Material: Get and Remove Material

Property

Functions

afx_msg VARIANT	**OSPropertyUI::GetIsotropicMaterialAssignedBeamCount** (const VARIANT &strMaterialName) Get isotropic material assigned beam count.
afx_msg VARIANT	**OSPropertyUI::GetIsotropicMaterialAssignedBeamList** (const VARIANT &strMaterialName, VARIANT FAR &nBeamList) Get isotropic material assigned beam list.
afx_msg VARIANT	**OSPropertyUI::GetMaterialProperty** (const VARIANT FAR &varstrMaterialName, VARIANT FAR &vardElasticity, VARIANT FAR &vardPoisson, VARIANT FAR &vardDensity, VARIANT FAR &vardAlpha, VARIANT FAR &vardDamp) Get material constants based on specific material name.
afx_msg VARIANT	**OSPropertyUI::GetBeamMaterialName** (const VARIANT FAR &varnBeamNo) Get beam material string name.
afx_msg VARIANT	**OSPropertyUI::GetElementMaterialName** (const VARIANT FAR &varnPlateNo) Get entity material string name.
afx_msg VARIANT	**OSPropertyUI::GetIsotropicMaterialCount** () Get the number of isotropic material present in the current structure.
afx_msg VARIANT	**OSPropertyUI::GetIsotropicMaterialProperties** (const VARIANT FAR &varMatNo, VARIANT FAR &varE, VARIANT FAR &varPoisson, VARIANT FAR &varG, VARIANT FAR &varDensity, VARIANT FAR &varAlpha, VARIANT FAR &varCrDamp) Get the properties for the specified isotropic material number.
afx_msg VARIANT	**OSPropertyUI::GetMaterialPropertyEx** (const VARIANT FAR &varstrMaterialName, VARIANT FAR &vardElasticity, VARIANT FAR &vardPoisson, VARIANT FAR &vardDensity, VARIANT FAR &vardAlpha, VARIANT FAR &vardDamp, VARIANT FAR &varFy, VARIANT FAR &varFu, VARIANT FAR &varRy, VARIANT FAR &varRt, VARIANT FAR &varFcu) Get the properties for the specified isotropic material Name.
afx_msg VARIANT	**OSPropertyUI::GetIsotropicMaterialPropertiesEx** (const VARIANT FAR &varMatNo, VARIANT FAR &varE, VARIANT FAR &varPoisson, VARIANT FAR &varG, VARIANT FAR &varDensity, VARIANT FAR &varAlpha, VARIANT FAR &varCrDamp, VARIANT FAR &varFy, VARIANT FAR &varFu, VARIANT FAR &varRy, VARIANT FAR &varRt, VARIANT FAR &varFcu) Get the properties for the specified isotropic material number.
afx_msg VARIANT	**OSPropertyUI::GetIsotropicMaterialPropertiesAssigned** (const VARIANT FAR &varMatNo, VARIANT FAR &varE, VARIANT FAR &varPoisson, VARIANT FAR &varG, VARIANT FAR &varDensity, VARIANT FAR &varAlpha, VARIANT FAR &varCrDamp, VARIANT FAR &varAssigned)

	Gets isotropic material properties and if material assigned to element(s) or not.
afx_msg VARIANT	**OSPropertyUI::GetOrthotropic2DMaterialCount** () Return the number of 2D orthotropic material present in the current structure.
afx_msg VARIANT	**OSPropertyUI::GetOrthotropic2DMaterialProperties** (const VARIANT FAR &varMatNo, VARIANT FAR &varE, VARIANT FAR &varPoisson, VARIANT FAR &varG, VARIANT FAR &varDensity, VARIANT FAR &varAlpha, VARIANT FAR &varCrDamp) Get the properties for the specified 2D orthotropic material.
afx_msg VARIANT	**OSPropertyUI::GetOrthotropic3DMaterialCount** () Gets orthotropic 3D material count.
afx_msg VARIANT	**OSPropertyUI::GetOrthotropic3DMaterialProperties** (const VARIANT FAR &varMatNo, VARIANT FAR &varE, VARIANT FAR &varPoisson, VARIANT FAR &varG, VARIANT FAR &varDensity, VARIANT FAR &varAlpha, VARIANT FAR &varCrDamp) Get the properties for the specified 3D orthotropic material.
afx_msg VARIANT	**OSPropertyUI::DeleteMaterial** (const VARIANT FAR &varMaterialName) Delete Material.
afx_msg VARIANT	**OSPropertyUI::RemoveMaterialFromBeam** (const VARIANT FAR &nBeamNo) Remove material from beam.
BOOL	**OSPropertyUI::RemoveBeamMaterialHelper** (long &beamNo) Remove beam material.
afx_msg VARIANT	**OSPropertyUI::GetPlateMaterialName** (const VARIANT FAR &varnPlateNo) Get plate material string name.
afx_msg VARIANT	**OSPropertyUI::GetIsotropicMaterialAssignedPlateCount** (const VARIANT &strMaterialName) Get the count of plates assigned with the specific isotropic material.
afx_msg VARIANT	**OSPropertyUI::GetSolidMaterialName** (const VARIANT FAR &varnSolideNo) Get the material name of the specified solid.
afx_msg VARIANT	**OSPropertyUI::GetIsotropicMaterialAssignedSolidCount** (const VARIANT &strMaterialName) Get the count of solids assigned with the specified isotropic material.
afx_msg VARIANT	**OSPropertyUI::GetIsotropicMaterialAssignedSolidList** (const VARIANT &strMaterialName, VARIANT FAR &nSolidList) Get isotropic material assigned solid list.
afx_msg VARIANT	**OSPropertyUI::SetTypeToIsotropicMaterial** (const VARIANT &varMatName, const VARIANT &varType) Set Type To the specified Isotropic Material.
afx_msg VARIANT	**OSPropertyUI::GetTypeForIsotropicMaterial** (const VARIANT FAR &varMatName, VARIANT FAR &varType) Get Type For the specified Isotropic Material.

Detailed Description

These functions are related to get or remove material information.

Function Documentation

◆ DeleteMaterial()

VARIANT OSPropertyUI::DeleteMaterial (const VARIANT FAR & varMaterialName)

Delete Material.

Parameters

[in] **varMaterialName** Material Name(Type:String).

Return values

FALSE Delete Material Generate Error.

TRUE Delete Material Successful.

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
        Dim MaterialName As String
        MaterialName = "Q235"
        Dim res As Boolean
        res =  objOpenStaad.Property.DeleteMaterial (MaterialName)
        Set objOpenStaad = Nothing
    End Sub
```

See also

OSPropertyUI::GetPropertyUniqueID

◆ GetBeamMaterialName()

VARIANT OSPropertyUI::GetBeamMaterialName (const VARIANT FAR & varnBeamNo)

Get beam material string name.

Parameters

[in] **varnBeamNo** The beam number ID.

Returns

The beam material string name.

C++ Syntax

```
// Get beam material string name of Beam #3.
VARIANT strMaterialName = OSPropertyUI::GetBeamMaterialName(3);
```

VBA Syntax

```
' Get beam material string name of Beam #3.
Dim strMaterialName As VARIANT = OSPropertyUI.GetBeamMaterialName(3)
```

◆ GetElementMaterialName()

VARIANT OSPropertyUI::GetElementMaterialName (const VARIANT FAR & varnPlateNo)

Get entity material string name.

Parameters

[in] **varnPlateNo** The plate number ID.

Returns

The entity material string name.

C++ Syntax

```
// Get plate material string name of plate #3.
VARIANT strMaterialName = OSPropertyUI::GetElementMaterialName(3);
```

VBA Syntax

```
' Get plate material string name of plate #3.
Dim strMaterialName As VARIANT = OSPropertyUI.GetElementMaterialName(3)
```

◆ GetIsotropicMaterialAssignedBeamCount()

VARIANT OSPropertyUI::GetIsotropicMaterialAssignedBeamCount (const VARIANT & strMaterialName)

Get isotropic material assigned beam count.

Parameters

[in] **strMaterialName** Identification title of the material.

Return values

0 OK.

-6023 Material not found.

C++ Syntax

```
// Get material assigned beam Count (Profile #2).
VARIANT RetVal = OSPropertyUI::GetIsotropicMaterialAssignedBeamCount(2);
```

VBA Syntax

```
' Get material assigned beam Count (Profile #2).
Dim RetVal As VARIANT = OSPropertyUI.GetIsotropicMaterialAssignedBeamCount(2)
```

◆ GetIsotropicMaterialAssignedBeamList()

VARIANT OSPropertyUI::GetIsotropicMaterialAssignedBeamList (const VARIANT & strMaterialName,
VARIANT FAR & nBeamList)

Get isotropic material assigned beam list.

Parameters

[in] **strMaterialName** Identification title of the material.

[out] **nBeamList** List of beam.

Return values

0 OK.

-6023 Material not found.

C++ Syntax

```
// Get material assigned beam Count (Profile #2).
VARIANT RetVal = OSPropertyUI::GetIsotropicMaterialAssignedBeamList(2, &nBeamList);
```

VBA Syntax

```
' Get material assigned beam Count (Profile #2).
Dim RetVal As VARIANT = OSPropertyUI.GetIsotropicMaterialAssignedBeamList(2, &nBeamList)
```

◆ GetIsotropicMaterialAssignedPlateCount()

VARIANT OSPropertyUI::GetIsotropicMaterialAssignedPlateCount (const VARIANT & strMaterialName)

Get the count of plates assigned with the specific isotropic material.

Parameters

[in] **strMaterialName** Material Name(Type: String).

Returns

Count of plates assigned with the specific isotropic material(Type: Long).

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
        Dim Count As Long
        Dim MaterialName as String
        MaterialName = "Q235"
        Count =
       objOpenStaad.Property.GetIsotropicMaterialAssignedPlateCount(MaterialName)
        Set objOpenStaad = Nothing
    End Sub
```

See also

OSPropertyUI::GetIsotropicMaterialAssignedPlateList

◆ GetIsotropicMaterialAssignedSolidCount()

VARIANT OSPropertyUI::GetIsotropicMaterialAssignedSolidCount (const VARIANT & strMaterialName)

Get the count of solids assigned with the specified isotropic material.

Parameters

[in] **strMaterialName** Identification title of the material.

Returns

Count of solids assigned with the specified isotropic material(Type:Long).

C++ Syntax

```
// Get the count of solids assigned with "STEEL" material.
VARIANT RetVal = OSPropertyUI::GetIsotropicMaterialAssignedSolidCount("STEEL");
```

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
      Dim materialName As String
      materialName = "STEEL"
      Dim count As Integer
      count = objOpenStaad.Property.GetIsotropicMaterialAssignedSolidCount (materialName)
      Set objOpenStaad = Nothing
  End Sub
```

◆ GetIsotropicMaterialAssignedSolidList()

VARIANT OSPropertyUI::GetIsotropicMaterialAssignedSolidList (const VARIANT & strMaterialName,
VARIANT FAR & nSolidList)

Get isotropic material assigned solid list.

Parameters

[in] **strMaterialName** Identification title of the material(type: string).

[out] **nSolidList** List of solid(type: long array).

Return values

true Get solid list successful.

false Generate Error.

C++ Syntax

```
// Get "STEEL" material assigned Solid list.
VARIANT RetVal = OSPropertyUI::GetIsotropicMaterialAssignedSolidList("STEEL",
       &nSolidList);
```

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
        Dim materialName As String
        materialName = "STEEL"
        Dim count As Integer
        count = objOpenStaad.Property.GetIsotropicMaterialAssignedSolidCount
       (materialName)
        Dim solidNos() As Integer
        ReDim solidNos(count-1) As Integer
        Dim res As Boolean
        res = objOpenStaad.Property.GetIsotropicMaterialAssignedSolidList(materialName,
       solidNos)
        Set objOpenStaad = Nothing
    End Sub
```

See also

OSPropertyUI::GetIsotropicMaterialAssignedSolidCount

◆ GetIsotropicMaterialCount()

VARIANT OSPropertyUI::GetIsotropicMaterialCount ( )

Get the number of isotropic material present in the current structure.

Return values

<Val> The number of isotropic material.

C++ Syntax

```
// Get the number of isotropic material.
VARIANT IsoMatCount = OSPropertyUI::GetIsotropicMaterialCount();
```

VBA Syntax

```
' Get the number of isotropic material.
Dim IsoMatCount As VARIANT = OSPropertyUI.GetIsotropicMaterialCount()
```

See also

OSPropertyUI::GetOrthotropic2DMaterialCount()

OSPropertyUI::GetOrthotropic3DMaterialCount()

◆ GetIsotropicMaterialProperties()

VARIANT OSPropertyUI::GetIsotropicMaterialProperties (const VARIANT FAR & varMatNo,
VARIANT FAR & varE,
VARIANT FAR & varPoisson,
VARIANT FAR & varG,
VARIANT FAR & varDensity,
VARIANT FAR & varAlpha,
VARIANT FAR & varCrDamp)

Get the properties for the specified isotropic material number.

Parameters

[in]	**varMatNo**	Zero based index of the material.
[out]	**varE**	Modulus of elasticity (**E**).
[out]	**varPoisson**	Poisson's ratio (**POI**).
[out]	**varG**	Shear modulus (**G**).
[out]	**varDensity**	Weight density (**DEN**).
[out]	**varAlpha**	Coefficient of thermal expansion (**ALP**).
[out]	**varCrDamp**	Damping ratio (**DAMP**).

Return values

VARIANT	Material string name.
NULL	Cannot find material **varMatNo**.

C++ Syntax

```
// varE, varPoisson, varDensity, varG, varAlpha and varCrDamp are double.
// Get properties of material #2.
VARIANT MatName = OSPropertyUI::GetIsotropicMaterialProperties(2, &varE, &varPoisson,
       &varG, &varDensity, &varAlpha, &varCrDamp);
```

VBA Syntax

```
' varE, varPoisson, varDensity, varG, varAlpha and varCrDamp are double.
' Get properties of material #2.
Dim MatName As VARIANT = OSPropertyUI.GetIsotropicMaterialProperties(2, &varE,
       &varPoisson, &varG, &varDensity, &varAlpha, &varCrDamp)
```

See also

OSPropertyUI::GetIsotropicMaterialCount()

◆ GetIsotropicMaterialPropertiesAssigned()

```
VARIANT OSPropertyUI::GetIsotropicMaterialPropertiesAssigned ( const VARIANT FAR & varMatNo,
                                                               VARIANT FAR &       varE,
                                                               VARIANT FAR &       varPoisson,
                                                               VARIANT FAR &       varG,
                                                               VARIANT FAR &       varDensity,
                                                               VARIANT FAR &       varAlpha,
                                                               VARIANT FAR &       varCrDamp,
                                                               VARIANT FAR &       varAssigned )
```

Gets isotropic material properties and if material assigned to element(s) or not.

Parameters

[in]	**varMatNo**	Material number ID.
[out]	**varE**	Modulus of elasticity (**E**).
[out]	**varPoisson**	Poisson's ratio (**POI**).
[out]	**varG**	Shear modulus (**G**).
[out]	**varDensity**	Weight density (**DEN**).
[out]	**varAlpha**	Coefficient of thermal expansion (**ALP**).
[out]	**varCrDamp**	Damping ratio (**DAMP**).
[out]	**varAssigned**	Material assigned to elements or not: unassigned (= 1), assigned (=2).

Return values

VARIANT	Material string name.
NULL	Cannot find material **varMatNo**.

C++ Syntax

```
// varE, varPoisson, varG, varDensity, varAlpha, varCrDamp and varAssigned are double.
// Get properties of material #2.
VARIANT MatName = OSPropertyUI::GetIsotropicMaterialPropertiesAssigned(2, &varE,
       &varPoisson, &varG, &varDensity, &varAlpha, &varCrDamp, &varAssigned);
```

VBA Syntax

```
' varE, varPoisson, varG, varDensity, varAlpha, varCrDamp and varAssigned are double.
' Get properties of material #2.
Dim MatName As VARIANT = OSPropertyUI.GetIsotropicMaterialPropertiesAssigned(2, &varE,
       &varPoisson, &varG, &varDensity, &varAlpha, &varCrDamp, &varAssigned)
```

See also

OSPropertyUI::GetOrthotropic1DMaterialProperties

OSPropertyUI::GetOrthotropic2DMaterialProperties

OSPropertyUI::GetOrthotropic3DMaterialProperties

- GetIsotropicMaterialPropertiesEx()

```
VARIANT OSPropertyUI::GetIsotropicMaterialPropertiesEx ( const VARIANT FAR & varMatNo,
                                                         VARIANT FAR &       varE,
                                                         VARIANT FAR &       varPoisson,
                                                         VARIANT FAR &       varG,
                                                         VARIANT FAR &       varDensity,
                                                         VARIANT FAR &       varAlpha,
                                                         VARIANT FAR &       varCrDamp,
                                                         VARIANT FAR &       varFy,
                                                         VARIANT FAR &       varFu,
                                                         VARIANT FAR &       varRy,
                                                         VARIANT FAR &       varRt,
                                                         VARIANT FAR &       varFcu )
```

Get the properties for the specified isotropic material number.

Parameters

[in]	**varMatNo**	Zero based index of the material(Type:Long).
[out]	**varE**	Modulus of elasticity,(Type:double) (**E**).
[out]	**vardPoisson**	Poisson's ratio(Type:double) (**POI**).
[out]	**varG**	Shear modulus (Type:double)(**G**).
[out]	**vardDensity**	Weight density (Type:double)(**DEN**).
[out]	**vardAlpha**	Coefficient of thermal expansion(Type:double) (**ALP**).
[out]	**vardDamp**	Damping ratio (Type:double)(**DAMP**).
[out]	**varFy**	Yield Stress(Type:double) (**Fy**).
[out]	**varFu**	Tensile Strength(Type:double) (**Fu**).
[out]	**varRy**	Yield Strength Ratio(Type:double) (**Ry**).
[out]	**varRt**	Tensile Strength Ratio(Type:double) (**Rt**).
[out]	**varFcu**	Compressive Strength(Type:double) (**Fcu**).

Returns

The specified material Name.

C++ Syntax

```
// Get properties of material #2.
VARIANT MatName = OSPropertyUI::GetIsotropicMaterialPropertiesEx(2, &vardElasticity,
        &vardPoisson, &varG, &vardDensity, &vardAlpha, &vardDamp, &varFy, &varFu, &varRy,
        &varRt, &varFcu);
```

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
    Dim materialName As String
    Dim vardElasticity As Double
    Dim vardPoisson As Double
    Dim varG As Double
    Dim vardDensity As Double
    Dim vardAlpha As Double
    Dim vardDamp As Double
    Dim varFy As Double
    Dim varFu As Double
    Dim varRy As Double
    Dim varRt As Double
    Dim varFcu As Double
    Dim res As Boolean
    materialName = objOpenStaad.Property.GetIsotropicMaterialPropertiesEx(8,
   vardElasticity, vardPoisson, varG, vardDensity, vardAlpha, vardDamp, varFy,
   varFu, varRy, varRt, varFcu)
    MsgBox materialName
    Set objOpenStaad = Nothing
End Sub
```

See also

OSPropertyUI::GetIsotropicMaterialCount()

◆ GetMaterialProperty()

```
VARIANT OSPropertyUI::GetMaterialProperty ( const VARIANT FAR & varstrMaterialName,
                                            VARIANT FAR &       vardElasticity,
                                            VARIANT FAR &       vardPoisson,
                                            VARIANT FAR &       vardDensity,
                                            VARIANT FAR &       vardAlpha,
                                            VARIANT FAR &       vardDamp )
```

Get material constants based on specific material name.

Parameters

[in]	**varstrMaterialName**	Identification title of the material.
[out]	**vardElasticity**	Modulus of elasticity (**E**).
[out]	**vardPoisson**	Poisson's ratio (**POI**).
[out]	**vardDensity**	Weight density (**DEN**).
[out]	**vardAlpha**	Coefficient of thermal expansion (**ALP**).
[out]	**vardDamp**	Damping ratio (**DAMP**).

Return values

0	OK.
-6023	Material not found.

C++ Syntax

```
//VARIANT vardElasticity, vardPoisson, vardDensity, vardAlpha, vardDamp;
// Get material constants of "UserDefineMaterial_1".
VARIANT RetVal = OSPropertyUI::GetMaterialProperty((LPCSTR)"UserDefineMaterial_1",
       &vardElasticity, &vardPoisson, &vardDensity, &vardAlpha, &vardDamp);
```

VBA Syntax

```
' VARIANT vardElasticity, vardPoisson, vardDensity, vardAlpha, vardDamp;
' Get material constants of "UserDefineMaterial_1".
Dim RetVal As VARIANT = OSPropertyUI.GetMaterialProperty("UserDefineMaterial_1",
       &vardElasticity, &vardPoisson, &vardDensity, &vardAlpha, &vardDamp)
```

◆ GetMaterialPropertyEx()

```
VARIANT OSPropertyUI::GetMaterialPropertyEx ( const VARIANT FAR & varstrMaterialName,
                                              VARIANT FAR &       vardElasticity,
                                              VARIANT FAR &       vardPoisson,
                                              VARIANT FAR &       vardDensity,
                                              VARIANT FAR &       vardAlpha,
                                              VARIANT FAR &       vardDamp,
                                              VARIANT FAR &       varFy,
                                              VARIANT FAR &       varFu,
                                              VARIANT FAR &       varRy,
                                              VARIANT FAR &       varRt,
                                              VARIANT FAR &       varFcu )
```

Get the properties for the specified isotropic material Name.

Parameters

[in]	**varstrMaterial**	Name material name(Type:string).
[out]	**vardElasticity**	Modulus of elasticity (Type:double)(**E**).
[out]	**vardPoisson**	Poisson's ratio (Type:double)(**POI**).
[out]	**vardDensity**	Weight density (Type:double)(**DEN**).
[out]	**vardAlpha**	Coefficient of thermal expansion (Type:double)(**ALP**).
[out]	**vardDamp**	Damping ratio (Type:double)(**DAMP**).
[out]	**varFy**	Yield Stress (Type:double)(**Fy**).
[out]	**varFu**	Tensile Strength (Type:double)(**Fu**).
[out]	**varRy**	Yield Strength Ratio (Type:double)(**Ry**).
[out]	**varRt**	Tensile Strength Ratio (Type:double)(**Rt**).
[out]	**varFcu**	Compressive Strength (Type:double)(**Fcu**).

Return values

TRUE	Get Material Property Successful.
FALSE	Get Material Property Failed.

C++ Syntax

```
// Get properties of material "Q235".
VARIANT MatName = OSPropertyUI::GetMaterialPropertyEx("Q235", &vardElasticity,
        &vardPoisson, &vardDensity, &vardAlpha, &vardDamp, &varFy, &varFu, &varRy,
        &varRt, &varFcu);
```

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
        Dim materialName As String
        materialName = "Q235"
        Dim vardElasticity As Double
        Dim vardPoisson As Double
        Dim vardDensity As Double
        Dim vardAlpha As Double
        Dim vardDamp As Double
        Dim varFy As Double
        Dim varFu As Double
        Dim varRy As Double
        Dim varRt As Double
        Dim varFcu As Double
        Dim res As Boolean
        res = objOpenStaad.Property.GetMaterialPropertyEx(materialName,  vardElasticity,
       vardPoisson, vardDensity, vardAlpha, vardDamp, varFy, varFu, varRy, varRt,
       varFcu)
        MsgBox materialName
        Set objOpenStaad = Nothing
    End Sub
```

See also

OSPropertyUI::GetIsotropicMaterialCount()

◆ GetOrthotropic2DMaterialCount()

VARIANT OSPropertyUI::GetOrthotropic2DMaterialCount ( )

Return the number of 2D orthotropic material present in the current structure.

Return values

<Val> The number of 2D orthotropic material.

C++ Syntax

```
// Get the number of 2D orthotropic material.
VARIANT RetVal = OSPropertyUI::GetOrthotropic2DMaterialCount();
```

VBA Syntax

```
' Get the number of 2D orthotropic material.
Dim RetVal As VARIANT = OSPropertyUI.GetOrthotropic2DMaterialCount()
```

See also

OSPropertyUI::GetIsotropicMaterialCount()

OSPropertyUI::GetOrthotropic3DMaterialCount()

◆ GetOrthotropic2DMaterialProperties()

```
VARIANT OSPropertyUI::GetOrthotropic2DMaterialProperties ( const VARIANT FAR & varMatNo,
                                                           VARIANT FAR &       varE,
                                                           VARIANT FAR &       varPoisson,
                                                           VARIANT FAR &       varG,
                                                           VARIANT FAR &       varDensity,
                                                           VARIANT FAR &       varAlpha,
                                                           VARIANT FAR &       varCrDamp )
```

Get the properties for the specified 2D orthotropic material.

Parameters

[in]	**varMatNo**	Material number ID.
[out]	**varE**	Modulus of elasticity (**E**) VARIANT array (of size 2).
[out]	**varPoisson**	Poisson's ratio (**POI**) VARIANT array (of size 2).
[out]	**varG**	Shear modulus (**G**) VARIANT array (of size 3).
[out]	**varDensity**	Weight density (**DEN**) VARIANT array (of size 2).
[out]	**varAlpha**	Coefficient of thermal expansion (**ALP**) VARIANT array (of size 2).
[out]	**varCrDamp**	Damping ratio (**DAMP**) VARIANT array (of size 2).

Return values

VARIANT	Material string name.
NULL	Fail to get the properties.

C++ Syntax

```
// Get the properties.
VARIANT MatName = OSPropertyUI::GetOrthotropic2DMaterialProperties(varMatNo, &varE,
       &varPoisson, &varG, &varDensity, &varAlpha, &varCrDamp);
```

VBA Syntax

```
' Get the properties.
Dim MatName As VARIANT = OSPropertyUI.GetOrthotropic2DMaterialProperties(varMatNo, &varE,
       &varPoisson, &varG, &varDensity, &varAlpha, &varCrDamp)
```

See also

OSPropertyUI::GetIsotropicMaterialProperties

OSPropertyUI::GetOrthotropic3DMaterialProperties

OSPropertyUI::GetOrthotropic1DMaterialPropertiesAssigned

◆ GetOrthotropic3DMaterialCount()

VARIANT OSPropertyUI::GetOrthotropic3DMaterialCount ( )

Gets orthotropic 3D material count.

Returns

The orthotropic 3D material count.

C++ Syntax

```
// Get the number of 3D orthotropic material.
VARIANT RetVal = OSPropertyUI::GetOrthotropic3DMaterialCount();
```

VBA Syntax

```
' Get the properties.
Dim RetVal As VARIANT = OSPropertyUI.GetOrthotropic3DMaterialCount()
```

See also

OSPropertyUI::GetIsotropicMaterialCount()

OSPropertyUI::GetOrthotropic2DMaterialCount()

◆ GetOrthotropic3DMaterialProperties()

VARIANT OSPropertyUI::GetOrthotropic3DMaterialProperties (const VARIANT FAR & varMatNo,
VARIANT FAR & varE,
VARIANT FAR & varPoisson,
VARIANT FAR & varG,
VARIANT FAR & varDensity,
VARIANT FAR & varAlpha,
VARIANT FAR & varCrDamp)

Get the properties for the specified 3D orthotropic material.

Parameters

[in]	**varMatNo**	Material number ID.
[out]	**varE**	Modulus of elasticity (**E**) VARIANT array (of size 3).
[out]	**varPoisson**	Poisson's ratio (**POI**) VARIANT array (of size 3).
[out]	**varG**	Shear modulus (**G**) VARIANT array (of size 3).
[out]	**varDensity**	Weight density (**DEN**) VARIANT array (of size 3).
[out]	**varAlpha**	Coefficient of thermal expansion (**ALP**) VARIANT array (of size 3).
[out]	**varCrDamp**	Damping ratio (**DAMP**) VARIANT array (of size 3).

Return values

VARIANT	Material string name.
NULL	Fail to get the properties.

C++ Syntax

```
// Get the properties.
VARIANT MatName = OSPropertyUI::GetOrthotropic3DMaterialProperties(varMatNo, &varE,
       &varPoisson, &varG, &varDensity, &varAlpha, &varCrDamp);
```

VBA Syntax

```
' Get the properties.
Dim MatName As VARIANT = OSPropertyUI.GetOrthotropic3DMaterialProperties(varMatNo, &varE,
       &varPoisson, &varG, &varDensity, &varAlpha, &varCrDamp)
```

See also

OSPropertyUI::GetIsotropicMaterialProperties

OSPropertyUI::GetOrthotropic2DMaterialProperties

OSPropertyUI::GetOrthotropic1DMaterialPropertiesAssigned

◆ GetPlateMaterialName()

VARIANT OSPropertyUI::GetPlateMaterialName (const VARIANT FAR & varnPlateNo)

Get plate material string name.

Parameters

[in] **varnPlateNo** The plate number ID.

Returns

The plate material string name.

C++ Syntax

```
// Get plate material string name of plate #3.
VARIANT strMaterialName = (LPCTSTR) OSPropertyUI::GetPlateMaterialName(3);
```

VBA Syntax

```
' Get plate material string name of plate #3.
Dim strMaterialName As VARIANT = OSPropertyUI.GetPlateMaterialName(3)
```

◆ GetSolidMaterialName()

VARIANT OSPropertyUI::GetSolidMaterialName (const VARIANT FAR & varnSolidNo)

Get the material name of the specified solid.

Parameters

[in] **varnSolidNo** The Solid number ID (Type: Int).

Return values

Material name of the specified solid.

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
     Dim materialName As String
     ' Get the material name of Solid #2.
     materialName = objOpenStaad.Property.GetSolidMaterialName (2)
     MsgBox materialName
     Set objOpenStaad = Nothing
 End Sub
```

◆ GetTypeForIsotropicMaterial()

VARIANT OSPropertyUI::GetTypeForIsotropicMaterial (const VARIANT FAR & varMatName,
VARIANT FAR & varType)

Get Type For the specified Isotropic Material.

Parameters

[in] **varMatName** Identification title of the material(Type: String).

[out] **varType** material Type(Type: Long).

No.	material Type
0	Not Specified
1	Steel
2	Concrete
3	Aluminum
4	Timber

Return values

FALSE Can not find the specified material.

TRUE Find the specified material successful.

C++ Syntax

```
// Get "TestMat" material Type.
VARIANT RetVal = OSPropertyUI::GetTypeForIsotropicMaterial("TestMat", varType);
```

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
        Dim strMaterialName As String
        strMaterialName = "Test124"
        Dim ret As Boolean
        Dim matType As Integer
        ret = objOpenStaad.Property.GetTypeForIsotropicMaterial (strMaterialName,matType)
        Set objOpenStaad = Nothing
    End Sub
```

See also

OSPropertyUI::CreateIsotropicMaterialProperties

OSPropertyUI::SetTypeToIsotropicMaterial

◆ RemoveBeamMaterialHelper()

BOOL OSPropertyUI::RemoveBeamMaterialHelper (long & beamNo) private

Remove beam material.

Parameters

[in] **beamNo** The beam number ID.

Return values

0 OK.

-1 General error.

C++ Syntax

```
// Remove beam material from beam #3.
BOOL RetVal = OSPropertyUI::RemoveBeamMaterialHelper(3);
```

VBA Syntax

```
' Remove beam material from beam #3.
Dim RetVal As BOOL = OSPropertyUI.RemoveBeamMaterialHelper(3);
```

◆ RemoveMaterialFromBeam()

VARIANT OSPropertyUI::RemoveMaterialFromBeam (const VARIANT FAR & nBeamNo)

Remove material from beam.

Parameters

[in] **nBeamNo** The beam number ID.

Return values

0 OK.

-1 General error.

C++ Syntax

```
// Remove material from beam #3.
VARIANT RetVal = OSPropertyUI::RemoveMaterialFromBeam(3);
```

VBA Syntax

```
' Remove material from beam #3.
Dim RetVal As VARIANT = OSPropertyUI.RemoveMaterialFromBeam(3);
```

SetTypeToIsotropicMaterial()

VARIANT OSPropertyUI::SetTypeToIsotropicMaterial (const VARIANT & varMatName,
const VARIANT & varType)

Set Type To the specified Isotropic Material.

Parameters

[in] **varMatName** Identification title of the material(Type: String).

[in] **varType** material Type(Type: Long), please Refer **OSPropertyUI::GetTypeForIsotropicMaterial**.

Return values

true Set Type to Material successful.

false Generate Error.

C++ Syntax

```
// Set "TestMat" material with STEEL Type.
VARIANT RetVal = OSPropertyUI::SetTypeToIsotropicMaterial("TestMat", 1);
```

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
        Dim RetVal As Variant
        Dim strMaterialName As String
        Dim dE As Double
        Dim dPoisson As Double
        Dim dG As Double
        Dim dDensity As Double
        Dim dAlpha As Double
        Dim dCrDamp As Double
        Dim bPhysical As Integer
        strMaterialName = "Test124"
        dE = 262040
        dPoisson = 0.2
        dG = 0.06
        dDensity = 0.04
        dAlpha = 2.78e-06
        dCrDamp = 0.06
        RetVal = objOpenStaad.Property.CreateIsotropicMaterialProperties(strMaterialName,
       dE, dPoisson, dG, dDensity, dAlpha, dCrDamp)
        Dim Ret As Boolean
        Ret = objOpenStaad.Property.SetTypeToIsotropicMaterial (strMaterialName,3)
        Set objOpenStaad = Nothing
```

```
    End Sub
```

See also

OSPropertyUI::CreateIsotropicMaterialProperties

OSPropertyUI::GetTypeForIsotropicMaterial