변경 추적 삽입 시작지점

```
public PTypeRunTBuilder AddInsertBegin(InsertBegin insertBegin)
```

Parameters

insertBegin [InsertBegin](#)

Returns

[PTypeRunTBuilder](#)

AddInsertEnd(InsertEnd)

변경 추적 삽입 끝지점

```
public PTypeRunTBuilder AddInsertEnd(InsertEnd insertEnd)
```

Parameters

insertEnd [InsertEnd](#)

Returns

[PTypeRunTBuilder](#)

AddLineBreak()

강제 줄나눔

```
public PTypeRunTBuilder AddLineBreak()
```

Returns

[PTypeRunTBuilder](#)

AddMarkpenBegin(PTypeRunTMarkpenBegin)

형광펜 색상 정보를 담고 있는 요소이다.

```
public PTypeRunTBuilder AddMarkpenBegin(PTypeRunTMarkpenBegin markpenBegin)
```

Parameters

markpenBegin [PTypeRunTMarkpenBegin](#)

Returns

[PTypeRunTBuilder](#)

AddMarkpenEnd()

형광펜 끝

```
public PTypeRunTBuilder AddMarkpenEnd()
```

Returns

[PTypeRunTBuilder](#)

AddNbSpace()

묶음 빈칸

```
public PTypeRunTBuilder AddNbSpace()
```

Returns

[PTypeRunTBuilder](#)

AddTab(PTypeRunTTab)

탭

```
public PTypeRunTBuilder AddTab(PTypeRunTTab tab)
```

Parameters

tab [PTypeRunTTab](#)

Returns

[PTypeRunTBuilder](#)

AddText(string)

텍스트

```
public PTypeRunTBuilder AddText(string text)
```

Parameters

text [string](#)

Returns

[PTypeRunTBuilder](#)

AddTitleMark(PTypeRunTTTitleMark)

```
public PTypeRunTBuilder AddTitleMark(PTypeRunTTTitleMark titleMark)
```

Parameters

titleMark [PTypeRunTTTitleMark](#)

Returns

[PTypeRunTBuilder](#)

SetAttributes(string)

```
public PTypeRunTBuilder SetAttributes(string charStyleIDRef = null)
```

Parameters

charStyleIDRef [string](#)

Returns

[PTypeRunTBuilder](#)

SetCharStyleIDRef(string)

```
public PTypeRunTBuilder SetCharStyleIDRef(string charStyleIDRef)
```

Parameters

charStyleIDRef [string](#)

Returns

[PTypeRunTBuilder](#)

Namespace HwpxlO.Builder.Section.Run.Tbl

Classes

[TableBuilder](#)

[TableCellBuilder](#)

[TableCellDefaultSettingBuilder](#)

[TableSettingBuilder](#)

[TableTypeBuilder](#)

[TableTypeTCBuilder](#)

[TableTypeTRBuilder](#)

Interfaces

[ITableBuilder](#)

[ITableCellBuilder](#)

[ITableCellDefaultSettingBuilder](#)

[ITableSettingBuilder](#)

Interface ITableBuilder

Namespace: [HwpIO.Builder.Section.Run.Tbl](#)

Assembly: HwpIO.dll

```
public interface ITableBuilder
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Methods

Build()

```
TableType Build()
```

Returns

[TableType](#)

Cell(int, int)

```
ITableCellBuilder Cell(int rowAddr, int colAddr)
```

Parameters

rowAddr [int](#)

colAddr [int](#)

Returns

[ITableCellBuilder](#)

DefaultCellSetting()

ITableCellDefaultSettingBuilder **DefaultCellSetting()**

Returns

[ITableCellDefaultSettingBuilder](#)

Setting()

ITableSettingBuilder **Setting()**

Returns

[ITableSettingBuilder](#)

Interface ITableCellBuilder

Namespace: [HpxIO.Builder.Section.Run.Tbl](#)

Assembly: HpxIO.dll

```
public interface ITableCellBuilder : ITableBuilder
```

Inherited Members

[ITableBuilder.Build\(\)](#) , [ITableBuilder.Cell\(int, int\)](#) , [ITableBuilder.DefaultCellSetting\(\)](#) ,
[ITableBuilder.Setting\(\)](#).

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Methods

SetBorderFillIdRef(BorderFillType)

```
ITableCellBuilder SetBorderFillIdRef(BorderFillType borderFillType)
```

Parameters

borderFillType [BorderFillType](#)

Returns

[ITableCellBuilder](#)

SetBorderFillIdRef(string)

```
ITableCellBuilder SetBorderFillIdRef(string borderFillIdRef)
```

Parameters

borderFillIdRef [string](#)

Returns

[ITableCellBuilder](#)

SetMargin(long)

ITableCellBuilder **SetMargin**(long margin)

Parameters

margin [long](#)

Returns

[ITableCellBuilder](#)

SetMargin(long, long)

ITableCellBuilder **SetMargin**(long horizontal, long vertical)

Parameters

horizontal [long](#)

vertical [long](#)

Returns

[ITableCellBuilder](#)

SetMargin(long, long, long, long)

ITableCellBuilder **SetMargin**(long left, long top, long right, long bottom)

Parameters

`left` [long](#)

`top` [long](#)

`right` [long](#)

`bottom` [long](#)

Returns

[ITableCellBuilder](#)

SetSize(long, long)

`ITableCellBuilder` **SetSize**([long](#) width, [long](#) height)

Parameters

`width` [long](#)

`height` [long](#)

Returns

[ITableCellBuilder](#)

SetSpan(int, int)

`ITableCellBuilder` **SetSpan**([int](#) rowspan = 1, [int](#) colSpan = 1)

Parameters

`rowSpan` [int](#)

`colSpan` [int](#)

Returns

[ITableCellBuilder](#)

SetSubList(PTypeRunT)

ITableCellBuilder **SetSubList**(PTypeRunT t)

Parameters

t [PTypeRunT](#)

Returns

[ITableCellBuilder](#)

SetSubList(ParaListType)

ITableCellBuilder **SetSubList**(ParaListType subList)

Parameters

subList [ParaListType](#)

Returns

[ITableCellBuilder](#)

SetSubList(Action<ParaListTypeBuilder>)

ITableCellBuilder **SetSubList**(Action<ParaListTypeBuilder> builderAction)

Parameters

builderAction [Action](#)<[ParaListTypeBuilder](#)>

Returns

[ITableCellBuilder](#)

**SetText(string, CharShapeType, ParaListTypeVertAlign?,
ParaShapeTypeAlignHorizontal?)**

ITableCellBuilder **SetText(string text, CharShapeType charShapeType, ParaListTypeVertAlign? vertAlign, ParaShapeTypeAlignHorizontal? horzAlign)**

Parameters

text [string](#)

charShapeType [CharShapeType](#)

vertAlign [ParaListTypeVertAlign?](#)

horzAlign [ParaShapeTypeAlignHorizontal?](#)

Returns

[ITableCellBuilder](#)

**SetText(string, string, ParaListTypeVertAlign?,
ParaShapeTypeAlignHorizontal?)**

ITableCellBuilder **SetText(string text, string charStyleIDRef = null, ParaListTypeVertAlign? vertAlign, ParaShapeTypeAlignHorizontal? horzAlign)**

Parameters

text [string](#)

charStyleIDRef [string](#)

vertAlign [ParaListTypeVertAlign?](#)

horzAlign [ParaShapeTypeAlignHorizontal?](#)

Returns

[ITableCellBuilder](#)

Interface ITableCellDefaultSettingBuilder

Namespace: [HwpIO.Builder.Section.Run.Tbl](#)

Assembly: HwpIO.dll

```
public interface ITableCellDefaultSettingBuilder : ITableBuilder
```

Inherited Members

[ITableBuilder.Build\(\)](#) , [ITableBuilder.Cell\(int, int\)](#) , [ITableBuilder.DefaultCellSetting\(\)](#) ,
[ITableBuilder.Setting\(\)](#).

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Methods

SetBorderFillIDRef(BorderFillType)

```
ITableCellDefaultSettingBuilder SetBorderFillIDRef(BorderFillType border)
```

Parameters

border [BorderFillType](#)

Returns

[ITableCellDefaultSettingBuilder](#)

SetBorderFillIDRef(string)

```
ITableCellDefaultSettingBuilder SetBorderFillIDRef(string borderFillIDRef)
```

Parameters

borderFillIDRef [string](#)

Returns

[ITableCellDefaultSettingBuilder](#)

SetSize(TableTypeTCCellSz)

ITableCellDefaultSettingBuilder **SetSize**(TableTypeTCCellSz size)

Parameters

size [TableTypeTCCellSz](#)

Returns

[ITableCellDefaultSettingBuilder](#)

SetSize(long, long)

ITableCellDefaultSettingBuilder **SetSize**(long width, long height)

Parameters

width [long](#)

height [long](#)

Returns

[ITableCellDefaultSettingBuilder](#)

Interface ITableSettingBuilder

Namespace: [HpxIO.Builder.Section.Run.Tbl](#)

Assembly: HpxIO.dll

```
public interface ITableSettingBuilder : ITableBuilder
```

Inherited Members

[ITableBuilder.Build\(\)](#) , [ITableBuilder.Cell\(int, int\)](#) , [ITableBuilder.DefaultCellSetting\(\)](#) ,
[ITableBuilder.Setting\(\)](#).

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Methods

AddCellzone(int, int, int, int, BorderFillType)

```
ITableSettingBuilder AddCellzone(int startRowAddr, int startColAddr, int endRowAddr, int endColAddr, BorderFillType borderFillType)
```

Parameters

startRowAddr [int](#)

startColAddr [int](#)

endRowAddr [int](#)

endColAddr [int](#)

borderFillType [BorderFillType](#)

Returns

[ITableSettingBuilder](#)

AddCellzone(int, int, int, int, string)

```
ITableSettingBuilder AddCellzone(int startRowAddr, int startColAddr, int endRowAddr, int endCo:
```

Parameters

startRowAddr [int](#)

startColAddr [int](#)

endRowAddr [int](#)

endColAddr [int](#)

borderFillIDRef [string](#)

Returns

[ITableSettingBuilder](#)

SetBorderFillIDRef(BorderFillType)

```
ITableSettingBuilder SetBorderFillIDRef(BorderFillType borderFillType)
```

Parameters

borderFillType [BorderFillType](#)

Returns

[ITableSettingBuilder](#)

SetBorderFillIDRef(string)

```
ITableSettingBuilder SetBorderFillIDRef(string borderFillIDRef)
```

Parameters

borderFillIDRef [string](#)

Returns

[ITableSettingBuilder](#)

SetPageCenterPos()

ITableSettingBuilder **SetPageCenterPos()**

Returns

[ITableSettingBuilder](#)

SetPos(AbstractShapeObjectTypePos)

ITableSettingBuilder **SetPos**(AbstractShapeObjectTypePos pos)

Parameters

pos [AbstractShapeObjectTypePos](#)

Returns

[ITableSettingBuilder](#)

SetSize(int, int)

ITableSettingBuilder **SetSize**(int width, int height)

Parameters

width [int](#)

height [int](#)

Returns

[ITableSettingBuilder](#)

SetTextFlow(AbstractShapeObjectTypeTextFlow)

ITableSettingBuilder **SetTextFlow**(AbstractShapeObjectTypeTextFlow textFlow)

Parameters

textFlow [AbstractShapeObjectTypeTextFlow](#)

Returns

[ITableSettingBuilder](#)

SetTextWrap(AbstractShapeObjectTypeTextWrap)

ITableSettingBuilder **SetTextWrap**(AbstractShapeObjectTypeTextWrap textWrap)

Parameters

textWrap [AbstractShapeObjectTypeTextWrap](#)

Returns

[ITableSettingBuilder](#)

SetTreatAsChar()

ITableSettingBuilder **SetTreatAsChar**()

Returns

[ITableSettingBuilder](#)

Class TableBuilder

Namespace: [HwpIO.Builder.Section.Run.Tbl](#)

Assembly: HwpIO.dll

```
public class TableBuilder : ITableBuilder
```

Inheritance

[object](#) ← TableBuilder

Implements

[ITableBuilder](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

TableBuilder(IHwpBuilder)

```
public TableBuilder(IHwpBuilder hwpBuilder)
```

Parameters

hwpBuilder [IHwpBuilder](#)

Methods

Build()

```
public TableType Build()
```

Returns

[TableType](#)

Cell(int, int)

```
public ITableCellBuilder Cell(int rowAddr, int colAddr)
```

Parameters

rowAddr [int](#)

colAddr [int](#)

Returns

[ITableCellBuilder](#)

DefaultCellSetting()

```
public ITableCellDefaultSettingBuilder DefaultCellSetting()
```

Returns

[ITableCellDefaultSettingBuilder](#)

Setting()

```
public ITableSettingBuilder Setting()
```

Returns

[ITableSettingBuilder](#)

Class TableCellBuilder

Namespace: [HwpxlO.Builder.Section.Run.Tbl](#)

Assembly: HwpxlO.dll

```
public class TableCellBuilder : ITableCellBuilder, ITableBuilder
```

Inheritance

[object](#) ← TableCellBuilder

Implements

[ITableCellBuilder](#), [ITableBuilder](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

TableCellBuilder(ITableBuilder, int, int)

```
public TableCellBuilder(ITableBuilder parentBuilder, int rowAddr, int colAddr)
```

Parameters

parentBuilder [ITableBuilder](#)

rowAddr [int](#)

colAddr [int](#)

Methods

Build()

```
public TableType Build()
```

Returns

[TableType](#)

Cell(int, int)

```
public ITableCellBuilder Cell(int rowAddr, int colAddr)
```

Parameters

rowAddr [int](#)

colAddr [int](#)

Returns

[ITableCellBuilder](#)

DefaultCellSetting()

```
public ITableCellDefaultSettingBuilder DefaultCellSetting()
```

Returns

[ITableCellDefaultSettingBuilder](#)

SetBorderFillIdRef(BorderFillType)

```
public ITableCellBuilder SetBorderFillIdRef(BorderFillType borderFillType)
```

Parameters

borderFillType [BorderFillType](#)

Returns

[ITableCellBuilder](#)

SetBorderFillIdRef(string)

```
public ITableCellBuilder SetBorderFillIdRef(string borderFillIdRef)
```

Parameters

borderFillIdRef [string](#)

Returns

[ITableCellBuilder](#)

SetMargin(long)

```
public ITableCellBuilder SetMargin(long margin)
```

Parameters

margin [long](#)

Returns

[ITableCellBuilder](#)

SetMargin(long, long)

```
public ITableCellBuilder SetMargin(long horizontal, long vertical)
```

Parameters

`horizontal` [long](#)

`vertical` [long](#)

Returns

[ITableCellBuilder](#)

SetMargin(long, long, long, long)

```
public ITableCellBuilder SetMargin(long left, long top, long right, long bottom)
```

Parameters

`left` [long](#)

`top` [long](#)

`right` [long](#)

`bottom` [long](#)

Returns

[ITableCellBuilder](#)

SetSize(long, long)

```
public ITableCellBuilder SetSize(long width, long height)
```

Parameters

`width` [long](#)

`height` [long](#)

Returns

[ITableCellBuilder](#)

SetSpan(int, int)

```
public ITableCellBuilder SetSpan(int rowspan = 1, int colSpan = 1)
```

Parameters

rowSpan [int](#)

colSpan [int](#)

Returns

[ITableCellBuilder](#)

SetSubList(PTypeRunT)

```
public ITableCellBuilder SetSubList(PTypeRunT t)
```

Parameters

t [PTypeRunT](#)

Returns

[ITableCellBuilder](#)

SetSubList(ParaListType)

셀 내용

```
public ITableCellBuilder SetSubList(ParaListType subList)
```

Parameters

`subList` [ParaListType](#)

Returns

[ITableCellBuilder](#)

SetSubList(Action<ParaListTypeBuilder>)

셀 내용

```
public ITableCellBuilder SetSubList(Action<ParaListTypeBuilder> builderAction)
```

Parameters

`builderAction` [Action](#)<[ParaListTypeBuilder](#)>

Returns

[ITableCellBuilder](#)

**SetText(string, CharShapeType, ParaListTypeVertAlign?,
ParaShapeTypeAlignHorizontal?)**

텍스트 설정

```
public ITableCellBuilder SetText(string text, CharShapeType charShapeType, ParaListTypeVertAlign? vertAlign, ParaShapeTypeAlignHorizontal? horzAlign)
```

Parameters

`text` [string](#)

`charShapeType` [CharShapeType](#)

`vertAlign` [ParaListTypeVertAlign?](#)

`horzAlign` [ParaShapeTypeAlignHorizontal?](#)

Returns

[ITableCellBuilder](#)

**SetText(string, string, ParaListTypeVertAlign?,
ParaShapeTypeAlignHorizontal?)**

텍스트 설정

```
public ITableCellBuilder SetText(string text, string charPrIDRef = null, ParaListTypeVertAlign?
```

Parameters

text [string](#) ↗

charPrIDRef [string](#) ↗

vertAlign [ParaListTypeVertAlign?](#)

horzAlign [ParaShapeTypeAlignHorizontal?](#)

Returns

[ITableCellBuilder](#)

Setting()

```
public ITableSettingBuilder Setting()
```

Returns

[ITableSettingBuilder](#)

Class TableCellDefaultSettingBuilder

Namespace: [HwpxlO.Builder.Section.Run.Tbl](#)

Assembly: HwpxlO.dll

```
public class TableCellDefaultSettingBuilder : ITableCellDefaultSettingBuilder, ITableBuilder
```

Inheritance

[object](#) ← TableCellDefaultSettingBuilder

Implements

[ITableCellDefaultSettingBuilder](#), [ITableBuilder](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

TableCellDefaultSettingBuilder(ITableBuilder)

```
public TableCellDefaultSettingBuilder(ITableBuilder parentBuilder)
```

Parameters

parentBuilder [ITableBuilder](#)

Methods

Build()

```
public TableType Build()
```

Returns

[TableType](#)

Cell(int, int)

```
public ITableCellBuilder Cell(int rowAddr, int colAddr)
```

Parameters

rowAddr [int](#)

colAddr [int](#)

Returns

[ITableCellBuilder](#)

DefaultCellSetting()

```
public ITableCellDefaultSettingBuilder DefaultCellSetting()
```

Returns

[ITableCellDefaultSettingBuilder](#)

SetBorderFillIDRef(BorderFillType)

```
public ITableCellDefaultSettingBuilder SetBorderFillIDRef(BorderFillType border)
```

Parameters

border [BorderFillType](#)

Returns

[ITableCellDefaultSettingBuilder](#)

SetBorderFillIDRef(string)

```
public ITableCellDefaultSettingBuilder SetBorderFillIDRef(string borderFillIDRef)
```

Parameters

borderFillIDRef [string](#)

Returns

[ITableCellDefaultSettingBuilder](#)

SetCharStyleIDRef(string)

```
public ITableCellDefaultSettingBuilder SetCharStyleIDRef(string charStyleIDRef)
```

Parameters

charStyleIDRef [string](#)

Returns

[ITableCellDefaultSettingBuilder](#)

SetCharStyleType(CharShapeType)

```
public ITableCellDefaultSettingBuilder SetCharStyleType(CharShapeType charShape)
```

Parameters

charShape [CharShapeType](#)

Returns

[ITableCellDefaultSettingBuilder](#)

SetSize(TableTypeTCCellSz)

public ITableCellDefaultSettingBuilder **SetSize**(TableTypeTCCellSz size)

Parameters

size [TableTypeTCCellSz](#)

Returns

[ITableCellDefaultSettingBuilder](#)

SetSize(long, long)

public ITableCellDefaultSettingBuilder **SetSize**(long width, long height)

Parameters

width [long](#)

height [long](#)

Returns

[ITableCellDefaultSettingBuilder](#)

Setting()

public ITableSettingBuilder **Setting**()

Returns

[ITableSettingBuilder](#)

Class TableSettingBuilder

Namespace: [HwpxIO.Builder.Section.Run.Tbl](#)

Assembly: HwpxIO.dll

```
public class TableSettingBuilder : ITableSettingBuilder, ITableBuilder
```

Inheritance

[object](#) ← TableSettingBuilder

Implements

[ITableSettingBuilder](#), [ITableBuilder](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

TableSettingBuilder(ITableBuilder)

```
public TableSettingBuilder(ITableBuilder parentBuilder)
```

Parameters

parentBuilder [ITableBuilder](#)

Methods

AddCellzone(int, int, int, int, BorderFillType)

표는 표 전체 또는 표 부분적으로 배경색 및 테두리와 같은 속성을 줄 때, 영역을 지정하기 위해서 [TableTypeCellzone](#) 요소를 사용한다.

```
public ITableSettingBuilder AddCellzone(int startRowAddr, int startColAddr, int endRowAddr, int
```

Parameters

startRowAddr [int](#)

startColAddr [int](#)

endRowAddr [int](#)

endColAddr [int](#)

borderFillType [BorderFillType](#)

Returns

[ITableSettingBuilder](#)

AddCellzone(int, int, int, int, string)

표는 표 전체 또는 표 부분적으로 배경색 및 테두리와 같은 속성을 줄 때, 영역을 지정하기 위해서 [Table TypeCellzone](#) 요소를 사용한다.

```
public ITableSettingBuilder AddCellzone(int startRowAddr, int startColAddr, int endRowAddr, int
```

Parameters

startRowAddr [int](#)

startColAddr [int](#)

endRowAddr [int](#)

endColAddr [int](#)

borderFillIDRef [string](#)

Returns

[ITableSettingBuilder](#)

Build()

```
public TableType Build()
```

Returns

[TableType](#)

Cell(int, int)

```
public ITableCellBuilder Cell(int rowAddr, int colAddr)
```

Parameters

rowAddr [int](#)

colAddr [int](#)

Returns

[ITableCellBuilder](#)

DefaultCellSetting()

```
public ITableCellDefaultSettingBuilder DefaultCellSetting()
```

Returns

[ITableCellDefaultSettingBuilder](#)

SetBorderFillIDRef(BorderFillType)

```
public ITableSettingBuilder SetBorderFillIDRef(BorderFillType borderFillType)
```

Parameters

`borderFillType` [BorderFillType](#)

Returns

[ITableSettingBuilder](#)

SetBorderFillIDRef(string)

```
public ITableSettingBuilder SetBorderFillIDRef(string borderFillIDRef)
```

Parameters

`borderFillIDRef` [string](#)

Returns

[ITableSettingBuilder](#)

SetPageCenterPos()

```
public ITableSettingBuilder SetPageCenterPos()
```

Returns

[ITableSettingBuilder](#)

SetPos(AbstractShapeObjectTypePos)

```
public ITableSettingBuilder SetPos(AbstractShapeObjectTypePos pos)
```

Parameters

`pos` [AbstractShapeObjectTypePos](#)

Returns

[ITableSettingBuilder](#)

SetSize(int, int)

`public ITableSettingBuilder SetSize(int width, int height)`

Parameters

`width int`

`height int`

Returns

[ITableSettingBuilder](#)

SetTextFlow(AbstractShapeObjectTypeTextFlow)

`public ITableSettingBuilder SetTextFlow(AbstractShapeObjectTypeTextFlow textFlow)`

Parameters

`textFlow AbstractShapeObjectTypeTextFlow`

Returns

[ITableSettingBuilder](#)

SetTextWrap(AbstractShapeObjectTypeTextWrap)

`public ITableSettingBuilder SetTextWrap(AbstractShapeObjectTypeTextWrap textWrap)`

Parameters

`textWrap` [AbstractShapeObjectTypeTextWrap](#)

Returns

[ITableSettingBuilder](#)

SetTreatAsChar()

```
public ITableSettingBuilder SetTreatAsChar()
```

Returns

[ITableSettingBuilder](#)

Setting()

```
public ITableSettingBuilder Setting()
```

Returns

[ITableSettingBuilder](#)

Class TableTypeBuilder

Namespace: [HwpIO.Builder.Section.Run.Tbl](#)

Assembly: HwpIO.dll

```
public sealed class TableTypeBuilder : SwitchableBuilder<TableType>
```

Inheritance

[object](#) ← [HwpBuilderCore<TableType>](#) ← [SwitchableBuilder<TableType>](#) ← [TableTypeBuilder](#)

Inherited Members

[SwitchableBuilder<TableType>.AddSwitch\(Switch\)](#) ,
[SwitchableBuilder<TableType>.AddSwitch\(Action<SwitchBuilder<TableType>>\)](#) ,
[HwpBuilderCore<TableType>.Build\(\)](#) , [HwpBuilderCore<TableType>.Value](#) ,
[HwpBuilderCore<TableType>.HwpBuilder](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

TableTypeBuilder(IHwpBuilder)

```
public TableTypeBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

TableTypeBuilder(TableType, IHwpBuilder)

```
public TableTypeBuilder(TableType value, IHwpBuilder hwpBuilder = null)
```

Parameters

value [TableType](#)

hpxBuilder [IHpxBuilder](#)

Methods

AddCellzone(TableTypeCellzone)

표는 표 전체 또는 표 부분적으로 배경색 및 테두리와 같은 속성을 줄 때, 영역을 지정하기 위해서 [TableTypeCellzone](#) 요소를 사용한다.

```
public TableTypeBuilder AddCellzone(TableTypeCellzone cellzone)
```

Parameters

cellzone [TableTypeCellzone](#)

Returns

[TableTypeBuilder](#)

AddCellzone(int, int, int, int, string)

표는 표 전체 또는 표 부분적으로 배경색 및 테두리와 같은 속성을 줄 때, 영역을 지정하기 위해서 [TableTypeCellzone](#) 요소를 사용한다.

```
public TableTypeBuilder AddCellzone(int startRowAddr, int startColAddr, int endRowAddr, int endColAddr, string color)
```

Parameters

startRowAddr [int](#)

startColAddr [int](#)

endRowAddr [int](#)

endColAddr [int](#)

`borderFillIDRef` [string](#)

Returns

[TableTypeBuilder](#)

AddTr(TableTypeTR)

Row 추가

```
public TableTypeBuilder AddTr(TableTypeTR tr)
```

Parameters

`tr` [TableTypeTR](#)

Returns

[TableTypeBuilder](#)

AddTr(Action<TableTypeTRBuilder>, TableTypeTR)

Row 추가

```
public TableTypeBuilder AddTr(Action<TableTypeTRBuilder> builderAction, TableTypeTR tr = null)
```

Parameters

`builderAction` [Action](#) <[TableTypeTRBuilder](#)>

`tr` [TableTypeTR](#)

Returns

[TableTypeBuilder](#)

SetBorderFillIDRef(string)

테두리/배경 아이디 참조 값

```
public TableTypeBuilder SetBorderFillIDRef(string borderFillIDRef)
```

Parameters

borderFillIDRef [string](#)

Returns

[TableTypeBuilder](#)

SetCellSpacing(int)

셀 간격. 단위는 HWPUNIT

```
public TableTypeBuilder SetCellSpacing(int cellSpacing)
```

Parameters

cellSpacing [int](#)

Returns

[TableTypeBuilder](#)

SetColCnt(int)

테이블 열 개수

```
public TableTypeBuilder SetColCnt(int colCnt)
```

Parameters

colCnt [int](#)

Returns

[TableTypeBuilder](#)

SetInMargin(InsideMarginType)

```
public TableTypeBuilder SetInMargin(InsideMarginType insideMarginType)
```

Parameters

insideMarginType [InsideMarginType](#)

Returns

[TableTypeBuilder](#)

SetInMargin(long)

```
public TableTypeBuilder SetInMargin(long margin)
```

Parameters

margin [long](#)

Returns

[TableTypeBuilder](#)

SetInMargin(long, long)

```
public TableTypeBuilder SetInMargin(long horizontal, long vertical)
```

Parameters

horizontal [long](#)

`vertical long ↴`

Returns

[TableTypeBuilder](#)

SetInMargin(long, long, long, long)

`public TableTypeBuilder SetInMargin(long left, long right, long top, long bottom)`

Parameters

`left long ↴`

`right long ↴`

`top long ↴`

`bottom long ↴`

Returns

[TableTypeBuilder](#)

SetLabel(TableTypeLabel)

라벨

`public TableTypeBuilder SetLabel(TableTypeLabel labelType)`

Parameters

`labelType TableTypeLabel`

Returns

[TableTypeBuilder](#)

SetLabel(int, int, int, int, int, int, int, int, int, int)

라벨

```
public TableTypeBuilder SetLabel(int topMargin, int leftMargin, int boxWidth, int boxLength, int
```

Parameters

topMargin [int](#)

leftMargin [int](#)

boxWidth [int](#)

boxLength [int](#)

boxMarginHor [int](#)

boxMarginVer [int](#)

labelCols [int](#)

labelRows [int](#)

landScape [int](#)

pageWidth [int](#)

pageHeight [int](#)

Returns

[TableTypeBuilder](#)

SetLock(bool)

```
public TableTypeBuilder SetLock(bool locked = true)
```

Parameters

locked [bool](#)

Returns

[TableTypeBuilder](#)

SetNoAdjust(bool)

셀 너비/높이 값의 최소 단위(1 pt) 보정 여부

```
public TableTypeBuilder SetNoAdjust(bool noAdjust)
```

Parameters

noAdjust [bool](#)

Returns

[TableTypeBuilder](#)

SetOutMargin(AbstractShapeObjectTypeOutMargin)

```
public TableTypeBuilder SetOutMargin(AbstractShapeObjectTypeOutMargin outMargin)
```

Parameters

outMargin [AbstractShapeObjectTypeOutMargin](#)

Returns

[TableTypeBuilder](#)

SetOutMargin(long)

```
public TableTypeBuilder SetOutMargin(long margin)
```

Parameters

`margin long`

Returns

[TableTypeBuilder](#)

SetOutMargin(long, long)

```
public TableTypeBuilder SetOutMargin(long horizontal, long vertical)
```

Parameters

`horizontal long`

`vertical long`

Returns

[TableTypeBuilder](#)

SetOutMargin(long, long, long, long)

```
public TableTypeBuilder SetOutMargin(long left, long top, long right, long bottom)
```

Parameters

`left long`

`top long`

`right long`

`bottom long`

Returns

[TableTypeBuilder](#)

SetPageBreak(TableTypePageBreak)

테이블이 페이지 경계에서 나뉘는 방식

```
public TableTypeBuilder SetPageBreak(TableTypePageBreak pageBreak)
```

Parameters

pageBreak [TableTypePageBreak](#)

Returns

[TableTypeBuilder](#)

SetPos(AbstractShapeObjectTypePos)

```
public TableTypeBuilder SetPos(AbstractShapeObjectTypePos pos)
```

Parameters

pos [AbstractShapeObjectTypePos](#)

Returns

[TableTypeBuilder](#)

SetRepeatHeader(bool)

테이블이 나뉘었을 경우, 제목 행을 나눈 페이지에서도 반복할지 여부

```
public TableTypeBuilder SetRepeatHeader(bool repeatHeader)
```

Parameters

repeatHeader [bool](#)

Returns

[TableTypeBuilder](#)

SetRowCnt(int)

테이블 행 개수

```
public TableTypeBuilder SetRowCnt(int rowCnt)
```

Parameters

rowCnt [int](#)

Returns

[TableTypeBuilder](#)

SetSz(AbstractShapeObjectTypeSZ)

```
public TableTypeBuilder SetSz(AbstractShapeObjectTypeSZ sz)
```

Parameters

sz [AbstractShapeObjectTypeSZ](#)

Returns

[TableTypeBuilder](#)

SetSz(int, int)

```
public TableTypeBuilder SetSz(int width, int height)
```

Parameters

width [int](#)

`height` [int](#)

Returns

[TableTypeBuilder](#)

SetTextFlow(AbstractShapeObjectTypeTextFlow)

```
public TableTypeBuilder SetTextFlow(AbstractShapeObjectTypeTextFlow textFlow)
```

Parameters

`textFlow` [AbstractShapeObjectTypeTextFlow](#)

Returns

[TableTypeBuilder](#)

SetTextWrap(AbstractShapeObjectTypeTextWrap)

```
public TableTypeBuilder SetTextWrap(AbstractShapeObjectTypeTextWrap textWrap)
```

Parameters

`textWrap` [AbstractShapeObjectTypeTextWrap](#)

Returns

[TableTypeBuilder](#)

Class TableTypeTCBuilder

Namespace: [HwpIO.Builder.Section.Run.Tbl](#)

Assembly: HwpIO.dll

```
public sealed class TableTypeTCBuilder : HwpBuilderCore<TableTypeTC>
```

Inheritance

[object](#) ← [HwpBuilderCore<TableTypeTC>](#) ← TableTypeTCBuilder

Inherited Members

[HwpBuilderCore<TableTypeTC>.Build\(\)](#) , [HwpBuilderCore<TableTypeTC>.Value](#) ,
[HwpBuilderCore<TableTypeTC>.HwpBuilder](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Constructors

TableTypeTCBuilder(IHwpBuilder)

```
public TableTypeTCBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

TableTypeTCBuilder(TableTypeTC, IHwpBuilder)

```
public TableTypeTCBuilder(TableTypeTC value, IHwpBuilder hwpBuilder = null)
```

Parameters

value [TableTypeTC](#)

[hwpxBuilde](#) [IHwpxBuilde](#)

Methods

SetBorderFillIDRef(string)

테두리/배경 아이디 참조 값

```
public TableTypeTCBuilder SetBorderFillIDRef(string borderFillIDRef)
```

Parameters

borderFillIDRef [string](#)

Returns

[TableTypeTCBuilder](#)

SetCellAddr(TableTypeTCCellAddr)

셀 주소

```
public TableTypeTCBuilder SetCellAddr(TableTypeTCCellAddr cellAddr)
```

Parameters

cellAddr [TableTypeTCCellAddr](#)

Returns

[TableTypeTCBuilder](#)

SetCellAddr(int, int)

셀 주소

```
public TableTypeTCBuilder SetCellAddr(int rowAddr, int colAddr)
```

Parameters

rowAddr [int](#)

colAddr [int](#)

Returns

[TableTypeTCBuilder](#)

SetCellMargin(TableTypeTCCellMargin)

셀 여백

```
public TableTypeTCBuilder SetCellMargin(TableTypeTCCellMargin cellMargin)
```

Parameters

cellMargin [TableTypeTCCellMargin](#)

Returns

[TableTypeTCBuilder](#)

SetCellMargin(long)

셀 여백

```
public TableTypeTCBuilder SetCellMargin(long margin)
```

Parameters

margin [long](#)

Returns

[TableTypeTCBuilder](#)

SetCellMargin(long, long)

셀 여백

```
public TableTypeTCBuilder SetCellMargin(long horizontal, long vertical)
```

Parameters

horizontal [long](#)

vertical [long](#)

Returns

[TableTypeTCBuilder](#)

SetCellMargin(long, long, long, long)

셀 여백

```
public TableTypeTCBuilder SetCellMargin(long left, long right, long top, long bottom)
```

Parameters

left [long](#)

right [long](#)

top [long](#)

bottom [long](#)

Returns

[TableTypeTCBuilder](#)

SetCellSpan(TableTypeTCCellSpan)

셀 병합 정보

```
public TableTypeTCBuilder SetCellSpan(TableTypeTCCellSpan cellSpan)
```

Parameters

cellSpan [TableTypeTCCellSpan](#)

Returns

[TableTypeTCBuilder](#)

SetCellSpan(int, int)

셀 병합 정보

```
public TableTypeTCBuilder SetCellSpan(int rowspan = 1, int colSpan = 1)
```

Parameters

rowSpan [int](#)

colSpan [int](#)

Returns

[TableTypeTCBuilder](#)

SetCellSz(TableTypeTCCellSz)

셀 크기

```
public TableTypeTCBuilder SetCellSz(TableTypeTCCellSz cellSz)
```

Parameters

`cellSz` [TableTypeTCCellSz](#)

Returns

[TableTypeTCBuilder](#)

SetCellSz(long, long)

셀 크기

```
public TableTypeTCBuilder SetCellSz(long width, long height)
```

Parameters

`width` [long](#)

`height` [long](#)

Returns

[TableTypeTCBuilder](#)

SetDirty(bool)

마지막 업데이트된 이후 사용자가 내용을 변경했는지 여부

```
public TableTypeTCBuilder SetDirty(bool dirty)
```

Parameters

`dirty` [bool](#)

Returns

[TableTypeTCBuilder](#)

SetEditable(bool)

읽기 전용 상태에서도 수정 가능한지 여부

```
public TableTypeTCBuilder SetEditable(bool editable)
```

Parameters

editable [bool](#)

Returns

[TableTypeTCBuilder](#)

SetHasMargin(bool)

테이블의 기본 셀 여백이 아닌 독자적인 여백을 사용하는지 여부

```
public TableTypeTCBuilder SetHasMargin(bool hasMargin)
```

Parameters

hasMargin [bool](#)

Returns

[TableTypeTCBuilder](#)

SetHeader(bool)

제목 셀인지 여부

```
public TableTypeTCBuilder SetHeader(bool header)
```

Parameters

header [bool](#)

Returns

[TableTypeTCBuilder](#)

SetName(string)

셀 필드 이름

```
public TableTypeTCBuilder SetName(string name = "")
```

Parameters

name [string](#)

Returns

[TableTypeTCBuilder](#)

SetProtect(bool)

사용자 편집을 막을지 여부

```
public TableTypeTCBuilder SetProtect(bool protect)
```

Parameters

protect [bool](#)

Returns

[TableTypeTCBuilder](#)

SetSubList(ParaListType)

셀 내용

```
public TableTypeTCBuilder SetSubList(ParaListType subList)
```

Parameters

subList [ParaListType](#)

Returns

[TableTypeTCBuilder](#)

SetSubList(Action<ParaListTypeBuilder>, ParaListType)

셀 내용

```
public TableTypeTCBuilder SetSubList(Action<ParaListTypeBuilder> builderAction, ParaListType s1
```

Parameters

builderAction [Action](#)<[ParaListTypeBuilder](#)>

subList [ParaListType](#)

Returns

[TableTypeTCBuilder](#)

Class TableTypeTRBuilder

Namespace: [HwpIO.Builder.Section.Run.Tbl](#)

Assembly: HwpIO.dll

```
public sealed class TableTypeTRBuilder : HwpxBUILDERCore<TableTypeTR>
```

Inheritance

[object](#) ← [HwpxBUILDERCore<TableTypeTR>](#) ← TableTypeTRBuilder

Inherited Members

[HwpxBUILDERCore<TableTypeTR>.Build\(\)](#) , [HwpxBUILDERCore<TableTypeTR>.Value](#) ,
[HwpxBUILDERCore<TableTypeTR>.HwpxBUILDER](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

TableTypeTRBuilder(IHwpxBUILDER)

```
public TableTypeTRBuilder(IHwpxBUILDER hwpxBUILDER = null)
```

Parameters

hwpxBUILDER [IHwpxBUILDER](#)

TableTypeTRBuilder(TableTypeTR, IHwpxBUILDER)

```
public TableTypeTRBuilder(TableTypeTR value, IHwpxBUILDER hwpxBUILDER = null)
```

Parameters

value [TableTypeTR](#)

`hwpxBuilde` [IHwpxBuilde](#)

Methods

AddTc(TableTypeTC)

`public TableTypeTRBuilder AddTc(TableTypeTC tc)`

Parameters

`tc` [TableTypeTC](#)

Returns

[TableTypeTRBuilder](#)

AddTc(Action<TableTypeTCBuilder>, TableTypeTC)

`public TableTypeTRBuilder AddTc(Action<TableTypeTCBuilder> builderAction, TableTypeTC tc = null)`

Parameters

`builderAction` [Action](#)<[TableTypeTCBuilder](#)>

`tc` [TableTypeTC](#)

Returns

[TableTypeTRBuilder](#)

Namespace HpxxIO.Builder.Switchable Classes

[SwitchBuilder<T>](#)

[SwitchableBuilder<T>](#)

Class SwitchBuilder<T>

Namespace: [Hwp\(IO.Builder.Switchable](#)

Assembly: HwpIO.dll

```
public sealed class SwitchBuilder<T> : HwpBuilderCore<Switch> where T : IHwpObject
```

Type Parameters

T

Inheritance

[object](#) ← [HwpBuilderCore<Switch>](#) ← SwitchBuilder<T>

Inherited Members

[HwpBuilderCore<Switch>.Build\(\)](#) , [HwpBuilderCore<Switch>.Value](#) ,
[HwpBuilderCore<Switch>.HwpBuilder](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

SwitchBuilder(IHwpBuilder)

```
public SwitchBuilder(IHwpBuilder hwpBuilder = null)
```

Parameters

hwpBuilder [IHwpBuilder](#)

SwitchBuilder(Switch, IHwpBuilder)

```
public SwitchBuilder(Switch value, IHwpBuilder hwpBuilder)
```

Parameters

value [Switch](#)

hpxBuilder [IHpxBuilder](#)

Fields

DefaultRequiredNamespace

```
public const string DefaultRequiredNamespace = "http://www.hancom.co.kr/hwpml/2016/HwpUnitChar"
```

Field Value

[string](#)

DefaultSwitchableCaseCondition

```
public const string DefaultSwitchableCaseCondition = "http://www.hancom.co.kr/hwpml/2016/HwpUn"
```

Field Value

[string](#)

Methods

AddCase(T, string)

```
public SwitchBuilder<T> AddCase(T value, string condition = "http://www.hancom.co.kr/hwpml/2016/HwpUnitChar")
```

Parameters

value T

condition [string](#)

Returns

[SwitchBuilder](#)<T>

SetDefault(T)

```
public SwitchBuilder<T> SetDefault(T value)
```

Parameters

value T

Returns

[SwitchBuilder](#)<T>

Class SwitchableBuilder<T>

Namespace: [Hwploquent.Builder.Switchable](#)

Assembly: Hwploquent.dll

```
public class SwitchableBuilder<T> : HwploquentBuilderCore<T> where T : Switchable
```

Type Parameters

T

Inheritance

[object](#) ← [HwploquentBuilderCore](#)<T> ← SwitchableBuilder<T>

Derived

[PTypeRunCtrlBuilder](#), [PictureTypeBuilder](#), [TableTypeBuilder](#), [SectionDefinitionTypeBuilder](#)

Inherited Members

[HwploquentBuilderCore](#)<T>.value, [HwploquentBuilderCore](#)<T>.Build(), [HwploquentBuilderCore](#)<T>.Value, [HwploquentBuilderCore](#)<T>.hwploquentBuilder, [HwploquentBuilderCore](#)<T>.HwploquentBuilder, [object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#), [object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull](#)<T>(T, Action<T>)

Constructors

SwitchableBuilder()

```
public SwitchableBuilder()
```

SwitchableBuilder(T, IHwploquentBuilder)

```
public SwitchableBuilder(T value, IHwploquentBuilder hwploquentBuilder = null)
```

Parameters

value T

hpxBuilder [IHpxBuilder](#)

Methods

AddSwitch(Switch)

```
public SwitchableBuilder<T> AddSwitch(Switch @switch)
```

Parameters

switch [Switch](#)

Returns

[SwitchableBuilder](#)<T>

AddSwitch(Action<SwitchBuilder<T>>)

```
public SwitchableBuilder<T> AddSwitch(Action<SwitchBuilder<T>> builderAction)
```

Parameters

builderAction [Action](#)<[SwitchBuilder](#)<T>>

Returns

[SwitchableBuilder](#)<T>

Namespace HwpxIO.Common

Classes

[Colors](#)

[EqualityComparerInstances](#)

내부적으로 비교를 위해서 사용하는 EqualityComparer 인스턴스들을 모아둔 클래스

Class Colors

Namespace: [HwpXI0.Common](#)

Assembly: HwpXI0.dll

```
public static class Colors
```

Inheritance

[object](#) ← Colors

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Fields

Black

```
public const string Black = "#000000"
```

Field Value

[string](#)

Blue

```
public const string Blue = "#0000FF"
```

Field Value

[string](#)

Brown

```
public const string Brown = "#A52A2A"
```

Field Value

[string ↗](#)

Coral

```
public const string Coral = "#FF7F50"
```

Field Value

[string ↗](#)

Cyan

```
public const string Cyan = "#00FFFF"
```

Field Value

[string ↗](#)

Gold

```
public const string Gold = "#FFD700"
```

Field Value

[string ↗](#)

Gray

```
public const string Gray = "#808080"
```

Field Value

[string ↗](#)

Green

```
public const string Green = "#00FF00"
```

Field Value

[string ↗](#)

Indigo

```
public const string Indigo = "#4B0082"
```

Field Value

[string ↗](#)

Lime

```
public const string Lime = "#00FF00"
```

Field Value

[string ↗](#)

Magenta

```
public const string Magenta = "#FF00FF"
```

Field Value

[string ↗](#)

Maroon

```
public const string Maroon = "#800000"
```

Field Value

[string ↗](#)

Navy

```
public const string Navy = "#000080"
```

Field Value

[string ↗](#)

Olive

```
public const string Olive = "#808000"
```

Field Value

[string ↗](#)

Orange

```
public const string Orange = "#FFA500"
```

Field Value

[string ↗](#)

Pink

```
public const string Pink = "#FFC0CB"
```

Field Value

[string ↗](#)

Purple

```
public const string Purple = "#800080"
```

Field Value

[string ↗](#)

Red

```
public const string Red = "#FF0000"
```

Field Value

[string ↗](#)

Silver

```
public const string Silver = "#C0C0C0"
```

Field Value

[string ↗](#)

Teal

```
public const string Teal = "#008080"
```

Field Value

[string ↗](#)

Violet

```
public const string Violet = "#8A2BE2"
```

Field Value

[string ↗](#)

White

```
public const string White = "#FFFFFF"
```

Field Value

[string ↗](#)

Yellow

```
public const string Yellow = "#FFFF00"
```

Field Value

[string](#)

Methods

ToHex(Color)

```
public static string ToHex(this Color color)
```

Parameters

[color](#) [Color](#)

Returns

[string](#)

Class EqualityComparerInstances

Namespace: [HpxIO.Common](#)

Assembly: HpxIO.dll

내부적으로 비교를 위해서 사용하는 EqualityComparer 인스턴스들을 모아둔 클래스

```
public static class EqualityComparerInstances
```

Inheritance

[object](#) ← EqualityComparerInstances

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Properties

BorderFillType

```
public static IEqualityComparer<BorderFillType> BorderFillType { get; }
```

Property Value

[IEqualityComparer](#)<[BorderFillType](#)>

CharShapeType

```
public static IEqualityComparer<CharShapeType> CharShapeType { get; }
```

Property Value

[IEqualityComparer](#)<[CharShapeType](#)>

FontfaceTypeFont

```
public static IEqualityComparer<FontfaceTypeFont> FontfaceTypeFont { get; }
```

Property Value

[IEqualityComparer](#) <[FontfaceTypeFont](#)>

ParaShapeType

```
public static IEqualityComparer<ParaShapeType> ParaShapeType { get; }
```

Property Value

[IEqualityComparer](#) <[ParaShapeType](#)>

StyleType

```
public static IEqualityComparer<StyleType> StyleType { get; }
```

Property Value

[IEqualityComparer](#) <[StyleType](#)>

TabDefType

```
public static IEqualityComparer<TabDefType> TabDefType { get; }
```

Property Value

[IEqualityComparer](#) <[TabDefType](#)>

Namespace HwpxIO.Comparer

Classes

[EqualityComparerBuilder<T>](#)

Interfaces

[IEqualityComparerBuilder<T>](#)

[IIncludableEqualityComparerBuilder<T>](#)

[IIncludableEqualityComparerBuilder<T, TProperty>](#)

Class EqualityComparerBuilder<T>

Namespace: [HpxIO.Comparer](#)

Assembly: HpxIO.dll

```
public class EqualityComparerBuilder<T> : IEqualityComparerBuilder<T>
```

Type Parameters

T

Inheritance

[object](#) ← EqualityComparerBuilder<T>

Implements

[IEqualityComparerBuilder<T>](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Methods

Build()

```
public IEqualityComparer<T> Build()
```

Returns

[IEqualityComparer<T>](#)

Equals(T, T)

포함된 모든 프로퍼티와 사용자 지정 비교기를 사용하여 두 개체를 비교합니다.

```
public bool Equals(T x, T y)
```

Parameters

x T

y T

Returns

[bool](#)

Include<TProperty>(Func<T, TProperty>)

비교를 위해 포함할 프로퍼티를 포함합니다.

```
public IIncludableEqualityComparerBuilder<T, TProperty> Include<TProperty>(Func<T, TProperty> p)
```

Parameters

propertySelector [Func](#)<T, TProperty>

프로퍼티 선택

Returns

[IIncludableEqualityComparerBuilder](#)<T, TProperty>

Type Parameters

TProperty

프로퍼티 타입

Interface IEqualityComparerBuilder<T>

Namespace: [HwpxIO.Comparer](#)

Assembly: HwpxIO.dll

```
public interface IEqualityComparerBuilder<T>
```

Type Parameters

T

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Methods

Build()

```
IEqualityComparer<T> Build()
```

Returns

[IEqualityComparer<T>](#)

Equals(T, T)

포함된 모든 프로퍼티와 사용자 지정 비교기를 사용하여 두 개체를 비교합니다.

```
bool Equals(T x, T y)
```

Parameters

x T

y T

Returns

[bool ↗](#)

Include<TProperty>(Func<T, TProperty>)

비교를 위해 포함할 프로퍼티를 포함합니다.

`IIncludableEqualityComparerBuilder<T, TProperty> Include<TProperty>(Func<T, TProperty> property`

Parameters

`propertySelector Func<T, TProperty>`

프로퍼티 선택

Returns

[IIncludableEqualityComparerBuilder<T, TProperty>](#)

Type Parameters

`TProperty`

프로퍼티 타입

Interface IIcludableEqualityComparerBuilder<T>

Namespace: [HpxIO.Comparer](#)

Assembly: HpxIO.dll

```
public interface IIcludableEqualityComparerBuilder<T> : IEqualityComparerBuilder<T>
```

Type Parameters

T

Inherited Members

[IEqualityComparerBuilder<T>.Equals\(T, T\)](#) ,
[IEqualityComparerBuilder<T>.Include<TPROPERTY>\(Func<T, TPROPERTY>\)](#) ,
[IEqualityComparerBuilder<T>.Build\(\)](#).

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Interface IIIncludableEqualityComparerBuilder<T, TProperty>

Namespace: [HpxIO.Comparer](#)

Assembly: HpxIO.dll

```
public interface IIIncludableEqualityComparerBuilder<T, TProperty> : IIIncludableEqualityComparer
```

Type Parameters

T

TProperty

Inherited Members

[IEqualityComparerBuilder<T>.Equals\(T, T\)](#) ,
[IEqualityComparerBuilder<T>.Include<TProperty>\(Func<T, TProperty>\)](#) ,
[IEqualityComparerBuilder<T>.Build\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Methods

ApplyMappingToNulls()

Null 값에 대한 매팅을 적용합니다.

```
IIIncludableEqualityComparerBuilder<T, TProperty> ApplyMappingToNulls()
```

Returns

[IIIncludableEqualityComparerBuilder<T, TProperty>](#)

CustomEqualityComparer(Func<TProperty, TProperty, bool>)

커스텀 비교 함수를 설정합니다.

`IIncludableEqualityComparerBuilder<T, TProperty> CustomEqualityComparer(Func<TProperty, TProperty, bool> comparer)`

Parameters

`comparer Func<TProperty, TProperty, bool>`

Returns

`IIncludableEqualityComparerBuilder<T, TProperty>`

Map(Func<TProperty, bool>, TProperty)

속성 값에 대한 매핑을 조건에 따라 설정합니다.

`IIncludableEqualityComparerBuilder<T, TProperty> Map(Func<TProperty, bool> condition, TProperty result)`

Parameters

`condition Func<TProperty, bool>`

조건

`result TProperty`

조건이 충족될 경우 매핑될 결과

Returns

`IIncludableEqualityComparerBuilder<T, TProperty>`

NullEqualityComparer()

null 값에 대한 비교만 하도록 함수를 설정합니다.

`IIIncludableEqualityComparerBuilder<T, TProperty> NullEqualityComparer()`

Returns

[`IIncludableEqualityComparerBuilder<T, TProperty>`](#)

Namespace HwpxlO.Enums

Enums

[AbstractButtonObjectTypeBackStyle](#)

[AbstractButtonObjectTypeValue](#)

[AbstractShapeObjectTypeCaptionSide](#)

[AbstractShapeObjectTypeNumberingType](#)

[AbstractShapeObjectTypePosHorzAlign](#)

[AbstractShapeObjectTypePosHorzRelTo](#)

[AbstractShapeObjectTypePosVertAlign](#)

[AbstractShapeObjectTypePosVertRelTo](#)

[AbstractShapeObjectTypeSZHeightRelTo](#)

[AbstractShapeObjectTypeSZWidthRelTo](#)

[AbstractShapeObjectTypeTextFlow](#)

[AbstractShapeObjectTypeTextWrap](#)

[AlignStyleType](#)

[ArcTypeType](#)

[ArrowSize](#)

[ArrowType](#)

[AutoNumNewNumTypeNumType](#)

[BorderFillTypeCenterLine](#)

중심선 종류

[CharShapeTypeShadowType](#)

[CharShapeTypeSymMark](#)

[CharShapeTypeUnderlineType](#)

[ColumnDefTypeLayout](#)

[ColumnDefType](#)

[CompatibleDocumentType](#) [TargetProgram](#)

[ConnectLineType](#)

[CurveType](#) [SegType](#)

[DropCapStyle](#)

[EditType](#) [AlignText](#)

[EditType](#) [ScrollBars](#)

[EditType](#) [TabKeyBehavior](#)

[EffectsColorType](#) [EffectType](#)

색상 효과 정보를 가지고 있는 요소이다

[EffectsColorType](#)

[EffectsType](#) [ShadowStyle](#)

[EllipseType](#) [ArcType](#)

[EndNoteShapeType](#) [NumberingType](#)

[EndNoteShapeType](#) [PlacementPlace](#)

[EquationType](#) [LineMode](#)

[FieldType](#)

[FillBrushType](#) [GradationType](#)

[FillBrushType](#) [ImgBrushMode](#)

[FillBrushType](#) [WinBrushHatchStyle](#)

[FontfaceType](#) [FontSubstFontType](#)

[FontfaceType](#) [FontType](#)

[FontfaceType](#) [FontType](#) [InfoFamilyType](#)

[FontfaceType](#) [Lang](#)

언어(한글, 영어, 한자, 일어, 기타, 심볼, 사용자)

[FootNoteShapeTypeNumberingType](#)

[FootNoteShapeTypePlacementPlace](#)

[HWPValueUnit](#)

[HeaderFooterTypeApplyPageType](#)

[ImageTypeEffect](#)

[ItemChoiceType](#)

[ItemsChoiceType](#)

[ItemsChoiceType1](#)

[LicenseType](#)

[LineShapeTypeEndCap](#)

[LineShapeTypeOutlineStyle](#)

[LineType1](#)

[LineType2](#)

[LineType3](#)

[LineWidth](#)

[MasterPageTypeType](#)

바탕쪽이 적용되는 형식

[MemoShapeTypeMemoType](#)

[NumberType1](#)

[NumberType2](#)

[OLETypeDrawAspect](#)

[OLETypeObjectType](#)

[PTypeRunComposeCircleType](#)

[PTypeRunComposeComposeType](#)

[PTypeRunCtrlPageNumCtrlPageStartsOn](#)

[PTypeRunCtrlPageNumPos](#)

[PTypeRunDutmalAlign](#)

[PTypeRunDutmalPosType](#)

[PTypeRunTTabType](#)

[PTypeRunTextartTextartPrAlign](#)

[PTypeRunTextartTextartPrFontType](#)

[PTypeRunTextartTextartPrTextShape](#)

[PTypeRunVideoType](#)

[ParaHeadTypeAlign](#)

[ParaHeadTypeTextOffsetType](#)

[ParaListTypeLineWrap](#)

[ParaListTypeTextDirection](#)

[ParaListTypeVertAlign](#)

[ParaShapeTypeAlignHorizontal](#)

[ParaShapeTypeAlignVertical](#)

[ParaShapeTypeBreakSettingBreakLatinWord](#)

[ParaShapeTypeBreakSettingBreakNonLatinWord](#)

[ParaShapeTypeBreakSettingLineWrap](#)

한 줄로 입력 사용 시의 형식

[ParaShapeTypeHeadingType](#)

문단 머리 모양 종류

[ParaShapeTypeLineSpacingType](#)

줄 간격 종류

[ParaShapeTypeLineSpacingUnit](#)

[ScrollBarTypeType](#)

[SectionDefinitionTypePageBorderFillFillArea](#)

[SectionDefinitionTypePageBorderFillTextBorder](#)

[SectionDefinitionTypePageBorderFillType](#)

[SectionDefinitionTypePagePrGutterType](#)

[SectionDefinitionTypePagePrLandscape](#)

[SectionDefinitionTypeStartNumPageStartsOn](#)

[SectionDefinitionTypeTextDirection](#)

[ShadowTypeType](#)

[SlashTypeType](#)

[StyleTypeType](#)

[SystemTimeType](#)

[TabDefTypeTabItemType](#)

[TableTypePageBreak](#)

[TrackChangeType](#)

[VersionTagetApplication](#)

[VisibilityValue](#)

Enum AbstractButtonTypeBackStyle

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum AbstractButtonTypeBackStyle
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

OPAQUE = 1

TRANSPARENT = 0

Enum AbstractButtonObjectTypeValue

Namespace: [HwpXIEnums](#)

Assembly: HwpXI.dll

```
[Serializable]
public enum AbstractButtonObjectTypeValue
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CHECKED = 1

INDETERMINATE = 2

UNCHECKED = 0

Enum AbstractShapeObjectTypeCaptionSide

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum AbstractShapeObjectTypeCaptionSide
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BOTTOM = 3

LEFT = 0

RIGHT = 1

TOP = 2

Enum AbstractShapeObjectTypeNumberingType

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum AbstractShapeObjectTypeNumberingType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

EQUATION = 3

NONE = 0

PICTURE = 1

TABLE = 2

Enum AbstractShapeObjectTypePosHorzAlign

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum AbstractShapeObjectTypePosHorzAlign
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CENTER = 1

가운데

INSIDE = 3

안쪽

LEFT = 0

왼쪽

OUTSIDE = 4

바깥쪽

RIGHT = 2

오른쪽

Enum AbstractShapeObjectTypePosHorzRelTo

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum AbstractShapeObjectTypePosHorzRelTo
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

COLUMN = 2

PAGE = 1

PAPER = 0

PARA = 3

Enum AbstractShapeObjectTypePosVertAlign

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum AbstractShapeObjectTypePosVertAlign
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BOTTOM = 2

아래

CENTER = 1

가운데

INSIDE = 3

안쪽

OUTSIDE = 4

바깥쪽

TOP = 0

위

Enum AbstractShapeObjectTypePosVertRelTo

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum AbstractShapeObjectTypePosVertRelTo
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

PAGE = 1

PAPER = 0

PARA = 2

Enum AbstractShapeObjectTypeSZHeightRelTo

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum AbstractShapeObjectTypeSZHeightRelTo
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

ABSOLUTE = 2

PAGE = 1

PAPER = 0

Enum AbstractShapeObjectTypeSZWidthRelTo

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum AbstractShapeObjectTypeSZWidthRelTo
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

ABSOLUTE = 4

COLUMN = 2

PAGE = 1

PAPER = 0

PARA = 3

Enum AbstractShapeObjectTypeTextFlow

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum AbstractShapeObjectTypeTextFlow
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BOTH_SIDES = 0

LARGEST_ONLY = 3

LEFT_ONLY = 1

RIGHT_ONLY = 2

Enum AbstractShapeObjectTypeTextWrap

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum AbstractShapeObjectTypeTextWrap
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BEHIND_TEXT = 4

IN_FRONT_OF_TEXT = 5

SQUARE = 0

THROUGH = 2

TIGHT = 1

TOP_AND_BOTTOM = 3

Enum AlignStyleType

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum AlignStyleType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BOTTOM = 7

BOTTOM_LEFT = 6

BOTTOM_RIGHT = 8

CENTER = 4

LEFT = 3

RIGHT = 5

TOP = 1

TOP_LEFT = 0

TOP_RIGHT = 2

Enum ArcTypeType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum ArcTypeType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CHORD = 2
활

NORMAL = 0
호

PIE = 1
부채꼴

Enum ArrowSize

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum ArrowSize
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

LARGE_LARGE = 8

LARGE_MEDIUM = 7

LARGE_SMALL = 6

MEDIUM_LARGE = 5

MEDIUM_MEDIUM = 4

MEDIUM_SMALL = 3

SMALL_LARGE = 2

SMALL_MEDIUM = 1

SMALL_SMALL = 0

Enum ArrowType

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum ArrowType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

ARROW = 1

CONCAVE_ARROW = 3

EMPTY_BOX = 6

EMPTY_CIRCLE = 5

EMPTY_DIAMOND = 4

FILLED_BOX = 9

FILLED_CIRCLE = 8

FILLED_DIAMOND = 7

NORMAL = 0

SPEAR = 2

Enum AutoNumNewNumTypeNumType

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum AutoNumNewNumTypeNumType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

ENDNOTE = 2

EQUATION = 5

FOOTNOTE = 1

PAGE = 0

PICTURE = 3

TABLE = 4

TOTAL_PAGE = 6

Enum BorderFillTypeCenterLine

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

중심선 종류

```
[Serializable]
public enum BorderFillTypeCenterLine
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Fields

CROSS = 3

HORIZONTAL = 2

NONE = 0

VERTICAL = 1

Enum CharShapeTypeShadowType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum CharShapeTypeShadowType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CONTINUOUS = 2

개체와 연결된 그림자

DROP = 1

개체와 분리된 그림자

NONE = 0

없음

Enum CharShapeTypeSymMark

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum CharShapeTypeSymMark
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

ACUTE_ACCENT = 8

CARON = 4

CIRCUMFLEX = 9

COLON = 6

DOT_ABOVE = 1

DOT_BELOW = 12

GRAVE_ACCENT = 7

HOOK_ABOVE = 11

MACRON = 10

NONE = 0

RING_ABOVE = 2

SIDE = 5

TILDE = 3

Enum CharShapeTypeUnderlineType

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum CharShapeTypeUnderlineType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BOTTOM = 1

글자 아래

CENTER = 2

글자 중간

NONE = 0

없음

TOP = 3

글자 위

Enum ColumnDefTypeLayout

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum ColumnDefTypeLayout
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

LEFT = 0

MIRROR = 2

RIGHT = 1

Enum ColumnDefTypeType

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum ColumnDefTypeType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BALANCED_NEWS PAPER = 1

NEWS PAPER = 0

PARALLEL = 2

Enum CompatibleDocumentTypeTargetProgram

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum CompatibleDocumentTypeTargetProgram
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

HWP200X = 1

HWP201X = 0

MS_WORD = 2

Enum ConnectLineTypeType

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum ConnectLineTypeType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

ARC_BOTH = 8

ARC_NOARROW = 6

ARC_ONEWAY = 7

STRAIGHT_BOTH = 2

STRAIGHT_NOARROW = 0

STRAIGHT_ONEWAY = 1

STROKE_BOTH = 5

STROKE_NOARROW = 3

STROKE_ONEWAY = 4

Enum CurveTypeSegType

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum CurveTypeSegType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CURVE = 1

곡선

LINE = 0

직선

Enum DropCapStyleType

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum DropCapStyleType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

DCS_DOUBLELINE = 1

2줄

DCS_MARGIN = 3

여백

DCS_NONE = 0

없음

DCS_TRIPLELINE = 2

3줄

Enum EditTypeAlignText

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum EditTypeAlignText
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CENTER = 1

LEFT = 0

RIGHT = 2

Enum EditTypeScrollBars

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum EditTypeScrollBars
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BOTH = 3

HORIZONTAL = 2

NONE = 0

VERTICAL = 1

Enum EditTypeTabKeyBehavior

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum EditTypeTabKeyBehavior
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

INSERT_TAB = 1

에디트 내용에 특수 글자 tab 추가

NEXT_OBJECT = 0

다음 객체로 이동

Enum EffectsColorTypeEffectType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

색상 효과 정보를 가지고 있는 요소이다

```
[Serializable]
public enum EffectsColorTypeEffectType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Fields

ALPHA = 0

ALPHA_MOD = 1

ALPHA_OFF = 2

BLUE = 9

BLUE_MOD = 10

BLUE_OFF = 11

COMP = 24

GAMMA = 25

GRAY = 23

GREEN = 6

GREEN_MOD = 7

GREEN_OFF = 8

HUE = 12

HUE_MOD = 13

HUE_OFF = 14

INV = 27

INV_GAMMA = 26

LUM = 18

LUM_MOD = 19

LUM_OFF = 20

RED = 3

RED_MOD = 4

RED_OFF = 5

SAT = 15

SAT_MOD = 16

SAT_OFF = 17

SHADE = 21

TINT = 22

Enum EffectsColorTypeType

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum EffectsColorTypeType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CMYK = 1

RGB = 0

SCHEME = 2

SYSTEM = 3

Enum EffectsTypeShadowStyle

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum EffectsTypeShadowStyle
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

INSIDE = 1

OUTSIDE = 0

Enum EllipseTypeArcType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum EllipseTypeArcType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CHORD = 2
활

NORMAL = 0
호

PIE = 1
부채꼴

Enum EndNoteShapeTypeNumberingType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum EndNoteShapeTypeNumberingType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CONTINUOUS = 0

앞 구역에 이어서

ON_SECTION = 1

현재 구역부터 새로 시작

Enum EndNoteShapeTypePlacementPlace

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum EndNoteShapeTypePlacementPlace
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

END_OF_DOCUMENT = 0

문서의 마지막

END_OF_SECTION = 1

구역의 마지막

Enum EquationTypeLineMode

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum EquationTypeLineMode
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CHAR = 1

LINE = 0

Enum FieldType

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum FieldType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BOOKMARK = 2

CLICK_HERE = 0

CROSSREF = 9

DATE = 6

DOC_DATE = 7

FORMULA = 3

HYPERLINK = 1

MAILMERGE = 10

MEMO = 11

PATH = 8

PRIVATE_INFO = 13

PROOFREADING_MARKS = 12

SUMMERY = 4

USER_INFO = 5

Enum FillBrushTypeGradationType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum FillBrushTypeGradationType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CONICAL = 2

원뿔형

LINEAR = 0

줄무늬형

RADIAL = 1

원형

SQUARE = 3

사각형

Enum FillBrushTypeImgBrushMode

Namespace: [HwpxIO.Enums](#)

Assembly: HwpxIO.dll

```
[Serializable]
public enum FillBrushTypeImgBrushMode
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CENTER = 6

가운데로

CENTER_BOTTOM = 8

가운데 아래로

CENTER_TOP = 7

가운데 위로

LEFT_BOTTOM = 11

왼쪽 아래로

LEFT_CENTER = 9

왼쪽 가운데로

LEFT_TOP = 10

왼쪽 위로

RIGHT_BOTTOM = 14

오른쪽 아래로

RIGHT_CENTER = 12

오른쪽 가운데로

RIGHT_TOP = 13

오른쪽 위로

TITLE = 0

바둑판식으로-모두

TITLE_HORZ_BOTTOM = 2

바둑판식으로-가로/아래

TITLE_HORZ_TOP = 1

바둑판식으로-가로/위

TITLE_VERT_LEFT = 3

바둑판식으로-세로/왼쪽

TITLE_VERT_RIGHT = 4

바둑판식으로-세로/오른쪽

TOTAL = 5

크기에 맞추어

ZOOM = 15

TODO:설명 추가

Enum FillBrushTypeWinBrushHatchStyle

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum FillBrushTypeWinBrushHatchStyle
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BACK_SLASH = 2

WWWW

CROSS = 4

+++++

CROSS_DIAGONAL = 5

XXXXX

HORIZONTAL = 0

NULL = 6

SLASH = 3

////

VERTICAL = 1

||||

Enum FontfaceTypeFontSubstFontType

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum FontfaceTypeFontSubstFontType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

HFT = 1

OTF = 2

TTF = 0

Enum FontfaceTypeFontType

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum FontfaceTypeFontType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

HFT = 2

REP = 0

TTF = 1

Enum FontfaceTypeFontTypeInfoFamilyType

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum FontfaceTypeFontTypeInfoFamilyType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

FCAT_BRUSHSCRIPT = 4

cursive

FCAT_DECORATIVE = 5

cursive

FCAT_GOTHIC = 2

sans-serif

FCAT_MYUNGJO = 1

serif

FCAT_NONRECTGT = 7

sans-serif

FCAT_NONRECTMJ = 6

serif

FCAT_SSERIF = 3

monospace

FCAT_UNKNOWN = 0

Enum FontfaceTypeLang

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

언어(한글, 영어, 한자, 일본어, 기타, 심볼, 사용자)

```
[Serializable]
public enum FontfaceTypeLang
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Fields

HANGUL = 0

한글

HANJA = 2

한자

JAPANESE = 3

일어

LATIN = 1

영어

OTHER = 4

기타

SYMBOL = 5

심볼

USER = 6

사용자

Enum FootNoteShapeTypeNumberingType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum FootNoteShapeTypeNumberingType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CONTINUOUS = 0

앞 구역에 이어서

ON_PAGE = 2

쪽마다 새로 시작. 각주 전용

ON_SECTION = 1

현재 구역부터 새로 시작

Enum FootNoteShapeTypePlacementPlace

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum FootNoteShapeTypePlacementPlace
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

EACH_COLUMN = 0

MERGED_COLUMN = 1

RIGHT_MOST_COLUMN = 2

Enum HWValueUnit

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum HWValueUnit
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CHAR = 0

HWPUNIT = 1

NONE = -1

Enum HeaderFooterTypeApplyPageType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum HeaderFooterTypeApplyPageType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BOTH = 0

양쪽

EVEN = 1

짝수쪽

ODD = 2

홀수쪽

Enum ImageTypeEffect

Namespace: [HwpxIO.Enums](#)

Assembly: HwpxIO.dll

```
[Serializable]
public enum ImageTypeEffect
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BLACK_WHITE = 2

흑백으로

GRAY_SCALE = 1

그레이스케일로

REAL_PIC = 0

원래 그림에서

Enum ItemChoiceType

Namespace: [HpxlO.Enums](#)

Assembly: HpxlO.dll

```
[Serializable]
public enum ItemChoiceType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

deleteBegin = 0

deleteEnd = 1

fwSpace = 2

hyphen = 3

insertBegin = 4

insertEnd = 5

lineBreak = 6

markpenBegin = 7

markpenEnd = 8

nbSpace = 9

tab = 10

titleMark = 11

Enum ItemsChoiceType

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum ItemsChoiceType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

autoNum = 0

bookmark = 1

colPr = 2

endNote = 3

fieldBegin = 4

fieldEnd = 5

footNote = 6

footer = 7

header = 8

hiddenComment = 9

indexmark = 10

newNum = 11

pageHiding = 12

pageNum = 13

pageNumCtrl = 14

Enum ItemsChoiceType1

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum ItemsChoiceType1
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

arc = 0

btn = 1

chart = 2

checkBtn = 3

comboBox = 4

compose = 5

connectLine = 6

container = 7

ctrl = 8

curve = 9

dutmal = 10

edit = 11

ellipse = 12

equation = 13

line = 14

listBox = 15

ole = 16

pic = 17

polygon = 18

radioBtn = 19

rect = 20

scrollBar = 21

secPr = 22

t = 23

tbl = 24

textart = 25

video = 26

Enum LicenseType

Namespace: [HwpXIEnums](#)

Assembly: HwpXI.dll

```
public enum LicenseType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CCL = 0

CCL

KOGL = 1

공공누리

Enum LineShapeTypeEndCap

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum LineShapeTypeEndCap
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

FLAT = 1

ROUND = 0

Enum LineShapeTypeOutlineStyle

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum LineShapeTypeOutlineStyle
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

INNER = 2

NORMAL = 0

OUTER = 1

Enum LineType1

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum LineType1
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

DASH = 4

긴 점선

DASH_DOT = 5

-.-.-.

DASH_DOT_DOT = 6

-..-..-..

DOT = 2

점선

NONE = 0

선 없음

SOLID = 1

실선

THICK = 3

두꺼운 선

Enum LineType2

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum LineType2
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CIRCLE = 7

DOT보다 큰 동그라미의 반복

DASH = 3

긴 점선

DASH_DOT = 4

-.-.-.

DASH_DOT_DOT = 5

-..-..-..

DOT = 2

점선

DOUBLE_SLIM = 8

2중선(가는 선 + 가는 선)

LONG_DASH = 6

DASH보다 긴 선의 반복

NONE = 0

선 없음

SLIM_THICK = 9

2중선(가는 선 + 굵은 선)

SLIM_THICK_SLIM = 11

3중선(가는 선 + 굵은 선 + 가는 선)

SOLID = 1

실선

THICK_SLIM = 10

2중선(굵은 선 + 가는 선)

Enum LineType3

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum LineType3
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CIRCLE = 7

DOT보다 큰 동그라미의 반복

DASH = 3

긴 점선

DASH_DOT = 4

-.-.-.

DASH_DOT_DOT = 5

-..-..-..

DOT = 2

점선

DOUBLEWAVE = 13

DOUBLE_SLIM = 8

2중선(가는 선 + 가는 선)

LONG_DASH = 6

DASH보다 긴 선의 반복

NONE = 0

선 없음

SLIM_THICK = 9

2중선(가는 선 + 굵은 선)

SLIM_THICK_SLIM = 11

3중선(가는 선 + 굵은 선 + 가는 선)

SOLID = 1

실선

THICK_SLIM = 10

2중선(굵은 선 + 가는 선)

WAVE = 12

Enum LineWidth

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum LineWidth
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

Item012mm = 1

Item015mm = 2

Item01mm = 0

Item025mm = 4

Item02mm = 3

Item03mm = 5

Item04mm = 6

Item05mm = 7

Item06mm = 8

Item07mm = 9

Item10mm = 10

Item15mm = 11

Item20mm = 12

Item30mm = 13

Item40mm = 14

Item50mm = 15

Enum MasterPageTypeType

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

바탕쪽이 적용되는 형식

```
[Serializable]
public enum MasterPageTypeType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Fields

BOTH = 0

모두 적용

EVEN = 1

짝수쪽

LAST_PAGE = 3

마지막쪽

ODD = 2

홀수쪽

OPTIONAL_PAGE = 4

임의의 쪽

Enum MemoShapeTypeMemoType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum MemoShapeTypeMemoType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

NOMAL = 0

USER_DELETE = 2

USER_INSERT = 1

USER_UPDATE = 3

Enum NumberType1

Namespace: [HwpxIO.Enums](#)

Assembly: HwpxIO.dll

```
[Serializable]
public enum NumberType1
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CIRCLED_DIGIT = 1

동그라미 쳐진 1, 2, 3

CIRCLED_HANGUL_JAMO = 11

동그라미 쳐진 ㄱ, ㄴ, ㄷ

CIRCLED_HANGUL_SYLLABLE = 9

동그라미 쳐진 가, 나, 다

CIRCLEDIDEOGRAPH = 14

동그라미 쳐진 一, 二, 三

CIRCLED_LATIN_CAPITAL = 6

동그라미 쳐진 A, B, C

CIRCLED_LATIN_SMALL = 7

동그라미 쳐진 a, b, c

DIGIT = 0

1, 2, 3

HANGUL_JAMO = 10

ㄱ, ㄴ, ㄷ

HANGUL_PHONETIC = 12

일, 이, 삼

HANGUL_SYLLABLE = 8

가, 나, 다

IDEOGRAPH = 13

一, 二, 三

LATIN_CAPITAL = 4

A, B, C

LATIN_SMALL = 5

a, b, c

ROMAN_CAPITAL = 2

I, II, III

ROMAN_SMALL = 3

i, ii, iii

Enum NumberType2

Namespace: [HpxlO.Enums](#)

Assembly: HpxlO.dll

```
[Serializable]
public enum NumberType2
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CIRCLED_DIGIT = 1

동그라미 쳐진 1, 2, 3

CIRCLED_HANGUL_JAMO = 11

동그라미 쳐진 ㄱ, ㄴ, ㄷ

CIRCLED_HANGUL_SYLLABLE = 9

동그라미 쳐진 가, 나, 다

CIRCLEDIDEOGRAPH = 14

동그라미 쳐진 一, 二, 三

CIRCLED_LATIN_CAPITAL = 6

동그라미 쳐진 A, B, C

CIRCLED_LATIN_SMALL = 7

동그라미 쳐진 a, b, c

DECAGON_CIRCLE = 15

갑, 을, 병, 정, 무, 기, 경, 신, 임, 계

DECAGON_CIRCLE_HANJA = 16

甲, 乙, 丙, 丁, 戊, 己, 庚, 辛, 壬, 癸

DIGIT = 0

1, 2, 3

HANGUL_JAMO = 10

ㄱ, ㄴ, ㄷ

HANGUL_PHONETIC = 12

일, 이, 삼

HANGUL_SYLLABLE = 8

가, 나, 다

IDEOGRAPH = 13

一, 二, 三

LATIN_CAPITAL = 4

A, B, C

LATIN_SMALL = 5

a, b, c

ROMAN_CAPITAL = 2

I, II, III

ROMAN_SMALL = 3

i, ii, iii

SYMBOL = 17

4가지 문자가 차례로 반복

USER_CHAR = 18

사용자 지정 문자 반복

Enum OLETypeDrawAspect

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum OLETypeDrawAspect
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CONTENT = 0

DOC_PRINT = 3

ICON = 2

THUMB_NAIL = 1

Enum OLETypeObjectType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum OLETypeObjectType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

EMBEDDED = 1

EQUATION = 4

LINK = 2

STATIC = 3

UNKNOWN = 0

Enum PTypeRunComposeCircleType

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum PTypeRunComposeCircleType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CHAR = 0

SHAPE_CIRCLE = 1

SHAPE_EMPTY_CIRCULATE_TRIANGLE = 11

SHAPE_LIGHT = 7

SHAPE_RECTANGLE = 3

SHAPE_REVERSAL_CIRCLE = 2

SHAPE_REVERSAL_RECTANGLE = 4

SHAPE_REVERSAL_RHOMBUS = 9

SHAPE_REVERSAL_TIRANGLE = 6

SHAPE_RHOMBUS = 8

SHAPE_ROUNDED_RECTANGLE = 10

SHAPE_THICK_CIRCULATE_TRIANGLE = 13

SHAPE_THIN_CIRCULATE_TRIANGLE = 12

SHAPE_TRIANGLE = 5

Enum PTypeRunComposeComposeType

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum PTypeRunComposeComposeType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

OVERLAP = 1

SPREAD = 0

Enum PTypeRunCtrlPageNumCtrlPageStartsOn

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum PTypeRunCtrlPageNumCtrlPageStartsOn
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BOTH = 0

EVEN = 1

ODD = 2

Enum PTypeRunCtrlPageNumPos

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum PTypeRunCtrlPageNumPos
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BOTTOM_CENTER = 5

BOTTOM_LEFT = 4

BOTTOM_RIGHT = 6

INSIDE_BOTTOM = 10

INSIDE_TOP = 9

NONE = 0

OUTSIDE_BOTTOM = 8

OUTSIDE_TOP = 7

TOP_CENTER = 2

TOP_LEFT = 1

TOP_RIGHT = 3

Enum PTypeRunDutmalAlign

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum PTypeRunDutmalAlign
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CENTER = 3

DISTRIBUTE = 4

DISTRIBUTE_SPACE = 5

JUSTIFY = 0

LEFT = 1

RIGHT = 2

Enum PTypeRunDutmalPosType

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum PTypeRunDutmalPosType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BOTTOM = 1

TOP = 0

Enum PTypeRunTTabType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum PTypeRunTTabType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CENTER = 2

가운데 정렬 탭, 그 위치에 있는 낱말의 가운데 부분을 정렬

DECIMAL = 3

소수점 정렬 탭, 그 위치에 있는 숫자의 소수점 부분을 정렬

LEFT = 0

왼쪽 정렬 탭, 그 위치에 있는 낱말의 왼쪽 시작 부분을 정렬

RIGHT = 1

오른쪽 정렬 탭, 그 위치에 있는 낱말의 오른쪽 끝부분을 정렬

Enum PTypeRunTextartTextartPrAlign

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum PTypeRunTextartTextartPrAlign
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CENTER = 2

FULL = 3

LEFT = 0

RIGHT = 1

TABLE = 4

Enum PTypeRunTextartTextartPrFontType

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum PTypeRunTextartTextartPrFontType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

HTF = 1

TTF = 0

Enum PTypeRunTextartTextartPrTextShape

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum PTypeRunTextartTextartPrTextShape
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

ARCH_DOWN = 49

ARCH_UP = 48

BOTTOM_RIBBON_RECTANGLE = 11

BOTTOM_WIDE_CYLINDER = 22

BOW_TIE = 14

CHEVRON = 13

CHEVRON_DOWN = 12

CIRCLE = 46

CURVE_DOWN = 47

CYLINDER = 44

DEFLATE = 38

DEFLATE_BOTTOM = 37

DEFLATE_TOP = 36

DOUBLE_LINE_CIRCLE = 54

DOWNTWARD_CASCADE = 5

FINGERNAIL = 29
GINKO_LEAF1 = 30
GINKO_LEAF2 = 31
HEXAGON = 15
INFLATE = 39
INFLATE_BOTTOM = 41
INFLATE_BOTTOM_CONVEX = 35
INFLATE_LEFT = 33
INFLATE_RIGHT = 32
INFLATE_TOP = 40
INFLATE_UP_CONVEX = 34
INVERSED_FINGERNAIL = 28
INVERTED_DOWNWARD CASCADE = 3
INVERTED_ISOSCELES_TRAPEZOID = 9
INVERTED_PARALLELOGRAM = 1
INVERTED_UPWARD CASCADE = 2
ISOSCELES_TRAPEZOID = 8
LEFT_CYLINDER = 43
LEFT_TILT_CYLINDER = 20
PARALLELOGRAM = 0
RECTANGLE = 42
REDUCE_LEFT = 7
REDUCE_RIGHT = 6
RIGHT_CYLINDER = 45

RIGHT_TILT_CYLINDER = 21
SINGLE_LINE_CIRCLE1 = 50
SINGLE_LINE_CIRCLE2 = 51
THIN_CURVE_DOWN1 = 26
THIN_CURVE_DOWN2 = 27
THIN_CURVE_UP1 = 24
THIN_CURVE_UP2 = 25
TOP_RIBBON_RECTANGLE = 10
TOP_WIDE_CYLINDER = 23
TRIPLE_LINE_CIRCLE1 = 52
TRIPLE_LINE_CIRCLE2 = 53
UPWARD CASCADE = 4
WAVE1 = 16
WAVE2 = 17
WAVE3 = 18
WAVE4 = 19

Enum PTypeRunVideoType

Namespace: [HwpXIEnums](#)

Assembly: HwpXI.dll

```
[Serializable]
public enum PTypeRunVideoType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

VT_LOCAL = 0

컴퓨터의 동영상

VT_WEB = 1

인터넷 동영상

Enum ParaHeadTypeAlign

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum ParaHeadTypeAlign
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CENTER = 1

가운데

LEFT = 0

왼쪽

RIGHT = 2

오른쪽

Enum ParaHeadTypeTextOffsetType

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum ParaHeadTypeTextOffsetType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

HWPUNIT = 1

PERCENT = 0

Enum ParaListTypeLineWrap

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum ParaListTypeLineWrap
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BREAK = 0

KEEP = 2

SQUEEZE = 1

Enum ParaListTypeTextDirection

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum ParaListTypeTextDirection
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

HORIZONTAL = 0

VERTICAL = 1

VERTICALALL = 2

세로 영문 세움

Enum ParaListTypeVertAlign

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum ParaListTypeVertAlign
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BOTTOM = 2

CENTER = 1

TOP = 0

Enum ParaShapeTypeAlignHorizontal

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum ParaShapeTypeAlignHorizontal
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CENTER = 3

가운데 정렬

DISTRIBUTE = 4

배분 정렬

DISTRIBUTE_SPACE = 5

나눔 정렬(공백에만 배분)

JUSTIFY = 0

양쪽 정렬

LEFT = 1

왼쪽 정렬

RIGHT = 2

오른쪽 정렬

Enum ParaShapeTypeAlignVertical

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum ParaShapeTypeAlignVertical
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BASELINE = 0

글꼴 기준

BOTTOM = 3

아래

CENTER = 2

가운데

TOP = 1

위쪽

Enum ParaShapeTypeBreakSettingBreakLatinWord

Namespace: [HpxlO.Enums](#)

Assembly: HpxlO.dll

```
[Serializable]
public enum ParaShapeTypeBreakSettingBreakLatinWord
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BREAK_WORD = 2

글자

HYPHENATION = 1

하이픈

KEEP_WORD = 0

단어

Enum ParaShapeTypeBreakSettingBreakNonLatinWord

Namespace: [HpxlO.Enums](#)

Assembly: HpxlO.dll

```
[Serializable]
public enum ParaShapeTypeBreakSettingBreakNonLatinWord
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BREAK_WORD = 1

글자

KEEP_WORD = 0

어절

Enum ParaShapeTypeBreakSettingLineWrap

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

한 줄로 입력 사용 시의 형식

```
[Serializable]
public enum ParaShapeTypeBreakSettingLineWrap
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Fields

BREAK = 0

일반적인 줄바꿈

KEEP = 2

내용에 따라 폭이 늘어남

SQUEEZE = 1

자간을 조정하여 한 줄을 유지

Enum ParaShapeTypeHeadingType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

문단 머리 모양 종류

```
[Serializable]
public enum ParaShapeTypeHeadingType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Fields

BULLET = 3

글머리표

NONE = 0

없음

NUMBER = 2

번호

OUTLINE = 1

개요

Enum ParaShapeTypeLineSpacingType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

줄 간격 종류

```
[Serializable]
public enum ParaShapeTypeLineSpacingType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Fields

AT_LEAST = 3

최소

BETWEEN_LINES = 2

여백만 지정

FIXED = 1

고정 값

PERCENT = 0

글자에 따라

Enum ParaShapeTypeLineSpacingUnit

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum ParaShapeTypeLineSpacingUnit
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CHAR = 0

HWPUNIT = 1

Enum ScrollBarTypeType

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum ScrollBarTypeType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

HORIZONTAL = 0

수평

VERTICAL = 1

수직

Enum SectionDefinitionTypePageBorderFillFillArea

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum SectionDefinitionTypePageBorderFillFillArea
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BORDER = 2

테두리

PAGE = 1

쪽

PAPER = 0

종이

Enum SectionDefinitionTypePageBorderFillTextBorder

Namespace: [HpxlO.Enums](#)

Assembly: HpxlO.dll

```
[Serializable]
public enum SectionDefinitionTypePageBorderFillTextBorder
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CONTENT = 0

본문 기준

PAPER = 1

종이 기준

Enum SectionDefinitionTypePageBorderFillType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum SectionDefinitionTypePageBorderFillType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BOTH = 0
양쪽

EVEN = 1
짝수쪽

ODD = 2
홀수쪽

Enum SectionDefinitionTypePagePrGutterType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum SectionDefinitionTypePagePrGutterType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

LEFT_ONLY = 0

왼쪽

LEFT_RIGHT = 1

맞쪽

TOP_BOTTOM = 2

위쪽

Enum SectionDefinitionTypePagePrLandscape

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum SectionDefinitionTypePagePrLandscape
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

NARROWLY = 1
가로

WIDELY = 0
세로

Enum SectionDefinitionTypeStartNumPageStartsOn

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum SectionDefinitionTypeStartNumPageStartsOn
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

BOTH = 0

EVEN = 1

ODD = 2

Enum SectionDefinitionTypeTextDirection

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum SectionDefinitionTypeTextDirection
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

HORIZONTAL = 0

VERTICAL = 1

VERTICALALL = 2

세로 영문 세움

Enum ShadowTypeType

Namespace: [HwpXIEnums](#)

Assembly: HwpXI.dll

```
[Serializable]
public enum ShadowTypeType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CONTINUOUS = 2

DROP = 1

NONE = 0

Enum SlashTypeType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum SlashTypeType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

ALL = 4

중심선 + 중심선 아래의 사선 + 중심선 위의 사선

CENTER = 1

중심선 하나

CENTER_ABOVE = 3

중심선 + 중심선 위의 사선

CENTER_BELOW = 2

중심선 + 중심선 아래의 사선

NONE = 0

없음

Enum StyleTypeType

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum StyleTypeType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CHAR = 1

글자 스타일

PARA = 0

문단 스타일

Enum SystemTimeType

Namespace: [HpxIO.Enums](#)

Assembly: HpxIO.dll

```
[Serializable]
public enum SystemTimeType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

TCT_CHARSHAPE = 3

TCT_DELETE = 2

TCT_INSERT = 1

TCT_PARASHAPE = 4

TCT_UNKNOWN = 0

Enum TabDefTypeTabItemType

Namespace: [HwpIO.Enums](#)

Assembly: HwpIO.dll

```
[Serializable]
public enum TabDefTypeTabItemType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CENTER = 2

가운데

DECIMAL = 3

소수점

LEFT = 0

왼쪽

RIGHT = 1

오른쪽

Enum TableTypePageBreak

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum TableTypePageBreak
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

CELL = 1

셀 내의 텍스트도 나눔

NONE = 2

나누지 않음

TABLE = 0

테이블은 나누지만 셀은 나누지 않음

Enum TrackChangeType

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum TrackChangeType
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

TCT_CHARSHAPE = 3

글자 서식 변경

TCT_DELETE = 2

삭제

TCT_INSERT = 1

삽입

TCT_PARASHAPE = 4

문단 서식 변경

TCT_UNKNOWN = 0

없음

Enum VersionTagetApplication

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum VersionTagetApplication
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

PRESENTATION = 1

SPREADSHEET = 2

WORDPROCESSOR = 0

Enum VisibilityValue

Namespace: [HwpxlO.Enums](#)

Assembly: HwpxlO.dll

```
[Serializable]
public enum VisibilityValue
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

HIDE_FIRST = 0

첫 쪽에만 감추기

SHOW_ALL = 2

모두 보여주기

SHOW_FIRST = 1

첫 쪽에만 보여주기

Namespace HwpIO.Extensions

Classes

[GenericExtensions](#)

[HwpDocumentExtensions](#)

[SwitchableExtensions](#)

[ZipArchiveExtensions](#)

Zip 아카이브 작업을 보조하는 확장 메서드를 제공하는 유틸리티 클래스입니다.

Class GenericExtensions

Namespace: [HwpxIO.Extensions](#)

Assembly: HwpxIO.dll

```
public static class GenericExtensions
```

Inheritance

[object](#) ← GenericExtensions

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Methods

IfNotNull<T>(T, Action<T>)

주어진 객체가 null이 아닌 경우에만 주어진 작업을 수행합니다.

```
public static void IfNotNull<T>(this T obj, Action<T> action)
```

Parameters

obj T

확인할 객체

action [Action](#)<T>

수행할 작업

Type Parameters

T

객체의 유형

Class HpxxDocumentExtensions

Namespace: [HpxxIO.Extensions](#)

Assembly: HpxxIO.dll

```
public static class HpxxDocumentExtensions
```

Inheritance

[object](#) ← HpxxDocumentExtensions

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Methods

GetCharShapeType(HpxxDocument, CharShapeType)

```
public static CharShapeType GetCharShapeType(this HpxxDocument document, CharShapeType charShap
```

Parameters

document [HpxxDocument](#)

charShapeType [CharShapeType](#)

Returns

[CharShapeType](#)

GetCharShapeType(HpxxDocument, Action<CharShapeTypeBuilder>, CharShapeType)

```
public static CharShapeType GetCharShapeType(this HpxxDocument document, Action<CharShapeTypeBu
```

Parameters

document [HpxDocument](#)

builderAction [Action](#) <[CharShapeTypeBuilder](#)>

charShapeType [CharShapeType](#)

Returns

[CharShapeType](#)

GetCharShapeType(HpxDocument, string)

```
public static CharShapeType GetCharShapeType(this HpxDocument document, string id)
```

Parameters

document [HpxDocument](#)

id [string](#)

Returns

[CharShapeType](#)

GetFont(HpxDocument, FontfaceTypeLang, FontfaceTypeFont)

```
public static FontfaceTypeFont GetFont(this HpxDocument document, FontfaceTypeLang lang, FontfaceTypeFont font)
```

Parameters

document [HpxDocument](#)

lang [FontfaceTypeLang](#)

font [FontfaceTypeFont](#)

Returns

[FontfaceTypeFont](#)

GetFont(HwpDocument, FontfaceTypeLang,
Action<FontBuilder>, FontfaceTypeFont)

```
public static FontfaceTypeFont GetFont(this HwpDocument document, FontfaceTypeLang lang, Action<
```

Parameters

document [HwpDocument](#)

lang [FontfaceTypeLang](#)

builderAction [Action](#)<[FontBuilder](#)>

font [FontfaceTypeFont](#)

Returns

[FontfaceTypeFont](#)

GetFont(HwpDocument, FontfaceTypeLang, string)

```
public static FontfaceTypeFont GetFont(this HwpDocument document, FontfaceTypeLang lang, string strin
```

Parameters

document [HwpDocument](#)

lang [FontfaceTypeLang](#)

fontFace [string](#)

Returns

[FontfaceTypeFont](#)

GetStyle(HwpDocument, StyleType)

```
public static StyleType GetStyle(this HwpDocument document, StyleType style)
```

Parameters

document [HwpDocument](#)

style [StyleType](#)

Returns

[StyleType](#)

GetStyle(HwpDocument, Action<StyleTypeBuilder>, StyleType)

```
public static StyleType GetStyle(this HwpDocument document, Action<StyleTypeBuilder> builderAction, StyleType style)
```

Parameters

document [HwpDocument](#)

builderAction [Action](#)<[StyleTypeBuilder](#)>

styleType [StyleType](#)

Returns

[StyleType](#)

ItemCountUpdate(IHpxObject, IHpxDocument)

객체를 검사하여 ItemCountAttribute가 지정된 프로퍼티의 값을 자동으로 조정합니다.

```
public static void ItemCountUpdate(this IHpxObject obj, IHpxDocument rootObj = null)
```

Parameters

obj [IHpxObject](#)

ItemCountAttribute가 지정된 프로퍼티가 포함된 객체

rootObj [IHpxDocument](#)

Exceptions

[Exception](#)

ItemCountValidate(HpxxDocument, bool)

HpxxDocument 객체를 검사하고 항목 수가 일치하지 않는 프로퍼티의 정보를 반환합니다.
autoFix 옵션을 활성화하면 항목 수가 일치하지 않는 프로퍼티의 값을 자동으로 조정합니다.

```
public static List<MismatchedItemCount> ItemCountValidate(this HpxxDocument document, bool autoFix)
```

Parameters

document [HpxxDocument](#)

검사할 HpxxDocument 객체

autoFix [bool](#)

항목 수 불일치 시 자동 조정 여부

Returns

[List](#) <[MismatchedItemCount](#)>

항목 수가 일치하지 않는 프로퍼티의 정보 목록

SerializeToXmlElement<T>(T)

지정된 객체를 XML로 직렬화하고, 직렬화된 XML 엘리먼트들을 열거 가능한 형태로 반환합니다.

```
public static IEnumerable<XmlElement> SerializeToXmlElement<T>(this T obj) where T : IHpxObject
```

Parameters

obj *T*

직렬화할 객체

Returns

[IEnumerable](#)<[XmlElement](#)>

XML 엘리먼트들의 열거 가능한 시퀀스

Type Parameters

T

직렬화할 객체의 형식

Remarks

이 메서드는 주어진 객체를 XML로 직렬화하여 엘리먼트 단위로 분리하고, 각 엘리먼트를 열거 가능한 형태로 반환합니다. 반환된 엘리먼트들은 XmlDocument에서 추출되며, 각 엘리먼트는 직렬화된 객체의 속성을 나타냅니다.

Class SwitchableExtensions

Namespace: [HpxIO.Extensions](#)

Assembly: HpxIO.dll

```
public static class SwitchableExtensions
```

Inheritance

[object](#) ← SwitchableExtensions

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Methods

GetSwitchableValue<T>(T, IEnumerable<string>, bool)

```
public static T GetSwitchableValue<T>(this T switchable, IEnumerable<string> caseConditions = re
```

Parameters

switchable T

caseConditions [IEnumerable](#)<string>

includeNested [bool](#)

Returns

T

Type Parameters

T

Class ZipArchiveExtensions

Namespace: [HwpxIO.Extensions](#)

Assembly: HwpxIO.dll

Zip 아카이브 작업을 보조하는 확장 메서드를 제공하는 유ти리티 클래스입니다.

```
public static class ZipArchiveExtensions
```

Inheritance

[object](#) ← ZipArchiveExtensions

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Methods

CreateEntry(ZipArchive, string, byte[])

주어진 데이터를 사용하여 Zip 아카이브에 새 항목을 만듭니다.

```
public static void CreateEntry(this ZipArchive archive, string file, byte[] data)
```

Parameters

archive [ZipArchive](#)

Zip 아카이브

file [string](#)

만들 항목의 파일 이름

data [byte](#)[]

항목의 데이터

CreateEntry(ZipArchive, string, string, Encoding)

주어진 내용을 사용하여 Zip 아카이브에 새 항목을 만듭니다.

```
public static void CreateEntry(this ZipArchive archive, string file, string content, Encoding encoding)
```

Parameters

archive [ZipArchive](#)

Zip 아카이브

file [string](#)

만들 항목의 파일 이름

content [string](#)

항목의 내용

encoding [Encoding](#)

GetEntryImproved(ZipArchive, string)

개선된 방법으로 Zip 아카이브에서 항목을 가져옵니다.

```
public static ZipArchiveEntry GetEntryImproved(this ZipArchive archive, string entryName)
```

Parameters

archive [ZipArchive](#)

Zip 아카이브

entryName [string](#)

가져올 항목의 이름

Returns

[ZipArchiveEntry](#)

Zip 아카이브 항목

LoadBytes(ZipArchive, string)

Zip 아카이브에서 바이트 배열 데이터를 로드합니다.

```
public static byte[] LoadBytes(this ZipArchive archive, string entryName)
```

Parameters

archive [ZipArchive](#)

Zip 아카이브

entryName [string](#)

로드할 항목의 이름

Returns

[byte](#)[]

로드된 바이트 배열 데이터

LoadHtml(ZipArchive, string)

Zip 아카이브에서 HTML 데이터를 로드합니다.

```
public static XDocument LoadHtml(this ZipArchive archive, string entryName)
```

Parameters

archive [ZipArchive](#)

Zip 아카이브

entryName [string](#)

로드할 항목의 이름

Returns

[XDocument](#)

로드된 HTML 데이터 (XDocument)

LoadText(ZipArchive, string)

Zip 아카이브에서 텍스트 데이터를 로드하고 인코딩 프리앰블을 제거합니다.

```
public static string LoadText(this ZipArchive archive, string entryName)
```

Parameters

archive [ZipArchive](#)

Zip 아카이브

entryName [string](#)

로드할 항목의 이름

Returns

[string](#)

로드된 텍스트 데이터

LoadXml(ZipArchive, string)

Zip 아카이브에서 XML 데이터를 로드합니다.

```
public static XDocument LoadXml(this ZipArchive archive, string entryName)
```

Parameters

archive [ZipArchive](#)

Zip 아카이브

`entryName` [string](#)

로드할 항목의 이름

Returns

[XDocument](#)

로드된 XML 데이터 (XDocument)

LoadXml<T>(ZipArchive, string)

Zip 아카이브에서 지정된 엔트리 이름에 대한 XML 데이터를 로드합니다.

```
public static T LoadXml<T>(this ZipArchive archive, string entryName)
```

Parameters

`archive` [ZipArchive](#)

Zip 아카이브

`entryName` [string](#)

엔트리 이름

Returns

T

역직렬화된 형식의 인스턴스 또는 기본값

Type Parameters

T

역직렬화할 형식

LoadXml<T>(ZipArchive, string, XmlAttributeOverrides)

Zip 아카이브에서 지정된 엔트리 이름에 대한 XML 데이터를 로드하고, 사용자 지정 XML 직렬화 구성을 적용합니다.

```
public static T LoadXml<T>(this ZipArchive archive, string entryName, XmlAttributeOverrides attributeOverrides)
```

Parameters

archive [ZipArchive](#)

Zip 아카이브

entryName [string](#)

엔트리 이름

attributeOverrides [XmlAttributeOverrides](#)

사용자 지정 XML 직렬화 구성

Returns

T

역직렬화된 형식의 인스턴스 또는 기본값

Type Parameters

T

역직렬화할 형식

Namespace HpxxIO.Models

Classes

[AbstractButtonType](#)

[AbstractButtonType](#)은 양식 객체의 공통 속성을 정의한다.

[AbstractButtonType](#)은 [AbstractFormObjectType](#)을 기본 형식으로 가지고 추가적으로 필요한 속성이나 요소를 확장한다.

[AbstractDrawingObjectType](#)

[AbstractDrawingObjectType](#)은 그리기 객체의 기본 속성을 정의하고 있는 요소 형식이다.

[AbstractDrawingObjectType](#)은 [AbstractShapeComponentType](#)을 기본 형식으로 가지고 추가적으로 필요한 속성이나 요소를 확장한다

[AbstractDrawingObjectTypeDrawText](#)

그리기 객체 안쪽 또는 특정 영역에 표시되는 글상자 내용을 가지고 있는 요소이다.

[AbstractDrawingObjectTypeDrawTextTextMargin](#)

[AbstractFormObjectType](#)

[AbstractFormObjectType](#)은 양식 객체의 공통 속성을 정의한다.

[AbstractFormObjectType](#)은 [AbstractShapeObjectType](#)을 기본 형식으로 가지고 추가적으로 필요한 속성이나 요소를 확장한다.

[AbstractFormObjectTypeFormCharPr](#)

양식 객체의 글자 속성 설정 정보를 가지고 있는 요소이다

[AbstractShapeComponentType](#)

[AbstractShapeComponentType](#)은 [AbstractShapeObjectType](#)을 기본 형식으로 가지고 추가적으로 필요한 속성이나 요소를 확장한다

[AbstractShapeComponentTypeCurSz](#)

객체의 현재 크기 정보를 가지고 있는 요소이다.

[AbstractShapeComponentTypeFlip](#)

객체의 반전 여부 정보를 가지고 있는 요소이다.

[AbstractShapeComponentTypeOffset](#)

그룹 객체 내에서 개별 객체들의 그룹 내 상대 위치 정보를 가지고 있는 요소이다.

[AbstractShapeComponentTypeOrgSz](#)

객체 생성 시 최초 크기 정보를 가지고 있는 요소이다

[AbstractShapeComponentTypeRenderingInfo](#)

객체 렌더링 시 필요한, 변환 행렬, 확대/축소 행렬, 회전 행렬을 가지고 있는 요소이다.

[AbstractShapeComponentTypeRotationInfo](#)

객체의 회전 정보를 가지고 있는 요소이다.

[AbstractShapeObjectType](#)

[AbstractShapeObjectType](#)은 기본 도형 객체들의 공통된 속성을 정의한 형식이다.

기본 도형 객체들은 [AbstractShapeObjectType](#)을 기본 형식으로 가지고 추가적으로 필요한 속성이나 요소를 확장해서 사용한다.

[AbstractShapeObjectType](#)은 추상 형식이므로 [AbstractShapeObjectType](#)만으로는 XML 요소를 생성 할 수 없다.

[AbstractShapeObjectTypeCaption](#)

[AbstractShapeObjectTypeOutMargin](#)

여백 정보를 표현할 때 공통적으로 사용되는 속성들을 묶은 형식이다

[AbstractShapeObjectTypePos](#)

객체들의 위치 정보 및 객체들이 문서에서 차지하는 영역에 대한 정보를 가지고 있는 요소이다.

[AbstractShapeObjectTypeSZ](#)

객체들의 크기 정보를 가지고 있는 요소이다

[ArcType](#)

[ArcType](#) 요소는 [AbstractDrawingObjectType](#)을 상속받는다.

[AutoNumFormatType](#)

각주/미주 내에서 사용되는 자동 번호 매김 모양 정보를 가지고 있는 요소이다.

[AutoNumNewNumType](#)

자동 번호 및 새 번호를 표현하기 위한 요소 형식이다.

[BorderFillType](#)

테두리/배경/채우기 정보에는 페이지의 테두리/배경/채우기 정보뿐만 아니라 표, 그림 등의 테두리/배경/채우기 정보까지 포함되어 있다.

이러한 특성으로 인해서 특정 속성 또는 특정 자식 요소는 특정 객체에서 사용되지 않을 수 있다.

대표적으로 속성 `breakCellSEparateLine`은 표에서만 사용되는 속성으로 페이지, 그림 등에서는 사용 되지 않는다.

[BorderType](#)

테두리 형식

[BulletType](#)

글머리표 문단 모양 정보를 사용하면 문단의 머리에 번호 대신 글머리표 또는 그림 글머리표를 붙일 수 있다.

속성 [UselImage](#)의 값이 참(true)으로 설정되면 반드시 [Img](#) 요소를 자식 요소로 가지고 있어야 한다. 즉, 글머리표로 사용되는 이미지에 대한 참조 정보를 가지고 있어야 한다.

[CaretPosition](#)

[CharShapeType](#)

글자 모양 설정 정보를 표현하기 위한 요소이다.

[CharShapeTypeFontRef](#)

각 언어별 글자에서 참조하는 글꼴들에 대한 정보를 가지고 있는 요소이다.

[CharShapeTypeOffset](#)

각 언어별로 글자의 위치 정보를 가지고 있는 요소이다. 글자 하단 끝부분을 기준으로 위치가 결정된다

[CharShapeTypeOutline](#)

글자 속성 중 외곽선을 표현하기 위한 요소이다. 외곽선은 글자가 들어가 있는 박스에 선이 들어가는 것이다. 이 요소가 존재하면 글자 속성 중 외곽선 속성이 지정된 것이다. 본 요소는 외곽선 속성을 표현하기 위한 몇몇 정보를 가지고 있다

[CharShapeTypeRatio](#)

각 언어별로 글자 장평 설정을 가지고 있는 요소이다. 글자가 시작되는 부분을 기준으로 장평을 적용한다. 즉, 글자 방향이 가로쓰기인 경우 글자의 왼쪽 시작되는 부분이 기준이다.

[CharShapeTypeRelSz](#)

각 언어별로 글자의 상대 크기 설정 정보를 가지고 있는 요소이다.

[CharShapeTypeShadow](#)

글자 속성 중 그림자를 표현하기 위한 요소이다. 이 요소가 존재하면 글자 속성 중 그림자 속성이 지정된 것이다. 이 요소는 그림자 속성을 표현하기 위한 몇몇 정보를 가지고 있다.

[CharShapeTypeSpacing](#)

각 언어별로 글자 자간 설정을 가지고 있는 요소이다. 자간은 글자 사이의 간격이기 때문에 한 글자가 끝나는 부분을 기준으로 자간이 적용된다.

[CharShapeTypeStrikeout](#)

글자 속성 중 취소선을 표현하기 위한 요소이다. 취소선의 위치는 글자의 가운데가 기준이 된다. 이 요소가 존재하면 글자 속성 중 취소선 속성이 지정된 것이다. 이 요소는 취소선 속성을 표현하기 위한 몇몇 정보를 가지고 있다.

[CharShapeTypeUnderline](#)

글자 속성 중 밑줄을 표현하기 위한 요소이다. 이 요소가 존재하면 글자 속성 중 밑줄 속성이 지정된 것이다. 이 요소는 밑줄 속성을 표현하기 위한 몇몇 정보를 가지고 있다

[ColumnDefType](#)

단 설정 정보를 가지고 있는 요소이다.

[ColumnDefTypeColLine](#)

단 사이의 구분선 설정 정보를 가지고 있는 요소이다.

[ColumnDefTypeColSz](#)

[ColumnDefType](#)의 속성 중 [SameSz](#) 속성이 [false](#)(각기 다른 단 사이 간격을 가짐)로 설정되었을 때에만 사용되는 요소이다.

[ComboBoxType](#)

[ComboBoxType](#)요소는 [AbstractFormObjectType](#)를 상속받는다.

[CompatibleDocumentType](#)

[CompatibleDocumentType](#) 요소는 이 표준에서 정의하고 있는 문서 형식을 다른 형태의 문서 형식으로 저장할 때 사용되는 정보를 가지고 있는 요소이다

[CompatibleDocumentTypeLayoutCompatibility](#)

[CompatibleDocumentTypeLayoutCompatibility](#) 요소는 HWP 문서를 다른 형식의 문서로 변환시킬 때 필요한 설정 정보이다.

즉, HWP 문서를 OOXML 워드 문서 또는 ODF 워드 문서로 변환시킬 경우, HWP 문서에서는 지원되지만

OOXML 워드 문서 또는 ODF 워드 문서에서 지원되지 않는 레이아웃 설정 등을 어떤 방식으로 변환시킬 것인지에 대한 설정이다.

하위 요소가 나타나는 경우에는 그 값이 사용되는 경우이고 나타나지 않는 경우는 사용되지 않는 경우이다.

[ConfigItem](#)

[ConfigItemSet](#)

[ConnectLineType](#)

[ConnectLineType](#)요소는 [AbstractDrawingObjectType](#)을 상속받는다.

[ConnectPointType](#)

[ConnectPointType](#)은 [PointType](#)을 기본 형식으로 가지고 추가적으로 필요한 속성이나 요소를 확장한다.

[ContainerType](#)

[ContainerType](#)요소는 [AbstractShapeComponentType](#)를 상속받는다.

CurveType

CurveType 요소는 AbstractDrawingObjectType을 상속받는다.

CurveTypeSeg

그리기 객체 중 곡선을 표현할 때 곡선의 단위 곡선의 시작점 및 끝점을 표현하기 위한 요소이다.

DeleteBegin

변경 추적 삭제 시작지점

DeleteEnd

변경 추적 삭제 끝지점

DocDistribute

DocOption

DocOptionLicenseMark

DocOptionLinkInfo

EditType

EditType 요소는 AbstractFormObjectType를 상속받는다.

EffectsColorType

효과에 사용될 색상 정보를 가지고 있는 요소이다

EffectsColorTypeCmyk

EffectsColorTypeEffect

색상 효과 정보를 가지고 있는 요소이다.

EffectsColorTypeRgb

EffectsColorTypeScheme

EffectsColorTypeSystem

EffectsType

그림에 적용될 효과 정보를 가지고 있는 요소이다.

EffectsTypeGlow

네온 효과 정보를 가지고 있는 요소이다

EffectsTypeReflection

반사 효과 정보를 가지고 있는 요소이다

EffectsTypeReflectionAlpha

반사 효과 사용 시 투명도 설정 정보를 가지고 있는 요소이다.

EffectsTypeReflectionPos

반사된 영상이 투영될 위치 정보를 가지고 있는 요소이다.

EffectsTypeShadow

그림 효과 중 그림자 효과에 대한 설정 정보를 가지고 있는 요소이다.

EffectsTypeSoftEdge

부드러운 가장자리 효과 정보를 가지고 있는 요소이다.

EllipseType

EllipseType 요소는 AbstractDrawingObjectType을 상속받는다.

EndNoteShapeType

미주 모양 정보를 가지고 있는 요소이다.

EndNoteShapeTypeNumbering

EndNoteShapeTypePlacement

EquationType

EquationType 요소는 AbstractShapeObjectType을 상속받는다

FillBrushType

FillBrushType 요소는 세 개의 하위 요소 중 하나의 요소를 가질 수 있다(choice). 즉, 채우기는 면 채우기/그레이디언트/그림으로 채우기 중 하나의 형식만을 가지게 된다.

FillBrushTypeGradation

FillBrushTypeGradation 요소는 한 색상에서 다른 색상으로 점진적 또는 단계적으로 변화하는 기법을 표현하기 위한 요소이다.

FillBrushTypeGradationColor

그레이디언트 색상으로 표현하기 위한 요소로, 점진적으로 또는 단계적으로 변화하는 색상 중 시작 색, 또는 끝 색, 중간 단계 색 등을 표현한다.

FillBrushTypeImageBrush

그림으로 특정 부분을 채울 때 사용되는 요소로, 지정된 그림을 지정된 효과를 사용해서 채운다. 사용 할 수 있는 효과에는 '크기에 맞추어', '위로/가운데로/아래로', '바둑판식으로' 등이 있다.

FillBrushTypeWinBrush

면 채우기 정보를 표현하기 위한 요소이다. 면 채우기 정보에는 면 색, 무늬 색, 무늬 종류, 투명도 등 이 있다. 만약 면 채우기가 무늬를 포함하지 않으면 무늬 색은 사용되지 않는다.

FontfaceType

글꼴 정보는 언어별로 정의된다. 현재 본 문서에서 지원되고 있는 언어 형식으로는 [한글, 라틴, 한자, 일어, 기타, 심볼, 사용자]가 있다.

[한글, 라틴, 한자, 일어, 심볼] 언어 형식의 구분은 Unicode 4.0을 참고한다.

[기타] 언어 형식의 구분은 RTL(Right to Left) 표기방식의 언어이며[사용자] 언어형식의 구분은 PUA/Private Unicode Area) 영역을 말한다.

FontfaceTypeFont

HWP 문서 스키마는 내장 글꼴을 지원한다. 글꼴이 내장될 경우, 글꼴 데이터 파일은 다른 바이너리 파일과 마찬가지로 컨테이너 내에 바이너리 형태로 포함이 되고 manifest에 해당 정보를 기록한다.

Font 엘리먼트에서는 manifest에 정의된 정보를 참조해서 내장된 글꼴에 접근하게 된다. 속성 IsEmbedded의 값이 참(true)인 경우, 반드시 컨테이너 내에 글꼴을 내장하고 속성 BinaryItemIDRef의 값이 유효한 값이어야 한다. 만약 속성 IsEmbedded 값이 참(true)인데 속성 BinaryItemIDRef의 값이 유효하지 않다면 애플리케이션에서는 이를 오류 상황으로 인식해야 한다. 속성 IsEmbedded의 값이 거짓(false)인 경우, 애플리케이션은 사용자 시스템에 내장된 글꼴을 사용해야 한다. 이 경우 속성 BinaryItemIDRef는 사용되지 않는다. 속성 IsEmbedded의 값이 거짓(false)인데 사용자 시스템 내에 정의된 글꼴이 없는 경우 애플리케이션은 이를 오류 상황으로 인식해야 한다. 정의된 글꼴이 없는 오류 상황에서 애플리케이션은 대체 글꼴을 먼저 사용해야 한다. 대체 글꼴마저 없는 경우에 대한 처리 방법은 이 표준에서는 정의하지 않지만, 시스템 기본 글꼴을 사용하는 것을 권고한다. 이 처리 방법은 애플리케이션마다 다를 수 있으므로, 콘텐츠 제작자는 이를 인지하고서 콘텐츠를 제작하여야 한다.

FontfaceTypeFontSubstFont

애플리케이션에서는 Font 요소에서 정의된 글꼴이 없는 경우 가장 먼저 SubstFont 요소에 정의된 글꼴을 사용해야 한다.

대체 글꼴마저 없는 경우 시스템 기본 글꼴을 사용하는 것을 권고한다. 하지만 이에 대한 처리는 애플리케이션마다 다를 수 있다.

FontfaceTypeFontTypeInfo

글꼴의 유형 설정을 표현하기 위한 요소이다

FootNoteShapeType

각주 모양 정보를 가지고 있는 요소이다.

FootNoteShapeTypeNumbering

FootNoteShapeTypePlacement

ForbiddenWordListType

ForbiddenWordListType 요소는 금칙 문자의 목록이다.

FwSpace

고정폭 빈칸

[HCFVersion](#)

문서의 파일 형식 버전 정보를 표현하기 위한 요소이다

[HWPApplicationSetting](#)

[HWPMLHeadType](#)

Root Element

[HWPMLHeadTypeBeginNum](#)

[HWPMLHeadTypeBeginNum](#) 요소는 문서 내에서 사용되는 각종 객체들의 번호의 시작 숫자를 설정하기 위한 요소이다.

기본적으로 시작 번호는 1에서 시작되며, 사용자 설정의 의해서 1 이외의 번호에서 시작할 수 있게 된다.

시작 번호를 지정할 수 있는 객체에는, 페이지, 각주, 미주, 그림, 표, 수식 등이 있다.

[HWPMLHeadTypeTrackchangeConfig](#)

[HWPMLHeadTypeTrackchangeConfig](#)는 변경 추적에 대한 상태 정보와 암호 정보를 가지고 있다.

[HWPValue](#)

(값, 단위)을 표현하기 위한 엘리먼트

[HeaderFooterType](#)

머리말 및 꼬리말을 표현하기 위한 요소 형식이다.

[Hyphen](#)

하이픈

[ImageType](#)

그림 정보를 표현하기 위한 요소이다. 그림 데이터에 대한 참조 아이디 및 그림에 적용될 몇몇 효과들에 대한 정보를 가지고 있다.

[InsertBegin](#)

변경 추적 삽입 시작지점

[InsertEnd](#)

변경 추적 삽입 끝지점

[InsideMarginType](#)

[InsideMarginType](#) 요소는 안쪽 여백 정보로 [MarginAttributeGroup]을 속성으로 포함한다.

[KeyEncryptionType](#)

[KeyEncryptionTypeDerivationKey](#)

[LineBreak](#)

강제 줄나눔

[LineNumberShape](#)

[LineSeg](#)

[LineSegArray](#)

[LineShapeType](#)

객체의 테두리선 정보를 표현하기 위한 요소이다.

[LineType](#)

[LineType](#) 요소는 [AbstractDrawingObjectType](#)을 상속받는다.

[ListBoxType](#)

[ListBoxType](#) 요소는 [AbstractFormObjectType](#)를 상속받는다.

[List ItemType](#)

양식 객체 중 콤보 박스 및 리스트 박스에서 항목(아이템)을 표현하기 위한 객체이다

[MappingTableType](#)

[MappingTableType](#) 요소는 본문에서 사용되는 각종 설정 데이터를 가지고 있는 요소이다.

[MappingTableType](#) 요소는 header XML에서 대부분의 설정 정보를 가지고 있다.

[MappingTableTypeBorderFills](#)

한 문서 내에서는 다양한 테두리/배경 정보들이 사용되는데 이런 테두리/배경 정보를 목록 형태로 가지고 있는 요소이다.

[MappingTableTypeBullets](#)

글머리표 문단 모양 정보 목록을 가지고 있는 요소이다.

[MappingTableTypeCharProperties](#)

콘텐츠 내에서 글자 모양 정보는 반드시 한 개 이상 정의되어 있어야 한다. 내용이 없는 콘텐츠라도 기본 글자 모양 정보는 정의되어 있어야 한다. 헤더 스키마 상에서는 속성 [ItemCnt](#) 의 값으로 올 수 있는 범위가 1 이상으로(positiveInteger) 제한되어 있으며, 자식 요소인 [CharPr](#) 요소의 개수 한정자 역시 1 이상으로 정의되어 있다.

[MappingTableTypeFontfaces](#)

문서 내에서 글꼴 정보는 반드시 1개 이상 정의되어 있어야 한다.

내용이 없는 문서라도 기본 글꼴 정보는 정의되어 있어야 한다.

헤더 스키마 상에서는 속성 itemCnt의 값으로 올 수 있는 범위가 1 이상으로(positiveInteger) 제한되어 있으며,

자식 요소인 [MappingTableTypeFontfaces](#) 요소의 개수 한정자([ItemCnt](#)) 역시 1 이상으로 정의되어 있다.

MappingTableTypeMemoProperties

메모 모양 정보 목록을 가지고 있는 요소이다.

MappingTableTypeNumberings

문단 번호 모양 정보 목록을 가지고 있는 요소이다.

MappingTableTypeParaProperties

문단 모양 정보 목록을 가지고 있는 요소이다.

MappingTableTypeStyles

스타일 정보 목록을 가지고 있는 요소이다.

MappingTableTypeTabProperties

탭 정보 목록을 가지고 있는 요소이다

MappingTableTypeTrackChangeAuthors

변경 추적 검토자 목록을 가지고 있는 요소이다.

MappingTableTypeTrackChanges

변경 추적 정보 목록을 가지고 있는 요소이다.

MarkpenEnd

형광펜 끝

MasterPageType

바탕쪽 설정 정보를 가지고 있는 요소이다.

MatrixType

MatrixType은 행렬을 표현하기 위한 요소 형식이다.

9x9 행렬에서 2행의 요소까지만 표현을 하고 3행의 요소는(0, 0, 1)로 일정하기 때문에 표현하지 않는다.

MemoShapeType

메모는 문서 작성 또는 수정 중 간략한 내용을 기록해 둘 수 있는 기능이다.

MemoPr 요소는 실제 메모 내용을 담고 있는 것이 아니라, 화면에 표시될 메모들의 모양 정보를 가지고 있는 요소이다.

즉, 메모 선의 색, 메모의 색 등 화면 표시를 위한 설정들을 담고 있다.

NbSpace

묶음 빈칸

NoteShapeType

각주/미주 모양 정보

NoteShapeTypeNoteLine

각주/미주 내에서 사용되는 구분선 모양 정보를 가지고 있는 요소이다.

[NoteShapeType](#)

각주/미주 내에서 사용되는 여백 정보를 가지고 있는 요소이다.

[NoteType](#)

각주 및 미주를 표현하기 위한 요소 형식이다

[NumberingType](#)

여러 개의 항목을 나열할 때 문단의 머리에 번호를 매기거나 글머리표, 그림 글머리표를 붙일 수 있다.

문단 번호는 7 수준까지 다단계 번호를 매겨 주고, 문단 번호를 사용한 문장의 순서가 바뀌면 문단 번호도 그에 맞게 자동으로 바뀌게 된다.

[OLEType](#)

[OLEType](#) 요소는 [AbstractShapeComponentType](#)를 상속받는다.

[OcfContainer](#)

[OcfContainerRootFile](#)

[OcfContainerRootFiles](#)

[PType](#)

[P](#) 요소는 HWP 문서에서 내용 표현을 위한 기본 단위이며 문단을 나타낸다.

[PTypeRun](#)

run은 글자 속성 컨테이너를 의미한다. 하나 혹은 여러 개의 글자가 가지고 있는 동일한 속성을 나타낸다.

문서의 모든 콘텐츠와 제어 관련 요소들은 [PTypeRun](#) 요소로 묶여서 구성된다.

[PTypeRun](#) 요소는 크게 두 가지 형태의 자식 요소를 가진다.

하나는 구역, 단, 문단의 제어에 관련된 요소들을 가지는 'ctrl' 요소와, 다른 하나는 문자열, 표, 그림 등 의 실제 내용을 가지는 't' 요소이다.

[PTypeRunBtn](#)

[PTypeRunChart](#)

[PTypeRunChart](#) 요소는 [AbstractShapeObjectType](#)를 상속받는다

[PTypeRunCheckBtn](#)

[PTypeRunCompose](#)

글자 겹침은 일반 글자판으로 입력할 수 없는 원 문자나 사각형 문자를 입력할 수 있게 하는 기능이다.

[PTypeRunComposeCharPr](#)

겹쳐진 글자에 적용될 글자 모양에 대한 아이디 참조 값을 가지고 있는 요소이다

[PTypeRunCtrl](#)

[Ctrl](#) 요소는 콘텐츠에서 본문 내 제어 관련 요소들을 모은 요소이다.

[PTypeRunCtrlBookmark](#)

필드에서 사용되는 책갈피와는 다른 구조를 가지는 책갈피를 표현하기 위한 요소이다.

필드의 책갈피는 지정된 구역에서 책갈피 표시를 하지만, [PTypeRunCtrlBookmark](#)요소를 사용한 책갈피는 지정된 구역을 가지지 않는 단순히 지정된 위치에 책갈피 표시를 한다.

[PTypeRunCtrlFieldBegin](#)

메모, 외부 연결, 북마크 등 문서 내에서 부가적인 부분들을 표현하기 위한 요소이다.

[PTypeRunCtrlFieldEnd](#)

[PTypeRunCtrlFieldBegin](#) 요소와 쌍을 이루는 요소이다.

[PTypeRunCtrlHiddenComment](#)

[PTypeRunCtrlHiddenComment](#)는 숨은 설명 내용 정보를 갖고 있는 요소이다.

[PTypeRunCtrlIndexmark](#)

[PTypeRunCtrlIndexmark](#)는 찾아보기(Index, 색인)와 관련된 정보를 갖고 있는 요소이다.

[PTypeRunCtrlPageHiding](#)

현재 구역 내에서 감추어야 할 것들을 설정하기 위한 요소이다

[PTypeRunCtrlPageNum](#)

쪽 번호의 위치 및 모양을 설정하기 위한 요소이다.

[PTypeRunCtrlPageNumCtrl](#)

쪽 번호를 홀수쪽, 짝수쪽 또는 양쪽 모두에 표시할지를 설정하기 위한 요소이다.

[PTypeRunDutmal](#)

덧말은 글의 전개로 보아서 본문의 내용 중에 넣기는 어려우나, 본문에서 인용한 자료의 출처를 밝히거나

본문에서 언급한 내용에 대한 간단한 내용의 보충 자료를 제시할 때 본문의 아래나 또는 위에 넣는 말이다.

덧말을 사용하면 일본어의 토씨나 중국어의 발음기호 등을 손쉽게 넣을 수 있다.

[PTypeRunRadioBtn](#)

[PTypeRunT](#)

[PTypeRunT](#) 요소는 문서의 실제 글자들을 담고 있는 요소이다. [PTypeRunT](#) 요소는 요소의 값으로 글자들을 가지게된다.

단 Tab 글자, 줄바꿈 글자와 같이 특수 글자들은 실제 글자 대신에 하위 요소로서 가지고 있게 된다

PTypeRunTMarkpenBegin

형광펜 색상 정보를 담고 있는 요소이다.

PTypeRunTTab

탭

PTypeRunTTitleMark

제목 차례 표시 여부를 갖고 있는 요소이다.

PTypeRunTextart

글맵시는 글자를 구부리거나 글자에 외곽선, 면 채우기, 그림자, 회전 등의 효과를 주어 문자를 꾸미는 기능이다.

PTypeRunTextartOutline

글맵시의 외각선에 대한 정보를 가지고 있는 요소이다.

PTypeRunTextartTextartPr

글맵시 내의 글자에 적용될 효과 정보들을 가지고 있는 요소이다.

PTypeRunVideo

ParaHeadType

각 번호 문단 머리의 정보.

문자열 내 특정 문자에 제어코드(^)를 불임으로써 글에서 표시되는 번호 문단 머리의 포맷을 제어한다.

^n : 레벨 경로를 표시한다. (예: 1.1.1.1.1.1)

^N : 레벨 경로를 표시하며 마지막에 마침표를 하나 더 찍는다. (예: 1.1.1.1.1.1.)

^레벨번호(1~7) : 해당 레벨에 해당하는 숫자 또는 문자 또는 기호를 표시한다.

ParaHeadType2

ParaListType

ParaShapeType

문단 모양 정보는 문단 내 정렬, 문단 테두리 등 문단을 표현할 때 필요한 각종 설정 정보를 가지고 있는 요소이다.

ParaShapeTypeAlign

문단 내 정렬 방식을 표현하기 위한 요소이다.

ParaShapeTypeAutoSpacing

문단 내에서 한글, 영어, 숫자 사이의 간격에 대한 자동 조절 설정 정보를 가지고 있는 요소이다.

ParaShapeTypeBorder

문단의 테두리 설정 정보를 가지고 있는 요소이다.

ParaShapeTypeBreakSetting

문단의 줄나눔 설정 정보를 가지고 있는 요소이다.

ParaShapeTypeHeading

문단 머리 모양 설정 정보를 가지고 있는 요소이다.

ParaShapeTypeLineSpacing

문단의 줄 간격 설정 정보를 가지고 있는 요소이다.

ParaShapeTypeMargin

문단의 여백 정보를 가지고 있는 요소이다

ParameterList

ParameterListBooleanParam

ParameterListFloatParam

ParameterListIntegerParam

ParameterListStringParam

PictureType

PictureType 요소는 AbstractShapeComponentType을 상속받는다.

PictureTypeImgClip

원본 그림을 기준으로 자를 영역 정보를 가지고 있는 요소이다. 자르기 정보가 설정되면, 그림은 논리적으로 원본 그림에서 해당 영역만큼 잘리게 되고, 화면에서는 남은 영역만 표시된다.

PictureTypeImgDim

PictureTypeImgRect

PointType

좌표 정보를 표현할 때 사용하는 요소로, 2축 좌표계를 사용한다.

PolygonType

PolygonType 요소는 AbstractDrawingObjectType을 상속받는다.

RectangleType

RectangleType 요소는 AbstractDrawingObjectType을 상속받는다.

RotMatrixType

ScaMatrixType

ScaleType

확대 정보를 가지고 있는 요소이다.

ScrollBarType

ScrollBarType 요소는 AbstractFormObjectType를 상속받는다.

SectionDefinitionType

구역(Section)은 콘텐츠의 영역을 구분짓는 가장 큰 단위이다. SecPr 요소는 구역 내에서의 각종 설정 정보를 가지고 있는 요소이다.

SectionDefinitionTypeGrid

구역 내의 줄맞춤 설정 정보를 표현하기 위한 요소이다

SectionDefinitionTypeMasterPage

MasterPage 요소는 바탕쪽 스키마에서 설정된 정보를 참조한다. 한 섹션 내에서 바탕쪽은 여러개가 올 수 있다.

SectionDefinitionTypePageBorderFill

PageBorderFill은 구역 내에서 사용되는 테두리/배경 설정 정보를 가지고 있는 요소이다.

SectionDefinitionTypePageBorderFillOffset

구역 내에서 사용되는 테두리/배경에 대한 위치 정보를 가지고 있는 요소이다.

SectionDefinitionTypePagePr

구역 내의 용지 설정 정보를 표현하기 위한 요소이다

SectionDefinitionTypePagePrMargin

SectionDefinitionTypePresentation

문서의 프레젠테이션 설정 정보를 갖고 있는 요소이다.

SectionDefinitionTypeStartNum

구역 내에서 각종 시작 번호들에 대한 설정을 가지고 있는 요소이다.

SectionDefinitionTypeVisibility

구역 내의 각 요소들에 대한 보여주기/감추기 설정 정보를 표현하기 위한 요소이다.

SectionType

Root Element

ShadowType

그리기 객체에 적용될 그림자 효과 정보를 가지고 있는 요소이다.

SkewType

기울기 정보를 가지고 있는 요소이다

SlashType

테두리/배경 설정 중, 대각선의 정보를 담기 위한 요소이다.

StyleType

스타일은 자주 사용하는 글자 모양이나 문단 모양을 미리 정해 놓고서 이를 사용할 수 있게 해주는 기능이다. [Style](#) 요소는 설정된 스타일 기능을 표현하기 위한 요소이다.

TabDefType

탭(Tab) 정보는 한꺼번에 일정한 거리로 본문을 띄울 때 사용하는 요소이다. 탭은 여러 개의 항목을 세로로 가지런히 나열해 입력할 때에도 사용할 수 있다

TabDefTypeTabItem

탭의 모양 및 위치 정보 등을 표현하기 위한 요소이다.

TableType

[TableType](#) 요소는 표에 관한 정보를 가지고 있는 요소로 [AbstractShapeObjectType](#)을 상속받는다.

TableTypeCellzone

표는 표 전체 또는 표 부분적으로 배경색 및 테두리와 같은 속성을 줄 때, 영역을 지정하기 위해서 [TableTypeCellzone](#) 요소를 사용한다.

TableTypeLabel

TableTypeTC

[TableTypeTC](#) 요소는 하위 요소로 표 안의 글 내용을 담고 있는 [SubList](#) 요소를 가진다.

TableTypeTCCellAddr

표에서 하나의 열이 차지하는 영역을 지정하기 위한 요소이다

TableTypeTCCellMargin

[TableTypeTCCellMargin](#) 요소는 [MarginAttributeGroup]을 속성으로 포함한다

TableTypeTCCellSpan

표에서 하나의 열이 하나의 셀 대신 여러 개의 셀로 구성되어 있다면, 병합된 셀 정보를 표현하기 위해 사용되는 요소이다.

TableTypeTCCellSz

개별 셀의 크기 정보를 가지고 있는 요소이다.

TableTypeTR

TrackChange

변경 추적 정보를 가지고 있는 요소이다.

[TrackChangeAuthor](#)

변경 추적 검토자 정보를 가지고 있는 요소이다

[TrackChangeTag](#)

변경 추적 정보를 정의한 형식이다

PTypeRunT.InsertBegin, PTypeRunT.InsertEnd, PTypeRunT.DeleteBegin, PTypeRunT.DeleteEnd 요소는 [TrackChangeTag](#) 형식을 기본으로 한다.

[TransMatrixType](#)

[UnknownObjectType](#)

Class AbstractButtonType

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

[AbstractButtonType](#)은 양식 객체의 공통 속성을 정의한다.

[AbstractButtonType](#)은 [AbstractFormObjectType](#) 을 기본 형식으로 가지고 추가적으로 필요한 속성이나 요소를 확장한다.

```
[Serializable]
public abstract class AbstractButtonType : AbstractFormObjectType, IHwxObject, ICloneab:
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [AbstractFormObjectType](#) ←
AbstractButtonType

Implements

[IHwxObject](#), [ICloneable](#)

Derived

[PTypeRunBtn](#), [PTypeRunCheckBtn](#), [PTypeRunRadioBtn](#)

Inherited Members

[AbstractFormObjectType.FormCharPr](#), [AbstractFormObjectType.Name](#),
[AbstractFormObjectType.ForeColor](#), [AbstractFormObjectType.BackColor](#),
[AbstractFormObjectType.GroupName](#), [AbstractFormObjectType.TabStop](#),
[AbstractFormObjectType.TabOrder](#), [AbstractFormObjectType.Enabled](#),
[AbstractFormObjectType.BorderTypeIDRef](#), [AbstractFormObjectType.DrawFrame](#),
[AbstractFormObjectType.Printable](#), [AbstractShapeObjectType.Sz](#), [AbstractShapeObjectType.Pos](#),
[AbstractShapeObjectType.OutMargin](#), [AbstractShapeObjectType.Caption](#),
[AbstractShapeObjectType.ShapeComment](#), [AbstractShapeObjectType.Id](#),
[AbstractShapeObjectType.ZOrder](#), [AbstractShapeObjectType.NumberingType](#),
[AbstractShapeObjectType.TextWrap](#), [AbstractShapeObjectType.TextFlow](#),
[AbstractShapeObjectType.Lock](#), [AbstractShapeObjectType.DropCapStyle](#), [Switchable.Switch](#),
[Switchable.Clone\(\)](#), [object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#),
[object.GetType\(\)](#), [object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#),
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#)

Constructors

AbstractButtonObjectType()

```
public AbstractButtonObjectType()
```

Properties

BackStyle

버튼 배경색 스타일

```
public AbstractButtonObjectTypeBackStyle BackStyle { get; set; }
```

Property Value

[AbstractButtonObjectTypeBackStyle](#)

Caption1

캡션

```
public string Caption1 { get; set; }
```

Property Value

[string](#) ↗

RadioGroupName

라디오 버튼 그룹 이름

```
public string RadioGroupName { get; set; }
```

Property Value

[string](#)

TriState

3단 체크 상태 여부

```
public bool TriState { get; set; }
```

Property Value

[bool](#)

Value

체크 상태 값

```
public AbstractButtonObjectTypeValue Value { get; set; }
```

Property Value

[AbstractButtonObjectTypeValue](#)

Class AbstractDrawingObjectType

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

[AbstractDrawingObjectType](#)은 그리기 객체의 기본 속성을 정의하고 있는 요소 형식이다.

[AbstractDrawingObjectType](#)은 [AbstractShapeComponentType](#)을 기본 형식으로 가지고 추가적으로 필요한 속성이나 요소를 확장한다

```
[Serializable]
public abstract class AbstractDrawingObjectType : AbstractShapeComponentType, IHwpxlObject, ICloneable
```

Inheritance

[object](#) ↳ [Switchable](#) ↳ [AbstractShapeObjectType](#) ↳ [AbstractShapeComponentType](#) ↳
[AbstractDrawingObjectType](#)

Implements

[IHpxObject](#), [ICloneable](#) ↳

Derived

[ArcType](#), [ConnectLineType](#), [CurveType](#), [EllipseType](#), [LineType](#), [PTypeRunTextart](#), [PolygonType](#),
[RectangleType](#), [UnknownObjectType](#)

Inherited Members

[AbstractShapeComponentType.Offset](#), [AbstractShapeComponentType.OrgSz](#),
[AbstractShapeComponentType.CurSz](#), [AbstractShapeComponentType.Flip](#),
[AbstractShapeComponentType.RotationInfo](#), [AbstractShapeComponentType.RenderingInfo](#),
[AbstractShapeComponentType.Href](#), [AbstractShapeComponentType.GroupLevel](#),
[AbstractShapeComponentType.InstId](#), [AbstractShapeObjectType.Sz](#), [AbstractShapeObjectType.Pos](#),
[AbstractShapeObjectType.OutMargin](#), [AbstractShapeObjectType.Caption](#),
[AbstractShapeObjectType.ShapeComment](#), [AbstractShapeObjectType.Id](#),
[AbstractShapeObjectType.ZOrder](#), [AbstractShapeObjectType.NumberingType](#),
[AbstractShapeObjectType.TextWrap](#), [AbstractShapeObjectType.TextFlow](#),
[AbstractShapeObjectType.Lock](#), [AbstractShapeObjectType.DropCapStyle](#), [Switchable.Switch](#),
[Switchable.Clone\(\)](#), [object.Equals\(object\)](#) ↳, [object.Equals\(object, object\)](#) ↳, [object.GetHashCode\(\)](#) ↳,
[object.GetType\(\)](#) ↳, [object.MemberwiseClone\(\)](#) ↳, [object.ReferenceEquals\(object, object\)](#) ↳,
[object.ToString\(\)](#) ↳

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#)

Constructors

AbstractDrawingObjectType()

```
public AbstractDrawingObjectType()
```

Properties

DrawText

그리기 객체 글상자용 텍스트

```
public AbstractDrawingObjectTypeDrawText DrawText { get; set; }
```

Property Value

[AbstractDrawingObjectTypeDrawText](#)

FillBrush

그리기 객체의 채우기 정보

```
public FillBrushType FillBrush { get; set; }
```

Property Value

[FillBrushType](#)

LineShape

그리기 객체의 테두리선 정보

```
public LineShapeType LineShape { get; set; }
```

Property Value

[LineShapeType](#)

Shadow

그리기 객체의 그림자 정보

```
public ShadowType Shadow { get; set; }
```

Property Value

[ShadowType](#)

Class AbstractDrawingObjectTypeDrawText

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

그리기 객체 안쪽 또는 특정 영역에 표시되는 글상자 내용을 가지고 있는 요소이다.

```
[Serializable]
public class AbstractDrawingObjectTypeDrawText : Switchable, IHwxObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← AbstractDrawingObjectTypeDrawText

Implements

[IHwxObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwxDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwxDocumentExtensions.ItemCountUpdate\(IHwxObject, IHwxDocument\)](#)

Constructors

AbstractDrawingObjectTypeDrawText()

```
public AbstractDrawingObjectTypeDrawText()
```

Properties

Editable

편집 가능 여부

```
public bool Editable { get; set; }
```

Property Value

[bool](#)

LastWidth

텍스트 문자열의 최대 폭. 단위는 HWPUNIT

```
public int LastWidth { get; set; }
```

Property Value

[int](#)

Name

글상자 이름

```
public string Name { get; set; }
```

Property Value

[string](#)

SubList

글상자 텍스트

```
public ParaListType SubList { get; set; }
```

Property Value

[ParaListType](#)

TextMargin

글상자 텍스트 여백

```
public AbstractDrawingObjectTypeDrawTextTextMargin TextMargin { get; set; }
```

Property Value

[AbstractDrawingObjectTypeDrawTextTextMargin](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#) ↗

Class AbstractDrawingObjectTypeDrawTextTextMargin

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

```
[Serializable]
public class AbstractDrawingObjectTypeDrawTextTextMargin : Switchable, IHwpvObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← AbstractDrawingObjectTypeDrawTextTextMargin

Implements

[IHwpvObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#)

Properties

Bottom

아래쪽 여백. 단위는 HWPUNIT

```
public int Bottom { get; set; }
```

Property Value

[int↗](#)

Left

왼쪽 여백. 단위는 HWPUNIT

```
public int Left { get; set; }
```

Property Value

[int↗](#)

Right

오른쪽 여백. 단위는 HWPUNIT

```
public int Right { get; set; }
```

Property Value

[int↗](#)

Top

위쪽 여백. 단위는 HWPUNIT

```
public int Top { get; set; }
```

Property Value

[int↗](#)

Methods

Clone()

```
public override object Clone()
```

Returns

object↗

Class AbstractFormObjectType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[AbstractFormObjectType](#)은 양식 객체의 공통 속성을 정의한다.

[AbstractFormObjectType](#)은 [AbstractShapeObjectType](#) 을 기본 형식으로 가지고 추가적으로 필요한 속성이나 요소를 확장한다.

```
[Serializable]
public abstract class AbstractFormObjectType : AbstractShapeObjectType, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [AbstractFormObjectType](#)

Implements

[IHwploquentObject](#), [ICloneable](#)

Derived

[AbstractButtonObjectType](#), [ComboBoxType](#), [EditType](#), [ListBoxType](#), [ScrollBarType](#)

Inherited Members

[AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) , [AbstractShapeObjectType.OutMargin](#) ,
[AbstractShapeObjectType.Caption](#) , [AbstractShapeObjectType.ShapeComment](#) ,
[AbstractShapeObjectType.Id](#) , [AbstractShapeObjectType.ZOrder](#) ,
[AbstractShapeObjectType.NumberingType](#) , [AbstractShapeObjectType.TextWrap](#) ,
[AbstractShapeObjectType.TextFlow](#) , [AbstractShapeObjectType.Lock](#) ,
[AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) , [Switchable.Clone\(\)](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#)

Constructors

AbstractFormObjectType()

```
public AbstractFormObjectType()
```

Properties

BackColor

배경색

```
public string BackColor { get; set; }
```

Property Value

[string](#)

BorderTypeIDRef

테두리 아이디 참조 값

```
public string BorderTypeIDRef { get; set; }
```

Property Value

[string](#)

DrawFrame

프레임 표시 가능 여부

```
public bool DrawFrame { get; set; }
```

Property Value

[bool](#)

Enabled

활성화 여부

```
public bool Enabled { get; set; }
```

Property Value

[bool](#)

ForeColor

전경색

```
public string ForeColor { get; set; }
```

Property Value

[string](#)

FormCharPr

양식 객체의 글자 속성

```
public AbstractFormObjectTypeFormCharPr FormCharPr { get; set; }
```

Property Value

[AbstractFormObjectTypeFormCharPr](#)

GroupName

그룹 이름

```
public string GroupName { get; set; }
```

Property Value

[string](#)

Name

이름

```
public string Name { get; set; }
```

Property Value

[string](#)

Printable

출력 가능 여부

```
public bool Printable { get; set; }
```

Property Value

[bool](#)

TabOrder

탭키 이동 순서

```
public int TabOrder { get; set; }
```

Property Value

[int](#)

TabStop

탭키로 객체들을 이동할 때 해당 객체에 머물 수 있는지를 결정하는 속성

```
public bool TabStop { get; set; }
```

Property Value

[bool](#) ↗

Class AbstractFormObjectTypeFormCharPr

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

양식 객체의 글자 속성 설정 정보를 가지고 있는 요소이다

```
[Serializable]
public class AbstractFormObjectTypeFormCharPr : Switchable, IHwpxlObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← AbstractFormObjectTypeFormCharPr

Implements

[IHwpxlObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpxlDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwpxlDocumentExtensions.ItemCountUpdate\(IHwpxlObject, IHwpxlDocument\)](#)

Constructors

AbstractFormObjectTypeFormCharPr()

```
public AbstractFormObjectTypeFormCharPr()
```

Properties

AutoSize

자동 크기 조절 여부

```
public bool AutoSz { get; set; }
```

Property Value

[bool](#)

CharPrIDRef

글자 모양 아이디 참조 값

```
public string CharPrIDRef { get; set; }
```

Property Value

[string](#)

FollowContext

양식 개체가 주위의 글자 속성을 따 를지 여부

```
public bool FollowContext { get; set; }
```

Property Value

[bool](#)

WordWrap

줄 내림 여부

```
public bool WordWrap { get; set; }
```

Property Value

[bool](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class AbstractShapeComponentType

Namespace: [HwpXIO.Models](#)

Assembly: HwpXIO.dll

[AbstractShapeComponentType](#)은 [AbstractShapeObjectType](#)을 기본 형식으로 가지고 추가적으로 필요 한 속성이나 요소를 확장한다

```
[Serializable]  
public abstract class AbstractShapeComponentType : AbstractShapeObjectType, IHwpXObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [AbstractShapeComponentType](#)

Implements

[IHwpXObject](#), [ICloneable](#)

Derived

[AbstractDrawingObjectType](#), [ContainerType](#), [OLEType](#), [PTypeRunVideo](#), [PictureType](#)

Inherited Members

[AbstractShapeObjectType.Sz](#), [AbstractShapeObjectType.Pos](#), [AbstractShapeObjectType.OutMargin](#),
[AbstractShapeObjectType.Caption](#), [AbstractShapeObjectType.ShapeComment](#),
[AbstractShapeObjectType.Id](#), [AbstractShapeObjectType.ZOrder](#),
[AbstractShapeObjectType.NumberingType](#), [AbstractShapeObjectType.TextWrap](#),
[AbstractShapeObjectType.TextFlow](#), [AbstractShapeObjectType.Lock](#),
[AbstractShapeObjectType.DropCapStyle](#), [Switchable.Switch](#), [Switchable.Clone\(\)](#),
[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#),
[object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HwpXDocumentExtensions.SerializeToXmlElements<T>\(T\)](#),
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#),
[HwpXDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpXDocument\)](#)

Constructors

[AbstractShapeComponentType\(\)](#)

```
public AbstractShapeComponentType()
```

Properties

CurSz

객체의 현재 크기

```
public AbstractShapeComponentTypeCurSz CurSz { get; set; }
```

Property Value

[AbstractShapeComponentTypeCurSz](#)

Flip

객체가 뒤집어진 상태인지 여부

```
public AbstractShapeComponentTypeFlip Flip { get; set; }
```

Property Value

[AbstractShapeComponentTypeFlip](#)

GroupLevel

그룹핑 횟수

```
public int GroupLevel { get; set; }
```

Property Value

[int↗](#)

Href

하이퍼링크 속성

```
public string Href { get; set; }
```

Property Value

[string](#)

InstId

객체 아이디

```
public int InstId { get; set; }
```

Property Value

[int](#)

Offset

객체가 속한 그룹 내에서의 오프셋 정보

```
public AbstractShapeComponentTypeOffset Offset { get; set; }
```

Property Value

[AbstractShapeComponentTypeOffset](#)

OrgSz

객체 생성 시 최초 크기

```
public AbstractShapeComponentTypeOrgSz OrgSz { get; set; }
```

Property Value

[AbstractShapeComponentTypeOrgSz](#)

RenderingInfo

객체 랜더링 정보

```
public AbstractShapeComponentTypeRenderingInfo RenderingInfo { get; set; }
```

Property Value

[AbstractShapeComponentTypeRenderingInfo](#)

RotationInfo

객체 회전 정보

```
public AbstractShapeComponentTypeRotationInfo RotationInfo { get; set; }
```

Property Value

[AbstractShapeComponentTypeRotationInfo](#)

Class AbstractShapeComponentTypeCurSz

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

객체의 현재 크기 정보를 가지고 있는 요소이다.

```
[Serializable]
public class AbstractShapeComponentTypeCurSz : IHwpObject
```

Inheritance

[object](#) ← AbstractShapeComponentTypeCurSz

Implements

[IHwpObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#)

Properties

Height

개체의 현재 높이. 단위는 HWPUNIT

```
public long Height { get; set; }
```

Property Value

[long](#)

Width

개체의 현재 폭. 단위는 HWPUNIT

```
public long Width { get; set; }
```

Property Value

[long](#)

Class AbstractShapeComponentTypeFlip

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

객체의 반전 여부 정보를 가지고 있는 요소이다.

```
[Serializable]
public class AbstractShapeComponentTypeFlip : IHwpxlObject
```

Inheritance

[object](#) ← AbstractShapeComponentTypeFlip

Implements

[IHwpxlObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpxlDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HwpxlDocumentExtensions.ItemCountUpdate\(IHwpxlObject, IHwpxlDocument\)](#)

Constructors

AbstractShapeComponentTypeFlip()

```
public AbstractShapeComponentTypeFlip()
```

Properties

Horizontal

좌우로 뒤집어진 상태인지 여부

```
public bool Horizontal { get; set; }
```

Property Value

bool ↗

Vertical

상하로 뒤집어진 상태인지 여부

```
public bool Vertical { get; set; }
```

Property Value

bool ↗

Class AbstractShapeComponentTypeOffset

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

그룹 객체 내에서 개별 객체들의 그룹 내 상대 위치 정보를 가지고 있는 요소이다.

```
[Serializable]
public class AbstractShapeComponentTypeOffset : IHwpObject
```

Inheritance

[object](#) ← AbstractShapeComponentTypeOffset

Implements

[IHwpObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#)

Constructors

AbstractShapeComponentTypeOffset()

```
public AbstractShapeComponentTypeOffset()
```

Properties

X

객체가 속한 그룹 내에서의 x offset

```
public long X { get; set; }
```

Property Value

long ↗

Y

객체가 속한 그룹 내에서의 y offset

```
public long Y { get; set; }
```

Property Value

long ↗

Class AbstractShapeComponentTypeOrgSz

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

객체 생성 시 최초 크기 정보를 가지고 있는 요소이다

```
[Serializable]
public class AbstractShapeComponentTypeOrgSz : IHwpObject
```

Inheritance

[object](#) ← AbstractShapeComponentTypeOrgSz

Implements

[IHwpObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#)

Properties

Height

객체 생성 시 최초 높이. 단위는 HWPUNIT

```
public int Height { get; set; }
```

Property Value

[int](#)

Width

개체 생성 시 최초 폭. 단위는 HWPUNIT

```
public int Width { get; set; }
```

Property Value

[int↗](#)

Class AbstractShapeComponentTypeRenderingInfo

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

객체 렌더링 시 필요한, 변환 행렬, 확대/축소 행렬, 회전 행렬을 가지고 있는 요소이다.

```
[Serializable]  
public class AbstractShapeComponentTypeRenderingInfo : IHwpxlObject
```

Inheritance

[object](#) ← AbstractShapeComponentTypeRenderingInfo

Implements

[IHwpxlObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpxlDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HwpxlDocumentExtensions.ItemCountUpdate\(IHwpxlObject, IHwpxlDocument\)](#)

Constructors

AbstractShapeComponentTypeRenderingInfo()

```
public AbstractShapeComponentTypeRenderingInfo()
```

Properties

Matrices

```
public List<MatrixType> Matrices { get; set; }
```

Property Value

[List ↗ <MatrixType>](#)

Class AbstractShapeComponentTypeRotationInfo

Namespace: [HpxIO.Models](#)

Assembly: HpxIO.dll

객체의 회전 정보를 가지고 있는 요소이다.

```
[Serializable]  
public class AbstractShapeComponentTypeRotationInfo : IHpxObject
```

Inheritance

[object](#) ← AbstractShapeComponentTypeRotationInfo

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#)

Constructors

AbstractShapeComponentTypeRotationInfo()

```
public AbstractShapeComponentTypeRotationInfo()
```

Properties

Angle

회전각

```
public int Angle { get; set; }
```

Property Value

[int ↗](#)

CenterX

회전 중심의 x 좌표

```
public int CenterX { get; set; }
```

Property Value

[int ↗](#)

CenterY

회전 중심의 y 좌표

```
public int CenterY { get; set; }
```

Property Value

[int ↗](#)

Rotateimage

이미지 회전 여부

```
public bool Rotateimage { get; set; }
```

Property Value

[bool ↗](#)

Class AbstractShapeObjectType

Namespace: [HwpXIO.Models](#)

Assembly: HwpXIO.dll

[AbstractShapeObjectType](#)은 기본 도형 객체들의 공통된 속성을 정의한 형식이다.

기본 도형 객체들은 [AbstractShapeObjectType](#)을 기본 형식으로 가지고 추가적으로 필요한 속성이나 요소를 확장해서 사용한다.

[AbstractShapeObjectType](#)은 추상 형식이므로 [AbstractShapeObjectType](#)만으로는 XML 요소를 생성할 수 없다.

```
[Serializable]
public abstract class AbstractShapeObjectType : Switchable, IHpxObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#)

Implements

[IHpxObject](#), [ICloneable](#)

Derived

[AbstractFormObjectType](#), [AbstractShapeComponentType](#), [EquationType](#), [PTypeRunChart](#), [TableType](#)

Inherited Members

[Switchable.Switch](#), [Switchable.Clone\(\)](#), [object.Equals\(object\)](#), [object.Equals\(object, object\)](#),
[object.GetHashCode\(\)](#), [object.GetType\(\)](#), [object.MemberwiseClone\(\)](#),
[object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#),
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#),
[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#)

Constructors

[AbstractShapeObjectType\(\)](#)

```
public AbstractShapeObjectType()
```

Properties

Caption

캡션

```
public AbstractShapeObjectTypeCaption Caption { get; set; }
```

Property Value

[AbstractShapeObjectTypeCaption](#)

DropCapStyle

첫글자 장식 스타일

```
public DropCapStyleType DropCapStyle { get; set; }
```

Property Value

[DropCapStyleType](#)

Id

객체를 식별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#) ↗

Lock

객체 선택 가능 여부

```
public bool Lock { get; set; }
```

Property Value

[bool](#)

NumberingType

이 객체가 속하는 번호 범위

```
public AbstractShapeObjectTypeNumberingType NumberingType { get; set; }
```

Property Value

[AbstractShapeObjectTypeNumberingType](#)

OutMargin

바깥 여백

```
public AbstractShapeObjectTypeOutMargin OutMargin { get; set; }
```

Property Value

[AbstractShapeObjectTypeOutMargin](#)

Pos

위치 정보

```
public AbstractShapeObjectTypePos Pos { get; set; }
```

Property Value

[AbstractShapeObjectTypePos](#)

ShapeComment

주석

요소의 값으로 주석 내용을 가짐

```
public object ShapeComment { get; set; }
```

Property Value

[object](#)

Sz

크기 정보

```
public AbstractShapeObjectTypeSZ Sz { get; set; }
```

Property Value

[AbstractShapeObjectTypeSZ](#)

TextFlow

오브젝트의 좌우 어느 쪽에 글을 배치할지 정하는 옵션

[TextWrap](#)속성이 "SQUARE" 또는 "TIGHT" 또는 "THROUGH" 일 때에만 사용

```
public AbstractShapeObjectTypeTextFlow TextFlow { get; set; }
```

Property Value

[AbstractShapeObjectTypeTextFlow](#)

TextWrap

오브젝트 주위를 텍스트가 어떻게 흘러갈지 정하는 옵션

하위 요소 [Pos](#) 속성 중 “[TreatAsChar](#)”이 “[false](#)” 일 때에만 사용

```
public AbstractShapeObjectTypeTextWrap TextWrap { get; set; }
```

Property Value

[AbstractShapeObjectTypeTextWrap](#)

ZOrder

Z-Order

```
public int ZOrder { get; set; }
```

Property Value

[int](#)

Class AbstractShapeObjectTypeCaption

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class AbstractShapeObjectTypeCaption : Switchable, IHpxObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← AbstractShapeObjectTypeCaption

Implements

[IHpxObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#)

Constructors

AbstractShapeObjectTypeCaption()

```
public AbstractShapeObjectTypeCaption()
```

Properties

FullSz

```
public bool FullSz { get; set; }
```

PropertyValue

[bool](#)

Gap

```
public long Gap { get; set; }
```

PropertyValue

[long](#)

LastWidth

```
public int LastWidth { get; set; }
```

PropertyValue

[int](#)

Side

```
public AbstractShapeObjectTypeCaptionSide Side { get; set; }
```

PropertyValue

[AbstractShapeObjectTypeCaptionSide](#)

SubList

```
public ParaListType SubList { get; set; }
```

PropertyValue

[ParaListType](#)

Width

```
public long Width { get; set; }
```

Property Value

[long](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class AbstractShapeObjectTypeOutMargin

Namespace: [HwpxIO.Models](#)

Assembly: HwpxIO.dll

여백 정보를 표현할 때 공통적으로 사용되는 속성들을 묶은 형식이다

```
[Serializable]
public class AbstractShapeObjectTypeOutMargin : Switchable, IHwpXObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← AbstractShapeObjectTypeOutMargin

Implements

[IHwpXObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwpDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpDocument\)](#)

Properties

Bottom

아래쪽 여백. 단위는 HWPUNIT

```
public long Bottom { get; set; }
```

Property Value

[long](#)

Left

왼쪽 여백. 단위는 HWPUNIT

```
public long Left { get; set; }
```

Property Value

[long↗](#)

Right

오른쪽 여백. 단위는 HWPUNIT

```
public long Right { get; set; }
```

Property Value

[long↗](#)

Top

위쪽 여백. 단위는 HWPUNIT

```
public long Top { get; set; }
```

Property Value

[long↗](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#) ↗

Class AbstractShapeObjectTypePos

Namespace: [HwpxIO.Models](#)

Assembly: HwpxIO.dll

객체들의 위치 정보 및 객체들이 문서에서 차지하는 영역에 대한 정보를 가지고 있는 요소이다.

```
[Serializable]
public class AbstractShapeObjectTypePos : Switchable, IHwxObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← AbstractShapeObjectTypePos

Implements

[IHwxObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwxDocumentExtensions.ItemCountUpdate\(IHwxObject, IHwxDocument\)](#)

Constructors

AbstractShapeObjectTypePos()

```
public AbstractShapeObjectTypePos()
```

Properties

AffectLSpacing

줄 간격에 영향을 줄지 여부

[TreatAsChar](#) 속성이 [true](#)일 때에만 사용

```
public bool AffectLSpacing { get; set; }
```

Property Value

[bool](#)

AllowOverlap

다른 오브젝트와 겹치는 것을 허용할지 여부

[TreatAsChar](#) 속성이 [false](#)일 때에만 사용

[FlowWithText](#) 속성이 [true](#)이면 무조건 [false](#)로 간주함

```
public bool AllowOverlap { get; set; }
```

Property Value

[bool](#)

FlowWithText

오브젝트의 세로 위치를 본문 영역으로 제한할지 여부

하위 요소 [VertRelTo](#) 의 속성이 [PARA](#) 일때만 사용

```
public bool FlowWithText { get; set; }
```

Property Value

[bool](#)

HoldAnchorAndSO

객체와 조판부호를 항상 같은 쪽에 놓을지 여부

```
public bool HoldAnchorAndSO { get; set; }
```

Property Value

[bool ↗](#)

HorzAlign

[HorzRelTo](#)에 대한 상대적인 배열 방식

```
public AbstractShapeObjectTypePosHorzAlign HorzAlign { get; set; }
```

Property Value

[AbstractShapeObjectTypePosHorzAlign](#)

HorzOffset

[HorzRelTo](#)와 [HorzAlign](#)을 기준점으로 한 상대적인 오프셋 값. 단위는 HWPUNIT

```
public long HorzOffset { get; set; }
```

Property Value

[long ↗](#)

HorzRelTo

가로 위치의 기준

[TreatAsChar](#) 속성이 [false ↗](#) 일 때에만 사용

```
public AbstractShapeObjectTypePosHorzRelTo HorzRelTo { get; set; }
```

Property Value

[AbstractShapeObjectTypePosHorzRelTo](#)

TreatAsChar

글자처럼 취급 여부

```
public bool TreatAsChar { get; set; }
```

Property Value

[bool](#) ↗

VertAlign

[VertRelTo](#)에 대한 상대적인 배열 방식

[VertRelTo](#)의 값에 따라 가능한 범위가 제한됨

```
public AbstractShapeObjectTypePosVertAlign VertAlign { get; set; }
```

Property Value

[AbstractShapeObjectTypePosVertAlign](#)

VertOffset

[VertRelTo](#)와 [VertAlign](#)을 기준점으로 한 상대적인 오프셋 값. 단위는 HWPUNIT

```
public long VertOffset { get; set; }
```

Property Value

[long](#) ↗

VertRelTo

세로 위치의 기준

TreatAsChar 속성이 false일 때에만 사용

```
public AbstractShapeObjectTypePosVertRelTo VertRelTo { get; set; }
```

Property Value

AbstractShapeObjectTypePosVertRelTo

Methods

Clone()

```
public override object Clone()
```

Returns

object

Class AbstractShapeObjectTypeSZ

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

객체들의 크기 정보를 가지고 있는 요소이다

```
[Serializable]
public class AbstractShapeObjectTypeSZ : Switchable, IHwpxlObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← AbstractShapeObjectTypeSZ

Implements

[IHwpxlObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpxlDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwpxlDocumentExtensions.ItemCountUpdate\(IHwpxlObject, IHwpxlDocument\)](#)

Constructors

AbstractShapeObjectTypeSZ()

```
public AbstractShapeObjectTypeSZ()
```

Properties

Height

오브젝트 높이

```
public int Height { get; set; }
```

Property Value

[int↗](#)

HeightRelTo

오브젝트 높이의 기준

```
public AbstractShapeObjectTypeSZHeightRelTo HeightRelTo { get; set; }
```

Property Value

[AbstractShapeObjectTypeSZHeightRelTo](#)

Protect

크기 보호 여부

```
public bool Protect { get; set; }
```

Property Value

[bool↗](#)

Width

오브젝트 폭

```
public int Width { get; set; }
```

Property Value

[int↗](#)

WidthRelTo

오브젝트 폭의 기준

```
public AbstractShapeObjectTypeSZWidthRelTo WidthRelTo { get; set; }
```

Property Value

[AbstractShapeObjectTypeSZWidthRelTo](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object↗](#)

Class ArcType

Namespace: [HwpXIO.Models](#)

Assembly: HwpXIO.dll

[ArcType](#) 요소는 [AbstractDrawingObjectType](#)을 상속받는다.

```
[Serializable]
public class ArcType : AbstractDrawingObjectType, IHwpXObject, ICloneable
```

Inheritance

[object](#) ↳ [Switchable](#) ↳ [AbstractShapeObjectType](#) ↳ [AbstractShapeComponentType](#) ↳
[AbstractDrawingObjectType](#) ↳ ArcType

Implements

[IHwpXObject](#), [ICloneable](#) ↳

Inherited Members

[AbstractDrawingObjectType.LineShape](#) , [AbstractDrawingObjectType.FillBrush](#) ,
[AbstractDrawingObjectType.DrawText](#) , [AbstractDrawingObjectType.Shadow](#) ,
[AbstractShapeComponentType.Offset](#) , [AbstractShapeComponentType.OrgSz](#) ,
[AbstractShapeComponentType.CurSz](#) , [AbstractShapeComponentType.Flip](#) ,
[AbstractShapeComponentType.RotationInfo](#) , [AbstractShapeComponentType.RenderingInfo](#) ,
[AbstractShapeComponentType.Href](#) , [AbstractShapeComponentType.GroupLevel](#) ,
[AbstractShapeComponentType.InstId](#) , [AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) ,
[AbstractShapeObjectType.OutMargin](#) , [AbstractShapeObjectType.Caption](#) ,
[AbstractShapeObjectType.ShapeComment](#) , [AbstractShapeObjectType.Id](#) ,
[AbstractShapeObjectType.ZOrder](#) , [AbstractShapeObjectType.NumberingType](#) ,
[AbstractShapeObjectType.TextWrap](#) , [AbstractShapeObjectType.TextFlow](#) ,
[AbstractShapeObjectType.Lock](#) , [AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) ,
[object.Equals\(object\)](#) ↳ , [object.Equals\(object, object\)](#) ↳ , [object.GetHashCode\(\)](#) ↳ , [object.GetType\(\)](#) ↳ ,
[object.MemberwiseClone\(\)](#) ↳ , [object.ReferenceEquals\(object, object\)](#) ↳ , [object.ToString\(\)](#) ↳

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwpXDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpXDocument\)](#)

Constructors

ArcType()

```
public ArcType()
```

Properties

Ax1

제 1축 좌표

```
public PointType Ax1 { get; set; }
```

Property Value

[PointType](#)

Ax2

제2축 좌표

```
public PointType Ax2 { get; set; }
```

Property Value

[PointType](#)

Center

중심 좌표

```
public PointType Center { get; set; }
```

Property Value

[PointType](#)

Type

호의 종류

```
public ArcType Type { get; set; }
```

Property Value

[ArcType](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class AutoNumFormatType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

각주/미주 내에서 사용되는 자동 번호 매김 모양 정보를 가지고 있는 요소이다.

```
[Serializable]
public class AutoNumFormatType : Switchable, IHpxObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← AutoNumFormatType

Implements

[IHpxObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#)

Constructors

AutoNumFormatType()

```
public AutoNumFormatType()
```

Properties

PrefixChar

앞 장식 문자

```
public string PrefixChar { get; set; }
```

Property Value

[string](#)

SuffixChar

뒤 장식 문자

```
public string SuffixChar { get; set; }
```

Property Value

[string](#)

Supscript

각주/미주 내용 중 번호 코드의 모양을 위첨자 형식으로 할지 여부

```
public bool Supscript { get; set; }
```

Property Value

[bool](#)

Type

번호 모양 종류

```
public NumberType2 Type { get; set; }
```

Property Value

[NumberType2](#)

UserChar

사용자 기호

```
public string UserChar { get; set; }
```

Property Value

[string](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Create(NumberType2, string, string, string, bool)

```
public static AutoNumFormatType Create(NumberType2 type = NumberType2.DIGIT, string userChar =
```

Parameters

type [NumberType2](#)

userChar [string](#)

prefixChar [string](#)

suffixChar [string](#)

supscript bool ↗

Returns

[AutoNumFormatType](#)

Class AutoNumNewNumType

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

자동 번호 및 새 번호를 표현하기 위한 요소 형식이다.

```
[Serializable]
public class AutoNumNewNumType : Switchable, IHwpxlObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← AutoNumNewNumType

Implements

[IHwpxlObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpxlDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwpxlDocumentExtensions.ItemCountUpdate\(IHwpxlObject, IHwpxlDocument\)](#)

Constructors

AutoNumNewNumType()

```
public AutoNumNewNumType()
```

Properties

AutoNumFormat

번호 서식

```
public AutoNumFormatType AutoNumFormat { get; set; }
```

Property Value

[AutoNumFormatType](#)

Num

번호

```
public int Num { get; set; }
```

Property Value

[int](#)

NumType

번호의 종류

```
public AutoNumNewNumTypeNumType NumType { get; set; }
```

Property Value

[AutoNumNewNumTypeNumType](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class BorderFillType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

테두리/배경/채우기 정보에는 페이지의 테두리/배경/채우기 정보뿐만 아니라 표, 그림 등의 테두리/배경/채우기 정보까지 포함되어 있다.

이러한 특성으로 인해서 특정 속성 또는 특정 자식 요소는 특정 객체에서 사용되지 않을 수 있다.

대표적으로 속성 `breakCellSEparateLine`은 표에서만 사용되는 속성으로 페이지, 그림 등에서는 사용되지 않는다.

```
[Serializable]
public class BorderFillType : Switchable, IHwploquentObject, IEquatable<BorderFillType>, IBuilderable<
```

Inheritance

[object](#) ← [Switchable](#) ← BorderFillType

Implements

[IHwploquentObject](#), [IEquatable](#)<[BorderFillType](#)>, [IBuilderableModel](#)<[BorderFillTypeBuilder](#)>,
[ICopyToBuilderableModel](#)<[BorderFillTypeBuilder](#)>, [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[BuilderExtensions.GetOrAddIfMissing\(BorderFillType, IHwploquentBuilder\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(BorderFillType, HwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#)

Constructors

[BorderFillType\(\)](#)

```
public BorderFillType()
```

Fields

xmlns

```
[NonSerialized]  
public XmlSerializerNamespaces xmlns
```

Field Value

[XmlSerializerNamespaces](#)

Properties

BackSlash

backSlash 대각선 모양 설정

```
public SlashType BackSlash { get; set; }
```

Property Value

[SlashType](#)

BottomBorder

아래쪽 테두리

```
public BorderType BottomBorder { get; set; }
```

Property Value

[BorderType](#)

BreakCellSeparateLine

자동으로 나눈 표의 경계선 설정 여부.

```
public bool BreakCellSeparateLine { get; set; }
```

Property Value

[bool](#)

CenterLine

중심선 종류

```
public BorderFillTypeCenterLine CenterLine { get; set; }
```

Property Value

[BorderFillTypeCenterLine](#)

Diagonal

대각선

```
public BorderType Diagonal { get; set; }
```

Property Value

[BorderType](#)

FillBrush

채우기 정보

```
public FillBrushType FillBrush { get; set; }
```

Property Value

[FillBrushType](#)

Id

테두리/배경/채우기 정보를 구별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#)

LeftBorder

왼쪽 테두리

```
public BorderType LeftBorder { get; set; }
```

Property Value

[BorderType](#)

RightBorder

오른쪽 테두리

```
public BorderType RightBorder { get; set; }
```

Property Value

[BorderType](#)

Shadow

그림자 효과의 사용 여부

```
public bool Shadow { get; set; }
```

Property Value

[bool ↗](#)

Slash

slash 대각선 모양 설정

```
public SlashType Slash { get; set; }
```

Property Value

[SlashType](#)

ThreeD

3D 효과의 사용 여부

```
public bool ThreeD { get; set; }
```

Property Value

[bool ↗](#)

TopBorder

위쪽 테두리

```
public BorderType TopBorder { get; set; }
```

Property Value

[BorderType](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

CopyToBuilder(Action<BorderFillTypeBuilder>, IHwxBuilder)

```
public BorderFillTypeBuilder CopyToBuilder(Action<BorderFillTypeBuilder> copyToBuilder = null,
```

Parameters

copyToBuilder [Action](#)<[BorderFillTypeBuilder](#)>

hwxBuilder [IHwxBuilder](#)

Returns

[BorderFillTypeBuilder](#)

Equals(BorderFillType)

```
public bool Equals(BorderFillType other)
```

Parameters

other [BorderFillType](#)

Returns

[bool](#)

UpdateBuilder(Action<BorderFillTypeBuilder>, IHpxBuilder)

```
public BorderFillTypeBuilder UpdateBuilder(Action<BorderFillTypeBuilder> updateBuilderAction =
```

Parameters

updateBuilderAction [Action](#)<BorderFillTypeBuilder>

hpxBuilder [IHpxBuilder](#)

Returns

[BorderFillTypeBuilder](#)

Class BorderType

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

테두리 형식

```
[Serializable]
public class BorderType : IHwpXObject
```

Inheritance

[object](#) ← BorderType

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#)

Properties

Color

테두리선 색상. RGB값(0x00bbggrr)을 십진수로 표시.

```
public string Color { get; set; }
```

Property Value

[string](#)

Type

테두리선 종류

```
public LineType2 Type { get; set; }
```

Property Value

[LineType2](#)

Width

테두리선의 굵기. 단위는 mm

```
public LineWidth Width { get; set; }
```

Property Value

[LineWidth](#)

Methods

Create(LineType2?, LineWidth?, string)

```
public static BorderType Create(LineType2? type = null, LineWidth? width = null, string color =
```

Parameters

type [LineType2?](#)

width [LineWidth?](#)

color [string](#) ↗

Returns

[BorderType](#)

Class BulletType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

글머리표 문단 모양 정보를 사용하면 문단의 머리에 번호 대신 글머리표 또는 그림 글머리표를 붙일 수 있다.

속성 [UseImage](#)의 값이 참(true)으로 설정되면 반드시 [Img](#) 요소를 자식 요소로 가지고 있어야 한다. 즉, 글머리표로 사용되는 이미지에 대한 참조 정보를 가지고 있어야 한다.

```
[Serializable]
public class BulletType : Switchable, IHwploquentObject, ICloneable, IBuilderableModel<BulletTypeBuilder>
```

Inheritance

[object](#) ← [Switchable](#) ← BulletType

Implements

[IHwploquentObject](#), [ICloneable](#), [IBuilderableModel<BulletTypeBuilder>](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#)

Constructors

BulletType()

```
public BulletType()
```

Properties

Char

글머리표 문자

```
public string Char { get; set; }
```

Property Value

[string](#)

CheckedChar

선택 글머리표 문자

```
public string CheckedChar { get; set; }
```

Property Value

[string](#)

Id

글머리표 문단 모양을 구별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#)

Img

글머리표 그림에 사용되는 그림에 대한 정보

```
public ImageType Img { get; set; }
```

Property Value

[ImageType](#)

ParaHead

번호/글머리표 문단 머리의 정보

```
public ParaHeadType ParaHead { get; set; }
```

Property Value

[ParaHeadType](#)

UseImage

글머리표 문자 대신 글머리표 그림을 사용할지 여부

```
public bool UseImage { get; set; }
```

Property Value

[bool](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

ShouldSerializeCheckedChar()

```
public bool ShouldSerializeCheckedChar()
```

Returns

[bool](#)

UpdateBuilder(Action<BulletTypeBuilder>, IHpxBuilder)

```
public BulletTypeBuilder UpdateBuilder(Action<BulletTypeBuilder> updateBuilderAction = null, IHpxBuilder hpxBuilder)
```

Parameters

updateBuilderAction [Action](#)<[BulletTypeBuilder](#)>

hpxBuilder [IHpxBuilder](#)

Returns

[BulletTypeBuilder](#)

Class CaretPosition

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class CaretPosition : IHpxObject
```

Inheritance

[object](#) ← CaretPosition

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#)

Properties

ListIDRef

```
public string ListIDRef { get; set; }
```

Property Value

[string](#)

ParaIDRef

```
public string ParaIDRef { get; set; }
```

Property Value

[string](#) ↗

Pos

```
public string Pos { get; set; }
```

Property Value

[string](#) ↗

Class CharShapeType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

글자 모양 설정 정보를 표현하기 위한 요소이다.

```
[Serializable]
public class CharShapeType : Switchable, IHwpObject, IEquatable<CharShapeType>, IBuilderableM
```

Inheritance

[object](#) ← [Switchable](#) ← CharShapeType

Implements

[IHwpObject](#), [IEquatable](#)<[CharShapeType](#)>, [IBuilderableModel](#)<[CharShapeTypeBuilder](#)>,
[ICopyToBuilderableModel](#)<[CharShapeTypeBuilder](#)>, [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[BuilderExtensions.GetOrAddIfMissing\(CharShapeType, IHwpBuilder\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(CharShapeType, HwpDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#)

Constructors

CharShapeType()

```
public CharShapeType()
```

Fields

xmlns

```
[NonSerialized]  
public XmlSerializerNamespaces xmlns
```

Field Value

[XmlSerializerNamespaces](#) ↗

Properties

Bold

글자 속성: 진하게.

```
public object Bold { get; set; }
```

Property Value

[object](#) ↗

BorderFillIDRef

글자 테두리 기능. 만약 글자 테두리를 사용한다면 해당 속성이 존재하고, 속성의 값은 테두리/채우기 정보의 아이디 참조이다

```
public string BorderFillIDRef { get; set; }
```

Property Value

[string](#) ↗

Emboss

글자 속성: 양각

```
public object Emboss { get; set; }
```

Property Value

[object↗](#)

Engrave

글자 속성: 음각

```
public object Engrave { get; set; }
```

Property Value

[object↗](#)

FontRef

언어별글꼴. 각 글꼴타입에맞는(한글이면 한글글꼴 타입) 참조글꼴 ID를 기술.

```
public CharShapeTypeFontRef FontRef { get; set; }
```

Property Value

[CharShapeTypeFontRef](#)

Height

글자 크기 (hwpunit 단위, 10 pt = 1000 hwpunit)

```
public long Height { get; set; }
```

Property Value

[long↗](#)

Id

글자 모양 아이디

```
public string Id { get; set; }
```

Property Value

[string](#)

Italic

글자 속성: 기울임.

```
public object Italic { get; set; }
```

Property Value

[object](#)

Offset

언어별 오프셋. 단위는 %.

```
public CharShapeTypeOffset Offset { get; set; }
```

Property Value

[CharShapeTypeOffset](#)

Outline

글자 속성: 외각선

```
public CharShapeTypeOutline Outline { get; set; }
```

Property Value

[CharShapeTypeOutline](#)

Ratio

언어별 장평. 단위는 %.

```
public CharShapeTypeRatio Ratio { get; set; }
```

Property Value

[CharShapeTypeRatio](#)

RelSz

언어별 글자의 상대 크기. 단위는 %.

```
public CharShapeTypeRelSz RelSz { get; set; }
```

Property Value

[CharShapeTypeRelSz](#)

ShadeColor

음영색

```
public string ShadeColor { get; set; }
```

Property Value

[string](#) ↗

Shadow

글자 속성: 그림자

```
public CharShapeTypeShadow Shadow { get; set; }
```

Property Value

[CharShapeTypeShadow](#)

Spacing

언어별 자간. 단위는 %.

```
public CharShapeTypeSpacing Spacing { get; set; }
```

Property Value

[CharShapeTypeSpacing](#)

Strikeout

글자 속성: 취소선

```
public CharShapeTypeStrikeout Strikeout { get; set; }
```

Property Value

[CharShapeTypeStrikeout](#)

Subscript

글자 속성: 아래첨자

```
public object Subscript { get; set; }
```

Property Value

[object](#)

Supscript

글자 속성: 위첨자

```
public object Supscript { get; set; }
```

Property Value

[object](#)

SymMark

강조점 종류.

```
public CharShapeTypeSymMark SymMark { get; set; }
```

Property Value

[CharShapeTypeSymMark](#)

TextColor

글자색

```
public string TextColor { get; set; }
```

Property Value

[string](#)

Underline

글자 속성: 밑줄.

```
public CharShapeTypeUnderline Underline { get; set; }
```

Property Value

[CharShapeTypeUnderline](#)

UseFontSpace

글꼴에 어울리는 빈칸

```
public bool UseFontSpace { get; set; }
```

Property Value

[bool](#)

UseKerning

커닝

```
public bool UseKerning { get; set; }
```

Property Value

[bool](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

CopyToBuilder(Action<CharShapeTypeBuilder>, IHwpxBuilder)

```
public CharShapeTypeBuilder CopyToBuilder(Action<CharShapeTypeBuilder> copyToBuilderAction = null)
```

Parameters

copyToBuilderAction [Action](#)<[CharShapeTypeBuilder](#)>

hwpxBuilder [IHwpxBuilder](#)

Returns

[CharShapeTypeBuilder](#)

Equals(CharShapeType)

```
public bool Equals(CharShapeType other)
```

Parameters

other [CharShapeType](#)

Returns

[bool](#)

UpdateBuilder(Action<CharShapeTypeBuilder>, IHwpxBuilder)

```
public CharShapeTypeBuilder UpdateBuilder(Action<CharShapeTypeBuilder> updateBuilderAction = null)
```

Parameters

updateBuilderAction [Action](#)<[CharShapeTypeBuilder](#)>

hwpxBuilder [IHwpxBuilder](#)

Returns

[CharShapeTypeBuilder](#)

Class CharShapeTypeFontRef

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

각 언어별 글자에서 참조하는 글꼴들에 대한 정보를 가지고 있는 요소이다.

```
[Serializable]
public class CharShapeTypeFontRef : IHpxObject
```

Inheritance

[object](#) ← CharShapeTypeFontRef

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#)

Properties

Hangul

한글 글자에서 사용될 글꼴의 아이디 참조 값

```
public string Hangul { get; set; }
```

Property Value

[string](#)

Hanja

한자 글자에서 사용될 글꼴의 아이디 참조 값

```
public string Hanja { get; set; }
```

Property Value

[string](#)

Japanese

일본어 글자에서 사용될 글꼴의 아이디 참조 값

```
public string Japanese { get; set; }
```

Property Value

[string](#)

Latin

라틴 글자에서 사용될 글꼴의 아이디 참조 값

```
public string Latin { get; set; }
```

Property Value

[string](#)

Other

기타 글자에서 사용될 글꼴의 아이디 참조 값

```
public string Other { get; set; }
```

Property Value

[string ↗](#)

Symbol

심볼 글자에서 사용될 글꼴의 아이디 참조 값

```
public string Symbol { get; set; }
```

Property Value

[string ↗](#)

User

사용자 글자에서 사용될 글꼴의 아이디 참조 값

```
public string User { get; set; }
```

Property Value

[string ↗](#)

Methods

Create(string, string, string, string, string, string, string)

```
public static CharShapeTypeFontRef Create(string hangul = null, string latin = null, string hanja = null, string fontName = null, string fontPath = null, string fontFile = null, string fontNameKo = null)
```

Parameters

hangul [string ↗](#)

latin [string ↗](#)

hanja [string ↗](#)

japanese [string](#)

other [string](#)

symbol [string](#)

user [string](#)

Returns

[CharShapeTypeFontRef](#)

Class CharShapeTypeOffset

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

각 언어별로 글자의 위치 정보를 가지고 있는 요소이다. 글자 하단 끝부분을 기준으로 위치가 결정된다

```
[Serializable]
public class CharShapeTypeOffset : IHpxObject
```

Inheritance

[object](#) ← CharShapeTypeOffset

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#)

Constructors

CharShapeTypeOffset()

```
public CharShapeTypeOffset()
```

Properties

Hangul

한글 글자의 오프셋. 단위는 %

```
[Range(-100, 100)]  
public int Hangul { get; set; }
```

Property Value

[int↗](#)

Hanja

한자 글자의 오프셋. 단위는 %

```
[Range(-100, 100)]  
public int Hanja { get; set; }
```

Property Value

[int↗](#)

Japanese

일본어 글자의 오프셋. 단위는 %

```
[Range(-100, 50)]  
public int Japanese { get; set; }
```

Property Value

[int↗](#)

Latin

라틴 글자의 오프셋. 단위는 %

```
[Range(-100, 100)]  
public int Latin { get; set; }
```

Property Value

[int ↗](#)

Other

기타 글자의 오프셋. 단위는 %

```
[Range(-100, 50)]  
public int Other { get; set; }
```

Property Value

[int ↗](#)

Symbol

심볼 글자의 오프셋. 단위는 %

```
[Range(-100, 50)]  
public int Symbol { get; set; }
```

Property Value

[int ↗](#)

User

사용자 글자의 오프셋. 단위는 %

```
[Range(-100, 50)]  
public int User { get; set; }
```

Property Value

[int ↗](#)

Methods

Create(int?, int?, int?, int?, int?, int?)

```
public static CharShapeTypeOffset Create(int? hangul = null, int? latin = null, int? hanja = n
```

Parameters

hangul [int?](#)?

latin [int?](#)?

hanja [int?](#)?

japanese [int?](#)?

other [int?](#)?

symbol [int?](#)?

user [int?](#)?

Returns

[CharShapeTypeOffset](#)

Class CharShapeTypeOutline

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

글자 속성 중 외곽선을 표현하기 위한 요소이다. 외곽선은 글자가 들어가 있는 박스에 선이 들어가는 것이다. 이 요소가 존재하면 글자 속성 중 외곽선 속성이 지정된 것이다. 본 요소는 외곽선 속성을 표현하기 위한 몇몇 정보를 가지고 있다

```
[Serializable]  
public class CharShapeTypeOutline : IHwpObject
```

Inheritance

[object](#) ← CharShapeTypeOutline

Implements

[IHwpObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#)

Properties

Type

외각선 종류

```
public LineType1 Type { get; set; }
```

Property Value

[LineType1](#)

Methods

Create(LineType1?)

```
public static CharShapeTypeOutline Create(LineType1? type = null)
```

Parameters

type [LineType1?](#)

Returns

[CharShapeTypeOutline](#)

Class CharShapeTypeRatio

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

각 언어별로 글자 장평 설정을 가지고 있는 요소이다. 글자가 시작되는 부분을 기준으로 장평을 적용한다. 즉, 글자 방향이 가로쓰기인 경우 글자의 왼쪽 시작되는 부분이 기준이다.

```
[Serializable]  
public class CharShapeTypeRatio : IHpxObject
```

Inheritance

[object](#) ← CharShapeTypeRatio

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#)

Constructors

CharShapeTypeRatio()

```
public CharShapeTypeRatio()
```

Properties

Hangul

한글 글자의 장평. 단위는 %

```
public int Hangul { get; set; }
```

Property Value

[int↗](#)

Hanja

한자 글자의 장평. 단위는 %

```
public int Hanja { get; set; }
```

Property Value

[int↗](#)

Japanese

일본어 글자의 장평. 단위는 %

```
public int Japanese { get; set; }
```

Property Value

[int↗](#)

Latin

라틴 글자의 장평. 단위는 %

```
public int Latin { get; set; }
```

Property Value

[int↗](#)

Other

기타 글자의 장평. 단위는 %

```
public int Other { get; set; }
```

Property Value

[int↗](#)

Symbol

심볼 글자의 장평. 단위는 %

```
public int Symbol { get; set; }
```

Property Value

[int↗](#)

User

사용자 글자의 장평. 단위는 %

```
public int User { get; set; }
```

Property Value

[int↗](#)

Methods

Create(int?, int?, int?, int?, int?, int?, int?)

```
public static CharShapeTypeRatio Create(int? hangul = null, int? latin = null, int? hanja = null)
```

Parameters

hangul [int](#)?

latin [int](#)?

hanja [int](#)?

japanese [int](#)?

other [int](#)?

symbol [int](#)?

user [int](#)?

Returns

[CharShapeTypeRatio](#)

Class CharShapeTypeRelSz

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

각 언어별로 글자의 상대 크기 설정 정보를 가지고 있는 요소이다.

```
[Serializable]
public class CharShapeTypeRelSz : IHwpXObject
```

Inheritance

[object](#) ← CharShapeTypeRelSz

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#)

Constructors

CharShapeTypeRelSz()

```
public CharShapeTypeRelSz()
```

Properties

Hangul

한글 글자의 상대 크기. 단위는 %

```
public int Hangul { get; set; }
```

Property Value

[int↗](#)

Hanja

한자 글자의 상대 크기. 단위는 %

```
public int Hanja { get; set; }
```

Property Value

[int↗](#)

Japanese

일본어 글자의 상대 크기. 단위는 %

```
public int Japanese { get; set; }
```

Property Value

[int↗](#)

Latin

라틴 글자의 상대 크기. 단위는 %

```
public int Latin { get; set; }
```

Property Value

[int↗](#)

Other

기타 글자의 상대 크기. 단위는 %

```
public int Other { get; set; }
```

Property Value

[int↗](#)

Symbol

심볼 글자의 상대 크기. 단위는 %

```
public int Symbol { get; set; }
```

Property Value

[int↗](#)

User

사용자 글자의 상대 크기. 단위는 %

```
public int User { get; set; }
```

Property Value

[int↗](#)

Methods

Create(int?, int?, int?, int?, int?, int?, int?)

```
public static CharShapeTypeRelSz Create(int? hangul = null, int? latin = null, int? hanja = null,
```

Parameters

hangul [int](#)?

latin [int](#)?

hanja [int](#)?

japanese [int](#)?

other [int](#)?

symbol [int](#)?

user [int](#)?

Returns

[CharShapeTypeRelSz](#)

Class CharShapeTypeShadow

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

글자 속성 중 그림자를 표현하기 위한 요소이다. 이 요소가 존재하면 글자 속성 중 그림자 속성이 지정된 것이다. 이 요소는 그림자 속성을 표현하기 위한 몇몇 정보를 가지고 있다.

```
[Serializable]  
public class CharShapeTypeShadow : IHpxObject
```

Inheritance

[object](#) ← CharShapeTypeShadow

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#)

Properties

Alpha

투명도 (1% ~ 100%)

```
public float Alpha { get; set; }
```

Property Value

[float](#)

Color

그림자 색

```
public string Color { get; set; }
```

Property Value

[string ↗](#)

OffsetX

그림자 간격 X. 단위는 %.

```
[Range(-100, 100)]  
public int OffsetX { get; set; }
```

Property Value

[int ↗](#)

OffsetY

그림자 간격 Y. 단위는 %.

```
[Range(-100, 100)]  
public int OffsetY { get; set; }
```

Property Value

[int ↗](#)

Type

그림자 종류

```
public CharShapeTypeShadowType Type { get; set; }
```

Property Value

[CharShapeTypeShadowType](#)

Methods

Create(CharShapeTypeShadowType?, string, int?, int?, float?)

```
public static CharShapeTypeShadow Create(CharShapeTypeShadowType? type = null, string color = i
```

Parameters

type [CharShapeTypeShadowType](#)?

color [string](#)?

offsetX [int](#)?

offsetY [int](#)?

alpha [float](#)?

Returns

[CharShapeTypeShadow](#)

ShouldSerializeAlpha()

```
public bool ShouldSerializeAlpha()
```

Returns

[bool](#)?

Class CharShapeTypeSpacing

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

각 언어별로 글자 자간 설정을 가지고 있는 요소이다. 자간은 글자 사이의 간격이기 때문에 한 글자가 끝나는 부분을 기준으로 자간이 적용된다.

```
[Serializable]  
public class CharShapeTypeSpacing : IHwpObject
```

Inheritance

[object](#) ← CharShapeTypeSpacing

Implements

[IHwpObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#)

Constructors

CharShapeTypeSpacing()

```
public CharShapeTypeSpacing()
```

Properties

Hangul

한글 글자의 자간. 단위는 %

```
[Range(-50, 50)]  
public int Hangul { get; set; }
```

Property Value

[int↗](#)

Hanja

한자 글자의 자간. 단위는 %

```
[Range(-50, 50)]  
public int Hanja { get; set; }
```

Property Value

[int↗](#)

Japanese

일본어 글자의 자간. 단위는 %

```
[Range(-50, 50)]  
public int Japanese { get; set; }
```

Property Value

[int↗](#)

Latin

라틴 글자의 자간. 단위는 %

```
[Range(-50, 50)]  
public int Latin { get; set; }
```

Property Value

[int ↗](#)

Other

기타 글자의 자간. 단위는 %

```
[Range(-50, 50)]  
public int Other { get; set; }
```

Property Value

[int ↗](#)

Symbol

심볼 글자의 자간. 단위는 %

```
[Range(-50, 50)]  
public int Symbol { get; set; }
```

Property Value

[int ↗](#)

User

사용자 글자의 자간. 단위는 %

```
[Range(-50, 50)]  
public int User { get; set; }
```

Property Value

[int ↗](#)

Methods

Create(int?, int?, int?, int?, int?, int?)

```
public static CharShapeTypeSpacing Create(int? hangul = null, int? latin = null, int? hanja = null, int? other = null, int? symbol = null, int? user = null)
```

Parameters

hangul [int?](#)

latin [int?](#)

hanja [int?](#)

japanese [int?](#)

other [int?](#)

symbol [int?](#)

user [int?](#)

Returns

[CharShapeTypeSpacing](#)

Class CharShapeTypeStrikeout

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

글자 속성 중 취소선을 표현하기 위한 요소이다. 취소선의 위치는 글자의 가운데가 기준이 된다. 이 요소가 존재하면 글자 속성 중 취소선 속성이 지정된 것이다. 이 요소는 취소선 속성을 표현하기 위한 몇몇 정보를 가지고 있다.

```
[Serializable]  
public class CharShapeTypeStrikeout : IHwpObject
```

Inheritance

[object](#) ← CharShapeTypeStrikeout

Implements

[IHwpObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#)

Properties

Color

취소선의 색

```
public string Color { get; set; }
```

Property Value

[string](#)

Shape

취소선의 모양

```
public LineType2 Shape { get; set; }
```

Property Value

[LineType2](#)

Methods

Create(LineType2?, string)

```
public static CharShapeTypeStrikeout Create(LineType2? shape = null, string color = null)
```

Parameters

shape [LineType2](#)?

color [string](#)

Returns

[CharShapeTypeStrikeout](#)

Class CharShapeTypeUnderline

Namespace: [HwpxIO.Models](#)

Assembly: HwpxIO.dll

글자 속성 중 밑줄을 표현하기 위한 요소이다. 이 요소가 존재하면 글자 속성 중 밑줄 속성이 지정된 것이다. 이 요소는 밑줄 속성을 표현하기 위한 몇몇 정보를 가지고 있다

```
[Serializable]  
public class CharShapeTypeUnderline : IHwpXObject
```

Inheritance

[object](#) ← CharShapeTypeUnderline

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#)

Properties

Color

밑줄의 색

```
public string Color { get; set; }
```

Property Value

[string](#)

Shape

밑줄의 모양

```
public LineType2 Shape { get; set; }
```

Property Value

[LineType2](#)

Type

밑줄의 종류 BOTTOM, CENTER, TOP 세 가지 값 중 하나를 가질 수 있음 현재 CENTER 값은 'strikeout'으로 대체되어서 사용되고 있지 않음 하위 호환성을 위해 남겨둠

```
public CharShapeTypeUnderlineType Type { get; set; }
```

Property Value

[CharShapeTypeUnderlineType](#)

Methods

Create(CharShapeTypeUnderlineType?, LineType2?, string)

```
public static CharShapeTypeUnderline Create(CharShapeTypeUnderlineType? type = null, LineType2?
```

Parameters

type [CharShapeTypeUnderlineType](#)?

shape [LineType2](#)?

color [string](#) ↗

Returns

CharShapeTypeUnderline

Class ColumnDefType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

단 설정 정보를 가지고 있는 요소이다.

```
[Serializable]
public class ColumnDefType : IHpxObject
```

Inheritance

[object](#) ← ColumnDefType

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#)

Constructors

ColumnDefType()

```
public ColumnDefType()
```

Properties

ColCount

단 개수

```
public int ColCount { get; set; }
```

Property Value

[int](#)

ColLine

단 구분선

```
public ColumnDefTypeColLine ColLine { get; set; }
```

Property Value

[ColumnDefTypeColLine](#)

ColSz

단 사이 간격

[SameSz](#) 가 [false](#) 일 경우에만 사용됨

```
public List<ColumnDefTypeColSz> ColSz { get; set; }
```

Property Value

[List](#) <[ColumnDefTypeColSz](#)>

Id

단 설정 정보를 구별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#)

Layout

단 방향 지정

```
public ColumnDefTypeLayout Layout { get; set; }
```

Property Value

[ColumnDefTypeLayout](#)

SameGap

단 사이 간격.

[SameSz](#)가 [true](#) 일 때만 지정.

```
public int SameGap { get; set; }
```

Property Value

[int](#)

SameSz

단 너비를 동일하게 지정할지 여부

[true](#)이면 동일한 너비, [false](#)이면 각기 다른 너비

```
public bool SameSz { get; set; }
```

Property Value

[bool](#)

Type

단 종류

```
public ColumnDefType Type { get; set; }
```

Property Value

[ColumnDefType](#)

Class ColumnDefTypeColLine

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

단 사이의 구분선 설정 정보를 가지고 있는 요소이다.

```
[Serializable]
public class ColumnDefTypeColLine : IHwpvObject
```

Inheritance

[object](#) ← ColumnDefTypeColLine

Implements

[IHwpvObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#)

Constructors

ColumnDefTypeColLine()

```
public ColumnDefTypeColLine()
```

Properties

Color

구분선 색

```
public string Color { get; set; }
```

Property Value

[string](#)

Type

구분선 종류

```
public LineType2 Type { get; set; }
```

Property Value

[LineType2](#)

Width

구분선 굵기

```
public LineWidth Width { get; set; }
```

Property Value

[LineWidth](#)

Class ColumnDefTypeColSz

Namespace: [HwpXIO.Models](#)

Assembly: HwpXIO.dll

[ColumnDefType](#)의 속성 중 [SameSz](#) 속성이 [false](#) (각기 다른 단 사이 간격을 가짐)로 설정되었을 때에만 사용되는 요소이다.

```
[Serializable]  
public class ColumnDefTypeColSz : IHwpXObject
```

Inheritance

[object](#) ← ColumnDefTypeColSz

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HwpXDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpXDocument\)](#)

Properties

Gap

단 사이 간격

```
public int Gap { get; set; }
```

Property Value

[int](#)

Width

단위 크기

```
public int Width { get; set; }
```

Property Value

[int↗](#)

Class ComboBoxType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[ComboBoxType](#) 요소는 [AbstractFormObjectType](#)를 상속받는다.

```
[Serializable]
public class ComboBoxType : AbstractFormObjectType, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [AbstractFormObjectType](#) ← [ComboBoxType](#)

Implements

[IHwploquentObject](#), [ICloneable](#)

Inherited Members

[AbstractFormObjectType.FormCharPr](#) , [AbstractFormObjectType.Name](#) ,
[AbstractFormObjectType.ForeColor](#) , [AbstractFormObjectType.BackColor](#) ,
[AbstractFormObjectType.GroupName](#) , [AbstractFormObjectType.TabStop](#) ,
[AbstractFormObjectType.TabOrder](#) , [AbstractFormObjectType.Enabled](#) ,
[AbstractFormObjectType.BorderTypeIDRef](#) , [AbstractFormObjectType.DrawFrame](#) ,
[AbstractFormObjectType.Printable](#) , [AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) ,
[AbstractShapeObjectType.OutMargin](#) , [AbstractShapeObjectType.Caption](#) ,
[AbstractShapeObjectType.ShapeComment](#) , [AbstractShapeObjectType.Id](#) ,
[AbstractShapeObjectType.ZOrder](#) , [AbstractShapeObjectType.NumberingType](#) ,
[AbstractShapeObjectType.TextWrap](#) , [AbstractShapeObjectType.TextFlow](#) ,
[AbstractShapeObjectType.Lock](#) , [AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#)

Constructors

ComboBoxType()

```
public ComboBoxType()
```

Properties

EditEnable

텍스트 수정 가능 여부

```
public bool EditEnable { get; set; }
```

Property Value

[bool](#)

ListBoxRows

콤보 박스가 펼쳐졌을 때 최대로 보이는 줄 수

```
public int ListBoxRows { get; set; }
```

Property Value

[int](#)

ListBoxWidth

콤보 박스가 펼쳐졌을 때 최대로 보이는 넓이

```
public int ListBoxWidth { get; set; }
```

Property Value

[int](#)

ListItem

콤보 박스의 아이템 목록.

```
public List<ListItemType> ListItem { get; set; }
```

Property Value

[List](#) <[ListItemType](#)>

SelectedValue

콤보 박스 아이템 중에서 선택된 값

```
public string SelectedValue { get; set; }
```

Property Value

[string](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class CompatibleDocumentType

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

[CompatibleDocumentType](#) 요소는 이 표준에서 정의하고 있는 문서 형식을 다른 형태의 문서 형식으로 저장할 때 사용되는 정보를 가지고 있는 요소이다

```
[Serializable]
public class CompatibleDocumentType : Switchable, IHwpvObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← CompatibleDocumentType

Implements

[IHwpvObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#)

Constructors

CompatibleDocumentType()

```
public CompatibleDocumentType()
```

Properties

LayoutCompatibility

레이아웃 호환성 설정

```
public CompatibleDocumentTypeLayoutCompatibility LayoutCompatibility { get; set; }
```

Property Value

[CompatibleDocumentTypeLayoutCompatibility](#)

TargetProgram

대상 프로그램

```
public CompatibleDocumentTypeTargetProgram TargetProgram { get; set; }
```

Property Value

[CompatibleDocumentTypeTargetProgram](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class CompatibleDocumentTypeLayoutCompatibility

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

[CompatibleDocumentTypeLayoutCompatibility](#) 요소는 HWP 문서를 다른 형식의 문서로 변환시킬 때 필요한 설정 정보이다.

즉, HWP 문서를 OOXML 워드 문서 또는 ODF 워드 문서로 변환시킬 경우, HWP 문서에서는 지원되지 만

OOXML 워드 문서 또는 ODF 워드 문서에서 지원되지 않는 레이아웃 설정 등을 어떤 방식으로 변환시킬 것인지에 대한 설정이다.

하위 요소가 나타나는 경우에는 그 값이 사용되는 경우이고 나타나지 않는 경우는 사용되지 않는 경우이다.

```
[Serializable]
public class CompatibleDocumentTypeLayoutCompatibility : IHwpObject
```

Inheritance

[object](#) ← CompatibleDocumentTypeLayoutCompatibility

Implements

[IHwpObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#)

Properties

AdjustBaselineInFixedLinespacing

줄 간격의 [고정 값]에서 기준선을 세로 정렬에 따라 조정함

```
public object AdjustBaselineInFixedLinespacing { get; set; }
```

Property Value

[object↗](#)

AdjustBaselineOfObjectToBottom

글자처럼 취급한 개체의 기준선을 개체 아래쪽으로 조정함

```
public object AdjustBaselineOfObjectToBottom { get; set; }
```

Property Value

[object↗](#)

AdjustLineheightToFont

기본 줄 높이를 글꼴에 맞춰서 조정함

```
public object AdjustLineheightToFont { get; set; }
```

Property Value

[object↗](#)

AdjustParaBorderOffsetWithBorder

문단 테두리/배경의 간격을 테두리 설정 시에 적용함

```
public object AdjustParaBorderOffsetWithBorder { get; set; }
```

Property Value

[object↗](#)

AdjustParaBorderfillToSpacing

문단 테두리/배경의 영역을 문단 여백과 위, 아래 간격을 제외하고 줄 간격에만 적용함

```
public object AdjustParaBorderfillToSpacing { get; set; }
```

Property Value

[object↗](#)

AdjustVertPosOfLine

줄 간격에 따라 줄의 위치를 조정함

```
public object AdjustVertPosOfLine { get; set; }
```

Property Value

[object↗](#)

ApplyAtLeastToPercent100Pct

줄 간격의 [최소]를 [글자에 따라]에서 100 %로 적용함

```
public object ApplyAtLeastToPercent100Pct { get; set; }
```

Property Value

[object↗](#)

ApplyCharSpacingToCharGrid

글자 격자의 간격을 글자에 따른 자간으로 적용함

```
public object ApplyCharSpacingToCharGrid { get; set; }
```

Property Value

[object↗](#)

ApplyExtendHeaderFooterEachSection

본문 영역으로 확장되는 구역 단위 머리말, 꼬리말을 적용함

```
public object ApplyExtendHeaderFooterEachSection { get; set; }
```

Property Value

[object↗](#)

ApplyFontWeightToBold

진하게 글자에 글꼴의 너비를 적용함

```
public object ApplyFontWeightToBold { get; set; }
```

Property Value

[object↗](#)

ApplyFontspaceToLatin

라틴어 사이의 빈칸에 글꼴에 어울리는 빈칸을 적용함

```
public object ApplyFontspaceToLatin { get; set; }
```

Property Value

[object↗](#)

ApplyMinColumnWidthTo1mm

단 영역의 최소 폭을 1 mm로 적용함

```
public object ApplyMinColumnWidthTo1mm { get; set; }
```

Property Value

object ↗

ApplyNextspacingOfLastPara

마지막 문단의 아래 간격을 영역에 포함하여 확장함

```
public object ApplyNextspacingOfLastPara { get; set; }
```

Property Value

object ↗

ApplyParaBorderToOutside

문단 테두리를 지정된 영역의 바깥쪽으로 적용함

```
public object ApplyParaBorderToOutside { get; set; }
```

Property Value

object ↗

ApplyPrevspacingBeneathObject

개체 아래 문단의 위 간격을 개체 기준으로 적용함

```
public object ApplyPrevspacingBeneathObject { get; set; }
```

Property Value

[object](#)

ApplyTabPosBasedOnSegment

탭 위치를 개체에 의해 배치된 영역을 기준으로 적용함

```
public object ApplyTabPosBasedOnSegment { get; set; }
```

Property Value

[object](#)

BaseCharUnitOfIndentOnFirstChar

들여쓰기/내어쓰기의 글자 단위를 문단 첫 글자의 크기를 기준으로 적용함

```
public object BaseCharUnitOfIndentOnFirstChar { get; set; }
```

Property Value

[object](#)

BaseCharUnitOnEAsian

글자 단위를 바탕글 스타일의 한글 크기를 기준으로 적용함

```
public object BaseCharUnitOnEAsian { get; set; }
```

Property Value

[object](#)

BaseLineSpacingOnLineGrid

줄 격자의 간격을 줄 간격의 기준으로 적용함

```
public object BaseLineSpacingOnLineGrid { get; set; }
```

Property Value

[object↗](#)

BreakTabOverLine

줄 영역을 넘어선 탭을 다음 줄로 넘김

```
public object BreakTabOverLine { get; set; }
```

Property Value

[object↗](#)

ConnectParaBorderfillOfEqualBorder

문단 테두리가 같은 문단의 문단 테두리/배경을 연결함

```
public object ConnectParaBorderfillOfEqualBorder { get; set; }
```

Property Value

[object↗](#)

DoNotAdjustEmptyAnchorLine

조판 부호만 있는 빈 줄에 개체 배치를 조정하지 않음

```
public object DoNotAdjustEmptyAnchorLine { get; set; }
```

Property Value

[object↗](#)

DoNotAdjustWordInJustify

양쪽 정렬에서 단어의 문자간 간격을 보정하지 않음

```
public object DoNotAdjustWordInJustify { get; set; }
```

Property Value

[object↗](#)

DoNotAlignLastForbidden

줄의 마지막 금칙 문자를 다음 줄로 넘기지 않음

```
public object DoNotAlignLastForbidden { get; set; }
```

Property Value

[object↗](#)

DoNotAlignLastPeriod

줄의 마지막 마침표를 다음 줄로 넘기지 않음

```
public object DoNotAlignLastPeriod { get; set; }
```

Property Value

[object↗](#)

DoNotAlignWhitespaceOnRight

줄의 가장 오른쪽 빈칸을 다음 줄로 넘기지 않음

```
public object DoNotAlignWhitespaceOnRight { get; set; }
```

Property Value

[object↗](#)

DoNotApplyAutoSpaceEAsianEng

한글과 영어 간격에 자동 조절을 적용하지 않음

```
public object DoNotApplyAutoSpaceEAsianEng { get; set; }
```

Property Value

[object↗](#)

DoNotApplyAutoSpaceEAsianNum

한글과 숫자 간격에 자동 조절을 적용하지 않음

```
public object DoNotApplyAutoSpaceEAsianNum { get; set; }
```

Property Value

[object↗](#)

DoNotApplyColSeparatorAtNoGap

단 사이의 간격이 없을 때에는 단 구분선을 적용하지 않음

```
public object DoNotApplyColSeparatorAtNoGap { get; set; }
```

Property Value

[object↗](#)

DoNotApplyDiacSymMarkOfNoneAndSix

강조점의 [없음]과 6개 외의 항목을 적용하지 않음

```
public object DoNotApplyDiacSymMarkOfNoneAndSix { get; set; }
```

Property Value

object ↗

DoNotApplyExtensionCharCompose

글자 겹치기의 확장 기능을 적용하지 않음

```
public object DoNotApplyExtensionCharCompose { get; set; }
```

Property Value

object ↗

DoNotApplyGridInHeaderFooter

머리말, 꼬리말에 줄/글자 격자를 적용하지 않음

```
public object DoNotApplyGridInHeaderFooter { get; set; }
```

Property Value

object ↗

DoNotApplyHeaderFooterAtNoSpace

머리말, 꼬리말 영역이 없을 때에는 머리말, 꼬리말을 적용하지 않음

```
public object DoNotApplyHeaderFooterAtNoSpace { get; set; }
```

Property Value

[object](#)

DoNotApplyImageEffect

그림 효과를 적용하지 않음

```
public object DoNotApplyImageEffect { get; set; }
```

Property Value

[object](#)

DoNotApplyLinegridAtNoLinespacing

줄 간격이 없으면 줄 격자의 간격을 적용하지 않음

```
public object DoNotApplyLinegridAtNoLinespacing { get; set; }
```

Property Value

[object](#)

DoNotApplyShapeComment

개체 설명문 적용하지 않음

```
public object DoNotApplyShapeComment { get; set; }
```

Property Value

[object](#)

DoNotApplyStrikeoutWithUnderline

밑줄과 함께 설정된 취소선을 적용하지 않음

```
public object DoNotApplyStrikeoutWithUnderline { get; set; }
```

Property Value

[object↗](#)

DoNotApplyVertOffsetOfForward

조판 부호 다음 쪽으로 넘겨진 개체에 세로 위치를 적용 하지 않음

```
public object DoNotApplyVertOffsetOfForward { get; set; }
```

Property Value

[object↗](#)

DoNotApplyWhiteSpaceHeight

white space 문자의 글자 크기를 줄 높이에 반영하지 않음

```
public object DoNotApplyWhiteSpaceHeight { get; set; }
```

Property Value

[object↗](#)

DoNotFormattingAtBeneathAnchor

문단과 조판 부호 다음 쪽으로 넘겨진 개체 사이 영역에 문단을 배치하지 않음

```
public object DoNotFormattingAtBeneathAnchor { get; set; }
```

Property Value

[object↗](#)

DoNotHoldAnchorOfTable

문단 기준 표의 조판 부호는 쪽 넘김을 방지하지 않음

```
public object DoNotHoldAnchorOfTable { get; set; }
```

Property Value

[object](#)

ExtendLineheightToOffset

글자 위치와 강조점에 의한 영역까지 줄 높이를 확장함

```
public object ExtendLineheightToOffset { get; set; }
```

Property Value

[object](#)

ExtendLineheightToParaBorderOffset

문단 테두리의 굵기와 간격의 영역까지 줄 높이를 확장함

```
public object ExtendLineheightToParaBorderOffset { get; set; }
```

Property Value

[object](#)

ExtendVertLimitToPageMargins

문단 기준 개체의 세로 위치를 종이 영역까지 확장함

```
public object ExtendVertLimitToPageMargins { get; set; }
```

Property Value

[object↗](#)

FixedUnderlineWidth

밑줄, 취소선 두께에 글자 크기를 반영하지 않음

```
public object FixedUnderlineWidth { get; set; }
```

Property Value

[object↗](#)

OverlapBothAllowOverlap

개체 두 개가 서로 겹침 허용인 경우에만 서로 겹침

```
public object OverlapBothAllowOverlap { get; set; }
```

Property Value

[object↗](#)

TreatQuotationAsLatin

인용 부호를 글꼴에 어울리는 빙칸에서 라틴어로 취급함

```
public object TreatQuotationAsLatin { get; set; }
```

Property Value

[object↗](#)

UseInnerUnderline

밑줄 위치를 줄 영역의 안쪽으로 그음

```
public object UseInnerUnderline { get; set; }
```

Property Value

[object ↗](#)

UseLowercaseStrikeout

취소선을 영문 소문자 기준으로 그음

```
public object UseLowercaseStrikeout { get; set; }
```

Property Value

[object ↗](#)

Class ConfigItem

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

```
[Serializable]
public class ConfigItem : IHpxObject
```

Inheritance

[object](#) ← ConfigItem

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#)

Properties

Name

```
public string Name { get; set; }
```

Property Value

[string](#)

Text

```
public string Text { get; set; }
```

Property Value

[string](#) ↗

Type

```
public string Type { get; set; }
```

Property Value

[string](#) ↗

Class ConfigItemSet

Namespace: [HwpXIO.Models](#)

Assembly: HwpXIO.dll

```
[Serializable]
public class ConfigItemSet : Switchable, IHpxObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← ConfigItemSet

Implements

[IHpxObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#)

Constructors

ConfigItemSet()

```
public ConfigItemSet()
```

Properties

ConfigItem

```
public List<ConfigItem> ConfigItem { get; set; }
```

Property Value

[List](#) <ConfigItem>

Name

```
public string Name { get; set; }
```

Property Value

[string](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class ConnectLineType

Namespace: [HwpXIO.Models](#)

Assembly: HwpXIO.dll

[ConnectLineType](#) 요소는 [AbstractDrawingObjectType](#)을 상속받는다.

```
[Serializable]
public class ConnectLineType : AbstractDrawingObjectType, IHwpXObject, ICloneable
```

Inheritance

```
object ↳ ← Switchable ← AbstractShapeObjectType ← AbstractShapeComponentType ←
AbstractDrawingObjectType ← ConnectLineType
```

Implements

[IHwpXObject](#), [ICloneable](#) ↳

Inherited Members

```
AbstractDrawingObjectType.LineShape , AbstractDrawingObjectType.FillBrush ,
AbstractDrawingObjectType.DrawText , AbstractDrawingObjectType.Shadow ,
AbstractShapeComponentType.Offset , AbstractShapeComponentType.OrgSz ,
AbstractShapeComponentType.CurSz , AbstractShapeComponentType.Flip ,
AbstractShapeComponentType.RotationInfo , AbstractShapeComponentType.RenderingInfo ,
AbstractShapeComponentType.Href , AbstractShapeComponentType.GroupLevel ,
AbstractShapeComponentType.InstId , AbstractShapeObjectType.Sz , AbstractShapeObjectType.Pos ,
AbstractShapeObjectType.OutMargin , AbstractShapeObjectType.Caption ,
AbstractShapeObjectType.ShapeComment , AbstractShapeObjectType.Id ,
AbstractShapeObjectType.ZOrder , AbstractShapeObjectType.NumberingType ,
AbstractShapeObjectType.TextWrap , AbstractShapeObjectType.TextFlow ,
AbstractShapeObjectType.Lock , AbstractShapeObjectType.DropCapStyle , Switchable.Switch ,
object.Equals(object) ↳ , object.Equals(object, object) ↳ , object.GetHashCode() ↳ , object.GetType() ↳ ,
object.MemberwiseClone() ↳ , object.ReferenceEquals(object, object) ↳ , object.ToString() ↳
```

Extension Methods

```
GenericExtensions.IfNotNull<T>(T, Action<T>) ,
HwpXDocumentExtensions.SerializeToXmlElements<T>(T) ,
SwitchableExtensions.GetSwitchableValue<T>(T, IEnumerable<string>, bool) ,
HwpXDocumentExtensions.ItemCountUpdate(IHwpXObject, IHwpXDocument)
```

Constructors

ConnectLineType()

```
public ConnectLineType()
```

Properties

EndPt

연결선 끝점 정보

```
public ConnectPointType EndPt { get; set; }
```

Property Value

[ConnectPointType](#)

StartPt

연결선 시작점 정보

```
public ConnectPointType StartPt { get; set; }
```

Property Value

[ConnectPointType](#)

Type

연결선 형식

```
public ConnectLineTypeType Type { get; set; }
```

Property Value

[ConnectLineType](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class ConnectPointType

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

[ConnectPointType](#)은 [PointType](#)을 기본 형식으로 가지고 추가적으로 필요한 속성이나 요소를 확장한다.

```
[Serializable]
public class ConnectPointType : PointType, IHwpxlObject
```

Inheritance

[object](#) ← [PointType](#) ← ConnectPointType

Implements

[IHwpxlObject](#)

Inherited Members

[PointType.X](#) , [PointType.Y](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) ,
[object.GetHashCode\(\)](#) , [object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpxlDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[HwpxlDocumentExtensions.ItemCountUpdate\(IHwpxlObject, IHwpxlDocument\)](#)

Properties

SubjectIDRef

시작/끝부분과 연결되는 대상의 아이디 참조 값

```
public string SubjectIDRef { get; set; }
```

Property Value

[string](#)

SubjectIdx

시작/끝부분과 연결되는 대상의 연결점 index

```
public int SubjectIdx { get; set; }
```

Property Value

[int↗](#)

Class ContainerType

Namespace: [HwpXIO.Models](#)

Assembly: HwpXIO.dll

[ContainerType](#) 요소는 [AbstractShapeComponentType](#)를 상속받는다.

```
[Serializable]
public class ContainerType : AbstractShapeComponentType, IHwpXObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [AbstractShapeComponentType](#) ← [ContainerType](#)

Implements

[IHwpXObject](#), [ICloneable](#)

Inherited Members

[AbstractShapeComponentType.Offset](#) , [AbstractShapeComponentType.OrgSz](#) ,
[AbstractShapeComponentType.CurSz](#) , [AbstractShapeComponentType.Flip](#) ,
[AbstractShapeComponentType.RotationInfo](#) , [AbstractShapeComponentType.RenderingInfo](#) ,
[AbstractShapeComponentType.Href](#) , [AbstractShapeComponentType.GroupLevel](#) ,
[AbstractShapeComponentType.InstId](#) , [AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) ,
[AbstractShapeObjectType.OutMargin](#) , [AbstractShapeObjectType.Caption](#) ,
[AbstractShapeObjectType.ShapeComment](#) , [AbstractShapeObjectType.Id](#) ,
[AbstractShapeObjectType.ZOrder](#) , [AbstractShapeObjectType.NumberingType](#) ,
[AbstractShapeObjectType.TextWrap](#) , [AbstractShapeObjectType.TextFlow](#) ,
[AbstractShapeObjectType.Lock](#) , [AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#) ,
[HwpXDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpXDocument\)](#)

Constructors

ContainerType()

```
public ContainerType()
```

Properties

Items

```
public List<AbstractShapeComponentType> Items { get; set; }
```

Property Value

[List](#) <[AbstractShapeComponentType](#)>

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class CurveType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

[CurveType](#)요소는 [AbstractDrawingObjectType](#)을 상속받는다.

```
[Serializable]
public class CurveType : AbstractDrawingObjectType, IHwpObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [AbstractShapeComponentType](#) ← [AbstractDrawingObjectType](#) ← CurveType

Implements

[IHwpObject](#), [ICloneable](#)

Inherited Members

[AbstractDrawingObjectType.LineShape](#) , [AbstractDrawingObjectType.FillBrush](#) ,
[AbstractDrawingObjectType.DrawText](#) , [AbstractDrawingObjectType.Shadow](#) ,
[AbstractShapeComponentType.Offset](#) , [AbstractShapeComponentType.OrgSz](#) ,
[AbstractShapeComponentType.CurSz](#) , [AbstractShapeComponentType.Flip](#) ,
[AbstractShapeComponentType.RotationInfo](#) , [AbstractShapeComponentType.RenderingInfo](#) ,
[AbstractShapeComponentType.Href](#) , [AbstractShapeComponentType.GroupLevel](#) ,
[AbstractShapeComponentType.InstId](#) , [AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) ,
[AbstractShapeObjectType.OutMargin](#) , [AbstractShapeObjectType.Caption](#) ,
[AbstractShapeObjectType.ShapeComment](#) , [AbstractShapeObjectType.Id](#) ,
[AbstractShapeObjectType.ZOrder](#) , [AbstractShapeObjectType.NumberingType](#) ,
[AbstractShapeObjectType.TextWrap](#) , [AbstractShapeObjectType.TextFlow](#) ,
[AbstractShapeObjectType.Lock](#) , [AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#)

Constructors

CurveType()

```
public CurveType()
```

Properties

Seg

곡선 세그먼트

```
public List<CurveTypeSeg> Seg { get; set; }
```

Property Value

[List](#) <[CurveTypeSeg](#)>

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class CurveTypeSeg

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

그리기 객체 중 곡선을 표현할 때 곡선의 단위 곡선의 시작점 및 끝점을 표현하기 위한 요소이다.

```
[Serializable]
public class CurveTypeSeg : IHwpXObject
```

Inheritance

[object](#) ← CurveTypeSeg

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

CurveTypeSeg()

```
public CurveTypeSeg()
```

Properties

Type

곡선 세그먼트 형식

```
public CurveTypeSegType Type { get; set; }
```

Property Value

[CurveTypeSegType](#)

X1

곡선 세그먼트 시작점 x 좌표

```
public int X1 { get; set; }
```

Property Value

[int↗](#)

X2

곡선 세그먼트 끝점 x 좌표

```
public int X2 { get; set; }
```

Property Value

[int↗](#)

Y1

곡선 세그먼트 시작점 y 좌표

```
public int Y1 { get; set; }
```

Property Value

[int↗](#)

Y2

곡선 세그먼트 끝점 y 좌표

```
public int Y2 { get; set; }
```

Property Value

[int ↗](#)

Class DeleteBegin

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

변경 추적 삭제 시작지점

```
public class DeleteBegin : TrackChangeTag, IHwploquentObject
```

Inheritance

[object](#) ← [TrackChangeTag](#) ← DeleteBegin

Implements

[IHwploquentObject](#)

Inherited Members

[TrackChangeTag.ParaEnd](#) , [TrackChangeTag.TcID](#) , [TrackChangeTag.Id](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Class DeleteEnd

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

변경 추적 삭제 끝지점

```
public class DeleteEnd : TrackChangeTag, IHwploquentObject
```

Inheritance

[object](#) ← [TrackChangeTag](#) ← DeleteEnd

Implements

[IHwploquentObject](#)

Inherited Members

[TrackChangeTag.ParaEnd](#) , [TrackChangeTag.TcID](#) , [TrackChangeTag.Id](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Class DocDistribute

Namespace: [HwpXI.Models](#)

Assembly: HwpXI.dll

```
[Serializable]
public class DocDistribute : IHwpXObject
```

Inheritance

[object](#) ← DocDistribute

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXI.DocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpXI.Document\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXI.DocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

Key

```
public string Key { get; set; }
```

Property Value

[string](#)

Nocopy

```
public bool Nocopy { get; set; }
```

Property Value

[bool ↗](#)

Noprint

```
public bool Noprint { get; set; }
```

Property Value

[bool ↗](#)

Class DocOption

Namespace: [HwpXI.Models](#)

Assembly: HwpXI.dll

```
[Serializable]
public class DocOption : Switchable, IHpxObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← DocOption

Implements

[IHpxObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

DocOption()

```
public DocOption()
```

Properties

LicenseMark

```
public DocOptionLicenseMark LicenseMark { get; set; }
```

Property Value

[DocOptionLicenseMark](#)

LinkInfo

```
public DocOptionLinkInfo LinkInfo { get; set; }
```

Property Value

[DocOptionLinkInfo](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class DocOptionLicenseMark

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

```
[Serializable]
public class DocOptionLicenseMark : IHwpvObject
```

Inheritance

[object](#) ← DocOptionLicenseMark

Implements

[IHwpvObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

Flag

```
public byte Flag { get; set; }
```

Property Value

[byte](#)

Lang

```
public byte Lang { get; set; }
```

Property Value

[byte](#) ↗

Type

```
public int Type { get; set; }
```

Property Value

[int](#) ↗

Class DocOptionLinkInfo

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class DocOptionLinkInfo : IHpxObject
```

Inheritance

[object](#) ← DocOptionLinkInfo

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

FootnoteInherit

```
[Required]
public bool FootnoteInherit { get; set; }
```

Property Value

[bool](#)

PageInherit

```
[Required]  
public bool PageInherit { get; set; }
```

Property Value

[bool](#) ↗

Path

```
[Required]  
public string Path { get; set; }
```

Property Value

[string](#) ↗

Class EditType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[EditType](#) 요소는 [AbstractFormObjectType](#)를 상속받는다.

```
[Serializable]
public class EditType : AbstractFormObjectType, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ↳ [Switchable](#) ↳ [AbstractShapeObjectType](#) ↳ [AbstractFormObjectType](#) ↳ [EditType](#)

Implements

[IHwploquentObject](#), [ICloneable](#) ↳

Inherited Members

[AbstractFormObjectType.FormCharPr](#) , [AbstractFormObjectType.Name](#) ,
[AbstractFormObjectType.ForeColor](#) , [AbstractFormObjectType.BackColor](#) ,
[AbstractFormObjectType.GroupName](#) , [AbstractFormObjectType.TabStop](#) ,
[AbstractFormObjectType.TabOrder](#) , [AbstractFormObjectType.Enabled](#) ,
[AbstractFormObjectType.BorderTypeIDRef](#) , [AbstractFormObjectType.DrawFrame](#) ,
[AbstractFormObjectType.Printable](#) , [AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) ,
[AbstractShapeObjectType.OutMargin](#) , [AbstractShapeObjectType.Caption](#) ,
[AbstractShapeObjectType.ShapeComment](#) , [AbstractShapeObjectType.Id](#) ,
[AbstractShapeObjectType.ZOrder](#) , [AbstractShapeObjectType.NumberingType](#) ,
[AbstractShapeObjectType.TextWrap](#) , [AbstractShapeObjectType.TextFlow](#) ,
[AbstractShapeObjectType.Lock](#) , [AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) ,
[object.Equals\(object\)](#) ↳ , [object.Equals\(object, object\)](#) ↳ , [object.GetHashCode\(\)](#) ↳ , [object.GetType\(\)](#) ↳ ,
[object.MemberwiseClone\(\)](#) ↳ , [object.ReferenceEquals\(object, object\)](#) ↳ , [object.ToString\(\)](#) ↳

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#)

Constructors

EditType()

```
public EditType()
```

Properties

AlignText

텍스트 좌우 정렬 방식

```
public EditTypeAlignText AlignText { get; set; }
```

Property Value

[EditTypeAlignText](#)

MaxLength

입력 가능한 최대 글자수

```
public int MaxLength { get; set; }
```

Property Value

[int](#)

MultiLine

다중 줄 허용 여부

```
public bool MultiLine { get; set; }
```

Property Value

[bool](#)

NumOnly

숫자만 입력 가능하게 할 것인지 여부

```
public bool NumOnly { get; set; }
```

Property Value

[bool ↗](#)

PasswordChar

에디트를 패스워드 입력으로 사용할 때, 입력한 글자 대신에 보이게 할 글자

```
public string PasswordChar { get; set; }
```

Property Value

[string ↗](#)

ReadOnly

읽기 전용 여부

```
public bool ReadOnly { get; set; }
```

Property Value

[bool ↗](#)

ScrollBars

스크롤바 표시 여부

```
public EditTypeScrollBars ScrollBars { get; set; }
```

Property Value

[EditTypeScrollBars](#)

TabKeyBehavior

탭키를 눌렀을 때의 동작 방식

```
public EditTypeTabKeyBehavior TabKeyBehavior { get; set; }
```

Property Value

[EditTypeTabKeyBehavior](#)

Text

에디트의 내용.

요소 값으로 텍스트 문자열을 가짐

```
public object Text { get; set; }
```

Property Value

[object](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class EffectsColorType

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

효과에 사용될 색상 정보를 가지고 있는 요소이다

```
[Serializable]
public class EffectsColorType : IHwpXObject
```

Inheritance

[object](#) ← EffectsColorType

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElement<T>\(T\)](#)

Constructors

EffectsColorType()

```
public EffectsColorType()
```

Properties

Cmyk

CMYK 색상 표현 속성으로 c, m, y, k 네 가지 속성을 가짐. 모두 0이상의 정수 값을 가짐

```
public EffectsColorTypeCmyk Cmyk { get; set; }
```

Property Value

[EffectsColorTypeCmyk](#)

Effect

색상 효과

```
public EffectsColorTypeEffect Effect { get; set; }
```

Property Value

[EffectsColorTypeEffect](#)

PresetIdx

Preset Index

```
public int PresetIdx { get; set; }
```

Property Value

[int](#)

Rgb

RGB 색상 표현 속성으로 r, g, b 세 가지 속성을 가짐. 모두 0이상의 정수 값을 가짐

```
public EffectsColorTypeRgb Rgb { get; set; }
```

Property Value

[EffectsColorTypeRgb](#)

Scheme

Scheme 색상 표현 속성으로 r, g, b 세 가지 속성을 가짐. 모두 0이상의 정수 값을 가짐

```
public EffectsColorTypeScheme Scheme { get; set; }
```

Property Value

[EffectsColorTypeScheme](#)

SchemelIdx

Scheme Index

```
public int SchemeIdx { get; set; }
```

Property Value

[int](#)

System

System 색상 표현 속성으로 h, s, l 세 가지 속성을 가짐. 모두 0이상의 정수값을 가짐

```
public EffectsColorTypeSystem System { get; set; }
```

Property Value

[EffectsColorTypeSystem](#)

SystemIdx

System Index

```
public int SystemIdx { get; set; }
```

Property Value

[int↗](#)

Type

색상 표현 방법

```
public EffectsColorType Type { get; set; }
```

Property Value

[EffectsColorType↗](#)

Class EffectsColorTypeCmyk

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class EffectsColorTypeCmyk : IHpxObject
```

Inheritance

[object](#) ← EffectsColorTypeCmyk

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

C

```
public int C { get; set; }
```

Property Value

[int](#)

K

```
public int K { get; set; }
```

Property Value

[int ↗](#)

M

```
public int M { get; set; }
```

Property Value

[int ↗](#)

Y

```
public int Y { get; set; }
```

Property Value

[int ↗](#)

Class EffectsColorTypeEffect

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

색상 효과 정보를 가지고 있는 요소이다.

```
[Serializable]
public class EffectsColorTypeEffect : IHwpvObject
```

Inheritance

[object](#) ← EffectsColorTypeEffect

Implements

[IHwpvObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

Type

색상 효과 종류

```
public EffectsColorTypeEffectType Type { get; set; }
```

Property Value

[EffectsColorTypeEffectType](#)

Value

효과 적용에 필요한 수치

```
public string Value { get; set; }
```

Property Value

string ↗

Class EffectsColorTypeRgb

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class EffectsColorTypeRgb : IHpxObject
```

Inheritance

[object](#) ← EffectsColorTypeRgb

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

B

```
public int B { get; set; }
```

Property Value

[int](#)

G

```
public int G { get; set; }
```

Property Value

[int ↗](#)

R

```
public int R { get; set; }
```

Property Value

[int ↗](#)

Class EffectsColorTypeScheme

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class EffectsColorTypeScheme : IHpxObject
```

Inheritance

[object](#) ← EffectsColorTypeScheme

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

B

```
public int B { get; set; }
```

Property Value

[int](#)

G

```
public int G { get; set; }
```

Property Value

[int ↗](#)

R

```
public int R { get; set; }
```

Property Value

[int ↗](#)

Class EffectsColorTypeSystem

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class EffectsColorTypeSystem : IHpxObject
```

Inheritance

[object](#) ← EffectsColorTypeSystem

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

H

```
public int H { get; set; }
```

Property Value

[int](#)

L

```
public int L { get; set; }
```

Property Value

[int ↗](#)

S

```
public int S { get; set; }
```

Property Value

[int ↗](#)

Class EffectsType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

그림에 적용될 효과 정보를 가지고 있는 요소이다.

```
[Serializable]
public class EffectsType : IHwploquentObject
```

Inheritance

[object](#) ← EffectsType

Implements

[IHwploquentObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

EffectsType()

```
public EffectsType()
```

Properties

Glow

네온 효과

```
public EffectsTypeGlow Glow { get; set; }
```

Property Value

[EffectsTypeGlow](#)

Reflection

반사 효과

```
public EffectsTypeReflection Reflection { get; set; }
```

Property Value

[EffectsTypeReflection](#)

Shadow

그림자 효과

```
public EffectsTypeShadow Shadow { get; set; }
```

Property Value

[EffectsTypeShadow](#)

SoftEdge

부드러운 가장자리 효과

```
public EffectsTypeSoftEdge SoftEdge { get; set; }
```

Property Value

[EffectsTypeSoftEdge](#)

Class EffectsTypeGlow

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

네온 효과 정보를 가지고 있는 요소이다

```
[Serializable]
public class EffectsTypeGlow : IHwpvObject
```

Inheritance

[object](#) ← EffectsTypeGlow

Implements

[IHwpvObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

EffectsTypeGlow()

```
public EffectsTypeGlow()
```

Properties

Alpha

투명도

```
[Range(0, 1)]  
public float Alpha { get; set; }
```

Property Value

[float](#) ↗

EffectsColor

네온 색상

```
public EffectsColorType EffectsColor { get; set; }
```

Property Value

[EffectsColorType](#)

Radius

네온 크기. 단위는 HWPUNIT.

```
public float Radius { get; set; }
```

Property Value

[float](#) ↗

Class EffectsTypeReflection

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

반사 효과 정보를 가지고 있는 요소이다

```
[Serializable]
public class EffectsTypeReflection : IHwpXObject
```

Inheritance

[object](#) ← EffectsTypeReflection

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

EffectsTypeReflection()

```
public EffectsTypeReflection()
```

Properties

AlignStyle

반사된 그림 위치

```
public AlignStyleType AlignStyle { get; set; }
```

Property Value

[AlignStyleType](#)

Alpha

투명도

```
public EffectsTypeReflectionAlpha Alpha { get; set; }
```

Property Value

[EffectsTypeReflectionAlpha](#)

Direction

그림자 방향 각도

```
[Range(0, 360)]  
public int Direction { get; set; }
```

Property Value

[int](#)

Distance

거리. 단위는 HWPUNIT.

```
public float Distance { get; set; }
```

Property Value

[float↗](#)

FadeDirection

오프셋 방향

```
[Range(0, 360)]  
public int FadeDirection { get; set; }
```

Property Value

[int↗](#)

Pos

위치

```
public EffectsTypeReflectionPos Pos { get; set; }
```

Property Value

[EffectsTypeReflectionPos](#)

Radius

흐릿한 정도. 단위는 HWPUNIT.

```
public float Radius { get; set; }
```

Property Value

[float↗](#)

RotationStyle

도형과 함께 회전 여부

```
public bool RotationStyle { get; set; }
```

Property Value

[bool](#)

Scale

확대 비율

```
public ScaleType Scale { get; set; }
```

Property Value

[ScaleType](#)

Skew

기울기

```
public SkewType Skew { get; set; }
```

Property Value

[SkewType](#)

Class EffectsTypeReflectionAlpha

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

반사 효과 사용 시 투명도 설정 정보를 가지고 있는 요소이다.

```
[Serializable]
public class EffectsTypeReflectionAlpha : IHwxObject
```

Inheritance

[object](#) ← EffectsTypeReflectionAlpha

Implements

[IHwxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwxDocumentExtensions.ItemCountUpdate\(IHwxObject, IHwxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwxDocumentExtensions.SerializeToXmlElement<T>\(T\)](#)

Properties

End

끝 위치 투명도

```
[Range(0, 1)]
public float End { get; set; }
```

Property Value

[float](#)

Start

시작 위치 투명도

```
[Range(0, 1)]  
public float Start { get; set; }
```

Property Value

[float ↗](#)

Class EffectsTypeReflectionPos

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

반사된 영상이 투영될 위치 정보를 가지고 있는 요소이다.

```
[Serializable]
public class EffectsTypeReflectionPos : IHpxObject
```

Inheritance

[object](#) ← EffectsTypeReflectionPos

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

End

끝 위치

```
public float End { get; set; }
```

Property Value

[float](#)

Start

시작 위치

```
public float Start { get; set; }
```

Property Value

[float↗](#)

Class EffectsTypeShadow

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

그림 효과 중 그림자 효과에 대한 설정 정보를 가지고 있는 요소이다.

```
[Serializable]
public class EffectsTypeShadow : IHpxObject
```

Inheritance

[object](#) ← EffectsTypeShadow

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

EffectsTypeShadow()

```
public EffectsTypeShadow()
```

Properties

AlignStyle

그림자 표현 방식

```
public AlignStyleType AlignStyle { get; set; }
```

Property Value

[AlignStyleType](#)

Alpha

투명도

```
[Range(0, 1)]  
public float Alpha { get; set; }
```

Property Value

[float](#)

Direction

그림자 방향 각도

```
[Range(0, 360)]  
public int Direction { get; set; }
```

Property Value

[int](#)

Distance

거리. 단위는 HWPUNIT.

```
public float Distance { get; set; }
```

Property Value

[float](#)

EffectsColor

그림자 색상

```
public EffectsColorType EffectsColor { get; set; }
```

Property Value

[EffectsColorType](#)

Radius

흐릿한 정도. 단위는 HWPUNIT.

```
public float Radius { get; set; }
```

Property Value

[float](#)

RotationStyle

도형과 함께 그림자 회전 여부

```
public bool RotationStyle { get; set; }
```

Property Value

[bool](#)

Scale

확대 비율

```
public ScaleType Scale { get; set; }
```

Property Value

[ScaleType](#)

Skew

기울기 각도

```
public SkewType Skew { get; set; }
```

Property Value

[SkewType](#)

Style

그림자 스타일

```
public EffectsTypeShadowStyle Style { get; set; }
```

Property Value

[EffectsTypeShadowStyle](#)

Class EffectsTypeSoftEdge

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

부드러운 가장자리 효과 정보를 가지고 있는 요소이다.

```
[Serializable]
public class EffectsTypeSoftEdge : IHpxObject
```

Inheritance

[object](#) ← EffectsTypeSoftEdge

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElement<T>\(T\)](#)

Properties

Radius

부드러운 가장자리 크기. 단위는 HWPUNIT.

```
public float Radius { get; set; }
```

Property Value

[float](#)

Class EllipseType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

[EllipseType](#) 요소는 [AbstractDrawingObjectType](#)을 상속받는다.

```
[Serializable]
public class EllipseType : AbstractDrawingObjectType, IHpxObject, ICloneable
```

Inheritance

```
object ↳ ← Switchable ← AbstractShapeObjectType ← AbstractShapeComponentType ←
AbstractDrawingObjectType ← EllipseType
```

Implements

[IHpxObject](#), [ICloneable](#) ↳

Inherited Members

```
AbstractDrawingObjectType.LineShape , AbstractDrawingObjectType.FillBrush ,
AbstractDrawingObjectType.DrawText , AbstractDrawingObjectType.Shadow ,
AbstractShapeComponentType.Offset , AbstractShapeComponentType.OrgSz ,
AbstractShapeComponentType.CurSz , AbstractShapeComponentType.Flip ,
AbstractShapeComponentType.RotationInfo , AbstractShapeComponentType.RenderingInfo ,
AbstractShapeComponentType.Href , AbstractShapeComponentType.GroupLevel ,
AbstractShapeComponentType.InstId , AbstractShapeObjectType.Sz , AbstractShapeObjectType.Pos ,
AbstractShapeObjectType.OutMargin , AbstractShapeObjectType.Caption ,
AbstractShapeObjectType.ShapeComment , AbstractShapeObjectType.Id ,
AbstractShapeObjectType.ZOrder , AbstractShapeObjectType.NumberingType ,
AbstractShapeObjectType.TextWrap , AbstractShapeObjectType.TextFlow ,
AbstractShapeObjectType.Lock , AbstractShapeObjectType.DropCapStyle , Switchable.Switch ,
object.Equals(object) ↳ , object.Equals(object, object) ↳ , object.GetHashCode() ↳ , object.GetType() ↳ ,
object.MemberwiseClone() ↳ , object.ReferenceEquals(object, object) ↳ , object.ToString() ↳
```

Extension Methods

```
HpxDocumentExtensions.ItemCountUpdate(IHpxObject, IHpxDocument) ,
GenericExtensions.IfNotNull<T>(T, Action<T>) ,
HpxDocumentExtensions.SerializeToXmlElements<T>(T) ,
SwitchableExtensions.GetSwitchableValue<T>(T, IEnumerable<string>, bool)
```

Constructors

EllipseType()

```
public EllipseType()
```

Properties

ArcType

호의 종류

```
public EllipseTypeArcType ArcType { get; set; }
```

Property Value

[EllipseTypeArcType](#)

Ax1

제1축 좌표

```
public PointType Ax1 { get; set; }
```

Property Value

[PointType](#)

Ax2

제2축 좌표

```
public PointType Ax2 { get; set; }
```

Property Value

[PointType](#)

Center

중심 좌표

```
public PointType Center { get; set; }
```

Property Value

[PointType](#)

End1

끝 지점 1 좌표

```
public PointType End1 { get; set; }
```

Property Value

[PointType](#)

End2

끝 지점 2 좌표

```
public PointType End2 { get; set; }
```

Property Value

[PointType](#)

HasArcPr

호로 바뀌었는지 여부

```
public bool HasArcPr { get; set; }
```

Property Value

bool ↗

IntervalDirty

호(arc)로 바뀌었을 때, interval을 다시 계산해야 할 필요가 있는지 여부
interval: 원 위에 존재하는 두 점 사이의 거리

```
public bool IntervalDirty { get; set; }
```

Property Value

bool ↗

Start1

시작 지점 1 좌표

```
public PointType Start1 { get; set; }
```

Property Value

PointType

Start2

시작 지점 2 좌표

```
public PointType Start2 { get; set; }
```

Property Value

[PointType](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class EndNoteShapeType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

미주 모양 정보를 가지고 있는 요소이다.

```
[Serializable]
public class EndNoteShapeType : NoteShapeType, IHwpObject
```

Inheritance

[object](#) ← [NoteShapeType](#) ← EndNoteShapeType

Implements

[IHwpObject](#)

Inherited Members

[NoteShapeType.AutoNumFormat](#) , [NoteShapeType.NoteLine](#) , [NoteShapeType.NoteSpacing](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

EndNoteShapeType()

```
public EndNoteShapeType()
```

Properties

Numbering

번호 매김 형식

```
public EndNoteShapeTypeNumbering Numbering { get; set; }
```

Property Value

[EndNoteShapeTypeNumbering](#)

Placement

위치 정보

```
public EndNoteShapeTypePlacement Placement { get; set; }
```

Property Value

[EndNoteShapeTypePlacement](#)

Class EndNoteShapeTypeNumbering

Namespace: [HwpXIO.Models](#)

Assembly: HwpXIO.dll

```
[Serializable]
public class EndNoteShapeTypeNumbering : IHpxObject
```

Inheritance

[object](#) ← EndNoteShapeTypeNumbering

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

EndNoteShapeTypeNumbering()

```
public EndNoteShapeTypeNumbering()
```

Properties

NewNum

시작 번호.

type이 ON_SECTION일 때만 사용한다.

```
public int NewNum { get; set; }
```

Property Value

[int](#)

Type

번호 매기기 형식

```
public EndNoteShapeTypeNumberingType Type { get; set; }
```

Property Value

[EndNoteShapeTypeNumberingType](#)

Methods

Create(EndNoteShapeTypeNumberingType, int)

```
public static EndNoteShapeTypeNumbering Create(EndNoteShapeTypeNumberingType type = EndNoteShar
```

Parameters

type [EndNoteShapeTypeNumberingType](#)

newNum [int](#)

Returns

[EndNoteShapeTypeNumbering](#)

Class EndNoteShapeTypePlacement

Namespace: [HwpXIO.Models](#)

Assembly: HwpXIO.dll

```
[Serializable]
public class EndNoteShapeTypePlacement : IHwpXObject
```

Inheritance

[object](#) ← EndNoteShapeTypePlacement

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpXDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

EndNoteShapeTypePlacement()

```
public EndNoteShapeTypePlacement()
```

Properties

BeneathText

텍스트에 이어 바로 출력할지 여부

```
public bool BeneathText { get; set; }
```

Property Value

[bool ↗](#)

Place

한 페이지 내에서 미주를 다단에 어떻게 위치시킬지에 대한 설정

```
public EndNoteShapeTypePlacementPlace Place { get; set; }
```

Property Value

[EndNoteShapeTypePlacementPlace](#)

Methods

Create(EndNoteShapeTypePlacementPlace, bool)

```
public static EndNoteShapeTypePlacement Create(EndNoteShapeTypePlacementPlace place = EndNoteS
```

Parameters

place [EndNoteShapeTypePlacementPlace](#)

beneathText [bool ↗](#)

Returns

[EndNoteShapeTypePlacement](#)

Class EquationType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[EquationType](#) 요소는 [AbstractShapeObjectType](#)을 상속받는다

```
[Serializable]
public class EquationType : AbstractShapeObjectType, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [EquationType](#)

Implements

[IHwploquentObject](#), [ICloneable](#)

Inherited Members

[AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) , [AbstractShapeObjectType.OutMargin](#) ,
[AbstractShapeObjectType.Caption](#) , [AbstractShapeObjectType.ShapeComment](#) ,
[AbstractShapeObjectType.Id](#) , [AbstractShapeObjectType.ZOrder](#) ,
[AbstractShapeObjectType.NumberingType](#) , [AbstractShapeObjectType.TextWrap](#) ,
[AbstractShapeObjectType.TextFlow](#) , [AbstractShapeObjectType.Lock](#) ,
[AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

EquationType()

```
public EquationType()
```

Properties

BaseLine

수식이 그려질 기본 선.

```
public uint BaseLine { get; set; }
```

Property Value

[uint](#)

BaseUnit

수식의 글자 크기. 단위는 HWPUNIT.

```
public int BaseUnit { get; set; }
```

Property Value

[int](#)

Font

수식 폰트

```
public string Font { get; set; }
```

Property Value

[string](#)

LineMode

수식이 차지하는 범위.

```
public EquationTypeLineMode LineMode { get; set; }
```

Property Value

[EquationTypeLineMode](#)

Script

수식 내용

"부속서 I의 수식 스크립트를 참조"

```
public object Script { get; set; }
```

Property Value

[object](#)

TextColor

수식 글자 색

```
public string TextColor { get; set; }
```

Property Value

[string](#)

Version

수식 버전. 현재 버전은 "Equation Version 60"

```
public string Version { get; set; }
```

Property Value

[string](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class FillBrushType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[FillBrushType](#) 요소는 세 개의 하위 요소 중 하나의 요소를 가질 수 있다(choice). 즉, 채우기는 면 채우기/그라데이션/그림으로 채우기 중 하나의 형식만을 가지게 된다.

```
[Serializable]  
public class FillBrushType : IHwploquentObject
```

Inheritance

[object](#) ← FillBrushType

Implements

[IHwploquentObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

FillBrushType()

```
public FillBrushType()
```

Fields

xmlns

```
[NonSerialized]  
public XmlSerializerNamespaces xmlns
```

Field Value

[XmlSerializerNamespaces](#) ↗

Properties

Gradation

그라데이션 효과

```
public FillBrushTypeGradation Gradation { get; set; }
```

Property Value

[FillBrushTypeGradation](#)

ImgBrush

그림으로 채우기

```
public FillBrushTypeImgBrush ImgBrush { get; set; }
```

Property Value

[FillBrushTypeImgBrush](#)

WinBrush

면 채우기

```
public FillBrushTypeWinBrush WinBrush { get; set; }
```

Property Value

[FillBrushTypeWinBrush](#)

Class FillBrushTypeGradation

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[FillBrushTypeGradation](#) 요소는 한 색상에서 다른 색상으로 점진적 또는 단계적으로 변화하는 기법을 표현하기 위한 요소이다.

```
[Serializable]  
public class FillBrushTypeGradation : IHwploquentObject
```

Inheritance

[object](#) ← FillBrushTypeGradation

Implements

[IHwploquentObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

FillBrushTypeGradation()

```
public FillBrushTypeGradation()
```

Properties

Alpha

투명도

```
public float Alpha { get; set; }
```

Property Value

[float↗](#)

Angle

그러데이션의 기울임(시작각)

```
public int Angle { get; set; }
```

Property Value

[int↗](#)

CenterX

그러데이션의 가로중심(중심 X좌표)

```
public int CenterX { get; set; }
```

Property Value

[int↗](#)

CenterY

그러데이션의 세로중심(중심 Y좌표)

```
public int CenterY { get; set; }
```

Property Value

[int↗](#)

Color

그러데이션 색 정보

```
public List<FillBrushTypeGradationColor> Color { get; set; }
```

Property Value

[List](#) <[FillBrushTypeGradationColor](#)>

ColorNum

그러데이션의 색수

```
public int ColorNum { get; set; }
```

Property Value

[int](#)

Step

그러데이션 번짐정도 (0~100)

```
[Range(0, 100)]  
public int Step { get; set; }
```

Property Value

[int](#)

StepCenter

그러데이션 번짐정도의 중심 (0~100)

```
[Range(0, 100)]
```

```
public int StepCenter { get; set; }
```

Property Value

[int↗](#)

Type

그러데이션 유형

```
public FillBrushTypeGradationType Type { get; set; }
```

Property Value

[FillBrushTypeGradationType](#)

Class FillBrushTypeGradationColor

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

그러데이션 색상으로 표현하기 위한 요소로, 점진적으로 또는 단계적으로 변화하는 색상 중 시작 색, 또는 끝 색, 중간 단계 색 등을 표현한다.

```
[Serializable]  
public class FillBrushTypeGradationColor : IHwploquentObject
```

Inheritance

[object](#) ← FillBrushTypeGradationColor

Implements

[IHwploquentObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

Value

색상 값

```
public string Value { get; set; }
```

Property Value

[string](#)

Class FillBrushTypeImgBrush

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

그림으로 특정 부분을 채울 때 사용되는 요소로, 지정된 그림을 지정된 효과를 사용해서 채운다. 사용할 수 있는 효과에는 '크기에 맞추어', '위로/가운데로/아래로', '바둑판식으로' 등이 있다.

```
[Serializable]
public class FillBrushTypeImgBrush : IHwploquentObject
```

Inheritance

[object](#) ← FillBrushTypeImgBrush

Implements

[IHwploquentObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

FillBrushTypeImgBrush()

```
public FillBrushTypeImgBrush()
```

Properties

Img

그림 정보

```
public ImageType Img { get; set; }
```

Property Value

[ImageType](#)

Mode

채우기 유형

```
public FillBrushTypeImgBrushMode Mode { get; set; }
```

Property Value

[FillBrushTypeImgBrushMode](#)

Class FillBrushTypeWinBrush

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

면 채우기 정보를 표현하기 위한 요소이다. 면 채우기 정보에는 면 색, 무늬 색, 무늬 종류, 투명도 등이 있다. 만약 면 채우기가 무늬를 포함하지 않으면 무늬 색은 사용되지 않는다.

```
[Serializable]
public class FillBrushTypeWinBrush : IHwploquentObject
```

Inheritance

[object](#) ← FillBrushTypeWinBrush

Implements

[IHwploquentObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

FillBrushTypeWinBrush()

```
public FillBrushTypeWinBrush()
```

Properties

Alpha

투명도

```
public float Alpha { get; set; }
```

Property Value

[float](#)

FaceColor

면 색

```
public string FaceColor { get; set; }
```

Property Value

[string](#)

HatchColor

무늬 색

```
public string HatchColor { get; set; }
```

Property Value

[string](#)

HatchStyle

무늬 종류

```
public FillBrushTypeWinBrushHatchStyle HatchStyle { get; set; }
```

Property Value

[FillBrushTypeWinBrushHatchStyle](#)

Methods

ShouldSerializeHatchStyle()

```
public bool ShouldSerializeHatchStyle()
```

Returns

[bool](#)

Class FontfaceType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

글꼴 정보는 언어별로 정의된다. 현재 본 문서에서 지원되고 있는 언어 형식으로는 [한글, 라틴, 한자, 일어, 기타, 심볼, 사용자]가 있다.

[한글, 라틴, 한자, 일어, 심볼] 언어 형식의 구분은 Unicode 4.0을 참고한다.

[기타] 언어 형식의 구분은 RTL(Right to Left) 표기방식의 언어이며[사용자] 언어형식의 구분은 PUA/Private Unicode Area) 영역을 말한다.

```
[Serializable]
public class FontfaceType : Switchable, IHwploquentObject, ICloneable, IBuilderableModel<FontfaceTypeBuilder>
```

Inheritance

[object](#) ← [Switchable](#) ← FontfaceType

Implements

[IHwploquentObject](#), [ICloneable](#), [IBuilderableModel<FontfaceTypeBuilder>](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

FontfaceType()

```
public FontfaceType()
```

Properties

Font

글꼴

```
[Required]  
public List<FontfaceTypeFont> Font { get; set; }
```

Property Value

[List](#) <[FontfaceTypeFont](#)>

FontCnt

글꼴의 개수

```
public int FontCnt { get; set; }
```

Property Value

[int](#)

Lang

글꼴이 적용될 언어 유형

```
public FontfaceTypeLang Lang { get; set; }
```

Property Value

[FontfaceTypeLang](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

UpdateBuilder(Action<FontfaceTypeBuilder>, IHwpxBuilder)

```
public FontfaceTypeBuilder UpdateBuilder(Action<FontfaceTypeBuilder> updateBuilderAction = null)
```

Parameters

updateBuilderAction [Action](#)<[FontfaceTypeBuilder](#)>

hwpxBuilder [IHwpxBuilder](#)

Returns

[FontfaceTypeBuilder](#)

Class FontfaceTypeFont

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

HWP 문서 스키마는 내장 글꼴을 지원한다. 글꼴이 내장될 경우, 글꼴 데이터 파일은 다른 바이너리 파일과 마찬가지로 컨테이너 내에 바이너리 형태로 포함이 되고 manifest에 해당 정보를 기록한다. [Font](#) 엘리먼트에서는 manifest에 정의된 정보를 참조해서 내장된 글꼴에 접근하게 된다. 속성 [IsEmbedded](#)의 값이 참([true](#))인 경우, 반드시 컨테이너 내에 글꼴을 내장하고 속성 [BinaryItemIDRef](#)의 값이 유효한 값이어야 한다. 만약 속성 [IsEmbedded](#) 값이 참([true](#))인데 속성 [BinaryItemIDRef](#)의 값이 유효하지 않다면 애플리케이션에서는 이를 오류 상황으로 인식해야 한다. 속성 [IsEmbedded](#)의 값이 거짓([false](#))인 경우, 애플리케이션은 사용자 시스템에 내장된 글꼴을 사용해야 한다. 이 경우 속성 [BinaryItemIDRef](#)은 사용되지 않는다. 속성 [IsEmbedded](#)의 값이 거짓([false](#))인데 사용자 시스템 내에 정의된 글꼴이 없는 경우 애플리케이션은 이를 오류 상황으로 인식해야 한다. 정의된 글꼴이 없는 오류 상황에서 애플리케이션은 대체 글꼴을 먼저 사용해야 한다. 대체 글꼴마저 없는 경우에 대한 처리 방법은 이 표준에서는 정의하지 않지만, 시스템 기본 글꼴을 사용하는 것을 권고한다. 이 처리 방법은 애플리케이션마다 다를 수 있으므로, 콘텐츠 제작자는 이를 인지하고서 콘텐츠를 제작하여야 한다

```
[Serializable]
public class FontfaceTypeFont : IHwploquentObject, IEquatable<FontfaceTypeFont>, IBuilderableModel<FontBuilder>, ICopyToBuilderableModel<FontBuilder>, ICloneable
```

Inheritance

[object](#) ← FontfaceTypeFont

Implements

[IHwploquentObject](#), [IEquatable](#)<[FontfaceTypeFont](#)>, [IBuilderableModel](#)<[FontBuilder](#)>,
[ICopyToBuilderableModel](#)<[FontBuilder](#)>, [ICloneable](#)

Inherited Members

[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#),
[object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#),
[BuilderExtensions.GetOrAddIfMissing\(FontfaceTypeFont, FontfaceTypeLang, IHwploquentBuilder\)](#),
[BuilderExtensions.GetOrAddIfMissing\(FontfaceTypeFont, FontfaceTypeLang, HwploquentDocument\)](#),
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

FontfaceTypeFont()

```
public FontfaceTypeFont()
```

Properties

BinaryItemIDRef

글꼴 파일이 문서 컨테이너 내에 포함된 경우 해당 글꼴 파일을 지정하기 위한 ID 참조 값

```
public string BinaryItemIDRef { get; set; }
```

Property Value

[string](#)

Face

글꼴의 이름

```
public string Face { get; set; }
```

Property Value

[string](#)

Id

글꼴을 식별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#)

IsEmbedded

글꼴 파일이 문서 컨테이너 내에 포함되었는지 여부

```
public bool IsEmbedded { get; set; }
```

Property Value

[bool](#)

SubstFont

대체 글꼴

```
public FontfaceTypeFontSubstFont SubstFont { get; set; }
```

Property Value

[FontfaceTypeFontSubstFont](#)

Type

글꼴의 유형(rep : 대표글꼴, ttf : 트루타입글꼴, hft : 한/글 전용 글꼴)

```
public FontfaceTypeFontType Type { get; set; }
```

Property Value

[FontfaceTypeFontType](#)

TypeInfo

글꼴 유형 정보

```
public FontfaceTypeFontTypeInfo TypeInfo { get; set; }
```

Property Value

[FontfaceTypeFontTypeInfo](#)

Methods

Clone()

```
public object Clone()
```

Returns

[object](#)

CopyToBuilder(Action<FontBuilder>, IHwpxBuilder)

```
public FontBuilder CopyToBuilder(Action<FontBuilder> copyToBuilderAction = null, IHwpxBuilder h
```

Parameters

copyToBuilderAction [Action](#)<[FontBuilder](#)>

hwpxBuilder [IHwpxBuilder](#)

Returns

[FontBuilder](#)

Equals(FontfaceTypeFont)

```
public bool Equals(FontfaceTypeFont other)
```

Parameters

other [FontfaceTypeFont](#)

Returns

[bool](#)

UpdateBuilder(Action<FontBuilder>, IHpxBuilder)

```
public FontBuilder UpdateBuilder(Action<FontBuilder> updateBuilderAction = null, IHpxBuilder t
```

Parameters

updateBuilderAction [Action](#)<[FontBuilder](#)>

hpxBuilder [IHpxBuilder](#)

Returns

[FontBuilder](#)

Class FontfaceTypeFontSubstFont

Namespace: [HwpXIO.Models](#)

Assembly: HwpXIO.dll

애플리케이션에서는 [Font](#) 요소에서 정의된 글꼴이 없는 경우 가장 먼저 [SubstFont](#) 요소에 정의된 글꼴을 사용해야 한다.

대체 글꼴마저 없는 경우 시스템 기본 글꼴을 사용하는 것을 권고한다. 하지만 이에 대한 처리는 애플리케이션마다 다를 수 있다.

```
[Serializable]
public class FontfaceTypeFontSubstFont : IHwpXObject
```

Inheritance

[object](#) ← FontfaceTypeFontSubstFont

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpXDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

FontfaceTypeFontSubstFont()

```
public FontfaceTypeFontSubstFont()
```

Properties

BinaryItemIDRef

글꼴 파일이 문서 컨테이너 내에 포함된 경우 해당 글꼴 파일을 지정하기 위한 ID 참조 값

```
public string BinaryItemIDRef { get; set; }
```

Property Value

[string](#)

Face

글꼴의 이름

```
public string Face { get; set; }
```

Property Value

[string](#)

IsEmbedded

글꼴 파일이 문서 컨테이너 내에 포함되었는지 여부

```
public bool IsEmbedded { get; set; }
```

Property Value

[bool](#)

Type

글꼴의 유형

```
public FontfaceTypeFontSubstFontType Type { get; set; }
```

Property Value

[FontfaceType](#)[FontSubstFontType](#)

Class FontfaceTypeFontTypeInfo

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

글꼴의 유형 설정을 표현하기 위한 요소이다

```
[Serializable]
public class FontfaceTypeFontTypeInfo : IHpxObject
```

Inheritance

[object](#) ← FontfaceTypeFontTypeInfo

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

ArmStyle

자획유형

```
public long ArmStyle { get; set; }
```

Property Value

[long](#)

Contrast

대조

```
public long Contrast { get; set; }
```

Property Value

[long↗](#)

FamilyType

글꼴 계열.

```
public FontfaceTypeFontTypeInfoFamilyType FamilyType { get; set; }
```

Property Value

[FontfaceTypeFontTypeInfoFamilyType](#)

Letterform

글자형

```
public long Letterform { get; set; }
```

Property Value

[long↗](#)

Midline

중간선

```
public long Midline { get; set; }
```

Property Value

[long↗](#)

Proportion

비례

```
public long Proportion { get; set; }
```

Property Value

[long↗](#)

SerifStyle

세리프 유형

```
public string SerifStyle { get; set; }
```

Property Value

[string↗](#)

StrokeVariation

스트로크 편차

```
public long StrokeVariation { get; set; }
```

Property Value

[long↗](#)

Weight

굵기

```
public long Weight { get; set; }
```

Property Value

[long](#)

XHeight

X-높이

```
public long XHeight { get; set; }
```

Property Value

[long](#)

Methods

ShouldSerializeSerifStyle()

```
public bool ShouldSerializeSerifStyle()
```

Returns

[bool](#)

Class FootNoteShapeType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

각주 모양 정보를 가지고 있는 요소이다.

```
[Serializable]
public class FootNoteShapeType : NoteShapeType, IHwpObject
```

Inheritance

[object](#) ← [NoteShapeType](#) ← FootNoteShapeType

Implements

[IHwpObject](#)

Inherited Members

[NoteShapeType.AutoNumFormat](#) , [NoteShapeType.NoteLine](#) , [NoteShapeType.NoteSpacing](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

FootNoteShapeType()

```
public FootNoteShapeType()
```

Properties

Numbering

번호 매김 형식

```
public FootNoteShapeTypeNumbering Numbering { get; set; }
```

Property Value

[FootNoteShapeTypeNumbering](#)

Placement

위치 정보

```
public FootNoteShapeTypePlacement Placement { get; set; }
```

Property Value

[FootNoteShapeTypePlacement](#)

Class FootNoteShapeTypeNumbering

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class FootNoteShapeTypeNumbering : IHpxObject
```

Inheritance

[object](#) ← FootNoteShapeTypeNumbering

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

FootNoteShapeTypeNumbering()

```
public FootNoteShapeTypeNumbering()
```

Properties

NewNum

시작 번호.

type이 ON_SECTION일 때만 사용한다.

```
public int NewNum { get; set; }
```

Property Value

[int ↗](#)

Type

번호 매기기 형식

```
public FootNoteShapeTypeNumberingType Type { get; set; }
```

Property Value

[FootNoteShapeTypeNumberingType](#)

Methods

Create(FootNoteShapeTypeNumberingType, int)

```
public static FootNoteShapeTypeNumbering Create(FootNoteShapeTypeNumberingType type = FootNoteS
```

Parameters

type [FootNoteShapeTypeNumberingType](#)

newNum [int ↗](#)

Returns

[FootNoteShapeTypeNumbering](#)

Class FootNoteShapeTypePlacement

Namespace: [HwpXIO.Models](#)

Assembly: HwpXIO.dll

```
[Serializable]
public class FootNoteShapeTypePlacement : IHpxObject
```

Inheritance

[object](#) ← FootNoteShapeTypePlacement

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

FootNoteShapeTypePlacement()

```
public FootNoteShapeTypePlacement()
```

Properties

BeneathText

텍스트에 이어 바로 출력할지 여부

```
public bool BeneathText { get; set; }
```

Property Value

[bool ↗](#)

Place

한 페이지 내에서 각주를 다단에 어떻게 위치시킬지에 대한 설정

```
public FootNoteShapeTypePlacementPlace Place { get; set; }
```

Property Value

[FootNoteShapeTypePlacementPlace](#)

Methods

Create(FootNoteShapeTypePlacementPlace, bool)

```
public static FootNoteShapeTypePlacement Create(FootNoteShapeTypePlacementPlace place = FootNoteShapeTypePlacementPlace.Place, bool beneathText = false)
```

Parameters

place [FootNoteShapeTypePlacementPlace](#)

beneathText [bool ↗](#)

Returns

[FootNoteShapeTypePlacement](#)

Class ForbiddenWordListType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[ForbiddenWordListType](#) 요소는 금칙 문자의 목록이다.

```
[Serializable]
public class ForbiddenWordListType : Switchable, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [ForbiddenWordListType](#)

Implements

[IHwploquentObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

ForbiddenWordListType()

```
public ForbiddenWordListType()
```

Properties

ForbiddenWord

금칙문자

요소의 값으로 문자열을 가짐

해당 요소의 추가적인 설명은 생략

```
public List<string> ForbiddenWord { get; set; }
```

Property Value

[List](#) <[string](#)>

ItemCnt

금칙 문자의 개수

```
public int ItemCnt { get; set; }
```

Property Value

[int](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class FwSpace

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

고정폭 빈칸

```
public class FwSpace : IHwploquentObject
```

Inheritance

[object](#) ← FwSpace

Implements

[IHwploquentObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,

[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Class HCFVersion

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

문서의 파일 형식 버전 정보를 표현하기 위한 요소이다

```
[Serializable]
public class HCFVersion : IHwpObject, IBuilderableModel<HCFVersionBuilder>
```

Inheritance

[object](#) ← HCFVersion

Implements

[IHwpObject](#), [IBuilderableModel](#)<[HCFVersionBuilder](#)>

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

HCFVersion()

```
public HCFVersion()
```

Fields

xmlns

```
[NonSerialized]
```

```
public XmlSerializerNamespaces xmlns
```

Field Value

[XmlSerializerNamespaces](#)

Properties

AppVersion

```
public string AppVersion { get; set; }
```

Property Value

[string](#)

Application

```
public string Application { get; set; }
```

Property Value

[string](#)

BuildNumber

요소에 정보들이 추가된 것을 나타냄 숫자가 달라도 구버전과 호환 가능

```
public int BuildNumber { get; set; }
```

Property Value

[int](#)

Major

문서 형식의 구조가 완전히 바뀌는 것을 나타냄
숫자가 다르면 구버전과 호환 불가능

```
public int Major { get; set; }
```

Property Value

[int↗](#)

Micro

구조는 동일하나 요소가 추가되었거나, 하위 버전에서 호환되지 않는 정보가 추가된 것을 나타냄
숫자가 달라도 구버전과 호환 가능

```
public int Micro { get; set; }
```

Property Value

[int↗](#)

Minor

큰 구조는 동일하나, 큰 변화가 있는 것을 나타냄
숫자가 다르면 구버전과 호환 불가능

```
public int Minor { get; set; }
```

Property Value

[int↗](#)

Os

```
public string Os { get; set; }
```

Property Value

[string](#)

TagetApplication

오피스 문서 형식 중의 하나만 표현함

```
public VersionTagetApplication TagetApplication { get; set; }
```

Property Value

[VersionTagetApplication](#)

XmlVersion

```
public string XmlVersion { get; set; }
```

Property Value

[string](#)

Methods

UpdateBuilder(Action<HCFVersionBuilder>, IHpxBuilder)

```
public HCFVersionBuilder UpdateBuilder(Action<HCFVersionBuilder> updateBuilderAction = null, IHpxBuilder hpxBuilder)
```

Parameters

updateBuilderAction [Action](#)<HCFVersionBuilder>

hpxBuilder [IHpxBuilder](#)

Returns

[HCFVersionBuilder](#)

Class HWPAplicationSetting

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class HWPAplicationSetting : IHpxObject, IBuilderableModel<HWPAplicationSettingBuilder>
```

Inheritance

[object](#) ← HWPAplicationSetting

Implements

[IHpxObject](#), [IBuilderableModel<HWPAplicationSettingBuilder>](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

HWPAplicationSetting()

```
public HWPAplicationSetting()
```

Fields

xmlns

```
[NonSerialized]
public XmlSerializerNamespaces xmlns
```

Field Value

[XmlSerializerNamespaces](#) ↗

Properties

CaretPosition

```
public CaretPosition CaretPosition { get; set; }
```

Property Value

[CaretPosition](#)

ConfigItemSet

```
public ConfigItemSet ConfigItemSet { get; set; }
```

Property Value

[ConfigItemSet](#)

DocDistribute

```
public DocDistribute DocDistribute { get; set; }
```

Property Value

[DocDistribute](#)

Methods

UpdateBuilder(Action<HWPApplicationSettingBuilder>,
IHwpxBUILDER)

```
public HWPApplicationSettingBuilder UpdateBuilder(Action<HWPApplicationSettingBuilder> updateB
```

Parameters

updateBuilderAction [Action](#)<[HWPApplicationSettingBuilder](#)>

hpxBuilder [IHpxBuilder](#)

Returns

[HWPApplicationSettingBuilder](#)

Class HWPMHeadType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

Root Element

```
[Serializable]
public class HWPMHeadType : Switchable, IHpxObject, ICloneable, IBuilderableModel<HWPMHeadT
```

Inheritance

[object](#) ← [Switchable](#) ← HWPMHeadType

Implements

[IHpxObject](#), [ICloneable](#), [IBuilderableModel<HWPMHeadTypeBuilder>](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

HWPMHeadType()

```
public HWPMHeadType()
```

Fields

xmlns

```
[NonSerialized]  
public XmlSerializerNamespaces xmlns
```

Field Value

[XmlSerializerNamespaces](#)

Properties

BeginNum

문서 내에서 각종 객체들의 시작 번호 정보를 가지고 있는 요소

```
public HWPMHeadTypeBeginNum BeginNum { get; set; }
```

Property Value

[HWPMHeadTypeBeginNum](#)

CompatibleDocument

문서 호환성 설정

```
public CompatibleDocumentType CompatibleDocument { get; set; }
```

Property Value

[CompatibleDocumentType](#)

DocOption

```
public DocOption DocOption { get; set; }
```

Property Value

[DocOption](#)

ForbiddenWordList

금칙 문자 목록을 가지고 있는 요소

```
public ForbiddenWordListType ForbiddenWordList { get; set; }
```

Property Value

[ForbiddenWordListType](#)

RefList

본문에서 사용될 각종 데이터에 대한 맵핑 정보를 가지고 있는 요소

[Required]

```
public MappingTableType RefList { get; set; }
```

Property Value

[MappingTableType](#)

SecCnt

문서에 설정된 섹션의 갯수

```
public int SecCnt { get; set; }
```

Property Value

[int↗](#)

TrackchangeConfig

변경 추적 정보와 암호 정보를 가지고 있는 요소

```
public HWPMLHeadTypeTrackchangeConfig TrackchangeConfig { get; set; }
```

Property Value

[HWPMLHeadTypeTrackchangeConfig](#)

Version

OWPML Header XML의 버전 (현재 버전은 1.0이다)

```
public string Version { get; set; }
```

Property Value

[string](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

UpdateBuilder(Action<HWPMLHeadTypeBuilder>,
IHpxBuilder)

```
public HWPMLHeadTypeBuilder UpdateBuilder(Action<HWPMLHeadTypeBuilder> updateBuilderAction = n
```

Parameters

updateBuilderAction [Action](#)<[HWPMLHeadTypeBuilder](#)>

hpxBuilder [IHpxBuilder](#)

Returns

[HWPMLHeadTypeBuilder](#)

Class HWPMHeadTypeBeginNum

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

[HWPMHeadTypeBeginNum](#) 요소는 문서 내에서 사용되는 각종 객체들의 번호의 시작 숫자를 설정하기 위한 요소이다.

기본적으로 시작 번호는 1에서 시작되며, 사용자 설정의 의해서 1 이외의 번호에서 시작할 수 있게 된다.

시작 번호를 지정할 수 있는 객체에는, 페이지, 각주, 미주, 그림, 표, 수식 등이 있다.

```
[Serializable]
public class HWPMHeadTypeBeginNum : Switchable, IHpxObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← HWPMHeadTypeBeginNum

Implements

[IHpxObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Properties

Endnote

미주 시작 번호

```
public int Endnote { get; set; }
```

Property Value

[int↗](#)

Equation

수식 시작 번호

```
public int Equation { get; set; }
```

Property Value

[int↗](#)

Footnote

각주 시작 번호

```
public int Footnote { get; set; }
```

Property Value

[int↗](#)

Page

페이지 시작 번호

```
public int Page { get; set; }
```

Property Value

[int↗](#)

Pic

그림 시작 번호

```
public int Pic { get; set; }
```

Property Value

[int↗](#)

Tbl

표 시작 번호

```
public int Tbl { get; set; }
```

Property Value

[int↗](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object↗](#)

Class HWPMHeadTypeTrackchageConfig

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

[HWPMHeadTypeTrackchageConfig](#)는 변경 추적에 대한 상태 정보와 암호 정보를 가지고 있다.

```
[Serializable]
public class HWPMHeadTypeTrackchageConfig : Switchable, IHpxObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← HWPMHeadTypeTrackchageConfig

Implements

[IHpxObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

HWPMHeadTypeTrackchageConfig()

```
public HWPMHeadTypeTrackchageConfig()
```

Properties

ConfigItemSet

```
public ConfigItemSet ConfigItemSet { get; set; }
```

Property Value

[ConfigItemSet](#)

Flags

변경 추적 상태 정보

```
public int Flags { get; set; }
```

Property Value

[int](#)

TrackChangeEncryption

변경 추적 암호 정보

```
public KeyEncryptionType TrackChangeEncryption { get; set; }
```

Property Value

[KeyEncryptionType](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class HWPValue

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

(값, 단위)을 표현하기 위한 엘리먼트

```
[Serializable]
public class HWPValue : IHwpObject
```

Inheritance

[object](#) ← HWPValue

Implements

[IHwpObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

HWPValue()

```
public HWPValue()
```

Properties

Unit

값의 단위

```
public HWPValueUnit Unit { get; set; }
```

Property Value

[HWPValueUnit](#)

Value

실제 값

```
public long Value { get; set; }
```

Property Value

[long](#)

Methods

Create(long, HWPValueUnit)

```
public static HWPValue Create(long value, HWPValueUnit unit = HWPValueUnit.HWPUNIT)
```

Parameters

value [long](#)

unit [HWPValueUnit](#)

Returns

[HWPValue](#)

Class HeaderFooterType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

머리말 및 꼬리말을 표현하기 위한 요소 형식이다.

```
[Serializable]
public class HeaderFooterType : IHwploquentObject, IBuilderableModel<HeaderFooterTypeBuilder>
```

Inheritance

[object](#) ← HeaderFooterType

Implements

[IHwploquentObject](#), [IBuilderableModel](#)<[HeaderFooterTypeBuilder](#)>

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElement<T>\(T\)](#)

Constructors

HeaderFooterType()

```
public HeaderFooterType()
```

Properties

ApplyPageType

머리말/꼬리말이 적용될 페이지 형식

```
public HeaderFooterTypeApplyPageType ApplyPageType { get; set; }
```

Property Value

[HeaderFooterTypeApplyPageType](#)

Id

머리말/꼬리말을 식별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#)

SubList

머리말/꼬리말내용

```
public ParaListType SubList { get; set; }
```

Property Value

[ParaListType](#)

Methods

UpdateBuilder(Action<HeaderFooterTypeBuilder>,
IHpxBuilder)

```
public HeaderFooterTypeBuilder UpdateBuilder(Action<HeaderFooterTypeBuilder> updateBuilderAction,
```

Parameters

`updateBuilderAction Action<HeaderFooterTypeBuilder>`

`hpxBuilder IHpxBuilder`

Returns

[HeaderFooterTypeBuilder](#)

Class Hyphen

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

하이픈

```
public class Hyphen : IHwploquentObject
```

Inheritance

[object](#) ← Hyphen

Implements

[IHwploquentObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Class ImageType

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

그림 정보를 표현하기 위한 요소이다. 그림 데이터에 대한 참조 아이디 및 그림에 적용될 몇몇 효과들에 대한 정보를 가지고 있다.

```
[Serializable]  
public class ImageType : IHwpvObject
```

Inheritance

[object](#) ← ImageType

Implements

[IHwpvObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

ImageType()

```
public ImageType()
```

Properties

Alpha

투명도

```
public float Alpha { get; set; }
```

Property Value

[float↗](#)

BinaryItemIDRef

BinDataItem 요소의 아이디 참조 값. 그림의 바이너리 데이터에 대한 연결 정보

```
public string BinaryItemIDRef { get; set; }
```

Property Value

[string↗](#)

Bright

그림의 밝기

```
public int Bright { get; set; }
```

Property Value

[int↗](#)

Contrast

그림의 명암

```
public int Contrast { get; set; }
```

Property Value

[int↗](#)

Effect

그림의 추가 효과

```
public ImageTypeEffect Effect { get; set; }
```

Property Value

[ImageTypeEffect](#)

Methods

Create(string, int?, int?, ImageTypeEffect?, float?)

```
public static ImageType Create(string binaryItemIDRef = null, int? bright = null, int? contrast = null, ImageTypeEffect? effect = null, float? alpha = null)
```

Parameters

binaryItemIDRef [string](#)?

bright [int](#)?

contrast [int](#)?

effect [ImageTypeEffect](#)?

alpha [float](#)?

Returns

[ImageType](#)

Class InsertBegin

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

변경 추적 삽입 시작지점

```
public class InsertBegin : TrackChangeTag, IHpxObject
```

Inheritance

[object](#) ← [TrackChangeTag](#) ← InsertBegin

Implements

[IHpxObject](#)

Inherited Members

[TrackChangeTag.ParaEnd](#) , [TrackChangeTag.TcID](#) , [TrackChangeTag.Id](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Class InsertEnd

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

변경 추적 삽입 끝지점

```
public class InsertEnd : TrackChangeTag, IHwpvObject
```

Inheritance

[object](#) ← [TrackChangeTag](#) ← [InsertEnd](#)

Implements

[IHwpvObject](#)

Inherited Members

[TrackChangeTag.ParaEnd](#) , [TrackChangeTag.TcID](#) , [TrackChangeTag.Id](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Class InsideMarginType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

[InsideMarginType](#) 요소는 안쪽 여백 정보로 [MarginAttributeGroup]을 속성으로 포함한다.

```
[Serializable]
public class InsideMarginType : IHpxObject
```

Inheritance

[object](#) ← InsideMarginType

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

Bottom

아래쪽 여백. 단위는 HWPUNIT

```
public long Bottom { get; set; }
```

Property Value

[long](#)

Left

왼쪽 여백. 단위는 HWPUNIT

```
public long Left { get; set; }
```

Property Value

[long↗](#)

Right

오른쪽 여백. 단위는 HWPUNIT

```
public long Right { get; set; }
```

Property Value

[long↗](#)

Top

위쪽 여백. 단위는 HWPUNIT

```
public long Top { get; set; }
```

Property Value

[long↗](#)

Class KeyEncryptionType

Namespace: [HwpXI.Models](#)

Assembly: HwpXI.dll

```
[Serializable]
public class KeyEncryptionType : IHpxObject
```

Inheritance

[object](#) ← KeyEncryptionType

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

KeyEncryptionType()

```
public KeyEncryptionType()
```

Properties

DerivationKey

```
public KeyEncryptionTypeDerivationKey DerivationKey { get; set; }
```

Property Value

KeyEncryptionTypeDerivationKey

Hash

```
public byte[] Hash { get; set; }
```

Property Value

[byte](#)[]

Class KeyEncryptionTypeDerivationKey

Namespace: [HwpXI.Models](#)

Assembly: HwpXI.dll

```
[Serializable]
public class KeyEncryptionTypeDerivationKey : IHpxObject
```

Inheritance

[object](#) ← KeyEncryptionTypeDerivationKey

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

Algorithm

```
public string Algorithm { get; set; }
```

Property Value

[string](#)

Count

```
public int Count { get; set; }
```

Property Value

[int ↗](#)

Salt

```
public byte[] Salt { get; set; }
```

Property Value

[byte\[\] ↗](#)

Size

```
public int Size { get; set; }
```

Property Value

[int ↗](#)

Class LineBreak

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

강제 줄나눔

```
public class LineBreak : IHwpvObject
```

Inheritance

[object](#) ← LineBreak

Implements

[IHwpvObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Class LineNumberShape

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class LineNumberShape : IHpxObject
```

Inheritance

[object](#) ← LineNumberShape

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

CountBy

```
public int CountBy { get; set; }
```

Property Value

[int](#)

Distance

```
public int Distance { get; set; }
```

Property Value

[int ↗](#)

RestartType

```
public int RestartType { get; set; }
```

Property Value

[int ↗](#)

StartNumber

```
public int StartNumber { get; set; }
```

Property Value

[int ↗](#)

Class LineSeg

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class LineSeg : IHpxObject
```

Inheritance

[object](#) ← LineSeg

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

Baseline

```
public int Baseline { get; set; }
```

Property Value

[int](#)

Flags

```
public long Flags { get; set; }
```

PropertyValue

[long ↗](#)

Horzpos

```
public int Horzpos { get; set; }
```

PropertyValue

[int ↗](#)

Horzsize

```
public int Horzsize { get; set; }
```

PropertyValue

[int ↗](#)

Spacing

```
public int Spacing { get; set; }
```

PropertyValue

[int ↗](#)

Textheight

```
public int Textheight { get; set; }
```

PropertyValue

[int](#)

Textpos

```
public long Textpos { get; set; }
```

Property Value

[long](#)

Vertpos

```
public int Vertpos { get; set; }
```

Property Value

[int](#)

Vertsize

```
public int Vertsize { get; set; }
```

Property Value

[int](#)

Class LineSegArray

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class LineSegArray : IHpxObject
```

Inheritance

[object](#) ← LineSegArray

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

LineSegArray()

```
public LineSegArray()
```

Properties

LineSeg

```
public List<LineSeg> LineSeg { get; set; }
```

Property Value

[List](#) <[LineSeg](#)>

Class LineShapeType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

객체의 테두리선 정보를 표현하기 위한 요소이다.

```
[Serializable]
public class LineShapeType : IHpxObject
```

Inheritance

[object](#) ← LineShapeType

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

LineShapeType()

```
public LineShapeType()
```

Properties

Alpha

투명도

```
public float Alpha { get; set; }
```

Property Value

[float](#)

Color

선 색상

```
public string Color { get; set; }
```

Property Value

[string](#)

EndCap

선 끝 모양

```
public LineShapeTypeEndCap EndCap { get; set; }
```

Property Value

[LineShapeTypeEndCap](#)

HeadStyle

화살표 시작 모양

```
public ArrowType HeadStyle { get; set; }
```

Property Value

[ArrowType](#)

HeadSz

화살표 시작 크기

```
public ArrowSize HeadSz { get; set; }
```

PropertyValue

[ArrowSize](#)

OutlineStyle

테두리선의 형태

```
public LineShapeTypeOutlineStyle OutlineStyle { get; set; }
```

PropertyValue

[LineShapeTypeOutlineStyle](#)

Style

선 종류

```
public LineType2 Style { get; set; }
```

PropertyValue

[LineType2](#)

TailStyle

화살표 끝 모양

```
public ArrowType TailStyle { get; set; }
```

Property Value

[ArrowType](#)

TailSz

화살표 끝 크기

```
public ArrowSize TailSz { get; set; }
```

Property Value

[ArrowSize](#)

Width

선 굵기. 단위는 HWPUNIT

```
public int Width { get; set; }
```

Property Value

[int↗](#)

Class LineType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

[LineType](#) 요소는 [AbstractDrawingObjectType](#)을 상속받는다.

```
[Serializable]
public class LineType : AbstractDrawingObjectType, IHwpObject, ICloneable
```

Inheritance

```
object ↳ Switchable ↳ AbstractShapeObjectType ↳ AbstractShapeComponentType ↳  
AbstractDrawingObjectType ↳ LineType
```

Implements

[IHwpObject](#), [ICloneable](#) ↳

Inherited Members

```
AbstractDrawingObjectType.LineShape , AbstractDrawingObjectType.FillBrush ,  
AbstractDrawingObjectType.DrawText , AbstractDrawingObjectType.Shadow ,  
AbstractShapeComponentType.Offset , AbstractShapeComponentType.OrgSz ,  
AbstractShapeComponentType.CurSz , AbstractShapeComponentType.Flip ,  
AbstractShapeComponentType.RotationInfo , AbstractShapeComponentType.RenderingInfo ,  
AbstractShapeComponentType.Href , AbstractShapeComponentType.GroupLevel ,  
AbstractShapeComponentType.InstId , AbstractShapeObjectType.Sz , AbstractShapeObjectType.Pos ,  
AbstractShapeObjectType.OutMargin , AbstractShapeObjectType.Caption ,  
AbstractShapeObjectType.ShapeComment , AbstractShapeObjectType.Id ,  
AbstractShapeObjectType.ZOrder , AbstractShapeObjectType.NumberingType ,  
AbstractShapeObjectType.TextWrap , AbstractShapeObjectType.TextFlow ,  
AbstractShapeObjectType.Lock , AbstractShapeObjectType.DropCapStyle , Switchable.Switch ,  
object.Equals(object) ↳ , object.Equals(object, object) ↳ , object.GetHashCode() ↳ , object.GetType() ↳ ,  
object.MemberwiseClone() ↳ , object.ReferenceEquals(object, object) ↳ , object.ToString() ↳
```

Extension Methods

```
HwpDocumentExtensions.ItemCountUpdate(IHwpObject, IHwpDocument) ,  
GenericExtensions.IfNotNull<T>(T, Action<T>) ,  
HwpDocumentExtensions.SerializeToXmlElements<T>(T) ,  
SwitchableExtensions.GetSwitchableValue<T>(T, IEnumerable<string>, bool)
```

Constructors

LineType()

```
public LineType()
```

Properties

EndPt

끝점

```
public PointType EndPt { get; set; }
```

Property Value

[PointType](#)

IsReverseHV

처음 생성 시 수직선 또는 수평선일때, 선의 방향이 언제나 오른쪽(위쪽)으로 잡힘으로 인한 현상 때문에 방향을 바로 잡아주기 위한 속성

```
public bool IsReverseHV { get; set; }
```

Property Value

[bool](#) ↗

StartPt

시작점

```
public PointType StartPt { get; set; }
```

Property Value

[PointType](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class ListBoxType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[ListBoxType](#) 요소는 [AbstractFormObjectType](#)를 상속받는다.

```
[Serializable]
public class ListBoxType : AbstractFormObjectType, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [AbstractFormObjectType](#) ← [ListBoxType](#)

Implements

[IHwploquentObject](#), [ICloneable](#)

Inherited Members

[AbstractFormObjectType.FormCharPr](#) , [AbstractFormObjectType.Name](#) ,
[AbstractFormObjectType.ForeColor](#) , [AbstractFormObjectType.BackColor](#) ,
[AbstractFormObjectType.GroupName](#) , [AbstractFormObjectType.TabStop](#) ,
[AbstractFormObjectType.TabOrder](#) , [AbstractFormObjectType.Enabled](#) ,
[AbstractFormObjectType.BorderTypeIDRef](#) , [AbstractFormObjectType.DrawFrame](#) ,
[AbstractFormObjectType.Printable](#) , [AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) ,
[AbstractShapeObjectType.OutMargin](#) , [AbstractShapeObjectType.Caption](#) ,
[AbstractShapeObjectType.ShapeComment](#) , [AbstractShapeObjectType.Id](#) ,
[AbstractShapeObjectType.ZOrder](#) , [AbstractShapeObjectType.NumberingType](#) ,
[AbstractShapeObjectType.TextWrap](#) , [AbstractShapeObjectType.TextFlow](#) ,
[AbstractShapeObjectType.Lock](#) , [AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#)

Constructors

ListBoxType()

```
public ListBoxType()
```

Properties

ItemHeight

리스트 박스 아이템 높이

```
public int ItemHeight { get; set; }
```

Property Value

[int](#)

ListItem

리스트 박스의 아이템 목록.

```
public List<ListItemType> ListItem { get; set; }
```

Property Value

[List](#) <[ListItemType](#)>

SelectedValue

현재 선택된 아이템의 값

```
public string SelectedValue { get; set; }
```

Property Value

[string](#)

TopIdx

리스트 박스에서 첫 번째로 보이는 아이템의 인덱스

```
public int TopIdx { get; set; }
```

Property Value

[int](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class ListItemType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

양식 객체 중 콤보 박스 및 리스트 박스에서 항목(아이템)을 표현하기 위한 객체이다

```
[Serializable]
public class ListItemType : IHwploquentObject
```

Inheritance

[object](#) ← ListItemType

Implements

[IHwploquentObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

DisplayText

화면에 표시될 아이템 내용

```
public string DisplayText { get; set; }
```

Property Value

[string](#)

Value

아이템이 선택되었을 때 콤보/리스트박스가 가지는 값

```
public string Value { get; set; }
```

Property Value

[string](#)

Class MappingTableType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[MappingTableType](#) 요소는 본문에서 사용되는 각종 설정 데이터를 가지고 있는 요소이다.
[MappingTableType](#) 요소는 header XML에서 대부분의 설정 정보를 가지고 있다.

```
[Serializable]
public class MappingTableType : Switchable, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [MappingTableType](#)

Implements

[IHwploquentObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

MappingTableType()

```
public MappingTableType()
```

Properties

BorderFills

테두리/배경/채우기 정보 목록

```
public MappingTableTypeBorderFills BorderFills { get; set; }
```

Property Value

[MappingTableTypeBorderFills](#)

Bullets

글머리표 문단 모양 목록

```
public MappingTableTypeBullets Bullets { get; set; }
```

Property Value

[MappingTableTypeBullets](#)

CharProperties

글자 모양 목록

```
public MappingTableTypeCharProperties CharProperties { get; set; }
```

Property Value

[MappingTableTypeCharProperties](#)

Fontfaces

글꼴 정보 목록

```
public MappingTableTypeFontfaces Fontfaces { get; set; }
```

Property Value

[MappingTableTypeFontfaces](#)

MemoProperties

메모 모양 목록

```
public MappingTableTypeMemoProperties MemoProperties { get; set; }
```

Property Value

[MappingTableTypeMemoProperties](#)

Numberings

번호 문단 모양 목록

```
public MappingTableTypeNumberings Numberings { get; set; }
```

Property Value

[MappingTableTypeNumberings](#)

ParaProperties

문단 모양 목록

```
public MappingTableTypeParaProperties ParaProperties { get; set; }
```

Property Value

[MappingTableTypeParaProperties](#)

Styles

스타일 목록

```
public MappingTableTypeStyles Styles { get; set; }
```

Property Value

[MappingTableTypeStyles](#)

TabProperties

탭 정의 목록

```
public MappingTableTypeTabProperties TabProperties { get; set; }
```

Property Value

[MappingTableTypeTabProperties](#)

TrackChangeAuthors

변경 추적 검토자 목록

```
public MappingTableTypeTrackChangeAuthors TrackChangeAuthors { get; set; }
```

Property Value

[MappingTableTypeTrackChangeAuthors](#)

TrackChanges

변경 추적 정보 목록

```
public MappingTableTypeTrackChanges TrackChanges { get; set; }
```

Property Value

[MappingTableTypeTrackChanges](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class MappingTableTypeBorderFills

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

한 문서 내에서는 다양한 테두리/배경 정보들이 사용되는데 이런 테두리/배경 정보를 목록 형태로 가지고 있는 요소이다.

```
[Serializable]
public class MappingTableTypeBorderFills : Switchable, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [MappingTableTypeBorderFills](#)

Implements

[IHwploquentObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

MappingTableTypeBorderFills()

```
public MappingTableTypeBorderFills()
```

Properties

BorderFill

```
public List<BorderFillType> BorderFill { get; set; }
```

Property Value

[List](#) <[BorderFillType](#)>

ItemCnt

테두리/배경 항목의 개수

```
public int ItemCnt { get; set; }
```

Property Value

[int](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class MappingTableTypeBullets

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

글머리표 문단 모양 정보 목록을 가지고 있는 요소이다.

```
[Serializable]
public class MappingTableTypeBullets : Switchable, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [MappingTableTypeBullets](#)

Implements

[IHwploquentObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

MappingTableTypeBullets()

```
public MappingTableTypeBullets()
```

Properties

Bullet

글머리표 문단 모양 정보

```
public List<BulletType> Bullet { get; set; }
```

Property Value

[List](#) <[BulletType](#)>

ItemCnt

글머리표 문단 모양 정보의 개수

```
public int ItemCnt { get; set; }
```

Property Value

[int](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class MappingTableTypeCharProperties

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

콘텐츠 내에서 글자 모양 정보는 반드시 한 개 이상 정의되어 있어야 한다. 내용이 없는 콘텐츠라도 기본 글자 모양 정보는 정의되어 있어야 한다. 헤더 스키마 상에서는 속성 [ItemCnt](#) 의 값으로 올 수 있는 범위가 1 이상으로(positiveInteger) 제한되어 있으며, 자식 요소인 [CharPr](#) 요소의 개수 한정자 역시 1 이상으로 정의되어 있다.

```
[Serializable]
public class MappingTableTypeCharProperties : Switchable, IHpxObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [MappingTableTypeCharProperties](#)

Implements

[IHpxObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

MappingTableTypeCharProperties()

```
public MappingTableTypeCharProperties()
```

Properties

CharPr

글자 모양 정보

[Required]

```
public List<CharShapeType> CharPr { get; set; }
```

Property Value

[List](#)<[CharShapeType](#)>

ItemCnt

글자 모양 정보의 개수

```
public int ItemCnt { get; set; }
```

Property Value

[int](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class MappingTableTypeFontfaces

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

문서 내에서 글꼴 정보는 반드시 1개 이상 정의되어 있어야 한다.

내용이 없는 문서라도 기본 글꼴 정보는 정의되어 있어야 한다.

헤더 스키마 상에서는 속성 itemCnt의 값으로 올 수 있는 범위가 1 이상으로(positiveInteger) 제한되어 있으며,

자식 요소인 [MappingTableTypeFontfaces](#) 요소의 개수 한정자([ItemCnt](#)) 역시 1 이상으로 정의되어 있다.

```
[Serializable]
public class MappingTableTypeFontfaces : Switchable, IHwxObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [MappingTableTypeFontfaces](#)

Implements

[IHwxObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwxDocumentExtensions.ItemCountUpdate\(IHwxObject, IHwxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

MappingTableTypeFontfaces()

```
public MappingTableTypeFontfaces()
```

Properties

Fontface

글꼴 정보

[Required]

```
public List<FontfaceType> Fontface { get; set; }
```

Property Value

[List](#) <[FontfaceType](#)>

ItemCnt

글꼴 정보의 개수

```
public int ItemCnt { get; set; }
```

Property Value

[int](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class MappingTableTypeMemoProperties

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

메모 모양 정보 목록을 가지고 있는 요소이다.

```
[Serializable]
public class MappingTableTypeMemoProperties : Switchable, IHwpxlObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [MappingTableTypeMemoProperties](#)

Implements

[IHwpxlObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwpxlDocumentExtensions.ItemCountUpdate\(IHwpxlObject, IHwpxlDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpxlDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

MappingTableTypeMemoProperties()

```
public MappingTableTypeMemoProperties()
```

Properties

ItemCount

메모 모양 정보의 개수

```
public int ItemCnt { get; set; }
```

Property Value

[int](#)

MemoPr

메모 모양 정보

```
public List<MemoShapeType> MemoPr { get; set; }
```

Property Value

[List](#) <[MemoShapeType](#)>

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class MappingTableTypeNumberings

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

문단 번호 모양 정보 목록을 가지고 있는 요소이다.

```
[Serializable]
public class MappingTableTypeNumberings : Switchable, IHwpxlObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [MappingTableTypeNumberings](#)

Implements

[IHwpxlObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwpxlDocumentExtensions.ItemCountUpdate\(IHwpxlObject, IHwpxlDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpxlDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

MappingTableTypeNumberings()

```
public MappingTableTypeNumberings()
```

Properties

ItemCnt

문단 번호 모양 정보의 개수

```
public int ItemCnt { get; set; }
```

Property Value

[int](#)

Numbering

문단 번호 모양 정보

```
public List<NumberingType> Numbering { get; set; }
```

Property Value

[List](#) <[NumberingType](#)>

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class MappingTableTypeParaProperties

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

문단 모양 정보 목록을 가지고 있는 요소이다.

```
[Serializable]
public class MappingTableTypeParaProperties : Switchable, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [MappingTableTypeParaProperties](#)

Implements

[IHwploquentObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

MappingTableTypeParaProperties()

```
public MappingTableTypeParaProperties()
```

Properties

ItemCount

문단 모양 정보의 개수

```
public int ItemCnt { get; set; }
```

Property Value

[int](#)

ParaPr

문단 모양 정보

```
public List<ParaShapeType> ParaPr { get; set; }
```

Property Value

[List](#) <[ParaShapeType](#)>

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class MappingTableTypeStyles

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

스타일 정보 목록을 가지고 있는 요소이다.

```
[Serializable]
public class MappingTableTypeStyles : Switchable, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [MappingTableTypeStyles](#)

Implements

[IHwploquentObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

MappingTableTypeStyles()

```
public MappingTableTypeStyles()
```

Properties

ItemCount

스타일 정보의 개수

```
public int ItemCnt { get; set; }
```

Property Value

[int](#)

Style

스타일 정보

```
public List<StyleType> Style { get; set; }
```

Property Value

[List](#) <[StyleType](#)>

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class MappingTableTypeTabProperties

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

탭 정보 목록을 가지고 있는 요소이다

```
[Serializable]
public class MappingTableTypeTabProperties : Switchable, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [MappingTableTypeTabProperties](#)

Implements

[IHwploquentObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

MappingTableTypeTabProperties()

```
public MappingTableTypeTabProperties()
```

Properties

ItemCount

탭 정보의 개수

```
public int ItemCnt { get; set; }
```

Property Value

[int](#)

TabPr

탭 정보

```
public List<TabDefType> TabPr { get; set; }
```

Property Value

[List](#) <[TabDefType](#)>

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class MappingTableTypeTrackChangeAuthors

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

변경 추적 검토자 목록을 가지고 있는 요소이다.

```
[Serializable]
public class MappingTableTypeTrackChangeAuthors : Switchable, IHwpXObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [MappingTableTypeTrackChangeAuthors](#)

Implements

[IHwpXObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwploquentExtensions.ItemCountUpdate\(IHwpXObject, IHwploquent\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

MappingTableTypeTrackChangeAuthors()

```
public MappingTableTypeTrackChangeAuthors()
```

Properties

ItemCnt

변경 추적 검토자 수

```
public int ItemCnt { get; set; }
```

Property Value

[int](#)

TrackChangeAuthor

변경 추적 검토자

```
public List<TrackChangeAuthor> TrackChangeAuthor { get; set; }
```

Property Value

[List](#) <[TrackChangeAuthor](#)>

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class MappingTableTypeTrackChanges

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

변경 추적 정보 목록을 가지고 있는 요소이다.

```
[Serializable]
public class MappingTableTypeTrackChanges : Switchable, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [MappingTableTypeTrackChanges](#)

Implements

[IHwploquentObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

MappingTableTypeTrackChanges()

```
public MappingTableTypeTrackChanges()
```

Properties

ItemCount

변경 추적의 개수

```
public int ItemCnt { get; set; }
```

Property Value

[int](#)

TrackChange

변경 추적 정보

```
public List<TrackChange> TrackChange { get; set; }
```

Property Value

[List](#) <[TrackChange](#)>

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class MarkpenEnd

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

형광펜 끝

```
public class MarkpenEnd : IHwploquentObject
```

Inheritance

[object](#) ← MarkpenEnd

Implements

[IHwploquentObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,

[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Class MasterPageType

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

바탕쪽 설정 정보를 가지고 있는 요소이다.

```
[Serializable]
public class MasterPageType : IHwpXObject
```

Inheritance

[object](#) ← MasterPageType

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpXDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

MasterPageType()

```
public MasterPageType()
```

Properties

Id

바탕쪽 설정 정보 식별자

```
public string Id { get; set; }
```

Property Value

[string ↗](#)

PageDuplicate

기본 바탕쪽과 확장 바탕쪽이 겹쳐질지 여부

바탕쪽(기본 바탕쪽): 구역의 흘수, 짹수, 양쪽에 적용 되는 바탕쪽

확장 바탕쪽: 구역의 임의의 페이지나 구역시작, 구역 끝에 적용할 수 있는 바탕쪽

예: 바탕쪽 흘수를 지정하고, 확장바탕쪽 구역 시작페이지에 바탕쪽을 지정하면, 기본 바탕쪽과 확장바탕쪽이 겹쳐서 나올 수도 있음

```
public bool PageDuplicate { get; set; }
```

Property Value

[bool ↗](#)

PageFront

바탕쪽 앞으로 보내기 여부

```
public bool PageFront { get; set; }
```

Property Value

[bool ↗](#)

PageNumber

Type 속성 값이 [OPTIONAL_PAGE](#)인 경우 임의의 쪽 번호

```
public int PageNumber { get; set; }
```

Property Value

[int↗](#)

SubList

바탕쪽 내용

```
public ParaListType SubList { get; set; }
```

Property Value

[ParaListType](#)

Type

바탕쪽이 적용되는 형식

```
public MasterPageTypeType Type { get; set; }
```

Property Value

[MasterPageTypeType](#)

Class MatrixType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[MatrixType](#)은 행렬을 표현하기 위한 요소 형식이다.

9x9 행렬에서 2행의 요소까지만 표현을 하고 3행의 요소는(0, 0, 1)로 일정하기 때문에 표현하지 않는다.

```
[Serializable]  
public class MatrixType : IHwploquentObject
```

Inheritance

[object](#) ← MatrixType

Implements

[IHwploquentObject](#)

Derived

[RotMatrixType](#), [ScaMatrixType](#), [TransMatrixType](#)

Inherited Members

[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#),
[object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#),
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

E1

9x9 행렬의 첫 번째 요소 (0,0)

```
public float E1 { get; set; }
```

Property Value

[float](#)

E2

9x9 행렬의 두 번째 요소 (0,1)

```
public float E2 { get; set; }
```

Property Value

[float](#)

E3

9x9 행렬의 세 번째 요소 (0,2)

```
public float E3 { get; set; }
```

Property Value

[float](#)

E4

9x9 행렬의 네 번째 요소 (1,0)

```
public float E4 { get; set; }
```

Property Value

[float](#)

E5

9x9 행렬의 다섯 번째 요소 (1,1)

```
public float E5 { get; set; }
```

Property Value

float ↗

E6

9x9 행렬의 여섯 번째 요소 (1,2)

```
public float E6 { get; set; }
```

Property Value

float ↗

Class MemoShapeType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

메모는 문서 작성 또는 수정 중 간략한 내용을 기록해 둘 수 있는 기능이다.

[MemoPr](#) 요소는 실제 메모 내용을 담고 있는 것이 아니라, 화면에 표시될 메모들의 모양 정보를 가지고 있는 요소이다.

즉, 메모 선의 색, 메모의 색 등 화면 표시를 위한 설정들을 담고 있다.

```
[Serializable]
public class MemoShapeType : Switchable, IHwploquentObject, ICloneable, IBuilderableModel<MemoShapeT>
```

Inheritance

[object](#) ← [Switchable](#) ← MemoShapeType

Implements

[IHwploquentObject](#), [ICloneable](#), [IBuilderableModel<MemoShapeTypeBuilder>](#)

Inherited Members

[Switchable.Switch](#), [object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#),
[object.GetType\(\)](#), [object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#),
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#),
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HwploquentDocumentExtensions.SerializeToXmlElement<T>\(T\)](#),
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Properties

ActiveColor

메모가 활성화되었을 때 색

```
public string ActiveColor { get; set; }
```

Property Value

[string](#)

FillColor

메모의 색

```
public string FillColor { get; set; }
```

Property Value

[string](#)

Id

메모 모양 정보를 구별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#)

LineColor

메모의 선 색

```
public string LineColor { get; set; }
```

Property Value

[string](#)

LineType

메모의 선 종류

```
public LineType2 LineType { get; set; }
```

Property Value

[LineType2](#)

LineWidth

메모의 라인 두께

```
public string LineWidth { get; set; }
```

Property Value

[string](#)

MemoType

메모 변경 추척을 위한 속성

```
public MemoShapeTypeMemoType MemoType { get; set; }
```

Property Value

[MemoShapeType](#)

Width

메모가 보이는 넓이

```
public int Width { get; set; }
```

Property Value

[int](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

UpdateBuilder(Action<MemoShapeTypeBuilder>, IHpxBuilder)

```
public MemoShapeTypeBuilder UpdateBuilder(Action<MemoShapeTypeBuilder> updateBuilderAction = null)
```

Parameters

updateBuilderAction [Action](#)<MemoShapeTypeBuilder>

hpxBuilder [IHpxBuilder](#)

Returns

[MemoShapeTypeBuilder](#)

Class NbSpace

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

묶음 빙칸

```
public class NbSpace : IHwploquentObject
```

Inheritance

[object](#) ← NbSpace

Implements

[IHwploquentObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Class NoteShapeType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

각주/미주 모양 정보

```
[Serializable]
public abstract class NoteShapeType : IHwpObject
```

Inheritance

[object](#) ← NoteShapeType

Implements

[IHwpObject](#)

Derived

[EndNoteShapeType](#), [FootNoteShapeType](#)

Inherited Members

[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#),
[object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Extension Methods

[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#),
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

NoteShapeType()

```
public NoteShapeType()
```

Properties

AutoNumFormat

자동 번호 매김 모양 정보

```
public AutoNumFormatType AutoNumFormat { get; set; }
```

Property Value

[AutoNumFormatType](#)

NoteLine

구분선 모양 정보

```
public NoteShapeTypeNoteLine NoteLine { get; set; }
```

Property Value

[NoteShapeTypeNoteLine](#)

NoteSpacing

여백 정보

```
public NoteShapeTypeNoteSpacing NoteSpacing { get; set; }
```

Property Value

[NoteShapeTypeNoteSpacing](#)

Class NoteShapeTypeNoteLine

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

각주/미주 내에서 사용되는 구분선 모양 정보를 가지고 있는 요소이다.

```
[Serializable]
public class NoteShapeTypeNoteLine : IHwpObject
```

Inheritance

[object](#) ← NoteShapeTypeNoteLine

Implements

[IHwpObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

NoteShapeTypeNoteLine()

```
public NoteShapeTypeNoteLine()
```

Properties

Color

구분선 색.

```
public string Color { get; set; }
```

Property Value

[string](#)

Length

구분선 길이.

0(구분선 없음), 5cm, 2cm, Column/3(단 크기의 1/3), Column(단 크기), 그 외(hwpunit 단위의 사용자 지정 길이).

```
public string Length { get; set; }
```

Property Value

[string](#)

Type

구분선 종류.

```
public LineType2 Type { get; set; }
```

Property Value

[LineType2](#)

Width

구분선 굵기. 단위는 mm.

```
public LineWidth Width { get; set; }
```

Property Value

[LineWidth](#)

Methods

Create(string, LineType2, LineWidth, string)

```
public static NoteShapeTypeNoteLine Create(string length = "0", LineType2 type = LineType2.SOLI
```

Parameters

length [string](#)

type [LineType2](#)

width [LineWidth](#)

color [string](#)

Returns

[NoteShapeTypeNoteLine](#)

Class NoteShapeTypeNoteSpacing

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

각주/미주 내에서 사용되는 여백 정보를 가지고 있는 요소이다.

```
[Serializable]
public class NoteShapeTypeNoteSpacing : IHpxObject
```

Inheritance

[object](#) ← NoteShapeTypeNoteSpacing

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

NoteShapeTypeNoteSpacing()

```
public NoteShapeTypeNoteSpacing()
```

Properties

AboveLine

구분선 위 여백

```
public int AboveLine { get; set; }
```

Property Value

[int ↗](#)

BelowLine

구분선 아래 여백

```
public int BelowLine { get; set; }
```

Property Value

[int ↗](#)

BetweenNotes

주석 사이 여백

```
public int BetweenNotes { get; set; }
```

Property Value

[int ↗](#)

Methods

Create(int, int, int)

```
public static NoteShapeTypeNoteSpacing Create(int betweenNotes = 850, int belowLine = 567, int
```

Parameters

`betweenNotes` [int ↗](#)

belowLine [int ↗](#)

aboveLine [int ↗](#)

Returns

[NoteShapeType](#)[NoteSpacing](#)

Class NoteType

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

각주 및 미주를 표현하기 위한 요소 형식이다

```
[Serializable]
public class NoteType : IHwpXObject
```

Inheritance

[object](#) ← NoteType

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

NoteType()

```
public NoteType()
```

Properties

Id

각주/미주를 식별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#) ↗

SubList

각주/미주 내용

```
public ParaListType SubList { get; set; }
```

Property Value

[ParaListType](#)

Class NumberingType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

여러 개의 항목을 나열할 때 문단의 머리에 번호를 매기거나 글머리표, 그림 글머리표를 붙일 수 있다. 문단 번호는 7 수준까지 다단계 번호를 매겨 주고, 문단 번호를 사용한 문장의 순서가 바뀌면 문단 번호도 그에 맞게 자동으로 바뀌게 된다.

```
[Serializable]
public class NumberingType : Switchable, IHwploquentObject, ICloneable, IBuilderableModel<NumberingT>
```

Inheritance

[object](#) ← [Switchable](#) ← NumberingType

Implements

[IHwploquentObject](#), [ICloneable](#), [IBuilderableModel<NumberingTypeBuilder>](#)

Inherited Members

[Switchable.Switch](#), [object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#),
[object.GetType\(\)](#), [object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#),
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#),
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#),
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

NumberingType()

```
public NumberingType()
```

Fields

xmlns

```
[NonSerialized]  
public XmlSerializerNamespaces xmlns
```

Field Value

[XmlSerializerNamespaces](#)

Properties

Id

번호 문단 모양을 구별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#)

ParaHead

번호/글머리표 문단 머리의 정보

```
public List<ParaHeadType2> ParaHead { get; set; }
```

Property Value

[List](#) <[ParaHeadType2](#)>

Start

번호 문단에서 시작되는 숫자 번호

```
public int Start { get; set; }
```

Property Value

[int](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

UpdateBuilder(Action<NumberingTypeBuilder>, IHwpxBUILDER)

```
public NumberingTypeBuilder UpdateBuilder(Action<NumberingTypeBuilder> updateBuilderAction = n
```

Parameters

updateBuilderAction [Action](#)<[NumberingTypeBuilder](#)>

hwpxBUILDER [IHwpxBUILDER](#)

Returns

[NumberingTypeBuilder](#)

Class OLEType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[OLEType](#) 요소는 [AbstractShapeComponentType](#)를 상속받는다.

```
[Serializable]
public class OLEType : AbstractShapeComponentType, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ↳ [Switchable](#) ↳ [AbstractShapeObjectType](#) ↳ [AbstractShapeComponentType](#) ↳ [OLEType](#)

Implements

[IHwploquentObject](#), [ICloneable](#) ↳

Inherited Members

[AbstractShapeComponentType.Offset](#) , [AbstractShapeComponentType.OrgSz](#) ,
[AbstractShapeComponentType.CurSz](#) , [AbstractShapeComponentType.Flip](#) ,
[AbstractShapeComponentType.RotationInfo](#) , [AbstractShapeComponentType.RenderingInfo](#) ,
[AbstractShapeComponentType.Href](#) , [AbstractShapeComponentType.GroupLevel](#) ,
[AbstractShapeComponentType.InstId](#) , [AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) ,
[AbstractShapeObjectType.OutMargin](#) , [AbstractShapeObjectType.Caption](#) ,
[AbstractShapeObjectType.ShapeComment](#) , [AbstractShapeObjectType.Id](#) ,
[AbstractShapeObjectType.ZOrder](#) , [AbstractShapeObjectType.NumberingType](#) ,
[AbstractShapeObjectType.TextWrap](#) , [AbstractShapeObjectType.TextFlow](#) ,
[AbstractShapeObjectType.Lock](#) , [AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) ,
[object.Equals\(object\)](#) ↳ , [object.Equals\(object, object\)](#) ↳ , [object.GetHashCode\(\)](#) ↳ , [object.GetType\(\)](#) ↳ ,
[object.MemberwiseClone\(\)](#) ↳ , [object.ReferenceEquals\(object, object\)](#) ↳ , [object.ToString\(\)](#) ↳

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#)

Constructors

OLEType()

```
public OLEType()
```

Properties

BinaryItemIDRef

OLE 객체 바이너리 데이터에 대한 아이디 참조 값.

```
public string BinaryItemIDRef { get; set; }
```

Property Value

[string](#)

DrawAspect

화면에 어떤 형태로 표시될지에 대한 설정

```
public OLETypeDrawAspect DrawAspect { get; set; }
```

Property Value

[OLETypeDrawAspect](#)

EqBaseLine

베이스 라인

```
[Range(0, 100)]  
public int EqBaseLine { get; set; }
```

Property Value

[int ↴](#)

Extent

오브젝트 자체의 Extent 크기

```
public PointType Extent { get; set; }
```

Property Value

[PointType](#)

HasMoniker

moniker가 설정되어 있는지 여부

```
public bool HasMoniker { get; set; }
```

Property Value

[bool ↴](#)

LineShape

테두리선 모양.

```
public LineShapeType LineShape { get; set; }
```

Property Value

[LineShapeType](#)

ObjectType

OLE 객체 종류

```
public OLETypeObjectType ObjectType { get; set; }
```

Property Value

[OLETypeObjectType](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class OcfContainer

Namespace: [HwpXI.Models](#)

Assembly: HwpXI.dll

```
[Serializable]
public class OcfContainer : IHpxObject, IBuilderableModel<OcfContainerBuilder>
```

Inheritance

[object](#) ← OcfContainer

Implements

[IHpxObject](#), [IBuilderableModel<OcfContainerBuilder>](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

OcfContainer()

```
public OcfContainer()
```

Fields

xmlns

```
[NonSerialized]
public XmlSerializerNamespaces xmlns
```

Field Value

[XmlSerializerNamespaces](#) ↗

Properties

RootFiles

```
public OcfContainerRootFiles RootFiles { get; set; }
```

Property Value

[OcfContainerRootFiles](#)

Methods

UpdateBuilder(Action<OcfContainerBuilder>, IHwpxBuilder)

```
public OcfContainerBuilder UpdateBuilder(Action<OcfContainerBuilder> updateBuilderAction = null);
```

Parameters

updateBuilderAction [Action](#) ↗ <[OcfContainerBuilder](#)>

hwpxBuilder [IHwpxBuilder](#)

Returns

[OcfContainerBuilder](#)

Class OcfContainerRootFile

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class OcfContainerRootFile : IHpxObject
```

Inheritance

[object](#) ← OcfContainerRootFile

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

OcfContainerRootFile()

```
public OcfContainerRootFile()
```

Properties

FullPath

```
public stringFullPath { get; set; }
```

Property Value

[string](#)

MediaType

```
public string MediaType { get; set; }
```

Property Value

[string](#)

Class OcfContainerRootFiles

Namespace: [HwpXI.Models](#)

Assembly: HwpXI.dll

```
[Serializable]
public class OcfContainerRootFiles : IHpxObject
```

Inheritance

[object](#) ← OcfContainerRootFiles

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

OcfContainerRootFiles()

```
public OcfContainerRootFiles()
```

Properties

RootFile

```
public List<OcfContainerRootFile> RootFile { get; set; }
```

Property Value

[List](#) <[OcfContainerRootFile](#)>

Class PType

Namespace: [HwpXIModels](#)

Assembly: HwpXI.dll

P 요소는 HWP 문서에서 내용 표현을 위한 기본 단위이며 문단을 나타낸다.

```
[Serializable]
public class PType : IHwpXObject, IBuilderableModel<PTypeBuilder>
```

Inheritance

[object](#) ← PType

Implements

[IHwpXObject](#), [IBuilderableModel](#)<[PTypeBuilder](#)>

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXIExtensions.ItemCountUpdate\(IHwpXObject, IHwpXIDocument\)](#) ,
[BuilderExtensions.EnclosingWithParaList\(PType, Action<ParaListTypeBuilder>, IHwpXIBuilder\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXIExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

PType()

```
public PType()
```

Properties

ColumnBreak

단 나눔 여부

```
public bool ColumnBreak { get; set; }
```

Property Value

[bool](#)

Id

문단을 식별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#)

LineSegArray

```
public LineSegArray LineSegArray { get; set; }
```

Property Value

[LineSegArray](#)

Merged

문단 병합 여부

```
public bool Merged { get; set; }
```

Property Value

[bool](#)

PageBreak

쪽 나눔 여부

```
public bool PageBreak { get; set; }
```

Property Value

[bool](#)

ParaPrIDRef

문단 모양 아이디 참조 값

```
public string ParaPrIDRef { get; set; }
```

Property Value

[string](#)

ParaTcId

문단 번호 변경 추적 아이디

```
public int ParaTcId { get; set; }
```

Property Value

[int](#)

Run

구역 속성 정보

```
public List<PTypeRun> Run { get; set; }
```

Property Value

[List](#) <PTypeRun>

StyleIDRef

문단 스타일 아이디 참조 값

```
public string StyleIDRef { get; set; }
```

Property Value

[string](#)

Methods

ShouldSerializeParaTcId()

```
public bool ShouldSerializeParaTcId()
```

Returns

[bool](#)

UpdateBuilder(Action<PTypeBuilder>, IHwxBuilder)

```
public PTypeBuilder UpdateBuilder(Action<PTypeBuilder> updateBuilderAction = null, IHwxBuilder
```

Parameters

updateBuilderAction [Action](#) <PTypeBuilder>

hwxBuilder [IHwxBuilder](#)

Returns

[PTypeBuilder](#)

Class PTypeRun

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

run은 글자 속성 컨테이너를 의미한다. 하나 혹은 여러 개의 글자가 가지고 있는 동일한 속성을 나타낸다.

문서의 모든 콘텐츠와 제어 관련 요소들은 [PTypeRun](#) 요소로 묶여서 구성된다.

[PTypeRun](#) 요소는 크게 두 가지 형태의 자식 요소를 가진다.

하나는 구역, 단, 문단의 제어에 관련된 요소들을 가지는 'ctrl' 요소와, 다른 하나는 문자열, 표, 그림 등의 실제 내용을 가지는 't' 요소이다.

```
[Serializable]  
public class PTypeRun : IHwpObject, IBuilderableModel<PTypeRunBuilder>
```

Inheritance

[object](#) ← PTypeRun

Implements

[IHwpObject](#), [IBuilderableModel](#)<[PTypeRunBuilder](#)>

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#) ,

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,

[HwpDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

PTypeRun()

```
public PTypeRun()
```

Properties

Arc

타원

```
public IEnumerable<ArcType> Arc { get; }
```

Property Value

[IEnumerable](#) <[ArcType](#)>

Btn

버튼

```
public IEnumerable<PTypeRunBtn> Btn { get; }
```

Property Value

[IEnumerable](#) <[PTypeRunBtn](#)>

CharPrIDRef

글자 모양 설정 아이디 참조 값

```
public string CharPrIDRef { get; set; }
```

Property Value

[string](#)

CharTcId

글자 모양 변경 추적 아이디

```
public int CharTcId { get; set; }
```

Property Value

[int ↗](#)

Chart

차트

```
public IEnumerable<PTypeRunChart> Chart { get; }
```

Property Value

[IEnumerable ↗ <PTypeRunChart>](#)

CheckBtn

체크 버튼

```
public IEnumerable<PTypeRunCheckBtn> CheckBtn { get; }
```

Property Value

[IEnumerable ↗ <PTypeRunCheckBtn>](#)

ComboBox

콤보 박스

```
public IEnumerable<ComboBoxType> ComboBox { get; }
```

Property Value

[IEnumerable ↗ <ComboBoxType>](#)

Compose

글자 겹침

```
public IEnumerable<PTypeRunCompose> Compose { get; }
```

Property Value

[IEnumerable](#) <[PTypeRunCompose](#)>

ConnectLine

연결선

```
public IEnumerable<ConnectLineType> ConnectLine { get; }
```

Property Value

[IEnumerable](#) <[ConnectLineType](#)>

Container

묶음 객체

```
public IEnumerable<ContainerType> Container { get; }
```

Property Value

[IEnumerable](#) <[ContainerType](#)>

Ctrl

문단 제어 정보

```
public IEnumerable<PTypeRunCtrl> Ctrl { get; }
```

Property Value

[IEnumerable](#) <PTypeRunCtrl>

Curve

곡선

```
public IEnumerable<CurveType> Curve { get; }
```

Property Value

[IEnumerable](#) <CurveType>

Dutmal

덧말

```
public IEnumerable<PTypeRunDutmal> Dutmal { get; }
```

Property Value

[IEnumerable](#) <PTypeRunDutmal>

Edit

에디트

```
public IEnumerable<EditType> Edit { get; }
```

Property Value

[IEnumerable](#) <EditType>

Ellipse

호

```
public IEnumerable<EllipseType> Ellipse { get; }
```

Property Value

[IEnumerable](#) <[EllipseType](#)>

Equation

수식

```
public IEnumerable<EquationType> Equation { get; }
```

Property Value

[IEnumerable](#) <[EquationType](#)>

Line

선

```
public IEnumerable<LineType> Line { get; }
```

Property Value

[IEnumerable](#) <[LineType](#)>

ListBox

리스트 박스

```
public IEnumerable<ListBoxType> ListBox { get; }
```

Property Value

[IEnumerable](#) <[ListBoxType](#)>

Ole

OLE

```
public IEnumerable<OLEType> Ole { get; }
```

Property Value

[IEnumerable](#)<[OLEType](#)>

PTypeRunItems

```
public List<object> PTypeRunItems { get; set; }
```

Property Value

[List](#)<[object](#)>

Pic

그림

```
public IEnumerable<PictureType> Pic { get; }
```

Property Value

[IEnumerable](#)<[PictureType](#)>

Polygon

다각형

```
public IEnumerable<PolygonType> Polygon { get; }
```

Property Value

[IEnumerable](#) <[PolygonType](#)>

RadioBtn

라디오 버튼

```
public IEnumerable<PTypeRunRadioBtn> RadioBtn { get; }
```

Property Value

[IEnumerable](#) <[PTypeRunRadioBtn](#)>

Rect

사각형

```
public IEnumerable<RectangleType> Rect { get; }
```

Property Value

[IEnumerable](#) <[RectangleType](#)>

ScrollBar

스크롤바

```
public IEnumerable<ScrollBarType> ScrollBar { get; }
```

Property Value

[IEnumerable](#) <[ScrollBarType](#)>

SecPr

구역 설정 정보

```
public SectionDefinitionType SecPr { get; set; }
```

Property Value

[SectionDefinitionType](#)

T

텍스트 문자열

```
public IEnumerable<PTypeRunT> T { get; }
```

Property Value

[IEnumerable](#)<[PTypeRunT](#)>

Tbl

표

```
public IEnumerable<TableType> Tbl { get; }
```

Property Value

[IEnumerable](#)<[TableType](#)>

Textart

글맵시

```
public IEnumerable<PTypeRunTextart> Textart { get; }
```

Property Value

[IEnumerable](#)<[PTypeRunTextart](#)>

Video

비디오

```
public IEnumerable<PTypeRunVideo> Video { get; }
```

Property Value

[IEnumerable](#) <[PTypeRunVideo](#)>

Methods

ShouldSerializeCharTcId()

```
public bool ShouldSerializeCharTcId()
```

Returns

[bool](#)

UpdateBuilder(Action<PTypeRunBuilder>, IHwpXBuilder)

```
public PTypeRunBuilder UpdateBuilder(Action<PTypeRunBuilder> updateBuilderAction = null, IHwpXBuilder hwpXBuilder)
```

Parameters

updateBuilderAction [Action](#) <[PTypeRunBuilder](#)>

hwpXBuilder [IHwpXBuilder](#)

Returns

[PTypeRunBuilder](#)

Class PTypeRunBtn

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

```
public class PTypeRunBtn : AbstractButtonObjectType, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ↳ [Switchable](#) ↳ [AbstractShapeObjectType](#) ↳ [AbstractFormObjectType](#) ↳
[AbstractButtonObjectType](#) ↳ PTypeRunBtn

Implements

[IHwploquentObject](#), [ICloneable](#) ↳

Inherited Members

[AbstractButtonObjectType.Caption1](#) , [AbstractButtonObjectType.Value](#) ,
[AbstractButtonObjectType.RadioGroupName](#) , [AbstractButtonObjectType.TriState](#) ,
[AbstractButtonObjectType.BackStyle](#) , [AbstractFormObjectType.FormCharPr](#) ,
[AbstractFormObjectType.Name](#) , [AbstractFormObjectType.ForeColor](#) ,
[AbstractFormObjectType.BackColor](#) , [AbstractFormObjectType.GroupName](#) ,
[AbstractFormObjectType.TabStop](#) , [AbstractFormObjectType.TabOrder](#) ,
[AbstractFormObjectType.Enabled](#) , [AbstractFormObjectType.BorderTypeIDRef](#) ,
[AbstractFormObjectType.DrawFrame](#) , [AbstractFormObjectType.Printable](#) ,
[AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) , [AbstractShapeObjectType.OutMargin](#) ,
[AbstractShapeObjectType.Caption](#) , [AbstractShapeObjectType.ShapeComment](#) ,
[AbstractShapeObjectType.Id](#) , [AbstractShapeObjectType.ZOrder](#) ,
[AbstractShapeObjectType.NumberingType](#) , [AbstractShapeObjectType.TextWrap](#) ,
[AbstractShapeObjectType.TextFlow](#) , [AbstractShapeObjectType.Lock](#) ,
[AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) , [object.Equals\(object\)](#) ↳ ,
[object.Equals\(object, object\)](#) ↳ , [object.GetHashCode\(\)](#) ↳ , [object.GetType\(\)](#) ↳ ,
[object.MemberwiseClone\(\)](#) ↳ , [object.ReferenceEquals\(object, object\)](#) ↳ , [object.ToString\(\)](#) ↳

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class PTypeRunChart

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[PTypeRunChart](#) 요소는 [AbstractShapeObjectType](#)를 상속받는다

```
[Serializable]
public class PTypeRunChart : AbstractShapeObjectType, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [PTypeRunChart](#)

Implements

[IHwploquentObject](#), [ICloneable](#)

Inherited Members

[AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) , [AbstractShapeObjectType.OutMargin](#) ,
[AbstractShapeObjectType.Caption](#) , [AbstractShapeObjectType.ShapeComment](#) ,
[AbstractShapeObjectType.Id](#) , [AbstractShapeObjectType.ZOrder](#) ,
[AbstractShapeObjectType.NumberingType](#) , [AbstractShapeObjectType.TextWrap](#) ,
[AbstractShapeObjectType.TextFlow](#) , [AbstractShapeObjectType.Lock](#) ,
[AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Properties

ChartIDRef

차트 데이터에 대한 아이디 참조 값

```
public string ChartIDRef { get; set; }
```

Property Value

[string](#)

Version

차트 버전

```
public float Version { get; set; }
```

Property Value

[float](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class PTypeRunCheckBtn

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

```
public class PTypeRunCheckBtn : AbstractButtonObjectType, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ↗ ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [AbstractFormObjectType](#) ←
[AbstractButtonObjectType](#) ← PTypeRunCheckBtn

Implements

[IHwploquentObject](#), [ICloneable](#) ↗

Inherited Members

[AbstractButtonObjectType.Caption1](#) , [AbstractButtonObjectType.Value](#) ,
[AbstractButtonObjectType.RadioGroupName](#) , [AbstractButtonObjectType.TriState](#) ,
[AbstractButtonObjectType.BackStyle](#) , [AbstractFormObjectType.FormCharPr](#) ,
[AbstractFormObjectType.Name](#) , [AbstractFormObjectType.ForeColor](#) ,
[AbstractFormObjectType.BackColor](#) , [AbstractFormObjectType.GroupName](#) ,
[AbstractFormObjectType.TabStop](#) , [AbstractFormObjectType.TabOrder](#) ,
[AbstractFormObjectType.Enabled](#) , [AbstractFormObjectType.BorderTypeIDRef](#) ,
[AbstractFormObjectType.DrawFrame](#) , [AbstractFormObjectType.Printable](#) ,
[AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) , [AbstractShapeObjectType.OutMargin](#) ,
[AbstractShapeObjectType.Caption](#) , [AbstractShapeObjectType.ShapeComment](#) ,
[AbstractShapeObjectType.Id](#) , [AbstractShapeObjectType.ZOrder](#) ,
[AbstractShapeObjectType.NumberingType](#) , [AbstractShapeObjectType.TextWrap](#) ,
[AbstractShapeObjectType.TextFlow](#) , [AbstractShapeObjectType.Lock](#) ,
[AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) , [object.Equals\(object\)](#) ↗ ,
[object.Equals\(object, object\)](#) ↗ , [object.GetHashCode\(\)](#) ↗ , [object.GetType\(\)](#) ↗ ,
[object.MemberwiseClone\(\)](#) ↗ , [object.ReferenceEquals\(object, object\)](#) ↗ , [object.ToString\(\)](#) ↗

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class PTypeRunCompose

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

글자 겹침은 일반 글자판으로 입력할 수 없는 원 문자나 사각형 문자를 입력할 수 있게 하는 기능이다.

```
[Serializable]
public class PTypeRunCompose : Switchable, IHpxObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← PTypeRunCompose

Implements

[IHpxObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

PTypeRunCompose()

```
public PTypeRunCompose()
```

Properties

CharPr

겹치기 글자 모양

```
public List<PTypeRunComposeCharPr> CharPr { get; set; }
```

Property Value

[List](#) <[PTypeRunComposeCharPr](#)>

CharPrCnt

글자 모양 개수

```
public int CharPrCnt { get; set; }
```

Property Value

[int](#)

CharSz

테두리 내부 글자의 크기 비율. 단위 10%.

```
public int CharSz { get; set; }
```

Property Value

[int](#)

CircleType

테두리 형식

```
public PTypeRunComposeCircleType CircleType { get; set; }
```

Property Value

[PTypeRunComposeCircleType](#)

ComposeType

겹치기 종류

```
public PTypeRunComposeComposeType ComposeType { get; set; }
```

Property Value

[PTypeRunComposeComposeType](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#) ↗

Class PTypeRunComposeCharPr

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

겹쳐진 글자에 적용될 글자 모양에 대한 아이디 참조 값을 가지고 있는 요소이다

```
[Serializable]
public class PTypeRunComposeCharPr : IHwpXObject
```

Inheritance

[object](#) ← PTypeRunComposeCharPr

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElement<T>\(T\)](#)

Properties

PrIDRef

글자 모양 아이디 참조 값

```
public string PrIDRef { get; set; }
```

Property Value

[string](#)

Class PTypeRunCtrl

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[Ctrl](#) 요소는 콘텐츠에서 본문 내 제어 관련 요소들을 모은 요소이다.

```
[Serializable]
public class PTypeRunCtrl : Switchable, IHwploquentObject, ICloneable, IBuilderableModel<PTypeRunCtrl>
```

Inheritance

[object](#) ← [Switchable](#) ← PTypeRunCtrl

Implements

[IHwploquentObject](#), [ICloneable](#), [IBuilderableModel<PTypeRunCtrlBuilder>](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

PTypeRunCtrl()

```
public PTypeRunCtrl()
```

Properties

AutoNum

자동 번호

```
public AutoNumNewNumType AutoNum { get; set; }
```

Property Value

[AutoNumNewNumType](#)

Bookmark

```
public PTypeRunCtrlBookmark Bookmark { get; set; }
```

Property Value

[PTypeRunCtrlBookmark](#)

ColPr

[Required]

```
public ColumnDefType ColPr { get; set; }
```

Property Value

[ColumnDefType](#)

EndNote

```
public NoteType EndNote { get; set; }
```

Property Value

[NoteType](#)

FieldBegin

```
public PTypeRunCtrlFieldBegin FieldBegin { get; set; }
```

Property Value

[PTypeRunCtrlFieldBegin](#)

FieldEnd

```
public PTypeRunCtrlFieldEnd FieldEnd { get; set; }
```

Property Value

[PTypeRunCtrlFieldEnd](#)

FootNote

```
public NoteType FootNote { get; set; }
```

Property Value

[NoteType](#)

Footer

```
public HeaderFooterType Footer { get; set; }
```

Property Value

[HeaderFooterType](#)

Header

```
public HeaderFooterType Header { get; set; }
```

Property Value

[HeaderFooterType](#)

HiddenComment

```
public PTypeRunCtrlHiddenComment HiddenComment { get; set; }
```

Property Value

[PTypeRunCtrlHiddenComment](#)

Indexmark

```
public PTypeRunCtrlIndexmark Indexmark { get; set; }
```

Property Value

[PTypeRunCtrlIndexmark](#)

NewNum

```
public AutoNumNewNumType NewNum { get; set; }
```

Property Value

[AutoNumNewNumType](#)

PageHiding

```
public PTypeRunCtrlPageHiding PageHiding { get; set; }
```

Property Value

[PTypeRunCtrlPageHiding](#)

PageNum

```
public PTypeRunCtrlPageNum PageNum { get; set; }
```

Property Value

[PTypeRunCtrlPageNum](#)

PageNumCtrl

```
public PTypeRunCtrlPageNumCtrl PageNumCtrl { get; set; }
```

Property Value

[PTypeRunCtrlPageNumCtrl](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

UpdateBuilder(Action<PTypeRunCtrlBuilder>, IHwpxBuilder)

```
public PTypeRunCtrlBuilder UpdateBuilder(Action<PTypeRunCtrlBuilder> updateBuilderAction = null)
```

Parameters

updateBuilderAction [Action](#)<[PTypeRunCtrlBuilder](#)>

hpxBuilder [IHpxBuilder](#)

Returns

[PTypeRunCtrlBuilder](#)

Class PTypeRunCtrlBookmark

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

필드에서 사용되는 책갈피와는 다른 구조를 가지는 책갈피를 표현하기 위한 요소이다.
필드의 책갈피는 지정된 구역에서 책갈피 표시를 하지만, [PTypeRunCtrlBookmark](#)요소를 사용한 책갈피
는 지정된 구역을 가지지 않는 단순히 지정된 위치에 책갈피 표시를 한다.

```
[Serializable]  
public class PTypeRunCtrlBookmark : IHwpXObject
```

Inheritance

[object](#) ← PTypeRunCtrlBookmark

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

Name

책갈피 이름

```
public string Name { get; set; }
```

Property Value

[string](#)

Class PTypeRunCtrlFieldBegin

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

메모, 외부 연결, 북마크 등 문서 내에서 부가적인 부분들을 표현하기 위한 요소이다.

```
[Serializable]
public class PTypeRunCtrlFieldBegin : IHwpXObject
```

Inheritance

[object](#) ← PTypeRunCtrlFieldBegin

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

PTypeRunCtrlFieldBegin()

```
public PTypeRunCtrlFieldBegin()
```

Properties

Dirty

필드 내용이 수정되었는지 여부

```
public bool Dirty { get; set; }
```

Property Value

bool ↗

Editable

읽기 전용 상태에서도 수정 가능한지 여부

```
public bool Editable { get; set; }
```

Property Value

bool ↗

Fieldid

```
public string Fieldid { get; set; }
```

Property Value

string ↗

Id

필드 시작을 구별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

string ↗

Name

필드 이름

```
public string Name { get; set; }
```

Property Value

[string](#) ↗

Parameters

필드 동작에 필요한 인자들

```
public ParameterList Parameters { get; set; }
```

Property Value

[ParameterList](#)

SubList

내용 특정 필드에서 사용됨

```
public ParaListType SubList { get; set; }
```

Property Value

[ParaListType](#)

Type

필드 종류

```
public FieldType Type { get; set; }
```

Property Value

[FieldType](#)

Zorder

Z-Order

```
public int Zorder { get; set; }
```

Property Value

[int](#)

Class PTypeRunCtrlFieldEnd

Namespace: [HwpxIO.Models](#)

Assembly: HwpxIO.dll

[PTypeRunCtrlFieldBegin](#) 요소와 쌍을 이루는 요소이다.

```
[Serializable]
public class PTypeRunCtrlFieldEnd : IHpxObject
```

Inheritance

[object](#) ← PTypeRunCtrlFieldEnd

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

BeginIDRef

필드 시작 아이디 참조 값

```
public string BeginIDRef { get; set; }
```

Property Value

[string](#)

Fieldid

```
public string Fieldid { get; set; }
```

Property Value

[string](#) ↗

Class PTypeRunCtrlHiddenComment

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[PTypeRunCtrlHiddenComment](#)는 숨은 설명 내용 정보를 갖고 있는 요소이다.

```
[Serializable]
public class PTypeRunCtrlHiddenComment : IHwploquentObject
```

Inheritance

[object](#) ← PTypeRunCtrlHiddenComment

Implements

[IHwploquentObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElement<T>\(T\)](#)

Constructors

PTypeRunCtrlHiddenComment()

```
public PTypeRunCtrlHiddenComment()
```

Properties

SubList

숨은 설명 내용

```
public ParaListType SubList { get; set; }
```

Property Value

[ParaListType](#)

Class PTypeRunCtrlIndexmark

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

[PTypeRunCtrlIndexmark](#)는 찾아보기(Index, 색인)와 관련된 정보를 갖고 있는 요소이다.

```
[Serializable]
public class PTypeRunCtrlIndexmark : IHwpXObject
```

Inheritance

[object](#) ← PTypeRunCtrlIndexmark

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElement<T>\(T\)](#)

Properties

FirstKey

찾아보기에 사용할 첫 번째 키워드 요소의 값으로 키워드 문자열을 가짐 해당 요소의 추가적인 설명은 생략

```
public object FirstKey { get; set; }
```

Property Value

[object](#)

SecondKey

찾아보기에 사용할 두 번째 키워드 요소의 값으로 키워드 문자열을 가짐 해당 요소의 추가적인 설명은 생략

```
public object SecondKey { get; set; }
```

Property Value

[object](#)

Class PTypeRunCtrlPageHiding

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

현재 구역 내에서 감추어야 할 것들을 설정하기 위한 요소이다

```
[Serializable]
public class PTypeRunCtrlPageHiding : IHwpXObject
```

Inheritance

[object](#) ← PTypeRunCtrlPageHiding

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElement<T>\(T\)](#)

Constructors

PTypeRunCtrlPageHiding()

```
public PTypeRunCtrlPageHiding()
```

Properties

HideBorder

테두리 감추기 여부

```
public bool HideBorder { get; set; }
```

Property Value

[bool](#) ↗

HideFill

배경 감추기 여부

```
public bool HideFill { get; set; }
```

Property Value

[bool](#) ↗

HideFooter

꼬리말 감추기 여부

```
public bool HideFooter { get; set; }
```

Property Value

[bool](#) ↗

HideHeader

머리말 감추기 여부

```
public bool HideHeader { get; set; }
```

Property Value

[bool](#) ↗

HideMasterPage

바탕쪽 감추기 여부

```
public bool HideMasterPage { get; set; }
```

Property Value

[bool](#)

HidePageNum

쪽 번호 감추기 여부

```
public bool HidePageNum { get; set; }
```

Property Value

[bool](#)

Class PTypeRunCtrlPageNum

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

쪽 번호의 위치 및 모양을 설정하기 위한 요소이다.

```
[Serializable]
public class PTypeRunCtrlPageNum : IHwxObject
```

Inheritance

[object](#) ← PTypeRunCtrlPageNum

Implements

[IHwxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwxDocumentExtensions.ItemCountUpdate\(IHwxObject, IHwxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwxDocumentExtensions.SerializeToXmlElement<T>\(T\)](#)

Constructors

PTypeRunCtrlPageNum()

```
public PTypeRunCtrlPageNum()
```

Properties

FormatType

번호 모양

```
public NumberType1 FormatType { get; set; }
```

Property Value

[NumberType1](#)

Pos

번호 위치

```
public PTypeRunCtrlPageNumPos Pos { get; set; }
```

Property Value

[PTypeRunCtrlPageNumPos](#)

SideChar

줄표 넣기 기능

```
public string SideChar { get; set; }
```

Property Value

[string](#) ↗

Class PTypeRunCtrlPageNumCtrl

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

쪽 번호를 홀수쪽, 짝수쪽 또는 양쪽 모두에 표시할지를 설정하기 위한 요소이다.

```
[Serializable]
public class PTypeRunCtrlPageNumCtrl : IHwpObject
```

Inheritance

[object](#) ← PTypeRunCtrlPageNumCtrl

Implements

[IHwpObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

PTypeRunCtrlPageNumCtrl()

```
public PTypeRunCtrlPageNumCtrl()
```

Properties

PageStartsOn

홀/짝수 구분

```
public PTypeRunCtrlPageNumCtrlPageStartsOn PageStartsOn { get; set; }
```

Property Value

[PTypeRunCtrlPageNumCtrlPageStartsOn](#)

Class PTypeRunDutmal

Namespace: [HwpxIO.Models](#)

Assembly: HwpxIO.dll

덧말은 글의 전개로 보아서 본문의 내용 중에 넣기는 어려우나, 본문에서 인용한 자료의 출처를 밝히거나

본문에서 언급한 내용에 대한 간단한 내용의 보충 자료를 제시할 때 본문의 아래나 또는 위에 넣는 말이다.

덧말을 사용하면 일본어의 토씨나 중국어의 발음기호 등을 손쉽게 넣을 수 있다.

```
[Serializable]
public class PTypeRunDutmal : Switchable, IHwxObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← PTypeRunDutmal

Implements

[IHwxObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwxDocumentExtensions.ItemCountUpdate\(IHwxObject, IHwxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

PTypeRunDutmal()

```
public PTypeRunDutmal()
```

Properties

Align

정렬 방법

```
public PTypeRunDutmalAlign Align { get; set; }
```

Property Value

[PTypeRunDutmalAlign](#)

MainText

덧말 기능의 본 내용

요소 값으로 내용 문자열을 가짐

```
public object MainText { get; set; }
```

Property Value

[object](#)

Option

덧말 글자의 글자 스타일을 지정하기 위한 속성. 스타일 지정시에 4로 고정됨
해당 속성은 속성이 존재하지 않거나, 속성이 존재하면 4로 고정되어야 함

```
public uint Option { get; set; }
```

Property Value

[uint](#)

PosType

덧말의 위치

```
public PTypeRunDutmalPosType PosType { get; set; }
```

Property Value

[PTypeRunDutmalPosType](#)

StyleIDRef

글자 스타일 아이디 참조 값

```
public string StyleIDRef { get; set; }
```

Property Value

[string](#)

SubText

덧말 기능의 덧말 내용

요소 값으로 내용 문자열을 가짐

```
public object SubText { get; set; }
```

Property Value

[object](#)

SzRatio

덧말의 크기. 단위는 %

```
public int SzRatio { get; set; }
```

Property Value

[int ↗](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object ↗](#)

Class PTypeRunRadioBtn

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

```
public class PTypeRunRadioBtn : AbstractButtonObjectType, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ↳ [Switchable](#) ↳ [AbstractShapeObjectType](#) ↳ [AbstractFormObjectType](#) ↳
[AbstractButtonObjectType](#) ↳ PTypeRunRadioBtn

Implements

[IHwploquentObject](#), [ICloneable](#) ↳

Inherited Members

[AbstractButtonObjectType.Caption1](#) , [AbstractButtonObjectType.Value](#) ,
[AbstractButtonObjectType.RadioGroupName](#) , [AbstractButtonObjectType.TriState](#) ,
[AbstractButtonObjectType.BackStyle](#) , [AbstractFormObjectType.FormCharPr](#) ,
[AbstractFormObjectType.Name](#) , [AbstractFormObjectType.ForeColor](#) ,
[AbstractFormObjectType.BackColor](#) , [AbstractFormObjectType.GroupName](#) ,
[AbstractFormObjectType.TabStop](#) , [AbstractFormObjectType.TabOrder](#) ,
[AbstractFormObjectType.Enabled](#) , [AbstractFormObjectType.BorderTypeIDRef](#) ,
[AbstractFormObjectType.DrawFrame](#) , [AbstractFormObjectType.Printable](#) ,
[AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) , [AbstractShapeObjectType.OutMargin](#) ,
[AbstractShapeObjectType.Caption](#) , [AbstractShapeObjectType.ShapeComment](#) ,
[AbstractShapeObjectType.Id](#) , [AbstractShapeObjectType.ZOrder](#) ,
[AbstractShapeObjectType.NumberingType](#) , [AbstractShapeObjectType.TextWrap](#) ,
[AbstractShapeObjectType.TextFlow](#) , [AbstractShapeObjectType.Lock](#) ,
[AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) , [object.Equals\(object\)](#) ↳ ,
[object.Equals\(object, object\)](#) ↳ , [object.GetHashCode\(\)](#) ↳ , [object.GetType\(\)](#) ↳ ,
[object.MemberwiseClone\(\)](#) ↳ , [object.ReferenceEquals\(object, object\)](#) ↳ , [object.ToString\(\)](#) ↳

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class PTypeRunT

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[PTypeRunT](#) 요소는 문서의 실제 글자들을 담고 있는 요소이다. [PTypeRunT](#) 요소는 요소의 값으로 글자들을 가지게된다.

단 Tab 글자, 줄바꿈 글자와 같이 특수 글자들은 실제 글자 대신에 하위 요소로서 가지고 있게 된다

```
[Serializable]
public class PTypeRunT : Switchable, IHwploquentObject, ICloneable, IBuilderableModel<PTypeRunTBuilder>
```

Inheritance

[object](#) ← [Switchable](#) ← PTypeRunT

Implements

[IHwploquentObject](#), [ICloneable](#), [IBuilderableModel<PTypeRunTBuilder>](#)

Inherited Members

[Switchable.Switch](#), [object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#),
[object.GetType\(\)](#), [object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#),
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#),
[BuilderExtensions.EnclosingWithPType\(PTypeRunT, Action<PTypeBuilder>, Action<PTypeRunBuilder>, IHwploquentBuilder\)](#),
[BuilderExtensions.EnclosingWithParaList\(PTypeRunT, Action<ParaListTypeBuilder>, Action<PTypeBuilder>, Action<PTypeRunBuilder>, IHwploquentBuilder\)](#),
[BuilderExtensions.EnclosingWithRun\(PTypeRunT, CharShapeType, IHwploquentBuilder\)](#),
[BuilderExtensions.EnclosingWithRun\(PTypeRunT, Action<PTypeRunBuilder>, IHwploquentBuilder\)](#),
[BuilderExtensions.EnclosingWithRun\(PTypeRunT, string, IHwploquentBuilder\)](#),
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#),
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

PTypeRunT()

```
public PTypeRunT()
```

Properties

CharStyleIDRef

글자 모양 설정 아이디 참조 값

```
public string CharStyleIDRef { get; set; }
```

Property Value

[string](#)

Items

```
public List<object> Items { get; set; }
```

Property Value

[List](#) <[object](#)>

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

UpdateBuilder(Action<PTypeRunTBuilder>, IHpxBuilder)

```
public PTypeRunTBuilder UpdateBuilder(Action<PTypeRunTBuilder> updateBuilderAction = null, IHpxBuilder hpxBuilder)
```

Parameters

updateBuilderAction [Action](#)<PTypeRunTBuilder>

hpxBuilder [IHpxBuilder](#)

Returns

[PTypeRunTBuilder](#)

Class PTypeRunTMarkpenBegin

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

형광펜 색상 정보를 담고 있는 요소이다.

```
[Serializable]
public class PTypeRunTMarkpenBegin : IHwpXObject
```

Inheritance

[object](#) ← PTypeRunTMarkpenBegin

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

Color

형광펜 색상

```
public string Color { get; set; }
```

Property Value

[string](#)

Class PTypeRunTTab

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

탭

```
[Serializable]
public class PTypeRunTTab : IHwpXObject
```

Inheritance

[object](#) ← PTypeRunTTab

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

Leader

탭의 채울모양 ([LineType2](#))

```
public int Leader { get; set; }
```

Property Value

[int](#)

Type

탭의 종류

```
public int Type { get; set; }
```

Property Value

[int↗](#)

Width

탭의 간격

```
public int Width { get; set; }
```

Property Value

[int↗](#)

Class PTypeRunTTitleMark

Namespace: [HwpxIO.Models](#)

Assembly: HwpxIO.dll

제목 차례 표시 여부를 갖고 있는 요소이다.

```
[Serializable]
public class PTypeRunTTitleMark : IHpxObject
```

Inheritance

[object](#) ← PTypeRunTTitleMark

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElement<T>\(T\)](#)

Constructors

PTypeRunTTitleMark()

```
public PTypeRunTTitleMark()
```

Properties

Ignore

제목 차례 표시 여부

[true](#): 제목 차례 표시 [false](#): 차례 만들기 무시

```
public bool Ignore { get; set; }
```

Property Value

[bool](#) ↗

Class PTypeRunTextart

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

글맵시는 글자를 구부리거나 글자에 외곽선, 면 채우기, 그림자, 회전 등의 효과를 주어 문자를 꾸미는 기능이다.

```
[Serializable]
public class PTypeRunTextart : AbstractDrawingObjectType, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [AbstractShapeComponentType](#) ←
[AbstractDrawingObjectType](#) ← PTypeRunTextart

Implements

[IHwploquentObject](#), [ICloneable](#)

Inherited Members

[AbstractDrawingObjectType.LineShape](#) , [AbstractDrawingObjectType.FillBrush](#) ,
[AbstractDrawingObjectType.DrawText](#) , [AbstractDrawingObjectType.Shadow](#) ,
[AbstractShapeComponentType.Offset](#) , [AbstractShapeComponentType.OrgSz](#) ,
[AbstractShapeComponentType.CurSz](#) , [AbstractShapeComponentType.Flip](#) ,
[AbstractShapeComponentType.RotationInfo](#) , [AbstractShapeComponentType.RenderingInfo](#) ,
[AbstractShapeComponentType.Href](#) , [AbstractShapeComponentType.GroupLevel](#) ,
[AbstractShapeComponentType.InstId](#) , [AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) ,
[AbstractShapeObjectType.OutMargin](#) , [AbstractShapeObjectType.Caption](#) ,
[AbstractShapeObjectType.ShapeComment](#) , [AbstractShapeObjectType.Id](#) ,
[AbstractShapeObjectType.ZOrder](#) , [AbstractShapeObjectType.NumberingType](#) ,
[AbstractShapeObjectType.TextWrap](#) , [AbstractShapeObjectType.TextFlow](#) ,
[AbstractShapeObjectType.Lock](#) , [AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

PTypeRunTextart()

```
public PTypeRunTextart()
```

Properties

Outline

외곽선 정보

```
public PTypeRunTextartOutline Outline { get; set; }
```

Property Value

[PTypeRunTextartOutline](#)

Pt0

첫 번째 좌표

```
public PointType Pt0 { get; set; }
```

Property Value

[PointType](#)

Pt1

두 번째 좌표

```
public PointType Pt1 { get; set; }
```

Property Value

[PointType](#)

Pt2

세 번째 좌표

```
public PointType Pt2 { get; set; }
```

Property Value

[PointType](#)

Pt3

네 번째 좌표

```
public PointType Pt3 { get; set; }
```

Property Value

[PointType](#)

Text

글맵시 내용

```
public string Text { get; set; }
```

Property Value

[string](#)

TextartPr

글맵시 모양 정보

```
public PTypeRunTextartTextartPr TextartPr { get; set; }
```

Property Value

[PTypeRunTextartTextartPr](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class PTypeRunTextartOutline

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

글맵시의 외각선에 대한 정보를 가지고 있는 요소이다.

```
[Serializable]
public class PTypeRunTextartOutline : IHwpXObject
```

Inheritance

[object](#) ← PTypeRunTextartOutline

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

PTypeRunTextartOutline()

```
public PTypeRunTextartOutline()
```

Properties

Cnt

외각선 포인트 개수

```
public int Cnt { get; set; }
```

Property Value

[int](#)

Pt

외각선 좌표.

```
public List<PointType> Pt { get; set; }
```

Property Value

[List](#) <[PointType](#)>

Class PTypeRunTextartTextartPr

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

글맵시 내의 글자에 적용될 효과 정보들을 가지고 있는 요소이다.

```
[Serializable]
public class PTypeRunTextartTextartPr : IHwpXObject
```

Inheritance

[object](#) ← PTypeRunTextartTextartPr

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

PTypeRunTextartTextartPr()

```
public PTypeRunTextartTextartPr()
```

Properties

Align

정렬 방식

```
public PTypeRunTextartTextartPrAlign Align { get; set; }
```

Property Value

[PTypeRunTextartTextartPrAlign](#)

CharSpacing

글자 간격

```
public int CharSpacing { get; set; }
```

Property Value

[int](#)

FontName

글꼴 이름

```
public string FontName { get; set; }
```

Property Value

[string](#)

FontStyle

글꼴 스타일

```
public string FontStyle { get; set; }
```

Property Value

[string](#)

FontType

글꼴 형식

```
public PTypeRunTextartTextartPrFontType FontType { get; set; }
```

Property Value

[PTypeRunTextartTextartPrFontType](#)

LineSpacing

줄 간격

```
public int LineSpacing { get; set; }
```

Property Value

[int](#)

Shadow

그림자 설정 정보

```
public ShadowType Shadow { get; set; }
```

Property Value

[ShadowType](#)

TextShape

글맵시 모양

```
public PTypeRunTextartTextartPrTextShape TextShape { get; set; }
```

Property Value

[PTypeRunTextartTextartPrTextShape](#)

Class PTypeRunVideo

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class PTypeRunVideo : AbstractShapeComponentType, IHpxObject, ICloneable
```

Inheritance

[object](#) ↳ [Switchable](#) ↳ [AbstractShapeObjectType](#) ↳ [AbstractShapeComponentType](#) ↳
PTypeRunVideo

Implements

[IHpxObject](#), [ICloneable](#) ↳

Inherited Members

[AbstractShapeComponentType.Offset](#) , [AbstractShapeComponentType.OrgSz](#) ,
[AbstractShapeComponentType.CurSz](#) , [AbstractShapeComponentType.Flip](#) ,
[AbstractShapeComponentType.RotationInfo](#) , [AbstractShapeComponentType.RenderingInfo](#) ,
[AbstractShapeComponentType.Href](#) , [AbstractShapeComponentType.GroupLevel](#) ,
[AbstractShapeComponentType.InstId](#) , [AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) ,
[AbstractShapeObjectType.OutMargin](#) , [AbstractShapeObjectType.Caption](#) ,
[AbstractShapeObjectType.ShapeComment](#) , [AbstractShapeObjectType.Id](#) ,
[AbstractShapeObjectType.ZOrder](#) , [AbstractShapeObjectType.NumberingType](#) ,
[AbstractShapeObjectType.TextWrap](#) , [AbstractShapeObjectType.TextFlow](#) ,
[AbstractShapeObjectType.Lock](#) , [AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) ,
[object.Equals\(object\)](#) ↳ , [object.Equals\(object, object\)](#) ↳ , [object.GetHashCode\(\)](#) ↳ , [object.GetType\(\)](#) ↳ ,
[object.MemberwiseClone\(\)](#) ↳ , [object.ReferenceEquals\(object, object\)](#) ↳ , [object.ToString\(\)](#) ↳

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Properties

FileIDRef

로컬비디오 바이너리 데이터에 대한 아이디 참조 값

```
public string FileIDRef { get; set; }
```

Property Value

[string](#)

ImageIDRef

비디오 풀백의 이미지에 대한 아이디 참조 값

```
public string ImageIDRef { get; set; }
```

Property Value

[string](#)

Tag

웹동영상 주소

예제: <iframe src="동영상 주소"></iframe>

```
public string Tag { get; set; }
```

Property Value

[string](#)

Type

비디오 종류

```
public PTypeRunVideoType Type { get; set; }
```

Property Value

[PTypeRunVideoType](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class ParaHeadType

Namespace: [HwpXIO.Models](#)

Assembly: HwpXIO.dll

각 번호 문단 머리의 정보.

문자열 내 특정 문자에 제어코드(^)를 불임으로써 글에서 표시되는 번호 문단 머리의 포맷을 제어한다.

`^n` : 레벨 경로를 표시한다. (예: 1.1.1.1.1.1)

`^N` : 레벨 경로를 표시하며 마지막에 마침표를 하나 더 찍는다. (예: 1.1.1.1.1.1.)

`^레벨번호(1~7)` : 해당 레벨에 해당하는 숫자 또는 문자 또는 기호를 표시한다.

```
[Serializable]
public class ParaHeadType : IHwpXObject
```

Inheritance

[object](#) ← ParaHeadType

Implements

[IHwpXObject](#)

Derived

[ParaHeadType2](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpXDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

ParaHeadType()

```
public ParaHeadType()
```

Properties

Align

문단의 정렬 종류

```
public ParaHeadTypeAlign Align { get; set; }
```

Property Value

[ParaHeadTypeAlign](#)

AutoIndent

자동 내어쓰기 여부

```
public bool AutoIndent { get; set; }
```

Property Value

[bool](#)

CharPrIDRef

글자 모양 아이디 참조 값

```
public string CharPrIDRef { get; set; }
```

Property Value

[string](#)

Checkable

```
public bool Checkable { get; set; }
```

Property Value

[bool ↗](#)

Level

번호/글머리표의 수준

```
public int Level { get; set; }
```

Property Value

[int ↗](#)

NumFormat

번호 형식(글머리표 문단의 경우에는 사용되지 않음)

```
public NumberType1 NumFormat { get; set; }
```

Property Value

[NumberType1](#)

Text

```
public string Text { get; set; }
```

Property Value

[string ↗](#)

TextOffset

수준별 본문과의 거리

```
public long TextOffset { get; set; }
```

Property Value

[long↗](#)

TextOffsetType

수준별 본문과의 거리 단위 종류

```
public ParaHeadTypeTextOffsetType TextOffsetType { get; set; }
```

Property Value

[ParaHeadTypeTextOffsetType](#)

UseInstWidth

번호 너비를 실제 인스턴스 문자열의 너비에 따를지 여부

```
public bool UseInstWidth { get; set; }
```

Property Value

[bool↗](#)

WidthAdjust

번호 너비 보정값. 단위는 hwpunit.

```
public long WidthAdjust { get; set; }
```

Property Value

[long↗](#)

Methods

Create(int?, ParaHeadTypeAlign?, bool?, bool?, long?,
ParaHeadTypeTextOffsetType?, long?, NumberType1?, string,
bool?, string)

```
public static ParaHeadType Create(int? level = null, ParaHeadTypeAlign? align = null, bool? useInstWidth = null, bool? autoIndent = null, long? widthAdjust = null, ParaHeadTypeTextOffsetType? textOffsetType = null, long? textOffset = null, NumberType1? numFormat = null, string? charPrIDRef = null, bool? checkable = null, string? text = null)
```

Parameters

level [int](#)?

align [ParaHeadTypeAlign](#)?

useInstWidth [bool](#)?

autoIndent [bool](#)?

widthAdjust [long](#)?

textOffsetType [ParaHeadTypeTextOffsetType](#)?

textOffset [long](#)?

numFormat [NumberType1](#)?

charPrIDRef [string](#)

checkable [bool](#)?

text [string](#)

Returns

[ParaHeadType](#)

Class ParaHeadType2

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class ParaHeadType2 : ParaHeadType, IHwpObject
```

Inheritance

[object](#) ← [ParaHeadType](#) ← ParaHeadType2

Implements

[IHwpObject](#)

Inherited Members

[ParaHeadType.Create\(int?, ParaHeadTypeAlign?, bool?, bool?, long?, ParaHeadTypeTextOffsetType?, long?, NumberType1?, string, bool?, string\)](#) ,
[ParaHeadType.Level](#) , [ParaHeadType.Align](#) , [ParaHeadType.UseInstWidth](#) , [ParaHeadType.AutoIndent](#) ,
[ParaHeadType.WidthAdjust](#) , [ParaHeadType.TextOffsetType](#) , [ParaHeadType.TextOffset](#) ,
[ParaHeadType.NumFormat](#) , [ParaHeadType.CharPrIDRef](#) , [ParaHeadType.Checkable](#) ,
[ParaHeadType.Text](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

Start

사용자 지정 문단 시작번호

```
public int Start { get; set; }
```

Property Value

[int](#)

Methods

Create(int?, int?, ParaHeadTypeAlign?, bool?, bool?, long?,
ParaHeadTypeTextOffsetType?, long?, NumberType1?, string,
bool?, string)

```
public static ParaHeadType2 Create(int? start = null, int? level = null, ParaHeadTypeAlign? al:
```

Parameters

start [int](#)?

level [int](#)?

align [ParaHeadTypeAlign](#)?

useInstWidth [bool](#)?

autoIndent [bool](#)?

widthAdjust [long](#)?

textOffsetType [ParaHeadTypeTextOffsetType](#)?

textOffset [long](#)?

numFormat [NumberType1](#)?

charPrIDRef [string](#)

checkable [bool](#)?

text [string](#)

Returns

[ParaHeadType2](#)

Class ParaListType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class ParaListType : IHpxObject, IBuilderableModel<ParaListTypeBuilder>
```

Inheritance

[object](#) ← ParaListType

Implements

[IHpxObject](#), [IBuilderableModel](#)<[ParaListTypeBuilder](#)>

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

ParaListType()

```
public ParaListType()
```

Properties

HasNumRef

해당 레벨의 번호에 대한 참조를 했는지 여부

```
public bool HasNumRef { get; set; }
```

Property Value

[bool ↗](#)

HasTextRef

해당 레벨의 텍스트에 대한 참조를 했는지 여부

```
public bool HasTextRef { get; set; }
```

Property Value

[bool ↗](#)

Id

문단 목록을 식별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string ↗](#)

LineWrap

경계에서 줄나눔 방식

```
public ParaListTypeLineWrap LineWrap { get; set; }
```

Property Value

[ParaListTypeLineWrap](#)

LinkListIDRef

list ID reference

```
public string LinkListIDRef { get; set; }
```

Property Value

[string](#)

LinkListNextIDRef

list ID와 연결된 ID reference

```
public string LinkListNextIDRef { get; set; }
```

Property Value

[string](#)

P

문단

```
public List<PType> P { get; set; }
```

Property Value

[List](#) <[PType](#)>

TextDirection

텍스트 방향

```
public ParaListTypeTextDirection TextDirection { get; set; }
```

Property Value

[ParaListTypeTextDirection](#)

TextHeight

텍스트 영역의 높이

```
public int TextHeight { get; set; }
```

Property Value

[int](#)

TextWidth

텍스트 영역의 폭

```
public int TextWidth { get; set; }
```

Property Value

[int](#)

VertAlign

세로 정렬

```
public ParaListTypeVertAlign VertAlign { get; set; }
```

Property Value

[ParaListTypeVertAlign](#)

Methods

UpdateBuilder(Action<ParaListTypeBuilder>, IHpxBuilder)

```
public ParaListTypeBuilder UpdateBuilder(Action<ParaListTypeBuilder> updateBuilderAction = null)
```

Parameters

updateBuilderAction [Action](#)<ParaListTypeBuilder>

hpxBuilder [IHpxBuilder](#)

Returns

[ParaListTypeBuilder](#)

Class ParaShapeType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

문단 모양 정보는 문단 내 정렬, 문단 테두리 등 문단을 표현할 때 필요한 각종 설정 정보를 가지고 있는 요소이다.

```
[Serializable]
public class ParaShapeType : Switchable, IHpxObject, IEquatable<ParaShapeType>, IBuilderableM
```

Inheritance

[object](#) ← [Switchable](#) ← ParaShapeType

Implements

[IHpxObject](#), [IEquatable](#) <ParaShapeType>, [IBuilderableModel](#)<ParaShapeTypeBuilder>,
[ICopyToBuilderableModel](#)<ParaShapeTypeBuilder>, [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(ParaShapeType, IHpxBuilder\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(ParaShapeType, HpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

ParaShapeType()

```
public ParaShapeType()
```

Properties

Align

문단 내 정렬 설정

```
public ParaShapeTypeAlign Align { get; set; }
```

Property Value

[ParaShapeTypeAlign](#)

AutoSpacing

문단 자동 간격 조절 설정

```
public ParaShapeTypeAutoSpacing AutoSpacing { get; set; }
```

Property Value

[ParaShapeTypeAutoSpacing](#)

Border

문단 테두리 설정

```
public ParaShapeTypeBorder Border { get; set; }
```

Property Value

[ParaShapeTypeBorder](#)

BreakSetting

문단 줄나눔 설정

```
public ParaShapeTypeBreakSetting BreakSetting { get; set; }
```

Property Value

[ParaShapeTypeBreakSetting](#)

Checked

선택 글머리표 여부

```
public bool Checked { get; set; }
```

Property Value

[bool](#)

Condense

공백 최소값. 단위는 %.

```
[Range(0, 75)]  
public int Condense { get; set; }
```

Property Value

[int](#)

FontLineHeight

글꼴에 어울리는 줄 높이 사용 여부

```
public bool FontLineHeight { get; set; }
```

Property Value

[bool](#)

Heading

문단 머리 번호/글머리표 설정

```
public ParaShapeTypeHeading Heading { get; set; }
```

Property Value

[ParaShapeTypeHeading](#)

Id

문단 모양 정보를 구별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#)

LineSpacing

줄 간격 설정

```
public ParaShapeTypeLineSpacing LineSpacing { get; set; }
```

Property Value

[ParaShapeTypeLineSpacing](#)

Margin

문단 여백 설정

```
public ParaShapeTypeMargin Margin { get; set; }
```

Property Value

[ParaShapeTypeMargin](#)

SnapToGrid

편집 용지의 줄 격자 사용 여부

```
public bool SnapToGrid { get; set; }
```

Property Value

[bool](#)

SuppressLineNumbers

줄 번호 건너뜀

```
public bool SuppressLineNumbers { get; set; }
```

Property Value

[bool](#)

TabPrIDRef

탭 정의 아이디 참조 값

```
public string TabPrIDRef { get; set; }
```

Property Value

[string](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

CopyToBuilder(Action<ParaShapeTypeBuilder>, IHwpxBuilder)

```
public ParaShapeTypeBuilder CopyToBuilder(Action<ParaShapeTypeBuilder> copyToBuilderAction = n
```

Parameters

copyToBuilderAction [Action](#)<[ParaShapeTypeBuilder](#)>

hwpxBuilder [IHwpxBuilder](#)

Returns

[ParaShapeTypeBuilder](#)

Equals(ParaShapeType)

```
public bool Equals(ParaShapeType other)
```

Parameters

other [ParaShapeType](#)

Returns

[bool](#)

UpdateBuilder(Action<ParaShapeTypeBuilder>, IHwpxBuilder)

```
public ParaShapeTypeBuilder UpdateBuilder(Action<ParaShapeTypeBuilder> updateBuilderAction = n
```

Parameters

updateBuilderAction [Action](#)<[ParaShapeTypeBuilder](#)>

hwpxBuilder [IHwpxBuilder](#)

Returns

[ParaShapeTypeBuilder](#)

Class ParaShapeTypeAlign

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

문단 내 정렬 방식을 표현하기 위한 요소이다.

```
[Serializable]
public class ParaShapeTypeAlign : IHpxObject
```

Inheritance

[object](#) ← ParaShapeTypeAlign

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

Horizontal

가로 정렬 방식

```
public ParaShapeTypeAlignHorizontal Horizontal { get; set; }
```

Property Value

[ParaShapeTypeAlignHorizontal](#)

Vertical

세로 정렬 방식

```
public ParaShapeTypeAlignVertical Vertical { get; set; }
```

Property Value

[ParaShapeTypeAlignVertical](#)

Class ParaShapeTypeAutoSpacing

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

문단 내에서 한글, 영어, 숫자 사이의 간격에 대한 자동 조절 설정 정보를 가지고 있는 요소이다.

```
[Serializable]
public class ParaShapeTypeAutoSpacing : IHpxObject
```

Inheritance

[object](#) ← ParaShapeTypeAutoSpacing

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

EAsianEng

한글과 영어 간격을 자동 조절 여부

```
public bool EAsianEng { get; set; }
```

Property Value

[bool](#)

EAsianNum

한글과 숫자 간격을 자동 조절 여부

```
public bool EAsianNum { get; set; }
```

Property Value

[bool](#) ↗

Class ParaShapeTypeBorder

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

문단의 테두리 설정 정보를 가지고 있는 요소이다.

```
[Serializable]
public class ParaShapeTypeBorder : IHpxObject
```

Inheritance

[object](#) ← ParaShapeTypeBorder

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElement<T>\(T\)](#)

Constructors

ParaShapeTypeBorder()

```
public ParaShapeTypeBorder()
```

Properties

BorderFillIDRef

테두리/배경 모양 아이디 참조 값

```
public string BorderFillIDRef { get; set; }
```

Property Value

[string](#)

Connect

문단 테두리 연결 여부

```
public bool Connect { get; set; }
```

Property Value

[bool](#)

IgnoreMargin

문단 테두리 여백 무시 여부

```
public bool IgnoreMargin { get; set; }
```

Property Value

[bool](#)

OffsetBottom

문단 테두리 아래쪽 간격. 단위는 hwpunit.

```
public long OffsetBottom { get; set; }
```

Property Value

[long](#)

OffsetLeft

문단 테두리 왼쪽 간격. 단위는 hwpunit.

```
public long OffsetLeft { get; set; }
```

Property Value

[long↗](#)

OffsetRight

문단 테두리 오른쪽 간격. 단위는 hwpunit.

```
public long OffsetRight { get; set; }
```

Property Value

[long↗](#)

OffsetTop

문단 테두리 위쪽 간격. 단위는 hwpunit.

```
public long OffsetTop { get; set; }
```

Property Value

[long↗](#)

Class ParaShapeTypeBreakSetting

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

문단의 줄나눔 설정 정보를 가지고 있는 요소이다.

```
[Serializable]
public class ParaShapeTypeBreakSetting : IHwpXObject
```

Inheritance

[object](#) ← ParaShapeTypeBreakSetting

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

BreakLatinWord

라틴 문자의 줄나눔 단위

```
public ParaShapeTypeBreakSettingBreakLatinWord BreakLatinWord { get; set; }
```

Property Value

[ParaShapeTypeBreakSettingBreakLatinWord](#)

BreakNonLatinWord

라틴 문자 이외의 문자의 줄나눔 단위

```
public ParaShapeTypeBreakSettingBreakNonLatinWord BreakNonLatinWord { get; set; }
```

Property Value

[ParaShapeTypeBreakSettingBreakNonLatinWord](#)

KeepLines

문단 보호 여부

```
public bool KeepLines { get; set; }
```

Property Value

[bool](#)

KeepWithNext

다음 문단과 함께

```
public bool KeepWithNext { get; set; }
```

Property Value

[bool](#)

LineWrap

한 줄로 입력 사용 시의 형식

```
public ParaShapeTypeBreakSettingLineWrap LineWrap { get; set; }
```

Property Value

[ParaShapeTypeBreakSettingLineWrap](#)

PageBreakBefore

문단 앞에서 항상 쪽나눔 여부

```
public bool PageBreakBefore { get; set; }
```

Property Value

[bool](#)

WidowOrphan

외톨이줄 보호 여부

```
public bool WidowOrphan { get; set; }
```

Property Value

[bool](#)

Class ParaShapeTypeHeading

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

문단 머리 모양 설정 정보를 가지고 있는 요소이다.

```
[Serializable]
public class ParaShapeTypeHeading : IHpxObject
```

Inheritance

[object](#) ← ParaShapeTypeHeading

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

IdRef

문단 머리 번호/글머리포 모양 아이디 참조 값

```
public string IdRef { get; set; }
```

Property Value

[string](#)

Level

문단 단계

```
[Range(0, 7)]  
public int Level { get; set; }
```

Property Value

[int↗](#)

Type

문단 머리 모양 종류

```
public ParaShapeTypeHeadingType Type { get; set; }
```

Property Value

[ParaShapeTypeHeadingType](#)

Class ParaShapeTypeLineSpacing

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

문단의 줄 간격 설정 정보를 가지고 있는 요소이다.

```
[Serializable]
public class ParaShapeTypeLineSpacing : IHpxObject
```

Inheritance

[object](#) ← ParaShapeTypeLineSpacing

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

ParaShapeTypeLineSpacing()

```
public ParaShapeTypeLineSpacing()
```

Properties

Type

줄 간격 종류

```
public ParaShapeTypeLineSpacingType Type { get; set; }
```

Property Value

[ParaShapeTypeLineSpacingType](#)

Unit

줄 간격 값의 단위

```
public ParaShapeTypeLineSpacingUnit Unit { get; set; }
```

Property Value

[ParaShapeTypeLineSpacingUnit](#)

Value

줄 간격 값.

type0| PERCENT이면 0%~500%로 제한.

```
public int Value { get; set; }
```

Property Value

[int](#)

Class ParaShapeTypeMargin

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

문단의 여백 정보를 가지고 있는 요소이다

```
[Serializable]
public class ParaShapeTypeMargin : IHpxObject
```

Inheritance

[object](#) ← ParaShapeTypeMargin

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

ParaShapeTypeMargin()

```
public ParaShapeTypeMargin()
```

Properties

Intent

들여쓰기/내어쓰기.

n이 0보다 크면 들여쓰기 n.

n이 0이면 : 보통.

n이 0보다 작으면 내어쓰기 n.

```
public HWPValue Intent { get; set; }
```

Property Value

[HWPValue](#)

Left

왼쪽 여백.

단위를 표기하지 않으면 hwpunit이고 표기하면 표기한 단위로.

```
public HWPValue Left { get; set; }
```

Property Value

[HWPValue](#)

Next

문단 간격 아래

```
public HWPValue Next { get; set; }
```

Property Value

[HWPValue](#)

Prev

문단 간격 위

```
public HWPValue Prev { get; set; }
```

Property Value

[HWPValue](#)

Right

오른쪽 여백

```
public HWPValue Right { get; set; }
```

Property Value

[HWPValue](#)

Class ParameterList

Namespace: [HwpXI.Models](#)

Assembly: HwpXI.dll

```
[Serializable]
public class ParameterList : Switchable, IHpxObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← ParameterList

Implements

[IHpxObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

ParameterList()

```
public ParameterList()
```

Properties

ArrayParam

```
public List<ParameterList> ArrayParam { get; set; }
```

PropertyValue

[List](#) <ParameterList>

BindataParam

```
public List<ParameterListIntegerParam> BindataParam { get; set; }
```

PropertyValue

[List](#) <ParameterListIntegerParam>

BooleanParam

```
public List<ParameterListBooleanParam> BooleanParam { get; set; }
```

PropertyValue

[List](#) <ParameterListBooleanParam>

Cnt

```
public int Cnt { get; set; }
```

PropertyValue

[int](#)

FloatParam

```
public List<ParameterListFloatParam> FloatParam { get; set; }
```

PropertyValue

[List](#) <ParameterListFloatParam>

IntegerParam

```
public List<ParameterListIntegerParam> IntegerParam { get; set; }
```

Property Value

[List](#) <ParameterListIntegerParam>

ListParam

```
public List<ParameterList> ListParam { get; set; }
```

Property Value

[List](#) <ParameterList>

Name

```
public string Name { get; set; }
```

Property Value

[string](#)

StringParam

```
public List<ParameterListStringParam> StringParam { get; set; }
```

Property Value

[List](#) <ParameterListStringParam>

UnsignedIntegerParam

```
public List<ParameterListIntegerParam> UnsignedIntegerParam { get; set; }
```

Property Value

[List](#) <[ParameterListIntegerParam](#)>

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class ParameterListBooleanParam

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

```
[Serializable]
public class ParameterListBooleanParam : Switchable, IHwpvObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← ParameterListBooleanParam

Implements

[IHwpvObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Properties

Name

```
public string Name { get; set; }
```

Property Value

[string](#)

Value

```
public string Value { get; set; }
```

Property Value

[string](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class ParameterListFloatParam

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

```
[Serializable]
public class ParameterListFloatParam : Switchable, IHwpvObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← ParameterListFloatParam

Implements

[IHwpvObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Properties

Name

```
public string Name { get; set; }
```

Property Value

[string](#)

Value

```
public string Value { get; set; }
```

Property Value

[string](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class ParameterListIntegerParam

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class ParameterListIntegerParam : Switchable, IHwpObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← ParameterListIntegerParam

Implements

[IHwpObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwpDocumentExtensions.ItemCountUpdate\(IHwpObject, IHwpDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Properties

Name

```
public string Name { get; set; }
```

Property Value

[string](#)

Value

```
public string Value { get; set; }
```

Property Value

[string](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class ParameterListStringParam

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

```
[Serializable]
public class ParameterListStringParam : Switchable, IHwpvObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← ParameterListStringParam

Implements

[IHwpvObject](#), [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Properties

Name

```
public string Name { get; set; }
```

Property Value

[string](#)

Value

```
public string Value { get; set; }
```

Property Value

[string](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class PictureType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

[PictureType](#) 요소는 [AbstractShapeComponentType](#)을 상속받는다.

```
[Serializable]
public class PictureType : AbstractShapeComponentType, IHpxObject, ICloneable, IBuilderableMo
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [AbstractShapeComponentType](#) ← [PictureType](#)

Implements

[IHpxObject](#), [ICloneable](#), [IBuilderableModel](#)<[PictureTypeBuilder](#)>

Inherited Members

[AbstractShapeComponentType.Offset](#), [AbstractShapeComponentType.OrgSz](#),
[AbstractShapeComponentType.CurSz](#), [AbstractShapeComponentType.Flip](#),
[AbstractShapeComponentType.RotationInfo](#), [AbstractShapeComponentType.RenderingInfo](#),
[AbstractShapeComponentType.Href](#), [AbstractShapeComponentType.GroupLevel](#),
[AbstractShapeComponentType.InstId](#), [AbstractShapeObjectType.Sz](#), [AbstractShapeObjectType.Pos](#),
[AbstractShapeObjectType.OutMargin](#), [AbstractShapeObjectType.Caption](#),
[AbstractShapeObjectType.ShapeComment](#), [AbstractShapeObjectType.Id](#),
[AbstractShapeObjectType.ZOrder](#), [AbstractShapeObjectType.NumberingType](#),
[AbstractShapeObjectType.TextWrap](#), [AbstractShapeObjectType.TextFlow](#),
[AbstractShapeObjectType.Lock](#), [AbstractShapeObjectType.DropCapStyle](#), [Switchable.Switch](#),
[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#),
[object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#),
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#),
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#)

Constructors

PictureType()

```
public PictureType()
```

Properties

Effects

이미지 효과 정보

```
public EffectsType Effects { get; set; }
```

Property Value

[EffectsType](#)

Img

그림 정보

```
public ImageType Img { get; set; }
```

Property Value

[ImageType](#)

ImgClip

이미지 자르기 정보

```
public PictureTypeImgClip ImgClip { get; set; }
```

Property Value

[PictureTypeImgClip](#)

ImgDim

```
public PictureTypeImgDim ImgDim { get; set; }
```

Property Value

[PictureTypeImgDim](#)

ImgRect

이미지 좌표 정보

```
public PictureTypeImgRect ImgRect { get; set; }
```

Property Value

[PictureTypeImgRect](#)

InMargin

안쪽 여백 정보

```
public InsideMarginType InMargin { get; set; }
```

Property Value

[InsideMarginType](#)

LineShape

테두리선 모양

```
public LineShapeType LineShape { get; set; }
```

Property Value

[LineShapeType](#)

Reverse

그림 색상 반전

```
public bool Reverse { get; set; }
```

Property Value

[bool](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

UpdateBuilder(Action<PictureTypeBuilder>, IHwpxBuilder)

```
public PictureTypeBuilder UpdateBuilder(Action<PictureTypeBuilder> updateBuilderAction = null,
```

Parameters

updateBuilderAction [Action](#)<[PictureTypeBuilder](#)>

hwpxBuilder [IHwpxBuilder](#)

Returns

[PictureTypeBuilder](#)

Class PictureTypeImgClip

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

원본 그림을 기준으로 자를 영역 정보를 가지고 있는 요소이다. 자르기 정보가 설정되면, 그림은 논리적으로 원본 그림에서 해당 영역만큼 잘리게 되고, 화면에서는 남은 영역만 표시된다.

```
[Serializable]
public class PictureTypeImgClip : IHwpvObject
```

Inheritance

[object](#) ← PictureTypeImgClip

Implements

[IHwpvObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

Bottom

아래쪽에서 이미지를 자른 크기

```
public int Bottom { get; set; }
```

Property Value

[int](#)

Left

왼쪽에서 이미지를 자른 크기

```
public int Left { get; set; }
```

Property Value

[int↗](#)

Right

오른쪽에서 이미지를 자른 크기

```
public int Right { get; set; }
```

Property Value

[int↗](#)

Top

위쪽에서 이미지를 자른 크기

```
public int Top { get; set; }
```

Property Value

[int↗](#)

Class PictureTypeImgDim

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class PictureTypeImgDim : IHpxObject
```

Inheritance

[object](#) ← PictureTypeImgDim

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

DimHeight

```
public long DimHeight { get; set; }
```

Property Value

[long](#)

DimWidth

```
public long DimWidth { get; set; }
```

Property Value

[long↗](#)

Class PictureTypeImgRect

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

```
[Serializable]
public class PictureTypeImgRect : IHwpvObject
```

Inheritance

[object](#) ← PictureTypeImgRect

Implements

[IHwpvObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

PictureTypeImgRect()

```
public PictureTypeImgRect()
```

Properties

Pt0

첫 번째 좌표

```
public PointType Pt0 { get; set; }
```

Property Value

[PointType](#)

Pt1

두 번째 좌표

```
public PointType Pt1 { get; set; }
```

Property Value

[PointType](#)

Pt2

세 번째 좌표

```
public PointType Pt2 { get; set; }
```

Property Value

[PointType](#)

Pt3

네 번째 좌표

```
public PointType Pt3 { get; set; }
```

Property Value

[PointType](#)

Class PointType

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

좌표 정보를 표현할 때 사용하는 요소로, 2축 좌표계를 사용한다.

```
[Serializable]
public class PointType : IHwpxlObject
```

Inheritance

[object](#) ← PointType

Implements

[IHwpxlObject](#)

Derived

[ConnectPointType](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpxlDocumentExtensions.ItemCountUpdate\(IHwpxlObject, IHwpxlDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpxlDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

X

X 좌표

```
public long X { get; set; }
```

Property Value

[long](#)

Y

Y 좌표

```
public long Y { get; set; }
```

Property Value

long ↗

Class PolygonType

Namespace: [HwpXIO.Models](#)

Assembly: HwpXIO.dll

[PolygonType](#) 요소는 [AbstractDrawingObjectType](#)을 상속받는다.

```
[Serializable]
public class PolygonType : AbstractDrawingObjectType, IHwpXObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [AbstractShapeComponentType](#) ← [AbstractDrawingObjectType](#) ← [PolygonType](#)

Implements

[IHwpXObject](#), [ICloneable](#)

Inherited Members

[AbstractDrawingObjectType.LineShape](#) , [AbstractDrawingObjectType.FillBrush](#) ,
[AbstractDrawingObjectType.DrawText](#) , [AbstractDrawingObjectType.Shadow](#) ,
[AbstractShapeComponentType.Offset](#) , [AbstractShapeComponentType.OrgSz](#) ,
[AbstractShapeComponentType.CurSz](#) , [AbstractShapeComponentType.Flip](#) ,
[AbstractShapeComponentType.RotationInfo](#) , [AbstractShapeComponentType.RenderingInfo](#) ,
[AbstractShapeComponentType.Href](#) , [AbstractShapeComponentType.GroupLevel](#) ,
[AbstractShapeComponentType.InstId](#) , [AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) ,
[AbstractShapeObjectType.OutMargin](#) , [AbstractShapeObjectType.Caption](#) ,
[AbstractShapeObjectType.ShapeComment](#) , [AbstractShapeObjectType.Id](#) ,
[AbstractShapeObjectType.ZOrder](#) , [AbstractShapeObjectType.NumberingType](#) ,
[AbstractShapeObjectType.TextWrap](#) , [AbstractShapeObjectType.TextFlow](#) ,
[AbstractShapeObjectType.Lock](#) , [AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpXDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#)

Constructors

PolygonType()

```
public PolygonType()
```

Properties

Pt

다각형 좌표

```
public List<PointType> Pt { get; set; }
```

Property Value

[List](#) <[PointType](#)>

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class RectangleType

Namespace: [HwpXIO.Models](#)

Assembly: HwpXIO.dll

[RectangleType](#) 요소는 [AbstractDrawingObjectType](#)을 상속받는다.

```
[Serializable]
public class RectangleType : AbstractDrawingObjectType, IHwpXObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [AbstractShapeComponentType](#) ← [AbstractDrawingObjectType](#) ← [RectangleType](#)

Implements

[IHwpXObject](#), [ICloneable](#)

Inherited Members

[AbstractDrawingObjectType.LineShape](#), [AbstractDrawingObjectType.FillBrush](#),
[AbstractDrawingObjectType.DrawText](#), [AbstractDrawingObjectType.Shadow](#),
[AbstractShapeComponentType.Offset](#), [AbstractShapeComponentType.OrgSz](#),
[AbstractShapeComponentType.CurSz](#), [AbstractShapeComponentType.Flip](#),
[AbstractShapeComponentType.RotationInfo](#), [AbstractShapeComponentType.RenderingInfo](#),
[AbstractShapeComponentType.Href](#), [AbstractShapeComponentType.GroupLevel](#),
[AbstractShapeComponentType.InstId](#), [AbstractShapeObjectType.Sz](#), [AbstractShapeObjectType.Pos](#),
[AbstractShapeObjectType.OutMargin](#), [AbstractShapeObjectType.Caption](#),
[AbstractShapeObjectType.ShapeComment](#), [AbstractShapeObjectType.Id](#),
[AbstractShapeObjectType.ZOrder](#), [AbstractShapeObjectType.NumberingType](#),
[AbstractShapeObjectType.TextWrap](#), [AbstractShapeObjectType.TextFlow](#),
[AbstractShapeObjectType.Lock](#), [AbstractShapeObjectType.DropCapStyle](#), [Switchable.Switch](#),
[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#),
[object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Extension Methods

[HwpXDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpXDocument\)](#),
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HwpXDocumentExtensions.SerializeToXmlElements<T>\(T\)](#),
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#)

Constructors

RectangleType()

```
public RectangleType()
```

Properties

Pt0

첫 번째 좌표

```
public PointType Pt0 { get; set; }
```

Property Value

[PointType](#)

Pt1

두 번째 좌표

```
public PointType Pt1 { get; set; }
```

Property Value

[PointType](#)

Pt2

세 번째 좌표

```
public PointType Pt2 { get; set; }
```

Property Value

[PointType](#)

Pt3

네 번째 좌표

```
public PointType Pt3 { get; set; }
```

Property Value

[PointType](#)

Ratio

사각형 모서리 곡률. 단위는 %
직각은 0, 둥근 모양은 20, 반원은 50 등

```
public int Ratio { get; set; }
```

Property Value

[int](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Class RotMatrixType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class RotMatrixType : MatrixType, IHpxObject
```

Inheritance

[object](#) ← [MatrixType](#) ← RotMatrixType

Implements

[IHpxObject](#)

Inherited Members

[MatrixType.E1](#) , [MatrixType.E2](#) , [MatrixType.E3](#) , [MatrixType.E4](#) , [MatrixType.E5](#) , [MatrixType.E6](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Class ScaMatrixType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class ScaMatrixType : MatrixType, IHpxObject
```

Inheritance

[object](#) ← [MatrixType](#) ← ScaMatrixType

Implements

[IHpxObject](#)

Inherited Members

[MatrixType.E1](#) , [MatrixType.E2](#) , [MatrixType.E3](#) , [MatrixType.E4](#) , [MatrixType.E5](#) , [MatrixType.E6](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Class ScaleType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

확대 정보를 가지고 있는 요소이다.

```
[Serializable]
public class ScaleType : IHpxObject
```

Inheritance

[object](#) ← ScaleType

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

X

x축 확대 비율

```
public float X { get; set; }
```

Property Value

[float](#)

Y

y축 확대 비율

```
public float Y { get; set; }
```

Property Value

[float](#)

Class ScrollBarType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[ScrollBarType](#) 요소는 [AbstractFormObjectType](#)를 상속받는다.

```
[Serializable]
public class ScrollBarType : AbstractFormObjectType, IHwploquentObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [AbstractFormObjectType](#) ← [ScrollBarType](#)

Implements

[IHwploquentObject](#), [ICloneable](#)

Inherited Members

[AbstractFormObjectType.FormCharPr](#) , [AbstractFormObjectType.Name](#) ,
[AbstractFormObjectType.ForeColor](#) , [AbstractFormObjectType.BackColor](#) ,
[AbstractFormObjectType.GroupName](#) , [AbstractFormObjectType.TabStop](#) ,
[AbstractFormObjectType.TabOrder](#) , [AbstractFormObjectType.Enabled](#) ,
[AbstractFormObjectType.BorderTypeIDRef](#) , [AbstractFormObjectType.DrawFrame](#) ,
[AbstractFormObjectType.Printable](#) , [AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) ,
[AbstractShapeObjectType.OutMargin](#) , [AbstractShapeObjectType.Caption](#) ,
[AbstractShapeObjectType.ShapeComment](#) , [AbstractShapeObjectType.Id](#) ,
[AbstractShapeObjectType.ZOrder](#) , [AbstractShapeObjectType.NumberingType](#) ,
[AbstractShapeObjectType.TextWrap](#) , [AbstractShapeObjectType.TextFlow](#) ,
[AbstractShapeObjectType.Lock](#) , [AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#)

Properties

Delay

마우스 버튼 다운 후 스크롤이 연속적으로 일어날 때까지 걸리는 시간

```
public int Delay { get; set; }
```

Property Value

[int↗](#)

LargeChange

Page Up/Down시 변화 값

```
public int LargeChange { get; set; }
```

Property Value

[int↗](#)

Max

최대 값

```
public int Max { get; set; }
```

Property Value

[int↗](#)

Min

최소 값

```
public int Min { get; set; }
```

Property Value

[int↗](#)

Page

스크롤하는 1페이지의 크기

```
public int Page { get; set; }
```

Property Value

[int↗](#)

SmallChange

Line Up/Down시 변화 값

```
public int SmallChange { get; set; }
```

Property Value

[int↗](#)

Type

스크롤바 형태(수평/수직)

```
public ScrollBarType Type { get; set; }
```

Property Value

[ScrollBarType](#)

Value

현재 위치

```
public int Value { get; set; }
```

Property Value

[int↗](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object↗](#)

Class SectionDefinitionType

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

구역(Section)은 콘텐츠의 영역을 구분짓는 가장 큰 단위이다. [SecPr](#) 요소는 구역 내에서의 각종 설정 정보를 가지고 있는 요소이다.

```
[Serializable]
public class SectionDefinitionType : Switchable, IHwpXObject, ICloneable, IBuilderableModel<SectionDefinitionTypeBuilder>
```

Inheritance

[object](#) ← [Switchable](#) ← SectionDefinitionType

Implements

[IHwpXObject](#), [ICloneable](#), [IBuilderableModel<SectionDefinitionTypeBuilder>](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwpxDXExtensions.ItemCountUpdate\(IHwpXObject, IHwpxDXDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpxDXExtensions.SerializeToXmlElement<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

SectionDefinitionType()

```
public SectionDefinitionType()
```

Properties

EndNotePr

미주 모양

```
public EndNoteShapeType EndNotePr { get; set; }
```

Property Value

[EndNoteShapeType](#)

FootNotePr

각주 모양

```
public FootNoteShapeType FootNotePr { get; set; }
```

Property Value

[FootNoteShapeType](#)

Grid

줄맞춤 정보

```
public SectionDefinitionTypeGrid Grid { get; set; }
```

Property Value

[SectionDefinitionTypeGrid](#)

Id

구역 정의를 식별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#)

LineNumberShape

```
public LineNumberShape LineNumberShape { get; set; }
```

Property Value

[LineNumberShape](#)

MasterPage

바탕쪽 정보

```
public List<SectionDefinitionTypeMasterPage> MasterPage { get; set; }
```

Property Value

[List](#) <[SectionDefinitionTypeMasterPage](#)>

MasterPageCnt

구역 내에서 정의된 바탕쪽 설정의 개수

```
public int MasterPageCnt { get; set; }
```

Property Value

[int](#)

MemoShapeIDRef

구역 내에서 사용되는 메모의 모양을 설정하기 위한 아이디 참조 값

```
public string MemoShapeIDRef { get; set; }
```

Property Value

[string](#)

OutlineShapeIDRef

개요 번호 모양 아이디 참조 값

```
public string OutlineShapeIDRef { get; set; }
```

Property Value

[string](#)

PageBorderFill

쪽 테두리/배경 정보

```
public List<SectionDefinitionTypePageBorderFill> PageBorderFill { get; set; }
```

Property Value

[List](#) <[SectionDefinitionTypePageBorderFill](#)>

PagePr

용지 설정 정보

```
public SectionDefinitionTypePagePr PagePr { get; set; }
```

Property Value

[SectionDefinitionTypePagePr](#)

Parameterset

```
public ParameterList Parameterset { get; set; }
```

Property Value

[ParameterList](#)

Presentation

프레젠테이션 정보

```
public SectionDefinitionTypePresentation Presentation { get; set; }
```

Property Value

[SectionDefinitionTypePresentation](#)

SpaceColumns

동일한 페이지에서 서로 다른 단 사이의 간격

```
public int SpaceColumns { get; set; }
```

Property Value

[int](#)

StartNum

구역 내 각 객체들의 시작 번호 정보

```
public SectionDefinitionTypeStartNum StartNum { get; set; }
```

Property Value

[SectionDefinitionTypeStartNum](#)

TabStop

기본 탭 간격 (구버전: 단위랑 쉬프트 연산되어 있어 보기 어렵다)

```
public int TabStop { get; set; }
```

Property Value

[int↗](#)

TabStopUnit

```
public HWPValueUnit TabStopUnit { get; set; }
```

Property Value

[HWPValueUnit](#)

TabStopVal

기본 탭 간격

```
public int TabStopVal { get; set; }
```

Property Value

[int↗](#)

TextDirection

구역 내 텍스트 방향

```
public SectionDefinitionTypeTextDirection TextDirection { get; set; }
```

Property Value

[SectionDefinitionTypeTextDirection](#)

TextVerticalWidthHead

머리말/꼬리말 세로 쓰기 여부

```
public bool TextVerticalWidthHead { get; set; }
```

Property Value

[bool](#)

Visibility

감추기/보여주기 정보

```
public SectionDefinitionTypeVisibility Visibility { get; set; }
```

Property Value

[SectionDefinitionTypeVisibility](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

UpdateBuilder(Action<SectionDefinitionTypeBuilder>, IHpxBuilder)

```
public SectionDefinitionTypeBuilder UpdateBuilder(Action<SectionDefinitionTypeBuilder> updateBi
```

Parameters

updateBuilderAction [Action](#)<[SectionDefinitionTypeBuilder](#)>

hpxBuilder [IHpxBuilder](#)

Returns

[SectionDefinitionTypeBuilder](#)

Class SectionDefinitionTypeGrid

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

구역 내의 줄맞춤 설정 정보를 표현하기 위한 요소이다

```
[Serializable]
public class SectionDefinitionTypeGrid : IHwpxlObject
```

Inheritance

[object](#) ← SectionDefinitionTypeGrid

Implements

[IHwpxlObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpxlDocumentExtensions.ItemCountUpdate\(IHwpxlObject, IHwpxlDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpxlDocumentExtensions.SerializeToXmlElement<T>\(T\)](#)

Constructors

SectionDefinitionTypeGrid()

```
public SectionDefinitionTypeGrid()
```

Properties

CharGrid

가로로 줄맞춤을 할지 여부

```
public int CharGrid { get; set; }
```

Property Value

[int ↗](#)

LineGrid

세로로 줄맞춤을 할지 여부

```
public int LineGrid { get; set; }
```

Property Value

[int ↗](#)

WonggojiFormat

원고지 포맷

```
public bool WonggojiFormat { get; set; }
```

Property Value

[bool ↗](#)

Class SectionDefinitionTypeMasterPage

Namespace: [HwpXI.Models](#)

Assembly: HwpXI.dll

[MasterPage](#) 요소는 바탕쪽 스키마에서 설정된 정보를 참조한다. 한 섹션 내에서 바탕쪽은 여러개가 올 수 있다.

```
[Serializable]  
public class SectionDefinitionTypeMasterPage : IHwpXIObject
```

Inheritance

[object](#) ← SectionDefinitionTypeMasterPage

Implements

[IHwpXIObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXIExtensions.ItemCountUpdate\(IHwpXIObject, IHwpXI.Document\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXIExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

IdRef

바탕쪽 설정 정보 아이디 참조 값

```
public string IdRef { get; set; }
```

Property Value

[string](#)

Class SectionDefinitionTypePageBorderFill

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[PageBorderFill](#)은 구역 내에서 사용되는 테두리/배경 설정 정보를 가지고 있는 요소이다.

```
[Serializable]
public class SectionDefinitionTypePageBorderFill : IHwploquentObject, IBuilderableModel<SectionDefinitionTypePageBorderFillBuilder>
```

Inheritance

[object](#) ← SectionDefinitionTypePageBorderFill

Implements

[IHwploquentObject](#), [IBuilderableModel](#)<[SectionDefinitionTypePageBorderFillBuilder](#)>

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElement<T>\(T\)](#)

Constructors

SectionDefinitionTypePageBorderFill()

```
public SectionDefinitionTypePageBorderFill()
```

Properties

BorderFillIDRef

테두리/배경 정보 아이디 참조 값

```
public string BorderFillIDRef { get; set; }
```

Property Value

[string](#) ↗

FillArea

채울 영역

```
public SectionDefinitionTypePageBorderFillFillArea FillArea { get; set; }
```

Property Value

[SectionDefinitionTypePageBorderFillFillArea](#)

FooterInside

꼬리말 포함 여부

```
public bool FooterInside { get; set; }
```

Property Value

[bool](#) ↗

HeaderInside

머리말 포함 여부

```
public bool HeaderInside { get; set; }
```

Property Value

[bool](#) ↗

Offset

테두리/배경 위치 정보

```
public SectionDefinitionTypePageBorderFillOffset Offset { get; set; }
```

Property Value

[SectionDefinitionTypePageBorderFillOffset](#)

TextBorder

쪽 테두리 위치 기준

```
public SectionDefinitionTypePageBorderFillTextBorder TextBorder { get; set; }
```

Property Value

[SectionDefinitionTypePageBorderFillTextBorder](#)

Type

종류

```
public SectionDefinitionTypePageBorderFillType Type { get; set; }
```

Property Value

[SectionDefinitionTypePageBorderFillType](#)

Methods

UpdateBuilder(Action<SectionDefinitionTypePageBorderFillBuilder>, IHwpxBUILDER)

```
public SectionDefinitionTypePageBorderFillBuilder UpdateBuilder(Action<SectionDefinitionTypePa
```

Parameters

updateBuilderAction [Action](#) <[SectionDefinitionTypePageBorderFillBuilder](#)>

hwpxBUILDER [IHwpxBUILDER](#)

Returns

[SectionDefinitionTypePageBorderFillBuilder](#)

Class SectionDefinitionTypePageBorderFillOffset

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

구역 내에서 사용되는 테두리/배경에 대한 위치 정보를 가지고 있는 요소이다.

```
[Serializable]  
public class SectionDefinitionTypePageBorderFillOffset : IHwpxlObject
```

Inheritance

[object](#) ← SectionDefinitionTypePageBorderFillOffset

Implements

[IHwpxlObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpxlDocumentExtensions.ItemCountUpdate\(IHwpxlObject, IHwpxlDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpxlDocumentExtensions.SerializeToXmlElement<T>\(T\)](#)

Constructors

SectionDefinitionTypePageBorderFillOffset()

```
public SectionDefinitionTypePageBorderFillOffset()
```

Properties

Bottom

아래쪽 간격. 단위는 HWPUNIT.

```
public int Bottom { get; set; }
```

Property Value

[int↗](#)

Left

왼쪽 간격. 단위는 HWPUNIT.

```
public int Left { get; set; }
```

Property Value

[int↗](#)

Right

오른쪽 간격. 단위는 HWPUNIT.

```
public int Right { get; set; }
```

Property Value

[int↗](#)

Top

위쪽 간격. 단위는 HWPUNIT.

```
public int Top { get; set; }
```

Property Value

[int↗](#)

Class SectionDefinitionTypePagePr

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

구역 내의 용지 설정 정보를 표현하기 위한 요소이다

```
[Serializable]
public class SectionDefinitionTypePagePr : IHpxObject
```

Inheritance

[object](#) ← SectionDefinitionTypePagePr

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

SectionDefinitionTypePagePr()

```
public SectionDefinitionTypePagePr()
```

Properties

GutterType

제책 방법

```
public SectionDefinitionTypePagePrGutterType GutterType { get; set; }
```

Property Value

[SectionDefinitionTypePagePrGutterType](#)

Height

용지 세로 크기. 단위는 HWPUNIT.

```
public long Height { get; set; }
```

Property Value

[long](#)

Landscape

용지 방향

```
public SectionDefinitionTypePagePrLandscape Landscape { get; set; }
```

Property Value

[SectionDefinitionTypePagePrLandscape](#)

Margin

```
public SectionDefinitionTypePagePrMargin Margin { get; set; }
```

Property Value

[SectionDefinitionTypePagePrMargin](#)

Width

용지 가로 크기. 단위는 HWPUNIT.

```
public long Width { get; set; }
```

Property Value

[long](#)

Class SectionDefinitionTypePagePrMargin

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class SectionDefinitionTypePagePrMargin : IHpxObject
```

Inheritance

[object](#) ← SectionDefinitionTypePagePrMargin

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

SectionDefinitionTypePagePrMargin()

```
public SectionDefinitionTypePagePrMargin()
```

Properties

Bottom

아래쪽 여백. 단위는 HWPUNIT

```
public int Bottom { get; set; }
```

Property Value

[int↗](#)

Footer

꼬리말 여백. 단위는 HWPUNIT

```
public int Footer { get; set; }
```

Property Value

[int↗](#)

Gutter

제본 여백. 단위는 HWPUNIT

```
public int Gutter { get; set; }
```

Property Value

[int↗](#)

Header

머리말 여백. 단위는 HWPUNIT

```
public int Header { get; set; }
```

Property Value

[int↗](#)

Left

왼쪽 여백. 단위는 HWPUNIT

```
public int Left { get; set; }
```

Property Value

[int↗](#)

Right

오른쪽 여백. 단위는 HWPUNIT

```
public int Right { get; set; }
```

Property Value

[int↗](#)

Top

위쪽 여백. 단위는 HWPUNIT

```
public int Top { get; set; }
```

Property Value

[int↗](#)

Methods

Create(int, int, int, int, int, int, int)

```
public static SectionDefinitionTypePagePrMargin Create(int left, int top, int right, int bottom,
```

Parameters

`left` [int ↗](#)

`top` [int ↗](#)

`right` [int ↗](#)

`bottom` [int ↗](#)

`header` [int ↗](#)

`footer` [int ↗](#)

`gutter` [int ↗](#)

Returns

[SectionDefinitionTypePagePrMargin](#)

Class SectionDefinitionTypePresentation

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

문서의 프레젠테이션 설정 정보를 갖고 있는 요소이다.

```
[Serializable]
public class SectionDefinitionTypePresentation : IHwpXObject
```

Inheritance

[object](#) ← SectionDefinitionTypePresentation

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElement<T>\(T\)](#)

Constructors

SectionDefinitionTypePresentation()

```
public SectionDefinitionTypePresentation()
```

Properties

Applyto

적용 범위

PRAT_WHOLE_DOCUMENT: 문서 전체

PRAT_NEWSECTION: 현재 위치부터 새 구역

```
public int Applyto { get; set; }
```

Property Value

[int ↗](#)

Autoshow

자동 시연 여부

```
public bool Autoshow { get; set; }
```

Property Value

[bool ↗](#)

Effect

화면 전환 효과

```
public int Effect { get; set; }
```

Property Value

[int ↗](#)

FillBrush

채우기 정보

```
public FillBrushType FillBrush { get; set; }
```

Property Value

[FillBrushType](#)

InvertText

글자색 반전 효과 여부

```
public bool InvertText { get; set; }
```

Property Value

[bool](#)

Showtime

화면 전환 시간(초 단위)

```
public int Showtime { get; set; }
```

Property Value

[int](#)

SoundIDRef

효과음 바이너리 데이터에 대한 아이디 참조 값

```
public string SoundIDRef { get; set; }
```

Property Value

[string](#)

Class SectionDefinitionTypeStartNum

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

구역 내에서 각종 시작 번호들에 대한 설정을 가지고 있는 요소이다.

```
[Serializable]
public class SectionDefinitionTypeStartNum : IHwpxlObject
```

Inheritance

[object](#) ← SectionDefinitionTypeStartNum

Implements

[IHwpxlObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpxlDocumentExtensions.ItemCountUpdate\(IHwpxlObject, IHwpxlDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpxlDocumentExtensions.SerializeToXmlElement<T>\(T\)](#)

Constructors

SectionDefinitionTypeStartNum()

```
public SectionDefinitionTypeStartNum()
```

Properties

Equation

수식 시작 번호

값이 0이면 앞 구역에 이어서 번호를 매기고, 1 이상이면 임의의 번호로 시작

```
public int Equation { get; set; }
```

Property Value

[int↗](#)

Page

쪽 시작 번호

값이 0이면 앞 구역에 이어서 번호를 매기고, 1 이상이면 임의의 번호로 시작

```
public int Page { get; set; }
```

Property Value

[int↗](#)

PageStartsOn

구역 나눔으로 새 페이지가 생길 때 페이지 번호 적용 옵션

```
public SectionDefinitionTypeStartNumPageStartsOn PageStartsOn { get; set; }
```

Property Value

[SectionDefinitionTypeStartNumPageStartsOn](#)

Pic

그림 시작 번호

값이 0이면 앞 구역에 이어서 번호를 매기고, 1 이상이면 임의의 번호로 시작

```
public int Pic { get; set; }
```

Property Value

[int↗](#)

Tbl

표 시작 번호

값이 0이면 앞 구역에 이어서 번호를 매기고, 1 이상이면 임의의 번호로 시작

```
public int Tbl { get; set; }
```

Property Value

[int↗](#)

Class SectionDefinitionTypeVisibility

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

구역 내의 각 요소들에 대한 보여주기/감추기 설정 정보를 표현하기 위한 요소이다.

```
[Serializable]
public class SectionDefinitionTypeVisibility : IHwpXObject
```

Inheritance

[object](#) ← SectionDefinitionTypeVisibility

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

SectionDefinitionTypeVisibility()

```
public SectionDefinitionTypeVisibility()
```

Properties

Border

테두리 감추기/보여주기 여부

```
public VisibilityValue Border { get; set; }
```

Property Value

[VisibilityValue](#)

Fill

배경 감추기/보여주기 여부

```
public VisibilityValue Fill { get; set; }
```

Property Value

[VisibilityValue](#)

HideFirstEmptyLine

첫 쪽에만 빈줄 감추기 여부

```
public bool HideFirstEmptyLine { get; set; }
```

Property Value

[bool](#)

HideFirstFooter

첫 쪽에만 꼬리말 감추기 여부

```
public bool HideFirstFooter { get; set; }
```

Property Value

[bool](#)

HideFirstHeader

첫 쪽에만 머리말 감추기 여부

```
public bool HideFirstHeader { get; set; }
```

Property Value

[bool](#)

HideFirstMasterPage

첫 쪽에만 바탕쪽 감추기 여부

```
public bool HideFirstMasterPage { get; set; }
```

Property Value

[bool](#)

HideFirstPageNum

첫 쪽에만 쪽번호 감추기 여부

```
public bool HideFirstPageNum { get; set; }
```

Property Value

[bool](#)

ShowLineNumber

```
public bool ShowLineNumber { get; set; }
```

Property Value

bool ↗

Class SectionType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

Root Element

```
[Serializable]
public class SectionType : IHpxObject, IBuilderableModel<SectionTypeBuilder>
```

Inheritance

[object](#) ← SectionType

Implements

[IHpxObject](#), [IBuilderableModel<SectionTypeBuilder>](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

SectionType()

```
public SectionType()
```

Fields

xmlns

[\[NonSerialized\]](#)

```
public XmlSerializerNamespaces xmlns
```

Field Value

[XmlSerializerNamespaces](#)

Properties

P

문단

```
public List<PType> P { get; set; }
```

Property Value

[List](#) <[PType](#)>

Methods

UpdateBuilder(Action<SectionTypeBuilder>, IHwpxBuilder)

```
public SectionTypeBuilder UpdateBuilder(Action<SectionTypeBuilder> updateBuilderAction = null,
```

Parameters

updateBuilderAction [Action](#) <[SectionTypeBuilder](#)>

hwpxBuilder [IHwpxBuilder](#)

Returns

[SectionTypeBuilder](#)

Class ShadowType

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

그리기 객체에 적용될 그림자 효과 정보를 가지고 있는 요소이다.

```
[Serializable]
public class ShadowType : IHwpXObject
```

Inheritance

[object](#) ← ShadowType

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXObjectExtensions.ItemCountUpdate\(IHwpXObject, IHwpXObject\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXObjectExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

ShadowType()

```
public ShadowType()
```

Properties

Alpha

투명도

```
public float Alpha { get; set; }
```

Property Value

[float](#)

Color

그림자 색

```
public string Color { get; set; }
```

Property Value

[string](#)

OffsetX

그림자 간격 X. 단위는 %.

```
[Range(-100, 100)]  
public int OffsetX { get; set; }
```

Property Value

[int](#)

OffsetY

그림자 간격 Y. 단위는 %.

```
[Range(-100, 100)]  
public int OffsetY { get; set; }
```

Property Value

[int ↗](#)

Type

그림자 종류

```
public ShadowType Type { get; set; }
```

Property Value

[ShadowType](#)

Class SkewType

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

기울기 정보를 가지고 있는 요소이다

```
[Serializable]
public class SkewType : IHpxObject
```

Inheritance

[object](#) ← SkewType

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

X

x축 기울기 각도

```
[Range(0, 360)]
public float X { get; set; }
```

Property Value

[float](#)

Y

y축 기울기 각도

```
[Range(0, 360)]  
public float Y { get; set; }
```

Property Value

[float ↗](#)

Class SlashType

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

테두리/배경 설정 중, 대각선의 정보를 담기 위한 요소이다.

```
[Serializable]
public class SlashType : IHpxObject, IXmlSerializable
```

Inheritance

[object](#) ← SlashType

Implements

[IHpxObject](#), [IXmlSerializable](#)

Inherited Members

[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#),
[object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#),
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HpxDocumentExtensions.SerializeToXmlElement<T>\(T\)](#)

Properties

Crooked

꺾인 대각선

Slash/BackSlash의 가운데 대각선이 꺾인 대각선임을 나타냄

```
public bool Crooked { get; set; }
```

Property Value

[bool](#)

IsCounter

slash/backSlash 대각선의 역방향 여부

```
public bool IsCounter { get; set; }
```

Property Value

[bool](#)

Type

Slash/BackSlash의 모양

```
public SlashTypeType Type { get; set; }
```

Property Value

[SlashTypeType](#)

Methods

Create(SlashTypeType?, bool?, bool?)

```
public static SlashType Create(SlashTypeType? type = null, bool? crooked = null, bool? isCounter = null)
```

Parameters

type [SlashTypeType](#)?

crooked [bool](#)?

isCounter [bool](#)?

Returns

[SlashType](#)

GetSchema()

```
public XmlSchema GetSchema()
```

Returns

[XmlSchema](#)

ReadXml(XmlReader)

```
public void ReadXml(XmlReader reader)
```

Parameters

reader [XmlReader](#)

WriteXml(XmlWriter)

```
public void WriteXml(XmlWriter writer)
```

Parameters

writer [XmlWriter](#)

Class StyleType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

스타일은 자주 사용하는 글자 모양이나 문단 모양을 미리 정해 놓고서 이를 사용할 수 있게 해주는 기능이다. [Style](#) 요소는 설정된 스타일 기능을 표현하기 위한 요소이다.

```
[Serializable]
public class StyleType : Switchable, IHwploquentObject, IEquatable<StyleType>, IBuilderableModel<StyleType>
```

Inheritance

[object](#) ← [Switchable](#) ← StyleType

Implements

[IHwploquentObject](#), [IEquatable](#)<StyleType>, [IBuilderableModel](#)<StyleTypeBuilder>,
[ICopyToBuilderableModel](#)<StyleTypeBuilder>, [ICloneable](#)

Inherited Members

[Switchable.Switch](#), [object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#),
[object.GetType\(\)](#), [object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#),
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#),
[BuilderExtensions.GetOrAddIfMissing\(StyleType, IHwploquentBuilder\)](#),
[BuilderExtensions.GetOrAddIfMissing\(StyleType, HwploquentDocument\)](#),
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HwploquentDocumentExtensions.SerializeToXmlElements<T>\(T\)](#),
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

StyleType()

```
public StyleType()
```

Properties

CharPrIDRef

글자 모양 아이디 참조.

스타일의 종류가 글자인 경우 반드시 지정해야 함.

```
public string CharPrIDRef { get; set; }
```

Property Value

[string](#)

EngName

영문 스타일 이름.

```
public string EngName { get; set; }
```

Property Value

[string](#)

Id

스타일 정보를 구별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#)

LangID

언어 아이디

```
public string LangID { get; set; }
```

Property Value

[string](#)

LockForm

양식 모드에서 Style 보호하기 여부.

```
public bool LockForm { get; set; }
```

Property Value

[bool](#)

Name

로컬 스타일 이름.

한글 윈도에서는 한글 스타일 이름.

```
public string Name { get; set; }
```

Property Value

[string](#)

NextStyleIDRef

다음 스타일 아이디 참조.

문단 스타일에서 사용자가 리턴키를 입력하여 다음 문단으로 이동하였을 때 적용될 문단 스타일을 지정 한다.

```
public string NextStyleIDRef { get; set; }
```

Property Value

[string](#) ↗

ParaPrIDRef

문단 모양 아이디 참조.

스타일의 종류가 문단이 경우 반드시 지정해야 함.

```
public string ParaPrIDRef { get; set; }
```

Property Value

[string](#) ↗

Type

스타일 종류

```
public StyleType Type { get; set; }
```

Property Value

[StyleType](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#) ↗

CopyToBuilder(Action<StyleTypeBuilder>, IHwxBuilder)

```
public StyleTypeBuilder CopyToBuilder(Action<StyleTypeBuilder> copyToBuilderAction = null, IHwxBuilder hwxBuilder)
```

Parameters

copyToBuilderAction [Action](#)<StyleTypeBuilder>

hwxBuilder [IHwxBuilder](#)

Returns

[StyleTypeBuilder](#)

Equals(StyleType)

```
public bool Equals(StyleType other)
```

Parameters

other [StyleType](#)

Returns

[bool](#)

UpdateBuilder(Action<StyleTypeBuilder>, IHwxBuilder)

```
public StyleTypeBuilder UpdateBuilder(Action<StyleTypeBuilder> updateBuilderAction = null, IHwxBuilder hwxBuilder)
```

Parameters

updateBuilderAction [Action](#)<StyleTypeBuilder>

hwxBuilder [IHwxBuilder](#)

Returns

[StyleTypeBuilder](#)

Class TabDefType

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

탭(Tab) 정보는 한꺼번에 일정한 거리로 본문을 띄울 때 사용하는 요소이다. 탭은 여러 개의 항목을 세로로 가지런히 나열해 입력할 때에도 사용할 수 있다

```
[Serializable]
public class TabDefType : Switchable, IHwploquentObject, IEquatable<TabDefType>, IBuilderableModel<TabDefTypeBuilder>, ICopyToBuilderableModel<TabDefTypeBuilder>, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← TabDefType

Implements

[IHwploquentObject](#), [IEquatable](#)<[TabDefType](#)>, [IBuilderableModel](#)<[TabDefTypeBuilder](#)>,
[ICopyToBuilderableModel](#)<[TabDefTypeBuilder](#)>, [ICloneable](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(TabDefType, IHwploquentBuilder\)](#) ,
[BuilderExtensions.GetOrAddIfMissing\(TabDefType, HwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

TabDefType()

```
public TabDefType()
```

Fields

xmlns

```
[NonSerialized]  
public XmlSerializerNamespaces xmlns
```

Field Value

[XmlSerializerNamespaces](#) ↗

Properties

AutoTabLeft

문단 왼쪽 끝 자동 템(내어쓰기용 자동 템)

```
public bool AutoTabLeft { get; set; }
```

Property Value

[bool](#) ↗

AutoTabRight

문단 오른쪽 끝 자동 템 여부

```
public bool AutoTabRight { get; set; }
```

Property Value

[bool](#) ↗

Id

탭 정보를 구별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#)

TabItem

탭 정의 정보

```
public List<TabDefTypeTabItem> TabItem { get; set; }
```

Property Value

[List](#) <[TabDefTypeTabItem](#)>

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

CopyToBuilder(Action<TabDefTypeBuilder>, IHwpXBuilder)

```
public TabDefTypeBuilder CopyToBuilder(Action<TabDefTypeBuilder> copyToBuilderAction = null, IH
```

Parameters

copyToBuilderAction [Action](#) <[TabDefTypeBuilder](#)>

hwpXBuilder [IHwpXBuilder](#)

Returns

[TabDefTypeBuilder](#)

Equals(TabDefType)

`public bool Equals(TabDefType other)`

Parameters

`other` [TabDefType](#)

Returns

[bool](#)

UpdateBuilder(Action<TabDefTypeBuilder>, IHpxBuilder)

`public TabDefTypeBuilder UpdateBuilder(Action<TabDefTypeBuilder> updateBuilderAction = null, IHpxBuilder hpxBuilder = null)`

Parameters

`updateBuilderAction` [Action](#)<[TabDefTypeBuilder](#)>

`hpxBuilder` [IHpxBuilder](#)

Returns

[TabDefTypeBuilder](#)

Class TabDefTypeTabItem

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

탭의 모양 및 위치 정보 등을 표현하기 위한 요소이다.

```
[Serializable]
public class TabDefTypeTabItem : IHpxObject
```

Inheritance

[object](#) ← TabDefTypeTabItem

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElement<T>\(T\)](#)

Constructors

TabDefTypeTabItem()

```
public TabDefTypeTabItem()
```

Properties

Leader

탭 채움 종류

```
public LineType2 Leader { get; set; }
```

Property Value

[LineType2](#)

Pos

탭의 위치. 단위는 hwpunit.

```
public long Pos { get; set; }
```

Property Value

[long](#)

Type

탭의 종류

```
public TabDefTypeTabItemType Type { get; set; }
```

Property Value

[TabDefTypeTabItemType](#)

Unit

```
public HWPValueUnit Unit { get; set; }
```

Property Value

[HWPValueUnit](#)

Methods

ShouldSerializeUnit()

```
public bool ShouldSerializeUnit()
```

Returns

[bool](#)

Class TableType

Namespace: [HwpvIO.Models](#)

Assembly: HwpvIO.dll

[TableType](#) 요소는 표에 관한 정보를 가지고 있는 요소로 [AbstractShapeObjectType](#)을 상속받는다.

```
[Serializable]
public class TableType : AbstractShapeObjectType, IHwpvObject, ICloneable, IBuilderableModel<T>
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← TableType

Implements

[IHwpvObject](#), [ICloneable](#), [IBuilderableModel](#)<[TableTypeBuilder](#)>

Inherited Members

[AbstractShapeObjectType.Sz](#) , [AbstractShapeObjectType.Pos](#) , [AbstractShapeObjectType.OutMargin](#) ,
[AbstractShapeObjectType.Caption](#) , [AbstractShapeObjectType.ShapeComment](#) ,
[AbstractShapeObjectType.Id](#) , [AbstractShapeObjectType.ZOrder](#) ,
[AbstractShapeObjectType.NumberingType](#) , [AbstractShapeObjectType.TextWrap](#) ,
[AbstractShapeObjectType.TextFlow](#) , [AbstractShapeObjectType.Lock](#) ,
[AbstractShapeObjectType.DropCapStyle](#) , [Switchable.Switch](#) , [object.Equals\(object\)](#) ,
[object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#) ,
[BuilderExtensions.EnclosingWithPType\(TableType, Action<PTypeBuilder>, Action<PTypeRunBuilder>, IHwpvBuilder\)](#) ,
[BuilderExtensions.EnclosingWithParaList\(TableType, Action<ParaListTypeBuilder>, Action<PTypeBuilder>, Action<PTypeRunBuilder>, IHwpvBuilder\)](#) ,
[BuilderExtensions.EnclosingWithRun\(TableType, Action<PTypeRunBuilder>, IHwpvBuilder\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#)

Constructors

TableType()

```
public TableType()
```

Properties

BorderFillIDRef

테두리/배경 아이디 참조 값

```
public string BorderFillIDRef { get; set; }
```

Property Value

[string](#)

CellSpacing

셀 간격. 단위는 HWPUNIT

```
public int CellSpacing { get; set; }
```

Property Value

[int](#)

CellzoneList

셀존 목록

```
public List<TableTypeCellzone> CellzoneList { get; set; }
```

Property Value

[List](#) <[TableTypeCellzone](#)>

ColCnt

테이블 열 개수

```
public int ColCnt { get; set; }
```

Property Value

[int↗](#)

InMargin

안쪽 여백

```
public InsideMarginType InMargin { get; set; }
```

Property Value

[InsideMarginType](#)

Label

라벨

```
public TableTypeLabel Label { get; set; }
```

Property Value

[TableTypeLabel](#)

NoAdjust

셀 너비/높이 값의 최소 단위(1 pt) 보정 여부

```
public bool NoAdjust { get; set; }
```

Property Value

[bool↗](#)

PageBreak

테이블이 페이지 경계에서 나뉘는 방식

```
public TableTypePageBreak PageBreak { get; set; }
```

Property Value

[TableTypePageBreak](#)

RepeatHeader

테이블이 나뉘었을 경우, 제목 행을 나눈 페이지에서도 반복할지 여부

```
public bool RepeatHeader { get; set; }
```

Property Value

[bool↗](#)

RowCnt

테이블 행 개수

```
public int RowCnt { get; set; }
```

Property Value

[int↗](#)

Tr

표에서 하나의 행을 표현하기 위한 요소이다. 하나의 행 안에는 여러 개의 열을 가지게 된다.

```
public List<TableTypeTR> Tr { get; set; }
```

Property Value

[List](#) <[TableTypeTR](#)>

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

ShouldSerializeCellzoneList()

```
public bool ShouldSerializeCellzoneList()
```

Returns

[bool](#)

UpdateBuilder(Action<TableTypeBuilder>, IHwpxBUILDER)

```
public TableTypeBuilder UpdateBuilder(Action<TableTypeBuilder> updateBuilderAction = null, IHwp
```

Parameters

updateBuilderAction [Action](#) <[TableTypeBuilder](#)>

hwpxBUILDER [IHwpxBUILDER](#)

Returns

[TableTypeBuilder](#)

Class TableTypeCellzone

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

표는 표 전체 또는 표 부분적으로 배경색 및 테두리와 같은 속성을 줄 때, 영역을 지정하기 위해서 [Table TypeCellzone](#) 요소를 사용한다.

```
[Serializable]
public class TableTypeCellzone : IHwploquentObject
```

Inheritance

[object](#) ← TableTypeCellzone

Implements

[IHwploquentObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

BorderFillIDRef

테두리/배경 아이디 참조 값

```
public string BorderFillIDRef { get; set; }
```

Property Value

[string](#)

EndColAddr

셀존 Column의 끝 주소
주소는 0부터 시작

```
public int EndColAddr { get; set; }
```

Property Value

[int↗](#)

EndRowAddr

셀존 Row의 끝 주소
주소는 0부터 시작

```
public int EndRowAddr { get; set; }
```

Property Value

[int↗](#)

StartColAddr

셀존 Column의 시작 주소
주소는 0부터 시작

```
public int StartColAddr { get; set; }
```

Property Value

[int↗](#)

StartRowAddr

셀존 Row의 시작 주소

주소는 0부터 시작

```
public int StartRowAddr { get; set; }
```

Property Value

[int](#)

Class TableTypeLabel

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class TableTypeLabel : IHpxObject
```

Inheritance

[object](#) ← TableTypeLabel

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

BoxLength

이름표 길이

```
public int BoxLength { get; set; }
```

Property Value

[int](#)

BoxMarginHor

이름표 좌우 여백

```
public int BoxMarginHor { get; set; }
```

Property Value

[int↗](#)

BoxMarginVer

이름표 상하 여백

```
public int BoxMarginVer { get; set; }
```

Property Value

[int↗](#)

BoxWidth

이름표 폭

```
public int BoxWidth { get; set; }
```

Property Value

[int↗](#)

LabelCols

이름표 행의 개수

```
public int LabelCols { get; set; }
```

Property Value

[int↗](#)

LabelRows

이름표 열의 개수

```
public int LabelRows { get; set; }
```

Property Value

[int↗](#)

LandScape

용지 방향

```
public int LandScape { get; set; }
```

Property Value

[int↗](#)

LeftMargin

용지 왼쪽 여백

```
public int LeftMargin { get; set; }
```

Property Value

[int↗](#)

PageHeight

문서의 길이

```
public int PageHeight { get; set; }
```

Property Value

[int↗](#)

PageWidth

문서의 폭

```
public int PageWidth { get; set; }
```

Property Value

[int↗](#)

TopMargin

용지 위쪽 여백

```
public int TopMargin { get; set; }
```

Property Value

[int↗](#)

Class TableTypeTC

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

[TableTypeTC](#) 요소는 하위 요소로 표 안의 글 내용을 담고 있는 [SubList](#) 요소를 가진다.

```
[Serializable]
public class TableTypeTC : IHwploquentObject, IBuilderableModel<TableTypeTCBuilder>
```

Inheritance

[object](#) ← TableTypeTC

Implements

[IHwploquentObject](#), [IBuilderableModel](#)<[TableTypeTCBuilder](#)>

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElement<T>\(T\)](#)

Constructors

TableTypeTC()

```
public TableTypeTC()
```

Properties

BorderFillIDRef

테두리/배경 아이디 참조 값

```
public string BorderFillIDRef { get; set; }
```

Property Value

[string](#)

CellAddr

셀 주소

```
public TableTypeTCCellAddr CellAddr { get; set; }
```

Property Value

[TableTypeTCCellAddr](#)

CellMargin

셀 여백

```
public TableTypeTCCellMargin CellMargin { get; set; }
```

Property Value

[TableTypeTCCellMargin](#)

CellSpan

셀 병합 정보

```
public TableTypeTCCellSpan CellSpan { get; set; }
```

Property Value

[TableTypeTCCellSpan](#)

CellSz

셀 크기

```
public TableTypeTCCellSz CellSz { get; set; }
```

Property Value

[TableTypeTCCellSz](#)

Dirty

마지막 업데이트된 이후 사용자가 내용을 변경했는지 여부

```
public bool Dirty { get; set; }
```

Property Value

[bool](#)

Editable

읽기 전용 상태에서도 수정 가능한지 여부

```
public bool Editable { get; set; }
```

Property Value

[bool](#)

HasMargin

테이블의 기본 셀 여백이 아닌 독자적인 여백을 사용하는지 여부

```
public bool HasMargin { get; set; }
```

Property Value

[bool](#) ↗

Header

제목 셀인지 여부

```
public bool Header { get; set; }
```

Property Value

[bool](#) ↗

Name

셀 필드 이름

```
public string Name { get; set; }
```

Property Value

[string](#) ↗

Protect

사용자 편집을 막을지 여부

```
public bool Protect { get; set; }
```

Property Value

[bool](#) ↗

SubList

셀 내용

```
public ParaListType SubList { get; set; }
```

Property Value

[ParaListType](#)

Methods

UpdateBuilder(Action<TableTypeTCBuilder>, IHwpxBuilder)

```
public TableTypeTCBuilder UpdateBuilder(Action<TableTypeTCBuilder> updateBuilderAction = null,
```

Parameters

updateBuilderAction [Action](#)<[TableTypeTCBuilder](#)>

hwpxBuilder [IHwpxBuilder](#)

Returns

[TableTypeTCBuilder](#)

Class TableTypeTCCellAddr

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

표에서 하나의 열이 차지하는 영역을 지정하기 위한 요소이다

```
[Serializable]
public class TableTypeTCCellAddr : IHpxObject
```

Inheritance

[object](#) ← TableTypeTCCellAddr

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

ColAddr

셀의 열 주소

주소는 0부터 시작

표에서 제일 왼쪽 셀이 0부터 시작하여 1씩 증가

```
public int ColAddr { get; set; }
```

Property Value

[int](#)

RowAddr

셀의 행 주소

주소는 0부터 시작

표에서 제일 위쪽 셀이 0부터 시작하여 1씩 증가

```
public int RowAddr { get; set; }
```

Property Value

[int](#)

Class TableTypeTCCellMargin

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

[TableTypeTCCellMargin](#) 요소는 [MarginAttributeGroup]을 속성으로 포함한다

```
[Serializable]
public class TableTypeTCCellMargin : IHpxObject
```

Inheritance

[object](#) ← TableTypeTCCellMargin

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

Bottom

아래쪽 여백. 단위는 HWPUNIT

```
public long Bottom { get; set; }
```

Property Value

[long](#)

Left

왼쪽 여백. 단위는 HWPUNIT

```
public long Left { get; set; }
```

Property Value

[long↗](#)

Right

오른쪽 여백. 단위는 HWPUNIT

```
public long Right { get; set; }
```

Property Value

[long↗](#)

Top

위쪽 여백. 단위는 HWPUNIT

```
public long Top { get; set; }
```

Property Value

[long↗](#)

Class TableTypeTCCellSpan

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

표에서 하나의 열이 하나의 셀 대신 여러 개의 셀로 구성되어 있다면, 병합된 셀 정보를 표현하기 위해 사용되는 요소이다.

```
[Serializable]  
public class TableTypeTCCellSpan : IHpxObject
```

Inheritance

[object](#) ← TableTypeTCCellSpan

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

TableTypeTCCellSpan()

```
public TableTypeTCCellSpan()
```

Properties

ColSpan

열 병합 개수

```
public int ColSpan { get; set; }
```

Property Value

[int↗](#)

RowSpan

행 병합 개수

```
public int RowSpan { get; set; }
```

Property Value

[int↗](#)

Class TableTypeTCCellSz

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

개별 셀의 크기 정보를 가지고 있는 요소이다.

```
[Serializable]
public class TableTypeTCCellSz : IHpxObject
```

Inheritance

[object](#) ← TableTypeTCCellSz

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

Height

셀의 높이. 단위는 HWPUNIT

```
public long Height { get; set; }
```

Property Value

[long](#)

Width

셀의 폭. 단위는 HWPUNIT

```
public long Width { get; set; }
```

Property Value

[long ↗](#)

Class TableTypeTR

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class TableTypeTR : IHpxObject, IBuilderableModel<TableTypeTRBuilder>
```

Inheritance

[object](#) ← TableTypeTR

Implements

[IHpxObject](#), [IBuilderableModel](#)<[TableTypeTRBuilder](#)>

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

TC

```
public List<TableTypeTC> TC { get; set; }
```

Property Value

[List](#)<[TableTypeTC](#)>

Methods

UpdateBuilder(Action<TableTypeTRBuilder>, IHpxBuilder)

```
public TableTypeTRBuilder UpdateBuilder(Action<TableTypeTRBuilder> updateBuilderAction = null,
```

Parameters

updateBuilderAction [Action](#) <[TableTypeTRBuilder](#)>

hpxBuilder [IHpxBuilder](#)

Returns

[TableTypeTRBuilder](#)

Class TrackChange

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

변경 추적 정보를 가지고 있는 요소이다.

```
[Serializable]
public class TrackChange : Switchable, IHwploquentObject, ICloneable, IBuilderableModel<TrackChangeBuilder>
```

Inheritance

[object](#) ← [Switchable](#) ← TrackChange

Implements

[IHwploquentObject](#), [ICloneable](#), [IBuilderableModel<TrackChangeBuilder>](#)

Inherited Members

[Switchable.Switch](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#) ,
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Properties

AuthorID

변경 추적 검토자를 구별하기 위한 아이디

```
public int AuthorID { get; set; }
```

Property Value

[int](#)

CharShapeID

변경 추적 글자의 서식 정보

```
public int CharShapeID { get; set; }
```

Property Value

[int↗](#)

Date

변경 추적 시간

"%04d-%02d-%02dT%d:%d:%dZ" : 년,월,일,시,분

```
public SystemTimeType Date { get; set; }
```

Property Value

[SystemTimeType](#)

Hide

변경 추적 화면 표시 여부

```
public bool Hide { get; set; }
```

Property Value

[bool↗](#)

Id

변경 추적 적용 문서 구분 아이디

```
public string Id { get; set; }
```

Property Value

[string](#) ↗

ParaShapeID

변경 추적 문단의 서식 정보

```
public int ParaShapeID { get; set; }
```

Property Value

[int](#) ↗

Type

변경 추적의 종류

```
public TrackChangeType Type { get; set; }
```

Property Value

[TrackChangeType](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#) ↗

UpdateBuilder(Action<TrackChangeBuilder>, IHwpXBuilder)

```
public TrackChangeBuilder UpdateBuilder(Action<TrackChangeBuilder> updateBuilderAction = null,
```

Parameters

updateBuilderAction [Action](#) <[TrackChangeBuilder](#)>

hwpxBUILDER [IHwpxBUILDER](#)

Returns

[TrackChangeBuilder](#)

Class TrackChangeAuthor

Namespace: [Hwploquent.Models](#)

Assembly: Hwploquent.dll

변경 추적 검토자 정보를 가지고 있는 요소이다

```
[Serializable]
public class TrackChangeAuthor : IHwploquentObject, IBuilderableModel<TrackChangeAuthorBuilder>
```

Inheritance

[object](#) ← TrackChangeAuthor

Implements

[IHwploquentObject](#), [IBuilderableModel](#)<[TrackChangeAuthorBuilder](#)>

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwploquentDocumentExtensions.ItemCountUpdate\(IHwploquentObject, IHwploquentDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwploquentDocumentExtensions.SerializeToXmlElement<T>\(T\)](#)

Properties

Color

검토 표시 색상

```
public string Color { get; set; }
```

Property Value

[string](#)

Id

검토자를 구별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#)

Mark

검토 표시 여부

```
public bool Mark { get; set; }
```

Property Value

[bool](#)

Name

검토자 이름

```
public string Name { get; set; }
```

Property Value

[string](#)

Methods

CopyToBuilder(Action<TrackChangeAuthorBuilder>,
IHwpxBUILDER)

```
public TrackChangeAuthorBuilder CopyToBuilder(Action<TrackChangeAuthorBuilder> copyToBuilderAction)
```

Parameters

copyToBuilderAction [Action](#)<[TrackChangeAuthorBuilder](#)>

hwpxBUILDER [IHpxBuilder](#)

Returns

[TrackChangeAuthorBuilder](#)

UpdateBuilder(Action<TrackChangeAuthorBuilder>,
IHpxBuilder)

```
public TrackChangeAuthorBuilder UpdateBuilder(Action<TrackChangeAuthorBuilder> updateBuilderAction)
```

Parameters

updateBuilderAction [Action](#)<[TrackChangeAuthorBuilder](#)>

hwpxBUILDER [IHpxBuilder](#)

Returns

[TrackChangeAuthorBuilder](#)

Class TrackChangeTag

Namespace: [HwpxlO.Models](#)

Assembly: HwpxlO.dll

변경 추적 정보를 정의한 형식이다

PTypeRunT.InsertBegin, PTypeRunT.InsertEnd, PTypeRunT.DeleteBegin, PTypeRunT.DeleteEnd 요소는 [TrackChangeTag](#) 형식을 기본으로 한다.

```
[Serializable]  
public class TrackChangeTag : IHwpxlObject
```

Inheritance

[object](#) ← TrackChangeTag

Implements

[IHwpxlObject](#)

Derived

[DeleteBegin](#), [DeleteEnd](#), [InsertBegin](#), [InsertEnd](#)

Inherited Members

[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#),
[object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Extension Methods

[HwpxlDocumentExtensions.ItemCountUpdate\(IHwpxlObject, IHwpxlDocument\)](#),
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HwpxlDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#).

Properties

Id

변경 추적을 식별하기 위한 아이디

```
public string Id { get; set; }
```

Property Value

[string](#) ↗

ParaEnd

문단 끝 포함 여부

```
public bool ParaEnd { get; set; }
```

Property Value

[bool](#) ↗

TcID

변경 추적 아이디 참조 값

```
public int TcID { get; set; }
```

Property Value

[int](#) ↗

Class TransMatrixType

Namespace: [HwpIO.Models](#)

Assembly: HwpIO.dll

```
[Serializable]
public class TransMatrixType : MatrixType, IHpxObject
```

Inheritance

[object](#) ← [MatrixType](#) ← TransMatrixType

Implements

[IHpxObject](#)

Inherited Members

[MatrixType.E1](#) , [MatrixType.E2](#) , [MatrixType.E3](#) , [MatrixType.E4](#) , [MatrixType.E5](#) , [MatrixType.E6](#) ,
[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Class UnknownObjectType

Namespace: [HwpXIO.Models](#)

Assembly: HwpXIO.dll

```
[Serializable]
public class UnknownObjectType : AbstractDrawingObjectType, IHwpXObject, ICloneable
```

Inheritance

[object](#) ← [Switchable](#) ← [AbstractShapeObjectType](#) ← [AbstractShapeComponentType](#) ← [AbstractDrawingObjectType](#) ← UnknownObjectType

Implements

[IHwpXObject](#), [ICloneable](#)

Inherited Members

[AbstractDrawingObjectType.LineShape](#), [AbstractDrawingObjectType.FillBrush](#),
[AbstractDrawingObjectType.DrawText](#), [AbstractDrawingObjectType.Shadow](#),
[AbstractShapeComponentType.Offset](#), [AbstractShapeComponentType.OrgSz](#),
[AbstractShapeComponentType.CurSz](#), [AbstractShapeComponentType.Flip](#),
[AbstractShapeComponentType.RotationInfo](#), [AbstractShapeComponentType.RenderingInfo](#),
[AbstractShapeComponentType.Href](#), [AbstractShapeComponentType.GroupLevel](#),
[AbstractShapeComponentType.InstId](#), [AbstractShapeObjectType.Sz](#), [AbstractShapeObjectType.Pos](#),
[AbstractShapeObjectType.OutMargin](#), [AbstractShapeObjectType.Caption](#),
[AbstractShapeObjectType.ShapeComment](#), [AbstractShapeObjectType.Id](#),
[AbstractShapeObjectType.ZOrder](#), [AbstractShapeObjectType.NumberingType](#),
[AbstractShapeObjectType.TextWrap](#), [AbstractShapeObjectType.TextFlow](#),
[AbstractShapeObjectType.Lock](#), [AbstractShapeObjectType.DropCapStyle](#), [Switchable.Switch](#),
[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#),
[object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Extension Methods

[HwpXDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpXDocument\)](#),
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HwpXDocumentExtensions.SerializeToXmlElements<T>\(T\)](#),
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#).

Constructors

UnknownObjectType()

```
public UnknownObjectType()
```

Properties

CtrlID

```
public string CtrlID { get; set; }
```

Property Value

[string](#) ↗

Point0

```
public PointType Point0 { get; set; }
```

Property Value

[PointType](#)

Point1

```
public PointType Point1 { get; set; }
```

Property Value

[PointType](#)

Point2

```
public PointType Point2 { get; set; }
```

Property Value

[PointType](#)

Point3

```
public PointType Point3 { get; set; }
```

Property Value

[PointType](#)

Methods

Clone()

```
public override object Clone()
```

Returns

[object](#)

Namespace HpxIO.Models.Compatibility

Classes

[Case](#)

[Default](#)

[Switch](#)

[Switchable](#)

Class Case

Namespace: [HwpxlO.Models.Compatibility](#)

Assembly: HwpxlO.dll

```
[Serializable]
public sealed class Case
```

Inheritance

[object](#) ← Case

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

Case()

```
public Case()
```

Properties

RequiredNamespace

```
public string RequiredNamespace { get; set; }
```

Property Value

[string](#)

Value

```
public XmlElement[] Value { get; set; }
```

Property Value

[XmlElement](#)[]

Class Default

Namespace: [HwpxlO.Models.Compatibility](#)

Assembly: HwpxlO.dll

```
[Serializable]
public sealed class Default
```

Inheritance

[object](#) ← Default

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Properties

Value

```
public XElement[] Value { get; set; }
```

Property Value

[XmlElement](#)[]

Class Switch

Namespace: [HwpXI.Models.Compatibility](#)

Assembly: HwpXI.dll

```
[Serializable]
public sealed class Switch
```

Inheritance

[object](#) ← Switch

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#).

Constructors

Switch()

```
public Switch()
```

Fields

xmlns

```
[NonSerialized]
public XmlSerializerNamespaces xmlns
```

Field Value

[XmlSerializerNamespaces](#)

Properties

Case

```
public List<Case> Case { get; set; }
```

Property Value

[List](#) <[Case](#)>

Default

```
public Default Default { get; set; }
```

Property Value

[Default](#)

Class Switchable

Namespace: [HwpIO.Models.Compatibility](#)

Assembly: HwpIO.dll

```
[Serializable]
public abstract class Switchable : IHpxObject, ICloneable
```

Inheritance

[object](#) ← Switchable

Implements

[IHpxObject](#), [ICloneable](#)

Derived

[AbstractDrawingObjectTypeDrawText](#), [AbstractDrawingObjectTypeDrawTextTextMargin](#),
[AbstractFormObjectTypeFormCharPr](#), [AbstractShapeObjectType](#), [AbstractShapeObjectTypeCaption](#),
[AbstractShapeObjectTypeOutMargin](#), [AbstractShapeObjectTypePos](#), [AbstractShapeObjectTypeSZ](#),
[AutoNumFormatType](#), [AutoNumNewNumType](#), [BorderFillType](#), [BulletType](#), [CharShapeType](#),
[CompatibleDocumentType](#), [ConfigItemSet](#), [DocOption](#), [FontfaceType](#), [ForbiddenWordListType](#),
[HWPMLHeadType](#), [HWPMLHeadTypeBeginNum](#), [HWPMLHeadTypeTrackchageConfig](#),
[MappingTableType](#), [MappingTableTypeBorderFills](#), [MappingTableTypeBullets](#),
[MappingTableTypeCharProperties](#), [MappingTableTypeFontfaces](#), [MappingTableTypeMemoProperties](#),
[MappingTableTypeNumberings](#), [MappingTableTypeParaProperties](#), [MappingTableTypeStyles](#),
[MappingTableTypeTabProperties](#), [MappingTableTypeTrackChangeAuthors](#),
[MappingTableTypeTrackChanges](#), [MemoShapeType](#), [NumberingType](#), [PTypeRunCompose](#),
[PTypeRunCtrl](#), [PTypeRunDutmal](#), [PTypeRunT](#), [ParaShapeType](#), [ParameterList](#),
[ParameterListBooleanParam](#), [ParameterListFloatParam](#), [ParameterListIntegerParam](#),
[ParameterListStringParam](#), [SectionDefinitionType](#), [StyleType](#), [TabDefType](#), [TrackChange](#)

Inherited Members

[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#),
[object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#),
[SwitchableExtensions.GetSwitchableValue<T>\(T, IEnumerable<string>, bool\)](#),
[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#)

Properties

Switch

```
public List<Switch> Switch { get; set; }
```

Property Value

[List](#) <[Switch](#)>

Methods

Clone()

```
public abstract object Clone()
```

Returns

[object](#)

Namespace Hwp(IO.Models.Contracts

Interfaces

[IHpxDocument](#)

[IHpxObject](#)

Interface IHpxDocument

Namespace: [HpxIO.Models.Contracts](#)

Assembly: HpxIO.dll

```
public interface IHpxDocument : IHpxObject
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#) ,
[HpxDocumentUtils.GetCharProperties\(IHpxDocument\)](#) ,
[HpxDocumentUtils.GetFontfaces\(IHpxDocument\)](#) ,
[HpxDocumentUtils.GetParaProperties\(IHpxDocument\)](#) ,
[HpxDocumentUtils.GetStyles\(IHpxDocument\)](#) ,
[HpxDocumentUtils.GetTabProperties\(IHpxDocument\)](#) ,
[HpxDocumentUtils.TextExtraction\(IHpxDocument, TextWriter\)](#) ,
[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#).

Interface IHpxObject

Namespace: [HpxIO.Models.Contracts](#)

Assembly: HpxIO.dll

```
public interface IHpxObject
```

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Namespace HwpxlO.Models.DocHistory

Classes

[DeleteType](#)

내용 삭제 이력 정보

[DiffDataType](#)

문서 이력 내용이 적용될 대상의 경로를 가지고 있는 요소 형태이다.

[DiffEntryType](#)

문서의 변경 이력을 종류별로 구분하기 위한 요소 형태이다. 변경 이력 종류에는 추가, 수정, 삭제가 있다.

[HWPMLHistoryType](#)

문서 이력 정보 목록을 가지고 있는 요소이다

[HistoryEntryType](#)

실제 변경 내용을 가지고 있는 요소이다.

[InsertType](#)

새로운 내용 추가 이력 정보

[UpdateType](#)

내용 변경 이력 정보

Class DeleteType

Namespace: [HwpIO.Models.DocHistory](#)

Assembly: HwpIO.dll

내용 삭제 이력 정보

```
[Serializable]
public class DeleteType : DiffDataType, IHpxObject
```

Inheritance

[object](#) ← [DiffDataType](#) ← DeleteType

Implements

[IHpxObject](#)

Inherited Members

[DiffDataType.Path](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

Any

자식으로 가질 수 있는 요소 형식에 제한이 없음

```
public XElement Any { get; set; }
```

Property Value

[XmlElement](#)

Methods

Clone()

Create a clone of this DeleteType object

```
public virtual DeleteType Clone()
```

Returns

[DeleteType](#)

Class DiffDataType

Namespace: [HwpvIO.Models.DocHistory](#)

Assembly: HwpvIO.dll

문서 이력 내용이 적용될 대상의 경로를 가지고 있는 요소 형태이다.

```
[Serializable]
public abstract class DiffDataType : IHwpvObject
```

Inheritance

[object](#) ← DiffDataType

Implements

[IHwpvObject](#)

Derived

[DeleteType](#), [InsertType](#), [UpdateType](#)

Inherited Members

[object.Equals\(object\)](#), [object.Equals\(object, object\)](#), [object.GetHashCode\(\)](#), [object.GetType\(\)](#),
[object.MemberwiseClone\(\)](#), [object.ReferenceEquals\(object, object\)](#), [object.ToString\(\)](#)

Extension Methods

[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#),
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#),
[HwpvDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

Path

이력 정보를 반영할 대상 노드의 경로. XPath로 대상 노드를 지정

```
public string Path { get; set; }
```

Property Value

[string](#)

Methods

Clone()

Create a clone of this DiffDataType object

```
public virtual DiffDataType Clone()
```

Returns

[DiffDataType](#)

Class DiffEntryType

Namespace: [HwpXIO.Models.DocHistory](#)

Assembly: HwpXIO.dll

문서의 변경 이력을 종류별로 구분하기 위한 요소 형태이다. 변경 이력 종류에는 추가, 수정, 삭제가 있다.

```
[Serializable]  
public class DiffEntryType : IHwpXObject
```

Inheritance

[object](#) ← DiffEntryType

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpXDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

DiffEntryType()

```
public DiffEntryType()
```

Properties

Href

변경 추적 대상 파일의 경로. 컨테이너 내에서의 절대 경로.

```
public string Href { get; set; }
```

Property Value

[string](#)

Items

```
public List<DiffDataType> Items { get; set; }
```

Property Value

[List](#) <[DiffDataType](#)>

Methods

Clone()

Create a clone of this DiffEntryType object

```
public virtual DiffEntryType Clone()
```

Returns

[DiffEntryType](#)

Class HWPMHistoryType

Namespace: [HwpIO.Models.DocHistory](#)

Assembly: HwpIO.dll

문서 이력 정보 목록을 가지고 있는 요소이다

```
[Serializable]
public class HWPMHistoryType : IHpxObject
```

Inheritance

[object](#) ← HWPMHistoryType

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

HWPMHistoryType()

```
public HWPMHistoryType()
```

Properties

HistoryEntry

Revision별 히스토리 정보를 담고 있는 요소

```
public List<HistoryEntryType> HistoryEntry { get; set; }
```

Property Value

[List](#) <[HistoryEntryType](#)>

Version

OWPML history XML의 버전 (현재 버전은 1.0임)

```
public string Version { get; set; }
```

Property Value

[string](#)

Methods

Clone()

Create a clone of this HWPMLHistoryType object

```
public virtual HWPMLHistoryType Clone()
```

Returns

[HWPMLHistoryType](#)

Class HistoryEntryType

Namespace: [HwpIO.Models.DocHistory](#)

Assembly: HwpIO.dll

실제 변경 내용을 가지고 있는 요소이다.

```
[Serializable]
public class HistoryEntryType : IHpxObject
```

Inheritance

[object](#) ← HistoryEntryType

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Constructors

HistoryEntryType()

```
public HistoryEntryType()
```

Properties

AutoSave

```
public bool AutoSave { get; set; }
```

Property Value

[bool](#)

BodyDiff

OWPML Body의 이력 내용을 담고 있는 요소

```
public List<DiffEntryType> BodyDiff { get; set; }
```

Property Value

[List](#) <[DiffEntryType](#)>

HeadDiff

OWPML Head의 이력 내용을 담고 있는 요소

```
public DiffEntryType HeadDiff { get; set; }
```

Property Value

[DiffEntryType](#)

PackageDiff

OWPML Package의 이력 내용을 담고 있는 요소

```
public DiffEntryType PackageDiff { get; set; }
```

Property Value

[DiffEntryType](#)

RevisionAuthor

이력 작성자

```
public string RevisionAuthor { get; set; }
```

Property Value

[string](#)

RevisionDate

이력 날짜

```
[RegularExpression("[0-9]{4}-[01][0-9]-[0-3][0-9] [0-2][0-9]:[0-5][0-9]:[0-5][0-9]")]
public string RevisionDate { get; set; }
```

Property Value

[string](#)

RevisionDesc

```
public string RevisionDesc { get; set; }
```

Property Value

[string](#)

RevisionNumber

이력 번호

```
public int RevisionNumber { get; set; }
```

Property Value

[int](#)

Methods

Clone()

Create a clone of this HistoryEntryType object

```
public virtual HistoryEntryType Clone()
```

Returns

[HistoryEntryType](#)

Class InsertType

Namespace: [HwpIO.Models.DocHistory](#)

Assembly: HwpIO.dll

새로운 내용 추가 이력 정보

```
[Serializable]
public class InsertType : DiffDataType, IHpxObject
```

Inheritance

[object](#) ← [DiffDataType](#) ← InsertType

Implements

[IHpxObject](#)

Inherited Members

[DiffDataType.Path](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Methods

Clone()

Create a clone of this InsertType object

```
public virtual InsertType Clone()
```

Returns

[InsertType](#)

Class UpdateType

Namespace: [HwpIO.Models.DocHistory](#)

Assembly: HwpIO.dll

내용 변경 이력 정보

```
[Serializable]
public class UpdateType : DiffDataType, IHpxObject
```

Inheritance

[object](#) ← [DiffDataType](#) ← UpdateType

Implements

[IHpxObject](#)

Inherited Members

[DiffDataType.Path](#) , [object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) ,
[object.GetType\(\)](#) , [object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) ,
[object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

UpdateType()

```
public UpdateType()
```

Properties

Items

```
public List<DiffDataType> Items { get; set; }
```

Property Value

[List](#) <[DiffDataType](#)>

OldValue

변경사항이 반영되기 이전의 값

```
public string oldValue { get; set; }
```

Property Value

[string](#)

Methods

Clone()

Create a clone of this UpdateType object

```
public virtual UpdateType Clone()
```

Returns

[UpdateType](#)

Namespace HpxIO.Models.Hpf

Classes

[ContentHpf](#)

[ContentHpfManifest](#)

[ContentHpfManifestItem](#)

[ContentHpfMetadata](#)

[ContentHpfMetadataMeta](#)

[ContentHpfSpine](#)

[ContentHpfSpineItemRef](#)

Class ContentHpf

Namespace: [HwpIO.Models.Hpf](#)

Assembly: HwpIO.dll

```
[Serializable]
public class ContentHpf : IHpxObject, IBuilderableModel<ContentHpfBuilder>
```

Inheritance

[object](#) ← ContentHpf

Implements

[IHpxObject](#), [IBuilderableModel<ContentHpfBuilder>](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

ContentHpf()

```
public ContentHpf()
```

Fields

xmlns

```
[NonSerialized]
public XmlSerializerNamespaces xmlns
```

Field Value

[XmlSerializerNamespaces](#) ↗

Properties

Id

```
public string Id { get; set; }
```

Property Value

[string](#) ↗

Manifest

```
public ContentHpfManifest Manifest { get; set; }
```

Property Value

[ContentHpfManifest](#)

Metadata

```
public ContentHpfMetadata Metadata { get; set; }
```

Property Value

[ContentHpfMetadata](#)

Spine

```
public ContentHpfSpine Spine { get; set; }
```

Property Value

[ContentHpfSpine](#)

UniqueIdentifier

```
public string UniqueIdentifier { get; set; }
```

Property Value

[string](#)

Version

```
public string Version { get; set; }
```

Property Value

[string](#)

Methods

UpdateBuilder(Action<ContentHpfBuilder>, IHpxBuilder)

```
public ContentHpfBuilder UpdateBuilder(Action<ContentHpfBuilder> updateBuilderAction = null, IHpxBuilder hpxBuilder)
```

Parameters

updateBuilderAction [Action](#)<ContentHpfBuilder>

hpxBuilder [IHpxBuilder](#)

Returns

[ContentHpfBuilder](#)

Class ContentHpfManifest

Namespace: [HwpIO.Models.Hpf](#)

Assembly: HwpIO.dll

```
[Serializable]
public class ContentHpfManifest : IHpxObject
```

Inheritance

[object](#) ← ContentHpfManifest

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

ContentHpfManifest()

```
public ContentHpfManifest()
```

Properties

Item

```
public List<ContentHpfManifestItem> Item { get; set; }
```

Property Value

[List](#) <[ContentHpfManifestItem](#)>

Class ContentHpfManifestItem

Namespace: [HwpIO.Models.Hpf](#)

Assembly: HwpIO.dll

```
public class ContentHpfManifestItem : IHpxObject
```

Inheritance

[object](#) ← ContentHpfManifestItem

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlElements<T>\(T\)](#)

Properties

Encryption

```
public bool Encryption { get; set; }
```

Property Value

[bool](#)

Fallback

```
public string Fallback { get; set; }
```

PropertyValue

[string](#)

FallbackStyle

```
public string FallbackStyle { get; set; }
```

PropertyValue

[string](#)

FileSize

```
public int FileSize { get; set; }
```

PropertyValue

[int](#)

Href

```
public string Href { get; set; }
```

PropertyValue

[string](#)

Id

```
public string Id { get; set; }
```

PropertyValue

[string](#)

IsEmbeded

```
public bool IsEmbeded { get; set; }
```

Property Value

[bool](#)

MediaType

```
public string MediaType { get; set; }
```

Property Value

[string](#)

RequiredModules

```
public string RequiredModules { get; set; }
```

Property Value

[string](#)

RequiredNamespace

```
public string RequiredNamespace { get; set; }
```

Property Value

[string](#)

Methods

ShouldSerializeEncryption()

```
public bool ShouldSerializeEncryption()
```

Returns

[bool](#)

ShouldSerializeFileSize()

```
public bool ShouldSerializeFileSize()
```

Returns

[bool](#)

ShouldSerializeIsEmbeded()

```
public bool ShouldSerializeIsEmbeded()
```

Returns

[bool](#)

Class ContentHpfMetadata

Namespace: [HwpIO.Models.Hpf](#)

Assembly: HwpIO.dll

```
[Serializable]
public class ContentHpfMetadata : IHpxObject
```

Inheritance

[object](#) ← ContentHpfMetadata

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

ContentHpfMetadata()

```
public ContentHpfMetadata()
```

Properties

Creator

```
public string Creator { get; set; }
```

Property Value

[string](#)

Description

```
public string Description { get; set; }
```

Property Value

[string](#)

Language

```
public string Language { get; set; }
```

Property Value

[string](#)

Meta

```
public List<ContentHpfMetadataMeta> Meta { get; set; }
```

Property Value

[List](#) <[ContentHpfMetadataMeta](#)>

Publisher

```
public string Publisher { get; set; }
```

Property Value

[string](#)

Subject

```
public string Subject { get; set; }
```

Property Value

[string](#) ↗

Title

```
public string Title { get; set; }
```

Property Value

[string](#) ↗

Class ContentHpfMetadataMeta

Namespace: [HwpIO.Models.Hpf](#)

Assembly: HwpIO.dll

```
[Serializable]
public class ContentHpfMetadataMeta : IHpxObject
```

Inheritance

[object](#) ← ContentHpfMetadataMeta

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

Content

```
public string Content { get; set; }
```

Property Value

[string](#)

Name

```
public string Name { get; set; }
```

Property Value

[string ↗](#)

Text

```
public string Text { get; set; }
```

Property Value

[string ↗](#)

Class ContentHpfSpine

Namespace: [HwpIO.Models.Hpf](#)

Assembly: HwpIO.dll

```
[Serializable]
public class ContentHpfSpine : IHpxObject
```

Inheritance

[object](#) ← ContentHpfSpine

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

ContentHpfSpine()

```
public ContentHpfSpine()
```

Properties

ItemRef

```
public List<ContentHpfSpineItemRef> ItemRef { get; set; }
```

Property Value

[List](#) <[ContentHpfSpineItemRef](#)>

Class ContentHpfSpineItemRef

Namespace: [HwpIO.Models.Hpf](#)

Assembly: HwpIO.dll

```
[Serializable]
public class ContentHpfSpineItemRef : IHpxObject
```

Inheritance

[object](#) ← ContentHpfSpineItemRef

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

Idref

```
public string Idref { get; set; }
```

Property Value

[string](#)

Linear

```
public string Linear { get; set; }
```

Property Value

[string ↗](#)

Namespace HwpxIO.Models.Odf

Classes

[Algorithm](#)

[EncryptionData](#)

[KeyDerivation](#)

[OdfManifest](#)

[OdfManifestFileEntry](#)

[StartKeyGerneration](#)

Class Algorithm

Namespace: [HwpIO.Models.Odf](#)

Assembly: HwpIO.dll

```
[Serializable]
public class Algorithm : IHpxObject
```

Inheritance

[object](#) ← Algorithm

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

AlgorithmName

```
public string AlgorithmName { get; set; }
```

Property Value

[string](#)

InitialisationVector

```
public string InitialisationVector { get; set; }
```

Property Value

[string ↗](#)

Class EncryptionData

Namespace: [HwpIO.Models.Odf](#)

Assembly: HwpIO.dll

```
[Serializable]
public class EncryptionData : IHpxObject
```

Inheritance

[object](#) ← EncryptionData

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

Algorithm

```
public Algorithm Algorithm { get; set; }
```

Property Value

[Algorithm](#)

Checksum

```
public string Checksum { get; set; }
```

Property Value

[string](#) ↗

ChecksumType

```
public string ChecksumType { get; set; }
```

Property Value

[string](#) ↗

KeyDerivation

```
public KeyDerivation KeyDerivation { get; set; }
```

Property Value

[KeyDerivation](#)

StartKeyGeneration

```
public StartKeyGerneration StartKeyGeneration { get; set; }
```

Property Value

[StartKeyGerneration](#)

Class KeyDerivation

Namespace: [HwpvIO.Models.Odf](#)

Assembly: HwpvIO.dll

```
[Serializable]
public class KeyDerivation : IHwpvObject
```

Inheritance

[object](#) ← KeyDerivation

Implements

[IHwpvObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpvDocumentExtensions.ItemCountUpdate\(IHwpvObject, IHwpvDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpvDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

IterationCount

```
public int IterationCount { get; set; }
```

Property Value

[int](#)

KeyDerivationName

```
public string KeyDerivationName { get; set; }
```

Property Value

[string](#)

KeySize

```
public int KeySize { get; set; }
```

Property Value

[int](#)

Salt

```
public string Salt { get; set; }
```

Property Value

[string](#)

Class OdfManifest

Namespace: [HwpvIO.Models.Odf](#)

Assembly: HwpvIO.dll

```
[Serializable]
public class OdfManifest : IHpxObject
```

Inheritance

[object](#) ← OdfManifest

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

OdfManifest()

```
public OdfManifest()
```

Fields

xmlns

```
[NonSerialized]
public XmlSerializerNamespaces xmlns
```

Field Value

[XmlSerializerNamespaces](#)

Properties

FileEntry

```
public List<OdfManifestFileEntry> FileEntry { get; set; }
```

Property Value

[List](#) <[OdfManifestFileEntry](#)>

Class OdfManifestFileEntry

Namespace: [HwpIO.Models.Odf](#)

Assembly: HwpIO.dll

```
[Serializable]
public class OdfManifestFileEntry : IHpxObject
```

Inheritance

[object](#) ← OdfManifestFileEntry

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

EncryptionData

```
public EncryptionData EncryptionData { get; set; }
```

Property Value

[EncryptionData](#)

FullPath

```
public string FullPath { get; set; }
```

Property Value

[string](#) ↗

MediaType

```
public string MediaType { get; set; }
```

Property Value

[string](#) ↗

Size

```
public long Size { get; set; }
```

Property Value

[long](#) ↗

Methods

ShouldSerializeSize()

```
public bool ShouldSerializeSize()
```

Returns

[bool](#) ↗

Class StartKeyGerneration

Namespace: [HwpIO.Models.Odf](#)

Assembly: HwpIO.dll

```
[Serializable]
public class StartKeyGerneration : IHpxObject
```

Inheritance

[object](#) ← StartKeyGerneration

Implements

[IHpxObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Properties

KeySize

```
public int KeySize { get; set; }
```

Property Value

[int](#)

StartKeyGenerationName

```
public string StartKeyGenerationName { get; set; }
```

Property Value

[string ↗](#)

Namespace HwpxIO.Models.Rdf

Classes

[ContainerRdf](#)

[ContainerRdfDescription](#)

[ContainerRdfDescriptionHasPart](#)

[ContainerRdfDescriptionType](#)

Class ContainerRdf

Namespace: [HwpIO.Models.Rdf](#)

Assembly: HwpIO.dll

```
[Serializable]
public class ContainerRdf : IHpxObject, IBuilderableModel<ContainerRdfBuilder>
```

Inheritance

[object](#) ← ContainerRdf

Implements

[IHpxObject](#), [IBuilderableModel](#)<[ContainerRdfBuilder](#)>

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HpxDocumentExtensions.ItemCountUpdate\(IHpxObject, IHpxDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HpxDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

ContainerRdf()

```
public ContainerRdf()
```

Fields

xmlns

```
[NonSerialized]
public XmlSerializerNamespaces xmlns
```

Field Value

[XmlSerializerNamespaces](#)

Properties

Description

```
public List<ContainerRdfDescription> Description { get; set; }
```

Property Value

[List](#) <[ContainerRdfDescription](#)>

Methods

UpdateBuilder(Action<ContainerRdfBuilder>, IHwpxBuilder)

```
public ContainerRdfBuilder UpdateBuilder(Action<ContainerRdfBuilder> updateBuilderAction = null,
```

Parameters

updateBuilderAction [Action](#) <[ContainerRdfBuilder](#)>

hwpxBuilder [IHwpxBuilder](#)

Returns

[ContainerRdfBuilder](#)

Class ContainerRdfDescription

Namespace: [HwpXI.Models.Rdf](#)

Assembly: HwpXI.dll

```
[Serializable]
public class ContainerRdfDescription : IHwpXObject
```

Inheritance

[object](#) ← ContainerRdfDescription

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXIExtensions.ItemCountUpdate\(IHwpXObject, IHwpXI.Document\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXIExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

ContainerRdfDescription()

```
public ContainerRdfDescription()
```

Properties

About

```
[Required]
public string About { get; set; }
```

Property Value

[string ↗](#)

HasPart

```
public ContainerRdfDescriptionHasPart HasPart { get; set; }
```

Property Value

[ContainerRdfDescriptionHasPart](#)

Type

```
public ContainerRdfDescriptionType Type { get; set; }
```

Property Value

[ContainerRdfDescriptionType](#)

Class ContainerRdfDescriptionHasPart

Namespace: [HwpXIO.Models.Rdf](#)

Assembly: HwpXIO.dll

```
[Serializable]
public class ContainerRdfDescriptionHasPart : IHwpXObject
```

Inheritance

[object](#) ← ContainerRdfDescriptionHasPart

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXDocumentExtensions.ItemCountUpdate\(IHwpXObject, IHwpXDocument\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXDocumentExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

ContainerRdfDescriptionHasPart()

```
public ContainerRdfDescriptionHasPart()
```

Fields

xmlns

```
[NonSerialized]
public XmlSerializerNamespaces xmlns
```

Field Value

[XmlSerializerNamespaces](#) ↗

Properties

Resource

```
public string Resource { get; set; }
```

Property Value

[string](#) ↗

Class ContainerRdfDescriptionType

Namespace: [HwpXI.Models.Rdf](#)

Assembly: HwpXI.dll

```
[Serializable]
public class ContainerRdfDescriptionType : IHwpXObject
```

Inheritance

[object](#) ← ContainerRdfDescriptionType

Implements

[IHwpXObject](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[HwpXIExtensions.ItemCountUpdate\(IHwpXObject, IHwpXI.Document\)](#) ,
[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#) ,
[HwpXIExtensions.SerializeToXmlIElements<T>\(T\)](#)

Constructors

ContainerRdfDescriptionType()

```
public ContainerRdfDescriptionType()
```

Properties

Resource

```
public string Resource { get; set; }
```

Property Value

string ↗

Namespace HpxxIO.Models.ValidatorResults

Classes

[MismatchedItemCount](#)

항목 수가 일치하지 않는 프로퍼티에 대한 정보를 나타냅니다.

Class MismatchedItemCount

Namespace: [HwpxIO.Models.ValidatorResults](#)

Assembly: HwpxIO.dll

항목 수가 일치하지 않는 프로퍼티에 대한 정보를 나타냅니다.

```
public class MismatchedItemCount
```

Inheritance

[object](#) ← MismatchedItemCount

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Properties

ActualItemCount

해당 프로퍼티에 실제로 들어있는 아이템의 갯수입니다.

```
public int ActualItemCount { get; set; }
```

PropertyValue

[int](#)

PropertyName

항목 수가 일치하지 않는 프로퍼티의 이름입니다.

```
public string PropertyName { get; set; }
```

Property Value

[string](#) ↗

SetItemCount

ItemCountAttribute가 적용된 프로퍼티에 현재 설정된 수량값입니다.

```
public int SetItemCount { get; set; }
```

Property Value

[int](#) ↗

Namespace HpxxIO.Reader

Classes

[HpxxReader](#)

Class HwpxReader

Namespace: [HwpxIO.Reader](#)

Assembly: HwpxIO.dll

```
public class HwpxReader : IDisposable
```

Inheritance

[object](#) ← HwpxReader

Implements

[IDisposable](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

HwpxReader(string, Encoding)

```
public HwpxReader(string filePath, Encoding encoding = null)
```

Parameters

filePath [string](#)

encoding [Encoding](#)

Methods

Dispose()

```
public void Dispose()
```

Dispose(bool)

```
protected virtual void Dispose(bool disposing)
```

Parameters

disposing [bool](#)

DocumentRead()

```
public HwpDocument DocumentRead()
```

Returns

[HwpDocument](#)

Namespace HwpIO.Utils

Classes

[Extraction](#)

[HwpUnit](#)

[HwpDocumentUtils](#)

Class Extraction

Namespace: [HwpIO.Utils](#)

Assembly: HwpIO.dll

```
public static class Extraction
```

Inheritance

[object](#) ← Extraction

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Methods

Text(IHpxDocument, TextWriter)

Hpx 문서에서 텍스트를 추출합니다.

```
public static string Text(IHpxDocument document, TextWriter textWriter = null)
```

Parameters

document [IHpxDocument](#)

Hpx 문서 객체

textWriter [TextWriter](#)

출력을 위한 TextWriter 객체. null일 경우 문자열을 반환합니다.

Returns

[string](#)

출력한 텍스트

Text(PType, TextWriter)

PType 객체에서 텍스트를 추출합니다.

```
public static string Text(PType pType, TextWriter textWriter = null)
```

Parameters

pType [PType](#)

textWriter [TextWriter](#)

Returns

[string](#)

Class HwpUnit

Namespace: [HwpxIO.Utils](#)

Assembly: HwpxIO.dll

```
public sealed class HwpUnit
```

Inheritance

[object](#) ← HwpUnit

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Fields

DefaultA4Height

```
public const int DefaultA4Height = 84188
```

Field Value

[int](#)

DefaultA4Width

```
public const int DefaultA4Width = 59528
```

Field Value

[int](#)

HwpUnitFromInch

```
public const float HwpUnitFromInch = 7200
```

Field Value

[float](#)

HwpUnitFromMillimiter

```
public const float HwpUnitFromMillimiter = 283.465
```

Field Value

[float](#)

MillimiterFromInch

```
public const float MillimiterFromInch = 25.4
```

Field Value

[float](#)

Methods

FromCentimeter(float)

```
public static long FromCentimeter(float value)
```

Parameters

value [float](#)

Returns

[long ↗](#)

FromInch(float)

```
public static long FromInch(float value)
```

Parameters

[value float ↗](#)

Returns

[long ↗](#)

FromMillimiter(float)

```
public static long FromMillimiter(float value)
```

Parameters

[value float ↗](#)

Returns

[long ↗](#)

FromPt(float)

```
public static long FromPt(float value)
```

Parameters

[value float ↗](#)

Returns

[long](#)

ToCentimeter(float)

```
public static float ToCentimeter(float value)
```

Parameters

[value](#) [float](#)

Returns

[float](#)

ToInch(float)

```
public static float ToInch(float value)
```

Parameters

[value](#) [float](#)

Returns

[float](#)

ToMillimiter(float)

```
public static float ToMillimiter(float value)
```

Parameters

[value](#) [float](#)

Returns

[float](#)

ToPt(float)

```
public static float ToPt(float value)
```

Parameters

value [float](#)

Returns

[float](#)

ToPt<T>(float)

```
public static T ToPt<T>(float value) where T : struct
```

Parameters

value [float](#)

Returns

T

Type Parameters

T

Class HwpDocumentUtils

Namespace: [HwpIO.Utils](#)

Assembly: HwpIO.dll

```
public static class HwpDocumentUtils
```

Inheritance

[object](#) ← HwpDocumentUtils

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Methods

DeepCopy<T>(T)

깊은 복사를 수행하는 메서드입니다.

```
public static T DeepCopy<T>(T obj)
```

Parameters

obj T

깊은 복사를 수행할 객체

Returns

T

Type Parameters

T

직렬화 가능한 타입

Exceptions

[ArgumentException](#)

대상 타입이 직렬화 가능하지 않은 경우 발생

GetCharProperties(IHwxDocument)

문서에 설정된 글자모양 정보들을 가져옵니다.

```
public static List<CharShapeType> GetCharProperties(this IHwxDocument document)
```

Parameters

document [IHwxDocument](#)

Returns

[List](#) <[CharShapeType](#)>

GetFontfaces(IHwxDocument)

문서에 설정된 폰트 정보를 가져옵니다.

```
public static List<FontfaceType> GetFontfaces(this IHwxDocument document)
```

Parameters

document [IHwxDocument](#)

Returns

[List](#) <[FontfaceType](#)>

GetParaProperties(IHwxDocument)

문서에 설정된 문단모양 정보들을 가져옵니다.

```
public static List<ParaShapeType> GetParaProperties(this IHpxDocument document)
```

Parameters

document [IHpxDocument](#)

Returns

[List](#) <[ParaShapeType](#)>

GetStyles(IHpxDocument)

문서에 설정된 스타일 정보를 가져옵니다.

```
public static List<styleType> GetStyles(this IHpxDocument document)
```

Parameters

document [IHpxDocument](#)

Returns

[List](#) <[styleType](#)>

GetTabProperties(IHpxDocument)

문서에 설정된 탭 정보를 가져옵니다.

```
public static List<TabDefType> GetTabProperties(this IHpxDocument document)
```

Parameters

document [IHpxDocument](#)

Returns

[List](#) <[TabDefType](#)>

TextExtraction(IHwxDocument, TextWriter)

```
public static string TextExtraction(this IHwxDocument document, TextWriter textWriter = null)
```

Parameters

document [IHwxDocument](#)

textWriter [TextWriter](#)

Returns

[string](#)

Namespace HpxxIO.Writer

Classes

[HpxxWriter](#)

Class HpxxWriter

Namespace: [HpxxIO.Writer](#)

Assembly: HpxxIO.dll

```
public class HpxxWriter : IDisposable
```

Inheritance

[object](#) ← HpxxWriter

Implements

[IDisposable](#)

Inherited Members

[object.Equals\(object\)](#) , [object.Equals\(object, object\)](#) , [object.GetHashCode\(\)](#) , [object.GetType\(\)](#) ,
[object.MemberwiseClone\(\)](#) , [object.ReferenceEquals\(object, object\)](#) , [object.ToString\(\)](#)

Extension Methods

[GenericExtensions.IfNotNull<T>\(T, Action<T>\)](#)

Constructors

HpxxWriter(Stream)

```
public HpxxWriter(Stream stream)
```

Parameters

stream [Stream](#)

HpxxWriter(string)

```
public HpxxWriter(string filePath)
```

Parameters

`filePath` [string](#)

Methods

Dispose()

```
public void Dispose()
```

Dispose(bool)

```
protected virtual void Dispose(bool disposing)
```

Parameters

`disposing` [bool](#)

Write(HwpDocument)

```
public void Write(HwpDocument document)
```

Parameters

`document` [HwpDocument](#)