Section: Create Profile

Property

Functions

afx_msg VARIANT	**OSPropertyUI::CreateBeamPropertyFromTable** (const VARIANT FAR &Country, const VARIANT FAR &SectionName, const VARIANT FAR &TypeSpec, const VARIANT FAR &AddSpec_1, const VARIANT FAR &AddSpec_2) Creates beam property from table.
afx_msg VARIANT	**OSPropertyUI::CreateBeamPropertyFromTableWithCoverPlates** (const VARIANT FAR &Country, const VARIANT FAR &SectionName, const VARIANT FAR &TypeSpec, const VARIANT FAR &AddSpecArray) Creates beam property from table with cover plates.
afx_msg VARIANT	**OSPropertyUI::CreateBeamPropertyFromTableComposite** (const VARIANT FAR &Country, const VARIANT FAR &SectionName, const VARIANT FAR &TypeSpec, const VARIANT FAR &AddSpecArray) Creates beam property from table composite.
afx_msg VARIANT	**OSPropertyUI::CreateWideFlangePropertyFromTable** (const VARIANT FAR &nCountry, const VARIANT FAR &SectionName, const VARIANT FAR &nTypeSpec, const VARIANT FAR &varSpecs) Creates wide flange member property from table with data for all specs.
afx_msg VARIANT	**OSPropertyUI::CreateBeamPropertyFromTableEx** (const VARIANT FAR &Country, const VARIANT FAR &SectionName, const VARIANT FAR &TypeSpec) Creates beam property from table.
afx_msg VARIANT	**OSPropertyUI::CreateTeePropertyFromTable** (const VARIANT FAR &Country, const VARIANT FAR &SectionName, const VARIANT FAR &TypeSpec) Creates tee property from database.
afx_msg VARIANT	**OSPropertyUI::CreateChannelPropertyFromTable** (const VARIANT FAR &Country, const VARIANT FAR &SectionName, const VARIANT FAR &TypeSpec, const VARIANT FAR &AddSpec_1) Creates channel property from database.
afx_msg VARIANT	**OSPropertyUI::CreateAnglePropertyFromTable** (const VARIANT FAR &Country, const VARIANT FAR &SectionName, const VARIANT FAR &TypeSpec, const VARIANT FAR &AddSpec_1) Creates angle property from database.
afx_msg VARIANT	**OSPropertyUI::CreateTubePropertyFromTable** (const VARIANT FAR &Country, const VARIANT FAR &SectionName, const VARIANT FAR &TypeSpec, const VARIANT FAR &AddSpec_1, const VARIANT FAR &AddSpec_2, const VARIANT FAR &AddSpec_3)

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afx_msg VARIANT	**OSPropertyUI::CreatePipePropertyFromTable** (const VARIANT FAR &Country, const VARIANT FAR &SectionName, const VARIANT FAR &TypeSpec, const VARIANT FAR &AddSpec_1, const VARIANT FAR &AddSpec_2) Creates pipe property from database.
afx_msg VARIANT	**OSPropertyUI::CreatePrismaticRectangleProperty** (const VARIANT FAR &varfYD, const VARIANT FAR &varfZD) Creates prismatic rectangle property.
afx_msg VARIANT	**OSPropertyUI::CreatePrismaticCircleProperty** (const VARIANT FAR &varfYD) Creates prismatic circle property.
afx_msg VARIANT	**OSPropertyUI::CreatePrismaticTeeProperty** (const VARIANT FAR &varfYD, const VARIANT FAR &varfZD, const VARIANT FAR &varfYB, const VARIANT FAR &varfZB) Creates prismatic tee property.
afx_msg VARIANT	**OSPropertyUI::CreatePrismaticTrapezoidalProperty** (const VARIANT FAR &varfYD, const VARIANT FAR &varfZD, const VARIANT FAR &varfZB) Creates prismatic trapezoidal section property.
afx_msg VARIANT	**OSPropertyUI::CreatePrismaticGeneralProperty** (const VARIANT FAR &varfaProperties) Creates prismatic general property.
afx_msg VARIANT	**OSPropertyUI::CreateTaperedIProperty** (const VARIANT FAR &varfaProperties) Creates tapered I property.
afx_msg VARIANT	**OSPropertyUI::CreateTaperedTubeProperty** (const VARIANT FAR &varnTubeType, const VARIANT FAR &varfd1, const VARIANT FAR &varfd2, const VARIANT FAR &varfTh) Creates tapered tube property.
afx_msg VARIANT	**OSPropertyUI::CreatePlateThicknessProperty** (const VARIANT FAR &faThickness) Creates plate uniform or nonuniform thickness property.

Detailed Description

These functions are related to create section profile.

Function Documentation

◆ CreateAnglePropertyFromTable()

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VARIANT OSPropertyUI::CreateAnglePropertyFromTable (const VARIANT FAR & Country,
                                                        const VARIANT FAR & SectionName,
                                                        const VARIANT FAR & TypeSpec,
                                                        const VARIANT FAR & AddSpec_1)

Creates angle property from database.

Parameters

[in] **Country**   The value for the specified country(Type: long/Integer), refer

OSPropertyUI::CreateBeamPropertyFromTable

[in] **SectionName** Name of the section(Type: string).

[in] **TypeSpec**   The type specification number(Type: long/Integer) [Please refer to enum
'ProfileType']:

Value	Spec Type	Description
0	ST	Single section from the standard built-in tables.
1	RA	Single angle with reverse Y-Z axes (refer to G.4.2 Local Coordinate System).
3	LD	Double angle with long legs back-to-back.
4	SD	Double angle with short legs back-to-back
12	SA	Double angle in a star arrangement (heel to heel)[for Aluminium]

[in] **AddSpec_1**   Additional specification value(Type: double/float) *SP*:

Spec Value	Specification Description
WP TH	for TC and BC
WP TH BW BT	for TB / WP TH for TB
CT FC	for CM
SP	for D, BA and FR
SP	for LD and SD
TH WT DT	for Tube define
OD ID	for Pipe define

Return values

<Val> The assigned section property ID.

0   Library Error: Unable to create property.

C++ Syntax

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```
// 0 = ST, additional specification required.
// Create property ISA100X100X10 from Indian (10) database
// Additional specification value for Angle SP.
VARIANT RetVal = OSPropertyUI::CreateAnglePropertyFromTable(10, (LPCTSTR)"ISA100X100X10",
        0, 0.0);
```

VBA Syntax

```
' 0 = ST, additional specification required.
' Create property ISA100X100X10 from Indian (10) database
' Additional specification value for Angle SP.
Dim RetVal As VARIANT = OSPropertyUI.CreateAnglePropertyFromTable(10, "ISA100X100X10", 0,
        0.0)
```

◆ CreateBeamPropertyFromTable()

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VARIANT OSPropertyUI::CreateBeamPropertyFromTable (const VARIANT FAR & Country,

const VARIANT FAR & SectionName,

const VARIANT FAR & TypeSpec,

const VARIANT FAR & AddSpec_1,

const VARIANT FAR & AddSpec_2)

Creates beam property from table.

Parameters

    [in] **Country**   The value for the specified country (Type: long/Integer). Refer table below:

Country CODE	Country
1	American
2	Australian
3	British
4	Canadian
5	Chinese
6	Dutch
7	European
8	French
9	German
10	Indian
11	Japanese
12	Russian
13	SouthAfrican
14	Spanish
15	Venezuelan
16	Korean
17	Aluminum
18	American cold formed
19	Indian cold formed
20	Mexican
21	American Steel Joist
22	AITCTimber
23	Lysaght cold formed
24	British cold formed
25	Canadian Timber

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26	Butler cold formed
27	Kingspan cold formed
28	RCeco cold formed
29	Japanese cold formed
30	Australian cold formed
31	Russian cold formed
32	STOASChM
33	Jindal
34	European cold formed
35	Tata Structura
36	Brazilian
37	APL Apollo Tubes

[in] **SectionName** Name of the section(Type: string).

[in] **TypeSpec**   The type specification number(Type: long/Integer):

Value	Type Spec.	Description
0	ST	
2	D	Double profile.
5	T	Tee section cut from I shaped section (for aluminium)

[in] **AddSpec_1**   clear Spacing for Double profile(Type: double/float)

[in] **AddSpec_2**   please set it with 0.0(Type: double/float)

Return values

<Val> The assigned section property ID.

0   Library Error: Unable to create property.

C++ Syntax

```
// 0 = ST, additional specification required.
// Create property ISMB600 from Indian (10) database.
// Additional specification value for ISMB are WP and TH.
VARIANT RetVal = OSPropertyUI::CreateBeamPropertyFromTable(10, (LPCTSTR)"ISMB600", 0,
        0.0, 0.0);
```

VBA Syntax

```
 Option Explicit
Sub Main
    Dim objOpenStaad As Object
    Dim stdFile As String
    Set objOpenStaad = GetObject(,"StaadPro.OpenSTAAD")
```

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```
                MsgBox"Bad"
                Set objOpenStaad = Nothing
                Exit Sub
        End If
        objOpenStaad.Property. SetMaterialName("STEEL")
        Dim propertyNo As Integer
        'Create Property ISMB600 D SP 0.2 from Indian (10) database.
        propertyNo = objOpenStaad.Property.CreateBeamPropertyFromTable(10, "ISMB600", 2, 0.2,
            0.0)
        If propertyNo>0 Then
            MsgBox"Create Beam Property successful."
        End If
        Set objOpenStaad = Nothing
    End Sub
```

See also

OSPropertyUI::CreateBeamPropertyFromTableComposite

OSPropertyUI::CreateBeamPropertyFromTableWithCoverPlates

OSPropertyUI::CreateBeamPropertyFromTableEx

◆ CreateBeamPropertyFromTableComposite()

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VARIANT OSPropertyUI::CreateBeamPropertyFromTableComposite (const VARIANT FAR & Country,
const VARIANT FAR & SectionName,
const VARIANT FAR & TypeSpec,
const VARIANT FAR & AddSpecArray)

Creates beam property from table composite.

Parameters

[in] **Country**   The value for the specified country(Type: long/Integer), refer

OSPropertyUI::CreateBeamPropertyFromTable

[in] **SectionName**   Name of the section(Type: string).

[in] **TypeSpec**   The type specification number(Type: long/Integer):

Index	Spec Type
-1	Define
0	ST
1	RA
2	D
3	LD
4	SD
5	T (for aluminium)
6	CM
7	TC
8	BC
9	TB
10	BA (for aluminium)
11	FR
12	SA (for aluminium)

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`[in]` **AddSpecArray** VARIANT array of additional specification values(Type: long/Integer array):

Spec Value	Specification Description
WP TH	for TC and BC
WP TH BW BT	for TB / WP TH for TB
CT FC	for CM
SP	for D, BA and FR
SP	for LD and SD
TH WT DT	for Tube define
OD ID	for Pipe define

Return values

<Val> The assigned section property ID.

0   Library Error: Unable to create property.

-6004 Section is not found in profile database.

-6005 Section data for a section is not found.

-6006 Invalid section type.

C++ Syntax

```cpp
// 0 = ST, no additional specification required.
// Create property ISMB600 from Indian (10) database.
VARIANT RetVal = OSPropertyUI::CreateBeamPropertyFromTableComposite(10,
        (LPCTSTR)"ISMB600", 0, AddSpecArray);
```

VBA Syntax

```vba
' 0 = ST, no additional specification required.
' Create property ISMB600 from Indian (10) database.
Dim RetVal As VARIANT = OSPropertyUI.CreateBeamPropertyFromTableComposite(10, "ISMB600",
        0, AddSpecArray)
```

◆ CreateBeamPropertyFromTableEx()

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VARIANT OSPropertyUI::CreateBeamPropertyFromTableEx (const VARIANT FAR & Country,

const VARIANT FAR & SectionName,

const VARIANT FAR & TypeSpec)

Creates beam property from table.

Parameters

[in] **Country**   The value for the specified country(Type: long/Integer), refer

OSPropertyUI::CreateBeamPropertyFromTable

[in] **SectionName**   Name of the section(Type: string).

[in] **TypeSolidShape** The type specification number(Type: long/Integer):

Solid Shape ID	The shape of section
1	Plate Strip
2	Solid Rect
3	Solid Round
4	Round
5	Cable

Return values

<Val> The assigned section property ID.

0   Library Error: Unable to create property.

C++ Syntax

```
  // 0 = ST, no additional specification required.
 // Create property ISMB600 from Dutch database with SolidRound section shape.
  long RetVal = COSProperty::CreateBeamPropertyFromTableEx(6, (LPCTSTR)"RD13.4",
      SolidShapeType.ssSolidRound);
```

VBA Syntax

```
Option Explicit
 Sub Main
     Dim objOpenStaad As Object
     Dim stdFile As String
     Set objOpenStaad = GetObject(,"StaadPro.OpenSTAAD")
     objOpenStaad.GetSTAADFile stdFile, "TRUE"
     If stdFile="" Then
         MsgBox"Bad"
         Set objOpenStaad = Nothing
         Exit Sub
     End If
     objOpenStaad.Property. SetMaterialName("STEEL")
     Dim propertyNo As Integer
     ! Create property ISMB600 from Dutch database with SolidRound section shape.
                                                          5, "RD13.4", 3)
         If propertyNo>0 Then
```

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```
            MsgBox"Create Beam Property successful."
        End If
        Set objOpenStaad = Nothing
    End Sub
```

◆ CreateBeamPropertyFromTableWithCoverPlates()

VARIANT
OSPropertyUI::CreateBeamPropertyFromTableWithCoverPlates　　　(const VARIANT FAR & Country,
　　　　　　　　　　　　　　　　　　　　　　　　const VARIANT FAR & SectionName,
　　　　　　　　　　　　　　　　　　　　　　　　const VARIANT FAR & TypeSpec,
　　　　　　　　　　　　　　　　　　　　　　　　const VARIANT FAR & AddSpecArray)

Creates beam property from table with cover plates.

Parameters

　　　[in] **Country**　　　The value for the specified country(Type: long/Integer), refer

　　　　　　　　　　　　　OSPropertyUI::CreateBeamPropertyFromTable

　　　[in] **SectionName**　　Name of the section(Type: string).

　　　[in] **TypeSpec**　　　The type specification number(Type: long/Integer):

Index	Spec Type
-1	Define
0	ST
1	RA
2	D
3	LD
4	SD
5	T (for aluminium)
6	CM
7	TC
8	BC
9	TB
10	BA (for aluminium)
11	FR
12	SA (for aluminium)

　　　[in] **AddSpecArray** VARIANT array of additional specification values(Type: long/Integer array):

Spec Value	Specification Description
WP TH	for TC and BC
WP TH BW BT	for TB / WP TH for TB
CT FC	for CM
SP	for D, BA and FR
SP	for LD and SD

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OD ID	for Pipe define

Return values

<Val> The assigned section property ID.

0   Library Error: Unable to create property.

-6004 Section is not found in profile database.

-6005 Section data for a section is not found.

-6006 Invalid section type.

C++ Syntax

```
// 0 = ST, no additional specification required.
// Create property ISMB600 from Indian (10) database.
VARIANT RetVal = OSPropertyUI::CreateBeamPropertyFromTableWithCoverPlates(10,
        (LPCTSTR)"ISMB600", 0, AddSpecArray);
```

VBA Syntax

```
' 0 = ST, no additional specification required.
' Create property ISMB600 from Indian (10) database.
Dim RetVal As VARIANT = OSPropertyUI.CreateBeamPropertyFromTableWithCoverPlates(10,
        "ISMB600", 0, AddSpecArray)
```

◆ CreateChannelPropertyFromTable()

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VARIANT OSPropertyUI::CreateChannelPropertyFromTable (const VARIANT FAR & Country,
const VARIANT FAR & SectionName,
const VARIANT FAR & TypeSpec,
const VARIANT FAR & AddSpec_1)

Creates channel property from database.

Parameters

[in] **Country**　　　The value for the specified country(Type: long/Integer), refer

OSPropertyUI::CreateBeamPropertyFromTable

[in] **SectionName** Name of the section(Type: string).

[in] **TypeSpec**　　　The type specification number(Type: long/Integer):

Index	Spec Type
-1	Define
0	ST
1	RA
2	D
3	LD
4	SD
5	T (for aluminium)
6	CM
7	TC
8	BC
9	TB
10	BA (for aluminium)
11	FR
12	SA (for aluminium)

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[in] **AddSpec_1**   Additional specification value(Type: double/float) *SP*:

Spec Value	Specification Description
WP TH	for TC and BC
WP TH BW BT	for TB / WP TH for TB
CT FC	for CM
SP	for D, BA and FR
SP	for LD and SD
TH WT DT	for Tube define
OD ID	for Pipe define

Return values

<Val> The assigned section property ID.

0   Library Error: Unable to create property.

-6004 Section is not found in profile database.

-6005 Section data for a section is not found.

-6006 Invalid section type.

C++ Syntax

```
// 0 = ST, additional specification required.
// Create property ISMC200 from Indian (10) database.
// Additional specification value for channel SP.
VARIANT RetVal = OSPropertyUI::CreateChannelPropertyFromTable(10, (LPCTSTR)"ISMC200", 0,
        0.0);
```

VBA Syntax

```
' 0 = ST, additional specification required.
' Create property ISMC200 from Indian (10) database.
' Additional specification value for channel SP.
Dim RetVal As VARIANT = OSPropertyUI.CreateChannelPropertyFromTable(10, "ISMC200", 0,
        0.0)
```

◆ CreatePipePropertyFromTable()

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VARIANT OSPropertyUI::CreatePipePropertyFromTable (const VARIANT FAR & Country,

const VARIANT FAR & SectionName,

const VARIANT FAR & TypeSpec,

const VARIANT FAR & AddSpec_1,

const VARIANT FAR & AddSpec_2)

Creates pipe property from database.

Parameters

[in] **Country**   The value for the specified country(Type: long/Integer), refer

OSPropertyUI::CreateBeamPropertyFromTable

[in] **SectionName** Name of the section(Type: string).

[in] **TypeSpec**   The type specification number(Type: long/Integer):

Index	Spec Type
-1	Define
0	ST
1	RA
2	D
3	LD
4	SD
5	T (for aluminium)
6	CM
7	TC
8	BC
9	TB
10	BA (for aluminium)
11	FR
12	SA (for aluminium)

[in] **AddSpec_1**   Additional specification value(Type: double/float) *OD*:

Spec Value	Specification Description
WP TH	for TC and BC
WP TH BW BT	for TB / WP TH for TB
CT FC	for CM
SP	for D, BA and FR
SP	for LD and SD

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OD ID	for Pipe define

[in] **AddSpec_2**   Additional specification value(Type: double/float) *ID*:

Spec Value	Specification Description
WP TH	for TC and BC
WP TH BW BT	for TB / WP TH for TB
CT FC	for CM
SP	for D, BA and FR
SP	for LD and SD
TH WT DT	for Tube define
OD ID	for Pipe define

Return values

<Val> The assigned section property ID.

0   Library Error: Unable to create property.

-6004 Section is not found in profile database.

-6005 Section data for a section is not found.

-6006 Invalid section type.

C++ Syntax 1

```
// 0 = ST, no additional specification required.
// Create property for "PIP1270.0M" from Indian database.
VARIANT RetVal = OSPropertyUI::CreatePipePropertyFromTable(10, (LPCTSTR)"PIP1270.0M", 0,
        0.0, 0.0);
```

VBA Syntax 1

```
' 0 = ST, no additional specification required.
' Create property for "PIP1270.0M" from Indian database.
Dim RetVal As VARIANT = OSPropertyUI.CreatePipePropertyFromTable(10, "PIP1270.0M", 0,
        0.0, 0.0, 0.0)
```

C++ Syntax 2

```
// -1 = User defined.
// Create user defined pipe of OD 300mm and ID 280mm.
// Additional specification value for Pipe are OD, ID.
VARIANT RetVal = OSPropertyUI::CreatePipePropertyFromTable(10, (LPCTSTR)"", -1, 0.3,
        0.28);
```

VBA Syntax 2

```
' -1 = User defined.
```

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```
Dim RetVal As VARIANT = OSPropertyUI.CreatePipePropertyFromTable(10, "", -1, 0.3, 0.28)
```

◆ CreatePlateThicknessProperty()

VARIANT OSPropertyUI::CreatePlateThicknessProperty (const VARIANT FAR & faThickness)

Creates plate uniform or nonuniform thickness property.

Parameters

[in] **faThickness** The thickness for all nodes.

Return values

<Val> The assigned section property ID.

-106   faThickness dimensional array error.

-6003 Library error: Unable to create property.

Example

```
// Thickness is a 4 * 1 array storing thickness for 4 nodes.
double Thickness[3][1] = { { 1 }, { 1.5 }, { 1.5 }, { 1 } };

// Create an VARIANT type variable to store the plate list.
VARIANT faThickness;
faThickness.vt = VT_ARRAY | VT_R8; // define faThickness to store array of double.

SAFEARRAYBOUND SAB[2];
SAB[0].lLbound = 0; SAB[0].cElements = 4;
faThickness.parray = SafeArrayCreate(VT_R8, 1, SAB); // create a 4 * 1 array of double.

for (long i = 0; i < 4; i++)
{
HRESULT hRet = SafeArrayPutElement(faThickness.parray, &i, &Thickness[i]); // assign
        value for faThickness.
}

// Create plate thick property
VARIANT RetVal = OSPropertyUI::CreatePlateThicknessProperty(faThickness);
```

See also

OSPropertyUI::CreatePlateThicknessPropertyWithID

OSPropertyUI::GetPlateThickness

◆ CreatePrismaticCircleProperty()

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VARIANT OSPropertyUI::CreatePrismaticCircleProperty (const VARIANT FAR & varfYD)

Creates prismatic circle property.

Parameters

[in] **varfYD** The circle diameter.

Return values

<Val> The assigned section property ID.

0   Library Error: Unable to create property.

C++ Syntax

```
// Create Circle property of 0.25mm
VARIANT RetVal = OSPropertyUI::CreatePrismaticCircleProperty(0.25);
```

VBA Syntax

```
' Create Circle property of 0.25mm
Dim RetVal As VARIANT = OSPropertyUI.CreatePrismaticCircleProperty(0.25)
```

◆ CreatePrismaticGeneralProperty()

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VARIANT OSPropertyUI::CreatePrismaticGeneralProperty (const VARIANT FAR & varfaProperties)

Creates prismatic general property.

Parameters

[in] **varfaProperties** The property values in VARIANT type array:

Array Index	Property Type	Description
0	AX	Cross section area
1	AY	Shear area in local Y-axis. If zero, shear deformation is ignored in the analysis.
2	AZ	Shear area in local Z-axis. If zero, shear deformation is ignored in the analysis.
3	IX	Torsional constant
4	IY	Moment of inertia about local Y-axis
5	IZ	Moment of inertia about local Z-axis
6	YD	Depth of the section in the direction of the local Y-axis.
7	ZD	Depth of the section in the direction of the local Z-axis.
8	YB	Depth of stem (T-beams); width of section at top fiber (trapezoidal beams)
9	ZB	Width of stem (T-beams); width of section at bottom fiber (trapezoidal beams)

Return values

<Val> The assigned section property ID.

0   Library Error: Unable to create property.

-106   One dimensional array of double expected.

-108   Array size is smaller than expected.

Example

```
// CustomProperty is a 10 * 1 array containing parameters for defining a 18*12 rectangle
      section.
double CustomProperty[10][1] = { {216}, {216}, {216}, {6096}, {2916}, {1296}, {18},
      {12}, {10}, {12} };

// Create an VARIANT type variable to store the beam list.
VARIANT varfaProperties;
varfaProperties.vt = VT_ARRAY | VT_R8; // define varfaProperties to store array of
```

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```
    SAFEARRAYBOUND SAB[2];
    SAB[0].lLbound = 0; SAB[0].cElements = 10;
    varfaProperties.parray = SafeArrayCreate(VT_R8, 1, SAB); // create a 10 * 1 array of
        double.

    for (long i = 0; i < 10; i++)
    {
HRESULT hRet = SafeArrayPutElement(varfaProperties.parray, &i, &CustomProperty[i]); //
        assign value for varfaProperties.
    }

    // Create custom property
    VARIANT RetVal = OSPropertyUI::CreatePrismaticGeneralProperty(varfaProperties);
```

◆ CreatePrismaticRectangleProperty()

VARIANT OSPropertyUI::CreatePrismaticRectangleProperty (const VARIANT FAR & varfYD,

const VARIANT FAR & varfZD)

Creates prismatic rectangle property.

Parameters

[in] **varfYD** The depth along the local Y-axis.

[in] **varfZD** The width along the local Z-axis.

Return values

<Val> The assigned section property ID.

0   Library Error: Unable to create property.

C++ Syntax

```
// Create rectangle property of 250x500mm
VARIANT RetVal = OSPropertyUI::CreatePrismaticRectangleProperty(0.5, 0.25);
```

VBA Syntax

```
' Create rectangle property of 250x500mm
Dim RetVal As VARIANT = OSPropertyUI.CreatePrismaticRectangleProperty(0.5, 0.25)
```

◆ CreatePrismaticTeeProperty()

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VARIANT OSPropertyUI::CreatePrismaticTeeProperty (const VARIANT FAR & varfYD,

const VARIANT FAR & varfZD,

const VARIANT FAR & varfYB,

const VARIANT FAR & varfZB)

Creates prismatic tee property.

Parameters

[in] **varfYD** Total depth of section (top fiber of flange to bottom fiber of web).

[in] **varfZD** Width of flange.

[in] **varfYB** Depth of stem.

[in] **varfZB** Width of stem.

Return values

<Val> The assigned section property ID.

0   Library Error: Unable to create property.

C++ Syntax

```
VARIANT RetVal = OSPropertyUI::CreatePrismaticTeeProperty(0.5, 0.25, 0.4, 0.1);
```

VBA Syntax

```
Dim RetVal As VARIANT = OSPropertyUI.CreatePrismaticTeeProperty(0.5, 0.25, 0.4, 0.1)
```

◆ CreatePrismaticTrapezoidalProperty()

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VARIANT OSPropertyUI::CreatePrismaticTrapezoidalProperty (const VARIANT FAR & varfYD,

const VARIANT FAR & varfZD,

const VARIANT FAR & varfZB)

Creates prismatic trapezoidal section property.

Parameters

[in] **varfYD** Total depth of section.

[in] **varfZD** Width of section at top fiber.

[in] **varfZB** Width of section at bottom fiber.

Return values

<Val> The assigned section property ID.

0 Library Error: Unable to create property.

C++ Syntax

```
VARIANT RetVal = OSPropertyUI::CreatePrismaticTrapezoidalProperty(0.5, 0.25, 0.2);
```

VBA Syntax

```
Dim RetVal As VARIANT = OSPropertyUI.CreatePrismaticTrapezoidalProperty(0.5, 0.25, 0.2)
```

◆ CreateTaperedIProperty()

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VARIANT OSPropertyUI::CreateTaperedIProperty (const VARIANT FAR & varfaProperties)

Creates tapered I property.

Parameters

[in] **varfaProperties** The varfa properties.

Array Index	Property Type	Description
0	F1	Depth of section at start node.
1	F2	Thickness of web.
2	F3	Depth of section at end node.
3	F4	Width of top flange.
4	F5	Thickness of top flange.
5	F6	Width of bottom flange. Defaults to F4 if left out.
6	F7	Thickness of bottom flange. Defaults to F5 left out.

Return values

<Val> The assigned section property ID.

0   Library Error: Unable to create property.

-106   One dimensional array of double expected.

-108   Array size is smaller than expected.

Example

```
// CustomProperty is a 8 * 1 array containing parameters for defining the tapered I
       property.
double CustomProperty[8][1] = { {13.98}, {0.285}, {13.98}, {13.98}, {6.745}, {0.455},
       {6.745} };

// Create an VARIANT type variable to store the array.
VARIANT varfaProperties;
varfaProperties.vt = VT_ARRAY | VT_R8; // define varfaProperties to store array of
       double.

SAFEARRAYBOUND SAB[2];
SAB[0].lLbound = 0; SAB[0].cElements = 8;
varfaProperties.parray = SafeArrayCreate(VT_R8, 1, SAB); // create a 8 * 1 array of
       double.

for (long i = 0; i < 8; i++)
{
HRESULT hRet = SafeArrayPutElement(varfaProperties.parray, &i, &CustomProperty[i]); //
       assign value for varfaProperties
```

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```
// Create custom property
VARIANT RetVal = OSPropertyUI::CreateTaperedIProperty(varfaProperties);
```

◆ CreateTaperedTubeProperty()

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VARIANT OSPropertyUI::CreateTaperedTubeProperty (const VARIANT FAR & varnTubeType,

const VARIANT FAR & varfd1,

const VARIANT FAR & varfd2,

const VARIANT FAR & varfTh)

Creates tapered tube property.

Parameters

[in] **varnTubeType** Type of the tube:

Type of Tube	Value
Round	0
HexDecagonal	1
Dodecagonal	2
Octagonal	3
Hexagonal	4
Square	5

For additional information, please refer to Section 5.20.2.1 of the Technical Reference Manual.

[in] **varfd1**   Depth of section at start of member.

[in] **varfd2**   Depth of section at end of member.

[in] **varfTh**   Thickness of section (constant throughout the member length).

Return values

<Val> The assigned section property ID.

0   Library Error: Unable to create property.

C++ Syntax

```
// Create tapered tube section property.
VARIANT RetVal = OSPropertyUI::CreateTaperedTubeProperty(0, 0.5, 0.4, 0.01);
```

VBA Syntax

```
' Create tapered tube section property.
Dim RetVal As VARIANT = OSPropertyUI.CreateTaperedTubeProperty(0, 0.5, 0.4, 0.01)
```

◆ CreateTeePropertyFromTable()

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VARIANT OSPropertyUI::CreateTeePropertyFromTable (const VARIANT FAR & Country,

const VARIANT FAR & SectionName,

const VARIANT FAR & TypeSpec)

Creates tee property from database.

Parameters

[in] **Country**   The value for the specified country(Type: long/Integer), refer

OSPropertyUI::CreateBeamPropertyFromTable

[in] **SectionName** Name of the section(Type: string).

[in] **TypeSpec**   The type specification number(Type: long/Integer):

Index	Spec Type
-1	Define
0	ST
5	T From Wide Flange

Return values

<Val> The assigned section property ID.

0   Library Error: Unable to create property.

-6004 Section is not found in profile database.

-6005 Section data for a section is not found.

-6006 Invalid section type.

C++ Syntax

```
// Create property ISNT20 from Indian (10) database.
// 0 = ST, no additional specification required.
VARIANT RetVal = OSPropertyUI::CreateTeePropertyFromTable(10, (LPCTSTR)"ISNT20", 0);
```

VBA Syntax

```
' Create property ISNT20 from Indian (10) database.
' 0 = ST, no additional specification required.
Dim RetVal As VARIANT = OSPropertyUI.CreateTeePropertyFromTable(10, "ISNT20", 0)
```

◆ CreateTubePropertyFromTable()

File failed to load: https://cdnjs.cloudflare.com/ajax/libs/mathjax/2.7.0/config/TeX-MML-AM_CHTML/MathJax.js

VARIANT OSPropertyUI::CreateTubePropertyFromTable (const VARIANT FAR & Country,

const VARIANT FAR & SectionName,

const VARIANT FAR & TypeSpec,

const VARIANT FAR & AddSpec_1,

const VARIANT FAR & AddSpec_2,

const VARIANT FAR & AddSpec_3)

Creates tube property from database.

Parameters

[in] **Country**   The value for the specified country(Type: long/Integer), refer

OSPropertyUI::CreateBeamPropertyFromTable

[in] **SectionName** Name of the section(Type: string).

[in] **TypeSpec**   The type specification number(Type: long/Integer):

Index	Spec Type
-1	Define
0	ST
1	RA
2	D
3	LD
4	SD
5	T (for aluminium)
6	CM
7	TC
8	BC
9	TB
10	BA (for aluminium)
11	FR
12	SA (for aluminium)

[in] **AddSpec_1**   Additional specification value(Type: double/float) *TH.*:

Spec Value	Specification Description
WP TH	for TC and BC
WP TH BW BT	for TB / WP TH for TB
CT FC	for CM
SP	for D, BA and FR

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TH WT DT	for Tube define
OD ID	for Pipe define

[in] **AddSpec_2**   Additional specification value(Type: double/float) *WT*:

Spec	Specification Value
WP TH	for TC and BC
WP TH BW BT	for TB / WP TH for TB
CT FC	for CM
SP	for D, BA and FR
SP	for LD and SD
TH WT DT	for Tube define
OD ID	for Pipe define

[in] **AddSpec_3**   Additional specification value(Type: double/float) *DT*:

Spec	Specification Value
WP TH	for TC and BC
WP TH BW BT	for TB / WP TH for TB
CT FC	for CM
SP	for D, BA and FR
SP	for LD and SD
TH WT DT	for Tube define
OD ID	for Pipe define

Return values

<Val> The assigned section property ID.

0   Library Error: Unable to create property.

-6004 Section is not found in profile database.

-6005 Section data for a section is not found.

-6006 Invalid section type.

C++ Syntax 1

```
// 0 = ST, no additional specification required
// Create property for "TUB30302.6" from Indian database.
VARIANT RetVal = OSPropertyUI::CreateTubePropertyFromTable(10, (LPCTSTR)"TUB30302.6", 0,
        0.0, 0.0, 0.0);
```

VBA Syntax 1

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```
Dim RetVal As VARIANT = OSPropertyUI.CreateTubePropertyFromTable(10, "TUB30302.6", 0,
        0.0, 0.0, 0.0)
```

C++ Syntax 2

```
// -1 = User defined.
// Create user defined tube of 300mm x 200mm x 8mm
// Additional specification value for Tube are TH, WT, DT.
VARIANT RetVal = OSPropertyUI::CreateTubePropertyFromTable(10, (LPCTSTR)"", -1, 0.008,
        0.3, 0.2);
```

VBA Syntax 2

```
' -1 = User defined.
' Create user defined tube of 300mm x 200mm x 8mm
' Additional specification value for Tube are TH, WT, DT.
Dim RetVal As VARIANT = OSPropertyUI.CreateTubePropertyFromTable(10, "", -1, 0.008, 0.3,
        0.2)
```

◆ CreateWideFlangePropertyFromTable()

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VARIANT OSPropertyUI::CreateWideFlangePropertyFromTable (const VARIANT FAR & nCountry,

const VARIANT FAR & SectionName,

const VARIANT FAR & nTypeSpec,

const VARIANT FAR & varSpecs)

Creates wide flange member property from table with data for all specs.

Parameters

[in] **nCountry**   The country CODE. (American = 1, Australian = 2, British = 3, Canadian = 4, Chinese =
Dutch = 6, European = 7, French = 8, German = 9, Indian = 10, Japanese = 11, Russian
12, SouthAfrican = 13, Spanish = 14, Venezuelan = 15, Korean = 16).

[in] **SectionName** Name of the section.

[in] **nTypeSpec**   The type specification number. (ST = 0; D = 2; T = 5; CM = 6; TC = 7; BC = 8; TB = 9).

[in] **varSpecs**   The specification values in VARIANT type array:

Array Index	Spec Type	Description
0	SP/CT/WP	• SP:-Spacing for double-I, double-C, double-L • CT:-Conc. thickness for composite-I • WP:-Width of top cover plate for TC,TB and bottom cover plate for BC
1	FC/TH	• FC:-Concrete grade for composite-I • TH:-Thickness of top cover plate for TC,TB and bott cover plate for BC
2	CW/BW	• CW:-Concrete width for composite-I • BW:-Width of bottom cover plate for TB
3	CD/BT	• CD:-Concrete density for composite-I • BT:-Thickness of bottom cover plate for TB

Return values

<Val> The assigned section property ID.

-1   General Error.

Example (C# Syntax)

```
// Create property HP10X42 with profile type TB from American database.
string strSectionName = "HP10X42";
double[] dAddSpecsArr = new double[4]{ 1.25,0.15,1.0,0.12};
object objAddSpecsArr = dAddSpecsArr as object;
int nSectionPropID =
        m_OStd.Property.CreateWideFlangePropertyFromTable(STAADLibBentley.CountryTable.Americ
        strSectionName, STAADLibBentley.ProfileType.TB, objAddSpecsArr);
```

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Example (C++ Syntax)

```csharp
// Create property HP10X42 with profile type TB from American database.
string strSectionName = "HP10X42";
double dAddSpecsArr[] = new double[4]{ 1.25,0.15,1.0,0.12};
object objAddSpecsArr = dAddSpecsArr as object;
int nSectionPropID =
        m_OStd.Property.CreateWideFlangePropertyFromTable(STAADLibBentley.CountryTable.Americ
        strSectionName, STAADLibBentley.ProfileType.TB, objAddSpecsArr);
```

Example (VB Syntax)

```vb
// Create property HP10X42 with profile type TB from American database.
Dim strSectionName As String
Dim dAddSpecsArr() As Double
Dim countryCode As Integer
Dim profileType As Integer
Dim result As Integer
strSectionName = "HP10X42"
countryCode = 1  'American
profileType = 9  'TB
ReDim dAddSpecsArr(3)
dAddSpecsArr(0) = 1.25
dAddSpecsArr(1) = 0.15
dAddSpecsArr(2) = 1.0
dAddSpecsArr(3) = 0.12
result = objOpenStaad.Property.CreateWideFlangePropertyFromTable(countryCode, strSectionName
        profileType, dAddSpecsArr)
```

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