

Section: Create Profile from UPT

Property

Functions

- afx_msg VARIANT **OSPropertyUI::CreateUPTTable** (VARIANT FAR &nTableType)
Creates user provided table (UPT).
- afx_msg VARIANT **OSPropertyUI::AddUPTPropertyWIDEFLANGE** (VARIANT FAR &nTableRef, VARIANT FAR &varSectionName, VARIANT FAR &varAX, VARIANT FAR &varD, VARIANT FAR &varTW, VARIANT FAR &varWF, VARIANT FAR &varTF, VARIANT FAR &varIZ, VARIANT FAR &varIY, VARIANT FAR &varIX, VARIANT FAR &varAY, VARIANT FAR &varAZ)
Add wide flange type to an defined UPT section.
- afx_msg VARIANT **OSPropertyUI::AddUPTPropertyWIDEFLANGEUNEQUAL** (VARIANT FAR &nTableRef, VARIANT FAR &varSectionName, VARIANT FAR &varPropSpecArray)
Add unequal wide flange to an defined UPT section.
- afx_msg VARIANT **OSPropertyUI::AddUPTPropertyWIDEFLANGECOMPOSITE** (const VARIANT FAR &nTableRef, const VARIANT FAR &varSectionName, const VARIANT FAR &varPropSpecArray)
Add wide flange type with additional composite and bottom steel plate to an defined UPT section.
- afx_msg VARIANT **OSPropertyUI::AddUPTPropertyCHANNEL** (VARIANT FAR &nTableRef, VARIANT FAR &varSectionName, VARIANT FAR &varAX, VARIANT FAR &varD, VARIANT FAR &varTW, VARIANT FAR &varWF, VARIANT FAR &varTF, VARIANT FAR &varIZ, VARIANT FAR &varIY, VARIANT FAR &varIX, VARIANT FAR &varCZ, VARIANT FAR &varAY, VARIANT FAR &varAZ)
Add channel type to an defined UPT section.
- afx_msg VARIANT **OSPropertyUI::AddUPTPropertyANGLE** (VARIANT FAR &nTableRef, VARIANT FAR &varSectionName, VARIANT FAR &varD, VARIANT FAR &varWF, VARIANT FAR &varTF, VARIANT FAR &varR, VARIANT FAR &varAY, VARIANT FAR &varAZ)
Add angle type to an defined UPT section.
- afx_msg VARIANT **OSPropertyUI::AddUPTPropertyDOUBLEANGLE** (VARIANT FAR &nTableRef, VARIANT FAR &varSectionName, VARIANT FAR &varD, VARIANT FAR &varWF, VARIANT FAR &varTF, VARIANT FAR &varSP, VARIANT FAR &varIZ, VARIANT FAR &varIY, VARIANT FAR &varIX, VARIANT FAR &varCY, VARIANT FAR &varAY, VARIANT FAR &varAZ)
Add double angle type to an defined UPT section.
- afx_msg VARIANT **OSPropertyUI::AddUPTPropertyTEE** (VARIANT FAR &nTableRef, VARIANT FAR &varSectionName, VARIANT FAR &varAX, VARIANT FAR &varD, VARIANT FAR &varWF, VARIANT FAR &varTF, VARIANT FAR &varTW, VARIANT FAR &varIZ, VARIANT FAR &varIY, VARIANT FAR &varIX, VARIANT FAR &varCY, VARIANT FAR &varAY, VARIANT FAR &varAZ)

Add tee type to an defined UPT section.

afx_msg VARIANT **OSPropertyUI::AddUPTPropertyPIPE** (VARIANT FAR &nTableRef, VARIANT FAR &varSectionName, VARIANT FAR &varOD, VARIANT FAR &varID, VARIANT FAR &varAY, VARIANT FAR &varAZ)
Add pipe type to an defined UPT section.

afx_msg VARIANT **OSPropertyUI::AddUPTPropertyTUBE** (VARIANT FAR &nTableRef, VARIANT FAR &varSectionName, VARIANT FAR &varAX, VARIANT FAR &varD, VARIANT FAR &varWF, VARIANT FAR &varTF, VARIANT FAR &varIZ, VARIANT FAR &varIY, VARIANT FAR &varIX, VARIANT FAR &varAY, VARIANT FAR &varAZ)
Add tube type to an defined UPT section.

afx_msg VARIANT **OSPropertyUI::AddUPTPropertyGENERAL** (VARIANT FAR &nTableRef, VARIANT FAR &varSectionName, VARIANT FAR &varAX, VARIANT FAR &varD, VARIANT FAR &varTD, VARIANT FAR &varB, VARIANT FAR &varTB, VARIANT FAR &varIZ, VARIANT FAR &varIY, VARIANT FAR &varIX, VARIANT FAR &varSZ, VARIANT FAR &varSY, VARIANT FAR &varAY, VARIANT FAR &varAZ, VARIANT FAR &varPZ, VARIANT FAR &varPY, VARIANT FAR &varHSS, VARIANT FAR &varDEE)
Add general type to an defined UPT section.

afx_msg VARIANT **OSPropertyUI::AddUPTPropertyISECTION** (VARIANT FAR &nTableRef, VARIANT FAR &varSectionName, VARIANT FAR &varDWW, VARIANT FAR &varTWW, VARIANT FAR &varDWW1, VARIANT FAR &varBFF, VARIANT FAR &varTFF, VARIANT FAR &varBFF1, VARIANT FAR &varTFF1, VARIANT FAR &varAYF, VARIANT FAR &varAZF, VARIANT FAR &varXIF)
Add I type to an defined UPT section.

afx_msg VARIANT **OSPropertyUI::AddUPTPropertyPRISMATIC** (VARIANT FAR &nTableRef, VARIANT FAR &varSectionName, VARIANT FAR &varAX, VARIANT FAR &varIZ, VARIANT FAR &varIY, VARIANT FAR &varIX, VARIANT FAR &varAY, VARIANT FAR &varAZ, VARIANT FAR &varYD, VARIANT FAR &varZD)
Add PRISMATIC type to an defined UPT section.

afx_msg VARIANT **OSPropertyUI::CreatePropertyFromUPTTable** (VARIANT FAR &nTableRef, LPCTSTR strSectionName)
Creates a section property from User Provided Table (UPT).

afx_msg VARIANT **OSPropertyUI::GetUptGeneralProfilePointsCount** (const VARIANT FAR &nTableRef, const VARIANT FAR &varSectionName, VARIANT FAR &varCountOfOuter, VARIANT FAR &varCountOfInnner)
Get profile points count from user provided general section table (UPT).

afx_msg VARIANT **OSPropertyUI::GetUptGeneralProfileBoundaryPoints** (const VARIANT FAR &nTableRef, const VARIANT FAR &varSectionName, const VARIANT FAR &varIsInnner, VARIANT FAR &varZP, VARIANT FAR &varYP)
Get Profile Points coordinate from User Provided general section Table (UPT).

afx_msg VARIANT **OSPropertyUI::GetUptGeneralStressLocationPoints** (const VARIANT FAR &nTableRef, const VARIANT FAR &varSectionName, VARIANT FAR &varZP, VARIANT FAR &varYP)

Detailed Description

These functions are related to create UPT section profile.

Function Documentation

- ◆ AddUPTPropertyANGLE()

```
VARIANT OSPropertyUI::AddUPTPropertyANGLE ( VARIANT FAR & nTableRef,
                                            VARIANT FAR & varSectionName,
                                            VARIANT FAR & varD,
                                            VARIANT FAR & varWF,
                                            VARIANT FAR & varTF,
                                            VARIANT FAR & varR,
                                            VARIANT FAR & varAY,
                                            VARIANT FAR & varAZ )
```

Add angle type to an defined UPT section.

Parameters

[in] nTableRef	The existing table number ID.
[in] varSectionName	UPT section string name.
[in] varD	Depth of angle (D).
[in] varWF	Width of angle (WF).
[in] varTF	Thickness of flanges (TF).
[in] varR	Radius of gyration about principal axis (R).
[in] varAY	Shear area in local y-axis. If zero, shear deformation is ignored in the analysis (AY).
[in] varAZ	Shear area in local z-axis. If zero, shear deformation is ignored in the analysis (AZ).

Return values

- 0** OK.
- 6032** Unable to add section **varSectionName** in UPT **nTableRef**.
- 6045** Section with same name exits in UPT **nTableRef**.

C++ Syntax

```
// Add angle section type to UPT section "UPT VJG50-2" from table #1.
VARIANT RetVal = OSPropertyUI::AddUPTPropertyANGLE(1, (LPCTSTR)"VJG20-2", varD, varWF,
                                                varTF, varR, varAY, varAZ);
```

VBA Syntax

```
' Add angle section type to UPT section "UPT VJG50-2" from table #1.
Dim RetVal As VARIANT = OSPropertyUI.AddUPTPropertyANGLE(1, "VJG20-2", varD, varWF,
                                                       varTF, varR, varAY, varAZ);
```

◆ AddUPTPropertyCHANNEL()

```
VARIANT OSPropertyUI::AddUPTPropertyCHANNEL ( VARIANT FAR & nTableRef,
                                              VARIANT FAR & varSectionName,
                                              VARIANT FAR & varAX,
                                              VARIANT FAR & varD,
                                              VARIANT FAR & varTW,
                                              VARIANT FAR & varWF,
                                              VARIANT FAR & varTF,
                                              VARIANT FAR & varIZ,
                                              VARIANT FAR & varIY,
                                              VARIANT FAR & varIX,
                                              VARIANT FAR & varCZ,
                                              VARIANT FAR & varAY,
                                              VARIANT FAR & varAZ )
```

Add channel type to an defined UPT section.

Parameters

[in] nTableRef	The existing table number ID.
[in] varSectionName	UPT section string name.
[in] varAX	Cross section area (AX).
[in] varD	Depth of the section (D).
[in] varTW	Thickness of web (TW).
[in] varWF	Width of the top flange (WF).
[in] varTF	Thickness of top flange (TF).
[in] varIZ	Torsional constant (IZ).
[in] varIY	Moment of inertia about local y-axis (IY).
[in] varIX	Moment of inertia about local z-axis (IX).
[in] varCZ	Value CZ
[in] varAY	Shear area in local y-axis. If zero, shear deformation is ignored in the analysis (AY).
[in] varAZ	Shear area in local z-axis. If zero, shear deformation is ignored in the analysis (AZ).

Return values

- 0** OK.
- 6032** Unable to add section **varSectionName** in UPT **nTableRef**.
- 6045** Section with same name exists in UPT **nTableRef**.

C++ Syntax

```
// Add channel section type to UPT section "UPT VJG50-2" from table #1.  
VARIANT RetVal = OSPropertyUI::AddUPTPropertyCHANNEL(1, (LPCTSTR)"VJG20-2", varAX, varD,  
varTW, varWF, varTF, varIZ, varIY, varIX, varCZ, varAY, varAZ);
```

VBA Syntax

```
' Add channel section type to UPT section "UPT VJG50-2" from table #1.  
Dim RetVal As VARIANT = OSPropertyUI.AddUPTPropertyCHANNEL(1, "VJG20-2", varAX, varD,  
varTW, varWF, varTF, varIZ, varIY, varIX, varCZ, varAY, varAZ);
```

◆ AddUPTPropertyDOUBLEANGLE()

```
VARIANT OSPropertyUI::AddUPTPropertyDOUBLEANGLE ( VARIANT FAR & nTableRef,
                                                 VARIANT FAR & varSectionName,
                                                 VARIANT FAR & varD,
                                                 VARIANT FAR & varWF,
                                                 VARIANT FAR & varTF,
                                                 VARIANT FAR & varSP,
                                                 VARIANT FAR & varIZ,
                                                 VARIANT FAR & varIY,
                                                 VARIANT FAR & varIX,
                                                 VARIANT FAR & varCY,
                                                 VARIANT FAR & varAY,
                                                 VARIANT FAR & varAZ )
```

Add double angle type to an defined UPT section.

Parameters

[in] nTableRef	The existing table number ID.
[in] varSectionName	UPT section string name.
[in] varD	Depth of angle (D).
[in] varWF	Width of angle (WF).
[in] varTF	Thickness of flanges (TF).
[in] varSP	Distance between two angle (SP).
[in] varIZ	Torsional constant (IZ).
[in] varIY	Moment of inertia about local y-axis (IY).
[in] varIX	Moment of inertia about local z-axis (IX).
[in] varCY	Distance from z axis to the top of section (CY).
[in] varAY	Shear area in local y-axis. If zero, shear deformation is ignored in the analysis (AY).
[in] varAZ	Shear area in local z-axis. If zero, shear deformation is ignored in the analysis (AZ).

Return values

- 0** OK.
- 6032** Unable to add section **varSectionName** in UPT **nTableRef**.
- 6045** Section with same name exists in UPT **nTableRef**.

C++ Syntax

```
// Add double angle section type to UPT section "UPT VJG50-2" from table #1.
```

```
VARIANT RetVal = OSPropertyUI::AddUPTPropertyDOUBLEANGLE(1, (LPCTSTR)"VJG20-2", varD,  
varWF, varTF, varSP, varIZ, varIY, varIX, varCY, varAY, varAZ);
```

VBA Syntax

```
' Add double angle section type to UPT section "UPT VJG50-2" from table #1.  
Dim RetVal As VARIANT = OSPropertyUI.AddUPTPropertyDOUBLEANGLE(1, "VJG20-2", varD, varWF,  
varTF, varSP, varIZ, varIY, varIX, varCY, varAY, varAZ);
```

◆ AddUPTPropertyGENERAL()

```
VARIANT OSPropertyUI::AddUPTPropertyGENERAL ( VARIANT FAR & nTableRef,
                                              VARIANT FAR & varSectionName,
                                              VARIANT FAR & varAX,
                                              VARIANT FAR & varD,
                                              VARIANT FAR & varTD,
                                              VARIANT FAR & varB,
                                              VARIANT FAR & varTB,
                                              VARIANT FAR & varIZ,
                                              VARIANT FAR & varIY,
                                              VARIANT FAR & varIX,
                                              VARIANT FAR & varSZ,
                                              VARIANT FAR & varSY,
                                              VARIANT FAR & varAY,
                                              VARIANT FAR & varAZ,
                                              VARIANT FAR & varPZ,
                                              VARIANT FAR & varPY,
                                              VARIANT FAR & varHSS,
                                              VARIANT FAR & varDEE )
```

Add general type to an defined UPT section.

Parameters

[in] nTableRef	The existing table number ID.
[in] varSectionName	UPT section string name.
[in] varAX	Cross section area (AX).
[in] varD	Depth of the section (D).
[in] varTD	Thickness associated with section element parallel to depth (TD).
[in] varB	Width of the section (B).
[in] varTB	Thickness associated with section element parallel to flange(TB).
[in] varIZ	Torsional constant (IZ).
[in] varIY	Moment of inertia about local y-axis (IY).
[in] varIX	Moment of inertia about local z-axis (IX).
[in] varSZ	Section modulus about local Z-axis (SZ).
[in] varSY	Section modulus about local Y-axis (SY).
[in] varAY	Shear area for shear parallel to local Y-axis (AY).
[in] varAZ	Shear area for shear parallel to local Z-axis (AZ).
[in] varPZ	Plastic modulus about local Z-axis (PZ).
[in] varPY	Plastic modulus about local Y-axis (PY).

[in] varHSSWarping constant for lateral torsional buckling calculations (**HSS**).**[in] varDEE**Depth of web. For rolled sections, distance between fillets should be provided (**DEE**).

Return values

0 OK.**-6032** Unable to add section **varSectionName** in UPT **nTableRef**.**-6045** Section with same name exits in UPT **nTableRef**.

C++ Syntax

```
// Add general section type to UPT section "UPT VJG50-2" from table #1.
VARIANT RetVal = OSPropertyUI::AddUPTPropertyGENERAL(1, (LPCTSTR)"VJG20-2", varAX, varD,
    varTD, varB, varTB, varIZ, varIY, varIX, varSZ, varSY, varAY, varAZ, varPZ,
    varPY, varHSS, varDEE);
```

VBA Syntax

```
' Add general section type to UPT section "UPT VJG50-2" from table #1.
Dim RetVal As VARIANT = OSPropertyUI.AddUPTPropertyGENERAL(1, "VJG20-2", varAX, varD,
    varTD, varB, varTB, varIZ, varIY, varIX, varSZ, varSY, varAY, varAZ, varPZ,
    varPY, varHSS, varDEE);
```

◆ AddUPTPropertyISECTION()

```
VARIANT OSPropertyUI::AddUPTPropertyISECTION ( VARIANT FAR & nTableRef,
                                                VARIANT FAR & varSectionName,
                                                VARIANT FAR & varDWW,
                                                VARIANT FAR & varTWW,
                                                VARIANT FAR & varDWW1,
                                                VARIANT FAR & varBFF,
                                                VARIANT FAR & varTFF,
                                                VARIANT FAR & varBFF1,
                                                VARIANT FAR & varTFF1,
                                                VARIANT FAR & varAYF,
                                                VARIANT FAR & varAZF,
                                                VARIANT FAR & varXIF )
```

Add I type to an defined UPT section.

Parameters

- [in] **nTableRef** The existing table number ID.
- [in] **varSectionName** UPT section string name.
- [in] **varDWW** Depth of section at start node(**DWW**).
- [in] **varTWW** Thickness of web(**TWW**).
- [in] **varDWW1** Depth of section at end node(**DWW1**).
- [in] **varBFF** Width of top flange(**BFF**).
- [in] **varTFF** Thickness of top flange(**TFF**).
- [in] **varBFF1** Width of bottom flange(**BFF1**).
- [in] **varTFF1** Thickness of bottom flange(**TFF1**).
- [in] **varAYF** Shear area for shear parallel to Y-axis(**AYF**).
- [in] **varAZF** Shear area for shear parallel to Z-axis(**AZF**).
- [in] **varXIF** Torsional constant (**XIF**).

Return values

- 0** OK.
- 6032** Unable to add section **varSectionName** in UPT **nTableRef**.
- 6045** Section with same name exits in UPT **nTableRef**.

C++ Syntax

```
// Add I section type to UPT section "UPT VJG50-2" from table #1.
VARIANT RetVal = OSPropertyUI::AddUPTPropertyISECTION(1, (LPCTSTR)"VJG20-2", varDWW,
                                                      varTWW, varDWW1, varBFF, varTFF, varBFF1, varTFF1, varAYF, varAZF, varXIF);
```

VBA Syntax

```
' Add I section type to UPT section "VJG50-2" from table #1.  
Dim RetVal As VARIANT = OSPropertyUI.AddUPTPropertyISECTION(1, "VJG20-2", varDWW, varTWW,  
    varDWW1, varBFF, varTFF, varBFF1, varTFF1, varAYF, varAZF, varXIF);
```

◆ AddUPTPropertyPIPE()

VARIANT OSPropertyUI::AddUPTPropertyPIPE (VARIANT FAR & nTableRef,

VARIANT FAR & varSectionName,
VARIANT FAR & varOD,
VARIANT FAR & varID,
VARIANT FAR & varAY,
VARIANT FAR & varAZ)

Add pipe type to an defined UPT section.

Parameters

[in] **nTableRef** The existing table number ID.

[in] varSectionName UPT section string name.

[in] varOD Outer diameter (OD).

[in] varID Inner diameter (ID).

[in] **varAY** Shear area in local y-axis. If zero, shear deformation is ignored in the analysis (AY).

[in] **varAZ** Shear area in local z-axis. If zero, shear deformation is ignored in the analysis (AZ).

Return values

0 OK.

-6032 Unable to add section **varSectionName** in UPT nTableRef.

-6045 Section with same name exits in UPT nTableRef.

C++ Syntax

```
// Add pipe section type to UPT section "VJG50-2" from table #1.  
VARIANT RetVal = OSPropertyUI::AddUPTPropertyPIPE(1, (LPCTSTR)"VJG20-2", varOD, varID,  
varAY, varAZ);
```

VBA Syntax

```
' Add pipe section type to UPT section "UPT VJG50-2" from table #1.  
Dim RetVal As VARIANT = OSPropertyUI.AddUPTPropertyPIPE(1, "VJG20-2", varOD, varID,  
    varAY, varAZ);
```

- ◆ AddUPTPropertyPRISMATIC()

```
VARIANT OSPropertyUI::AddUPTPropertyPRISMATIC ( VARIANT FAR & nTableRef,
                                                VARIANT FAR & varSectionName,
                                                VARIANT FAR & varAX,
                                                VARIANT FAR & varIZ,
                                                VARIANT FAR & varIY,
                                                VARIANT FAR & varIX,
                                                VARIANT FAR & varAY,
                                                VARIANT FAR & varAZ,
                                                VARIANT FAR & varYD,
                                                VARIANT FAR & varZD )
```

Add PRISMATIC type to an defined UPT section.

Parameters

[in] nTableRef	The existing table number ID.
[in] varSectionName	UPT section string name.
[in] varAX	Cross section area (AX).
[in] varIZ	Torsional constant (IZ).
[in] varIY	Moment of inertia about local y-axis (IY).
[in] varIX	Moment of inertia about local z-axis (IX).
[in] varAY	Shear area for shear parallel to local Y-axis (AY).
[in] varAZ	Shear area for shear parallel to local Z-axis (AZ).
[in] varYD	Depth of the section in the direction of the local Y-axis (YD).
[in] varZD	Depth of the section in the direction of the local Z-axis (ZD).

Return values

- 0** OK.
- 6032** Unable to add section **varSectionName** in UPT **nTableRef**.
- 6045** Section with same name exits in UPT **nTableRef**.

C++ Syntax

```
// Add PRISMATIC section type to UPT section "UPT VJG50-2" from table #1.
VARIANT RetVal = OSPropertyUI::AddUPTPropertyPRISMATIC(1, (LPCTSTR)"VJG20-2", varAX,
                                                       varIZ, varIY, varIX, varAY, varAZ, varYD, varZD);
```

VBA Syntax

```
' Add PRISMATIC section type to UPT section "UPT VJG50-2" from table #1.
Dim RetVal As VARIANT = OSPropertyUI.AddUPTPropertyPRISMATIC(1, "VJG20-2", varAX, varIZ,
                                                       varIY, varIX, varAY, varAZ, varYD, varZD);
```

- ◆ AddUPTPropertyTEE()

```
VARIANT OSPropertyUI::AddUPTPropertyTEE ( VARIANT FAR & nTableRef,
                                         VARIANT FAR & varSectionName,
                                         VARIANT FAR & varAX,
                                         VARIANT FAR & varD,
                                         VARIANT FAR & varWF,
                                         VARIANT FAR & varTF,
                                         VARIANT FAR & varTW,
                                         VARIANT FAR & varIZ,
                                         VARIANT FAR & varIY,
                                         VARIANT FAR & varIX,
                                         VARIANT FAR & varCY,
                                         VARIANT FAR & varAY,
                                         VARIANT FAR & varAZ )
```

Add tee type to an defined UPT section.

Parameters

[in] nTableRef	The existing table number ID.
[in] varSectionName	UPT section string name.
[in] varAX	Cross section area (AX).
[in] varD	Depth of the section (D).
[in] varWF	Width of the top flange (WF).
[in] varTF	Thickness of top flange (TF).
[in] varTW	Thickness of web (TW).
[in] varIZ	Torsional constant (IZ).
[in] varIY	Moment of inertia about local y-axis (IY).
[in] varIX	Moment of inertia about local z-axis (IX).
[in] varCY	Distance from back of web to center of gravity (C.G.) of the shape along the local y-axis.
[in] varAY	Shear area in local Y-axis. If zero, shear deformation is ignored in the analysis (AY).
[in] varAZ	Shear area in local Z-axis. If zero, shear deformation is ignored in the analysis (AZ).

Return values

0 OK.

-6032 Unable to add section **varSectionName** in UPT **nTableRef**.

-6045 Section with same name exits in UPT **nTableRef**.

C++ Syntax

```
// Add tee section type to UPT section "UPT VJG50-2" from table #1.  
VARIANT RetVal = OSPropertyUI::AddUPTPropertyTEE(1, (LPCTSTR)"VJG20-2", varAX, varD,  
varWF, varTF, varTW, varIZ, varIY, varIX, varCY, varAY, varAZ);
```

VBA Syntax

```
' Add tee section type to UPT section "UPT VJG50-2" from table #1.  
Dim RetVal As VARIANT = OSPropertyUI.AddUPTPropertyTEE(1, "VJG20-2", varAX, varD, varWF,  
varTF, varTW, varIZ, varIY, varIX, varCY, varAY, varAZ);
```

◆ AddUPTPropertyTUBE()

```
VARIANT OSPropertyUI::AddUPTPropertyTUBE ( VARIANT FAR & nTableRef,
                                            VARIANT FAR & varSectionName,
                                            VARIANT FAR & varAX,
                                            VARIANT FAR & varD,
                                            VARIANT FAR & varWF,
                                            VARIANT FAR & varTF,
                                            VARIANT FAR & varIZ,
                                            VARIANT FAR & varIY,
                                            VARIANT FAR & varIX,
                                            VARIANT FAR & varAY,
                                            VARIANT FAR & varAZ )
```

Add tube type to an defined UPT section.

Parameters

[in] nTableRef	The existing table number ID.
[in] varSectionName	UPT section string name.
[in] varAX	Cross section area (AX).
[in] varD	Depth of the section (D).
[in] varWF	Width of the top flange (WF).
[in] varTF	Thickness of top flange (TF).
[in] varIZ	Torsional constant (Iz).
[in] varIY	Moment of inertia about local y-axis (IY).
[in] varIX	Moment of inertia about local z-axis (IX).
[in] varAY	Shear area in local y-axis. If zero, shear deformation is ignored in the analysis (AY).
[in] varAZ	Shear area in local z-axis. If zero, shear deformation is ignored in the analysis (AZ).

Return values

- 0** OK.
- 6032** Unable to add section **varSectionName** in UPT **nTableRef**.
- 6045** Section with same name exits in UPT **nTableRef**.

C++ Syntax

```
// Add tube section type to UPT section "UPT VJG50-2" from table #1.
VARIANT RetVal = OSPropertyUI::AddUPTPropertyTUBE(1, (LPCTSTR)"VJG50-2", varAX, varD,
                                                varWF, varTF, varIZ, varIY, varIX, varAY, varAZ);
```

VBA Syntax

```
' Add tube section type to UPT section "UPT VJG50-2" from table #1.  
Dim RetVal As VARIANT = OSPropertyUI.AddUPTPropertyTUBE(1, "VJG20-2", varAX, varD, varWF,  
varTF, varIZ, varIY, varIX, varAY, varAZ);
```

◆ AddUPTPropertyWIDEFLANGE()

```
VARIANT OSPropertyUI::AddUPTPropertyWIDEFLANGE ( VARIANT FAR & nTableRef,
                                                VARIANT FAR & varSectionName,
                                                VARIANT FAR & varAX,
                                                VARIANT FAR & varD,
                                                VARIANT FAR & varTW,
                                                VARIANT FAR & varWF,
                                                VARIANT FAR & varTF,
                                                VARIANT FAR & varIZ,
                                                VARIANT FAR & varIY,
                                                VARIANT FAR & varIX,
                                                VARIANT FAR & varAY,
                                                VARIANT FAR & varAZ )
```

Add wide flange type to an defined UPT section.

Parameters

[in] nTableRef	The existing table number ID.
[in] varSectionName	UPT section string name.
[in] varAX	Cross section area (AX).
[in] varD	Depth of the section (D).
[in] varTW	Thickness of web (TW).
[in] varWF	Width of the top flange (WF).
[in] varTF	Thickness of top flange (TF).
[in] varIZ	Torsional constant (IZ).
[in] varIY	Moment of inertia about local y-axis (IY).
[in] varIX	Moment of inertia about local z-axis (IX).
[in] varAY	Shear area in local y-axis. If zero, shear deformation is ignored in the analysis (AY).
[in] varAZ	Shear area in local z-axis. If zero, shear deformation is ignored in the analysis (AZ).

Return values

- 0** OK.
- 6032** Unable to add section **varSectionName** in UPT **nTableRef**.
- 6045** Section with same name exits in UPT **nTableRef**.

C++ Syntax

```
// Add wide flange section type to UPT section "UPT VJG50-2" from table #1.
```

```
VARIANT RetVal = OSPropertyUI::AddUPTPropertyWIDEFLANGE(1, (LPCTSTR)"VJG20-2", varAX,  
varD, varTW, varWF, varTF, varIZ, varIY, varIX, varAY, varAZ);
```

VBA Syntax

```
' Add wide flange section type to UPT section "UPT VJG50-2" from table #1.  
Dim RetVal As VARIANT = OSPropertyUI.AddUPTPropertyWIDEFLANGE(1, "VJG20-2", varAX, varD,  
varTW, varWF, varTF, varIZ, varIY, varIX, varAY, varAZ);
```

◆ AddUPTPropertyWIDEFLANGECOMPOSITE()

VARIANT

```
OSPropertyUI::AddUPTPropertyWIDEFLANGECOMPOSITE ( const VARIANT FAR & nTableRef,
                                                 const VARIANT FAR & varSectionName,
                                                 const VARIANT FAR & varPropSpecArray )
```

Add wide flange type with additional composite and bottom steel plate to an defined UPT section.

Parameters

[in] **nTableRef** The existing table number ID.

[in] **strSectionName** UPT section string name.

[in] **varPropSpecArray** - VARIANT double array of Profile Specifications data of size

- 12 (without additional composite flange & bottom plate)
- 16 (with only additional composite flange)
- 19 (with both additional composite flange & bottom plate inputs)

:

Index	Data
0	Cross section area (AX).
1	Depth of the section (D).
2	Thickness of web (TW).
3	Width of the top flange (WF).
4	Thickness of top flange (TF).
5	Torsional constant (I_Z).
6	Moment of inertia about local y-axis (I_Y).
7	Moment of inertia about local z-axis (I_X).
8	Shear area in local y-axis. If zero, shear deformation is ignored in the analysis (AY).
9	Shear area in local z-axis. If zero, shear deformation is ignored in the analysis (AZ).
10	Width of the bottom flange (WF1).
11	Thickness of bottom flange (TF1).
12	(<i>for additional composite flange</i>) Width of the composite slab to the right of the web center line (CFR).
13	(<i>for additional composite flange</i>) Width of the composite slab to the left of the web center line (CFL).
14	(<i>for additional composite flange</i>) Thickness of the composite slab (CFT).
15	(<i>for additional composite flange</i>) Modular ratio of the concrete in the composite slab (MR).

16	<i>(for additional bottom plate)</i> Width of the additional bottom flange plate to the right of the web center line (BPR).
17	<i>(for additional bottom plate)</i> Width of the additional bottom flange plate to the right of the web center line (BPL).
18	<i>(for additional bottom plate)</i> Thickness of the additional bottom flange plate (BPT).

For additional information, please refer to Section 5.19.1 of the Technical Reference Manual.

Return values

TRUE/1 OK.

FALSE/0 Error

C++ Syntax

```
// Add wide flange section type to UPT section "UPT_WideFlange1" in table #1.
int nUPTNumberId = 1;
string strSectionName = "UPT_WideFlange1";
double dSpecArray[] = new double[19] {
    12,           // [0]: AX
    5,            // [1]: D
    0.8,          // [2]: TW
    5.6,          // [3]: WF
    1.3,          // [4]: TF
    2,            // [5]: IZ
    6.8,          // [6]: IY
    38,           // [7]: IX
    25,           // [8]: AY
    43.8,         // [9]: AZ
    8.3,          // [10]: WF1
    6.5,          // [11]: TF1
    0.1,          // [12]: CFR
    0.2,          // [13]: CFL
    0.3,          // [14]: CFT
    0.4,          // [15]: MR
    0.5,          // [16]: BPR
    0.6,          // [17]: BPL
    0.7           // [18]: BPT
};
long RetVal = OSPropertyUI::AddUPTPropertyWIDEFLANGECOMPOSITE(nUPTNumberId,
    strSectionName, dSpecArray as object);
```

C# Syntax

```
// Add wide flange section type to UPT section "UPT_WideFlange1" in table #1.
int nUPTNumberId = 1;
string strSectionName = "UPT_WideFlange1";
double[] dSpecArray = new double[19] {
    12,           // [0]: AX
    5,            // [1]: D
    0.8,          // [2]: TW
    5.6,          // [3]: WF
    1.3,          // [4]: TF
    2,            // [5]: IZ
    6.8,          // [6]: IY
    38,           // [7]: IX
    25,           // [8]: AY
    43.8,         // [9]: AZ
    8.3,          // [10]: WF1
    6.5,          // [11]: TF1
    0.1,          // [12]: CFR
    0.2,          // [13]: CFL
    0.3,          // [14]: CFT
    0.4,          // [15]: MR
    0.5,          // [16]: BPR
    0.6,          // [17]: BPL
    0.7           // [18]: BPT
};
```

```

    6.8,           // [6]: IY
    38,            // [7]: IX
    25,            // [8]: AY
    43.8,          // [9]: AZ
    8.3,           // [10]: WF1
    6.5,           // [11]: TF1
    0.1,           // [12]: CFR
    0.2,           // [13]: CFL
    0.3,           // [14]: CFT
    0.4,           // [15]: MR
    0.5,           // [16]: BPR
    0.6,           // [17]: BPL
    0.7            // [18]: BPT
};

long RetVal = OSPropertyUI::AddUPTPropertyWIDEFLANGECOMPOSITE(nUPTNumberId,
    strSectionName, dSpecArr as object);

```

VB Syntax

```

// Add wide flange section type to UPT section "UPT VJG50-2" from table #1.
Dim strSectionName As String
Dim dAddSpecsArr() As Double
Dim nUPTNumberId As Integer
nUPTNumberId = 1
strSectionName = "UPT_WideFlange1"
ReDim dAddSpecsArr(18)
dAddSpecsArr(0) = 12
dAddSpecsArr(1) = 5
dAddSpecsArr(2) = 0.8
dAddSpecsArr(3) = 5.6
dAddSpecsArr(4) = 1.3
dAddSpecsArr(5) = 2
dAddSpecsArr(6) = 6.8
dAddSpecsArr(7) = 5.6
dAddSpecsArr(8) = 12
dAddSpecsArr(9) = 5
dAddSpecsArr(10) = 0.8
dAddSpecsArr(11) = 5
dAddSpecsArr(12) = 0.1
dAddSpecsArr(13) = 0.2
dAddSpecsArr(14) = 0.3
dAddSpecsArr(15) = 0.4
dAddSpecsArr(16) = 0.5
dAddSpecsArr(17) = 0.6
dAddSpecsArr(18) = 0.7
objOpenStaad.Property.AddUPTPropertyWIDEFLANGECOMPOSITE(nUPTNumberId, strSectionName,
    dAddSpecsArr)

```

◆ AddUPTPropertyWIDEFLANGEUNEQUAL()

```
VARIANT OSPropertyUI::AddUPTPropertyWIDEFLANGEUNEQUAL ( VARIANT FAR & nTableRef,
                                                       VARIANT FAR & varSectionName,
                                                       VARIANT FAR & varPropSpecArray )
```

Add unequal wide flange to an defined UPT section.

Parameters

- [in] **nTableRef** The existing table number ID.
- [in] **varSectionName** UPT section string name(Type: string).
- [in] **varPropSpecArray** section property array (Type: double array with 12 size allocated).
index

Index	Prop Spec Value
0	Ax
1	D
2	TW
3	WF
4	TF
5	IZ
6	IY
7	IX
8	AY
9	AZ
10	WF1
11	TF1

Return values

TRUE Add unequal wide flange successful.

FALSE Add unequal wide flange generate error.

C++ Syntax

```
// Add wide flange section type to UPT section "UPT VJG50-2" from table #1.
VARIANT RetVal = OSPropertyUI::AddUPTPropertyWIDEFLANGEUNEQUAL(1, (LPCTSTR)"VJG20-2",
    PropSpecArray);
```

VBA Syntax

```
Option Explicit
Sub Main
    Dim objOpenStaad As Object
    Dim stdFile As String
```

```
Set objOpenStaad = GetObject(,"StaadPro.OpenSTAAD")
objOpenStaad.GetSTAADFfile stdFile, "TRUE"
If stdFile="" Then
    MsgBox"Bad"
    Set objOpenStaad = Nothing
    Exit Sub
End If
Dim propSpec() As Double
ReDim propSpec(11) As Double
propSpec(0)=111.1
propSpec(1)=11.2
propSpec(2)=1.2
propSpec(3)=12.2
propSpec(4)=1.5
propSpec(5)=111.2
propSpec(6)=111.3
propSpec(7)=111.4
propSpec(8)=111.5
propSpec(9)=111.6
propSpec(10)=15.2
propSpec(11)=1.8
Dim uptNo As Integer
uptNo = objOpenStaad.Property.CreateUPTTableEx(1, 1)
Dim RetVal as Boolean
RetVal = objOpenStaad.Property.AddUPTPropertyWIDEFLANGEUNEQUAL(1, "Test",
propSpec)
MsgBox"Macro Ending"
Set objOpenStaad = Nothing
End Sub
```

◆ CreatePropertyFromUPTTable()

```
VARIANT OSPropertyUI::CreatePropertyFromUPTTable ( VARIANT FAR & nTableID,  
                                                LPCTSTR      strSectionName )
```

Creates a section property from User Provided Table (UPT).

Parameters

[in] **nTableID** The existing table number ID.

[in] **strSectionName** UPT section string name.

Return values

<Val> Section property number ID.

-1 General error.

C++ Syntax

```
// Create section property using "UPT VJG50-2" in existing table #1.  
VARIANT RetVal = OSPropertyUI::CreatePropertyFromUPTTable(1, (LPCTSTR)"UPT VJG50-2");
```

VBA Syntax

```
' Create section property using "UPT VJG50-2" in existing table #1.  
Dim RetVal As VARIANT = OSPropertyUI.CreatePropertyFromUPTTable(1, "UPT VJG50-2")
```

◆ CreateUPTTable()

VARIANT OSPropertyUI::CreateUPTTable (VARIANT FAR & nTableType)

Creates user provided table (UPT).

Parameters

[in] **nTableType** Type of the table.

No.	Table Type
1	scUserTableWideFlangeTitle
2	scUserTableChannelTitle
3	scUserTableAngleTitle
4	scUserTableDoubleAngleTitle
5	scUserTableTeeTitle
6	scUserTablePipeTitle
7	scUserTableTubeTitle
8	scUserTableGeneralTitle
9	scUserTableIsectionTitle
10	scUserTablePrismaticTitle

Return values

<Val> User Provided Table (UPT) number ID.

-6031 Cannot create UPT. Unknown table type specified.

C++ Syntax

```
// Create general title user table.
VARIANT nTableType = OSPropertyUI::CreateUPTTable(8);
```

VBA Syntax

```
' Create general title user table.
Dim nTableType As VARIANT = OSPropertyUI.CreateUPTTable(8);
```

See also

[OSPropertyUI::RemoveUPTTable](#)

- ◆ [GetUptGeneralProfileBoundaryPoints\(\)](#)

```
VARIANT OSPropertyUI::GetUptGeneralProfileBoundaryPoints ( const VARIANT FAR & varTableRef,
                                                       const VARIANT FAR & strSectionName,
                                                       const VARIANT FAR & varIsInner,
                                                       VARIANT FAR &      varZP,
                                                       VARIANT FAR &      varYP )
```

Get Profile Points coordinate from User Provided general section Table (UPT).

Parameters

- [in] **varTableRef** The existing table number ID(Type: Long).
- [in] **varSectionName** UPT section string name(Type: String).
- [in] **varIsInner** (Reserved for inner points, set it to false)(Type: Boolean).
- [out] **varZP** Profile Points coordinate in Z(Type: double array).
- [out] **varYP** Profile Points coordinate in Y(Type: double array).

Return values

<Val> Profile Points Count.

0 General error.

VBA Syntax

```
Option Explicit
Sub Main
    Dim objOpenStaad As Object
    Dim stdFile As String
    Set objOpenStaad = GetObject(, "StaadPro.OpenSTAAD")
    objOpenStaad.GetSTAADFfile stdFile, "TRUE"
    If stdFile = "" Then
        MsgBox "Bad"
        Set objOpenStaad = Nothing
        Exit Sub
    End If
    Dim countOuter As Long
    Dim countInner As Long
    Dim tableId As Long
    Dim sectName As String
    tableId = 1
    sectName = "AAAA"
    Dim res As Boolean
    res = objOpenStaad.Property.GetUptGeneralProfilePointsCount(tableId,
                                                                sectName, countOuter, countInner)
    Dim Zp() As Double
    Dim Yp() As Double
    ReDim Zp(countOuter - 1)
    ReDim Yp(countOuter - 1)
    Dim varProfilePointsCount As Integer
    varProfilePointsCount =
    objOpenStaad.Property.GetUptGeneralProfileBoundaryPoints(tableId, sectName,
                                                             False, Zp, Yp)
    MsgBox "Macro Ending"
    Set objOpenStaad = Nothing
```

End Sub

◆ GetUpGeneralProfilePointsCount()

```
VARIANT OSPropertyUI::GetUpGeneralProfilePointsCount ( const VARIANT FAR & varTableRef,
                                                       const VARIANT FAR & varSectionName,
                                                       VARIANT FAR &      varCountOfOuter,
                                                       VARIANT FAR &      varCountOfInner )
```

Get profile points count from user provided general section table (UPT).

Parameters

- [in] **varTableRef** The existing table number ID(Type: Long).
- [in] **varSectionName** UPT section string name(Type: String).
- [out] **varCountOfOuter** Count of outer profile points(Type: Long).
- [out] **varCountOfInner** Count of inner profile points(Reserved, not be used now)(Type: Long).

Return values

True Get profile points count successful.

False General error.

VBA Syntax

```
Option Explicit
Sub Main
    Dim objOpenStaad As Object
    Dim stdFile As String
    Set objOpenStaad = GetObject(, "StaadPro.OpenSTAAD")
    objOpenStaad.GetSTAADFfile stdFile, "TRUE"
    If stdFile="" Then
        MsgBox"Bad"
        Set objOpenStaad = Nothing
        Exit Sub
    End If
    Dim tableId as Long
    Dim sectName as String
    tableId = 1
    sectName = "AAAA"
    Dim countOuter As Long
    Dim countInner As Long
    Dim res As Boolean
    res = objOpenStaad.Property.GetUpGeneralProfilePointsCount(tableId,
                                                               sectName, countOuter, countInner)
    Set objOpenStaad = Nothing
End Sub
```

◆ GetUpGeneralStressLocationPoints()

```
VARIANT OSPropertyUI::GetUpGeneralStressLocationPoints ( const VARIANT FAR & varTableRef,
                                                       const VARIANT FAR & strSectionName,
                                                       VARIANT FAR &      varZP,
                                                       VARIANT FAR &      varYP )
```

Stress Location in local coordinate from User Provided general section Table (UPT).

Parameters

[in] varTableRef	The existing table number ID(Type: Long).
[in] varSectionName	UPT section string name(Type: String).
[out] varZP	Stress Location coordinate in Z(Type: double array of size 4).
[out] varYP	Stress Location coordinate in Y(Type: double array of size 4).

Return values

<Val> Stress Location Count.

0 General error.

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 tableId as Long
    Dim sectName as String
    tableId = 1
    sectName = "AAAA"
    Dim Zp() As Double
    Dim Yp() As Double
    ReDim Zp(3)
    ReDim Yp(3)
    Dim nStressLocationCount As Integer
    nStressLocationCount =
    objOpenStaad.Property.GetUpGeneralStressLocationPoints(tableId, sectName, Zp,
    Yp)
    MsgBox"Macro Ending"
    Set objOpenStaad = Nothing
End Sub
```

