

# **Title 24 2013 Compliance Software:**

## **CBECC-Com**

**“California Building Energy Code Compliance  
for Commercial Buildings”**

**Defining and Assigning Constructions**

### ■ Objective: **Develop Opaque Constructions**

#### 1. Assemble Opaque Constructions

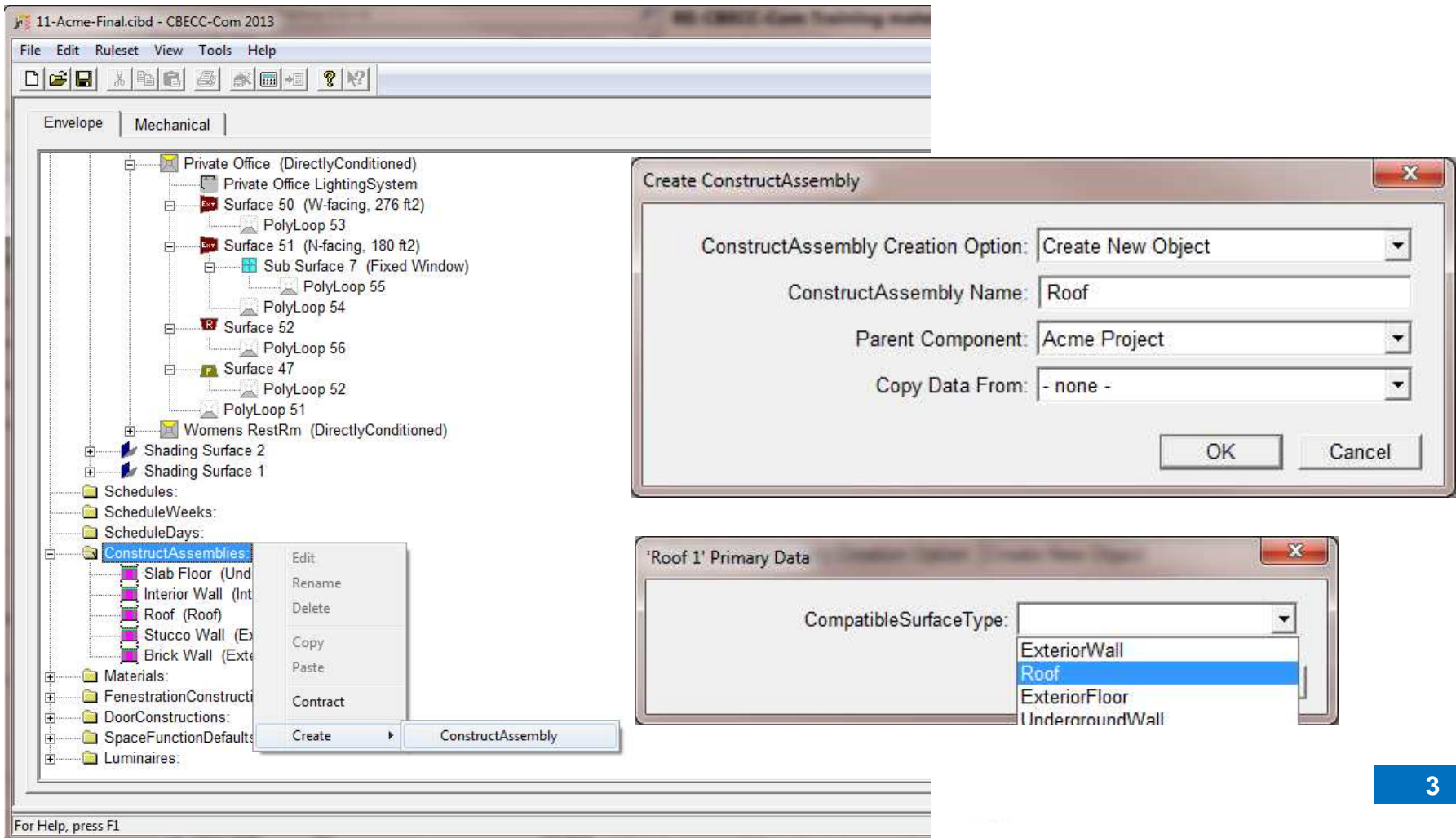
- ➔ Roof
- ➔ Exterior Wall (2)
- ➔ Interior Wall
- ➔ Floor

#### 2. Define Floor Slab Materials

#### 3. Define Other Needed Materials

# Training Module 4: Opaque Construction Data

- ❖ Right-click on ConstructAssemblies then select Create > ConstructAssembly
- ❖ A new dialog box opens – fill in the ConstructAssembly Name and then click OK
- ❖ Choose the CompatibleSurface Type from the available options in the drop down menu.



# Training Module 4: Construction Assembly Details

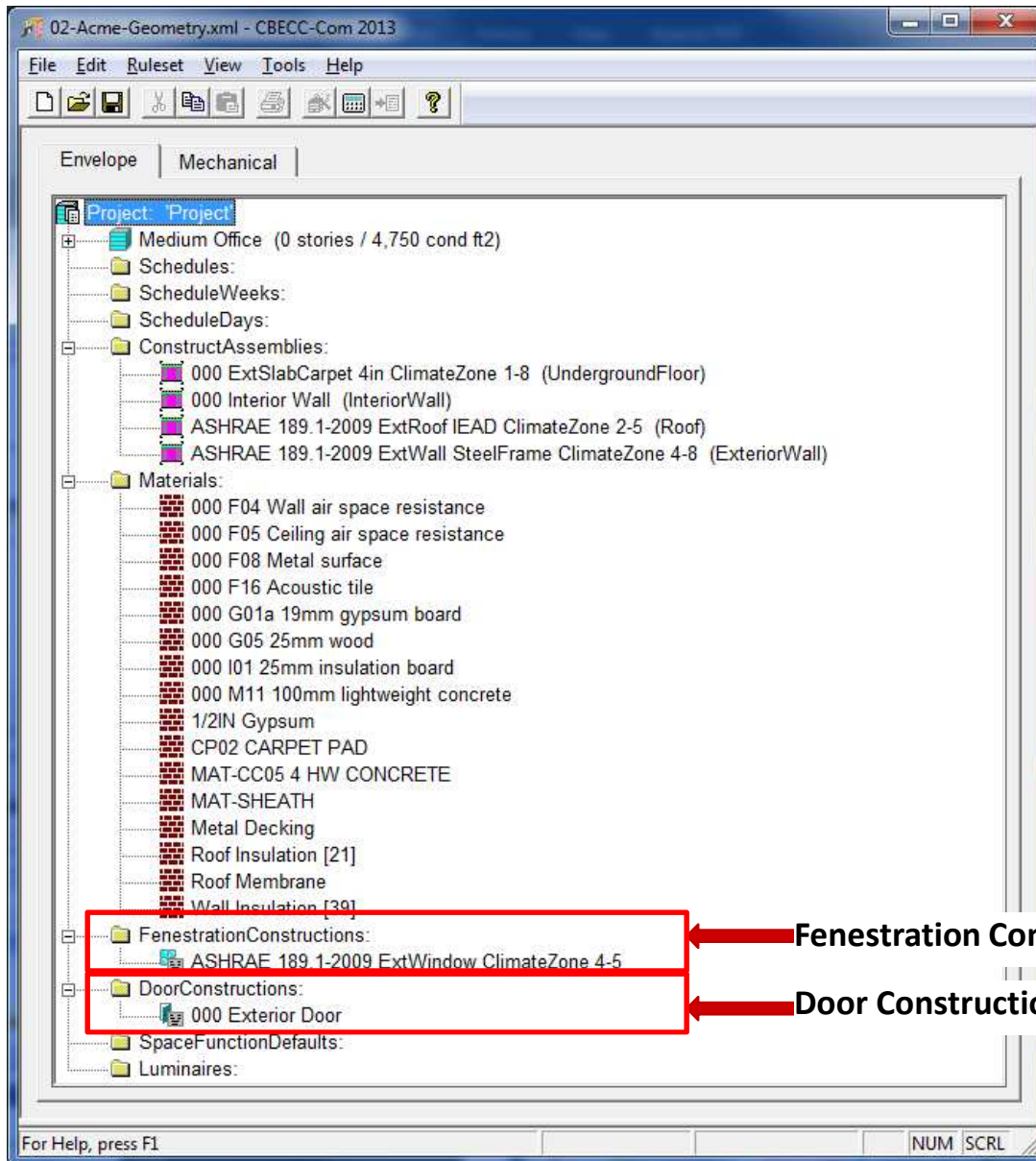
Construction Assembly	Material Layers (Outside to Inside)	Category	Solar Properties
<b>Roof</b>	<ol style="list-style-type: none"> <li>1. Metal Standing Seam - 1/16 in</li> <li>2. Expanded Polystyrene -EPS - 4 1/16 in</li> <li>3. Metal Deck – 1/16 in</li> <li>4. Gypsum Board – ½ in</li> </ol>	<ul style="list-style-type: none"> <li>-Roofing</li> <li>-Insulation Board</li> <li>-Bldg Board and Siding</li> <li>-Bldg Board and Siding</li> </ul>	Solar Reflectance: 0.60 Thermal Emittance: 0.70
<b>Stucco Wall</b>	<ol style="list-style-type: none"> <li>1. Stucco - 7/8 in</li> <li>2. Expanded Polystyrene -EPS - 3 1/2 in</li> <li>3. Metal Frame with R 19</li> <li>4. Gypsum Board - 1/2 in</li> </ol>	<ul style="list-style-type: none"> <li>-Plastering Materials</li> <li>-Insulation Board</li> <li>-Composite (Metal Wall 24inoc, depth-5.5in, R-19 insulation)</li> <li>-Bldg Board and Siding</li> </ul>	
<b>Brick Wall</b>	<ol style="list-style-type: none"> <li>1. Brick – 140 lb/ft<sup>3</sup>- 3 5/8 in</li> <li>2. Expanded Polystyrene -EPS - 3 1/2 in</li> <li>3. Metal Frame with R 19</li> <li>4. Gypsum Board - 1/2 in</li> </ol>	<ul style="list-style-type: none"> <li>-Masonry Materials</li> <li>-Insulation Board</li> <li>-Composite (Metal Wall 24inoc, depth-5.5in, R-19 insulation)</li> <li>-Bldg Board and Siding</li> </ul>	
<b>Interior Wall</b>	<ol style="list-style-type: none"> <li>1. Gypsum Board - 1/2 in</li> <li>2. Metal Stud Space</li> <li>3. Gypsum Board - 1/2 in</li> </ol>	<ul style="list-style-type: none"> <li>-Bldg Board and Siding</li> <li>-Air</li> <li>-Bldg Board and Siding</li> </ul>	
<b>Floor Slab</b>	Unheated Slab on Grade with 12 in Vertical R5 Insulation		

## Training Module 4: Envelope Details

Space Name	Construction Assembly		
	Exterior Wall	Fenestration	Roof
Conference West	Stucco Wall, Brick Wall	Fixed Window	Roof
Lobby	Stucco Wall, Brick Wall	Lobby Window, Exterior Door	Roof
Men RR	-	-	Roof
Open Office North	Stucco Wall	Fixed Window	Roof
Open Office South	Stucco Wall	Fixed Window	Roof
Private Office North	Stucco Wall	Fixed Window	Roof
Women RR	-	-	Roof

- **Objective: Define Fenestration Constructions, Assign Constructions to Surfaces**
- 1. Develop Window Constructions
- 2. Develop Door Constructions
- 3. Assign Constructions

# Training Module 5: Fenestration Construction Data



Fenestration Construction Data

Door Construction Data

## Training Module 5: Fenestration Details

Name	Type	Certification Method	Thermal Property
Fixed Window	Vertical Fenestration (Manufactured)	NFRC Rated	U-Factor: 0.360 SHGC: 0.250 Visible Trans: 0.500
Lobby Window	Vertical Fenestration (Manufactured)	NFRC Rated	U-Factor: 0.320 SHGC: 0.250 Visible Trans: 0.550
Exterior Door	Swinging	NFRC Rated	U-Factor: 0.50



# Training Module 5: Assign Constructions (Exterior Wall example)

- ❖ Double-click on any Exterior Wall to open the Exterior Wall Data dialog box to assign constructions

Building Model Data

Exterior Wall Data

Currently Active Exterior Wall:

Exterior Wall Name:  W-facing, 88 ft2 Status:

Construction Assm:

Wall Surface Geometry:

Area:  ft2 Display Perimeter:  ft

Local Azimuth:  deg - relative to bldg. azimuth

True Azimuth:  Deg - relative to true north

Tilt:  deg

Wall Surface Properties:

Exterior Roughness:

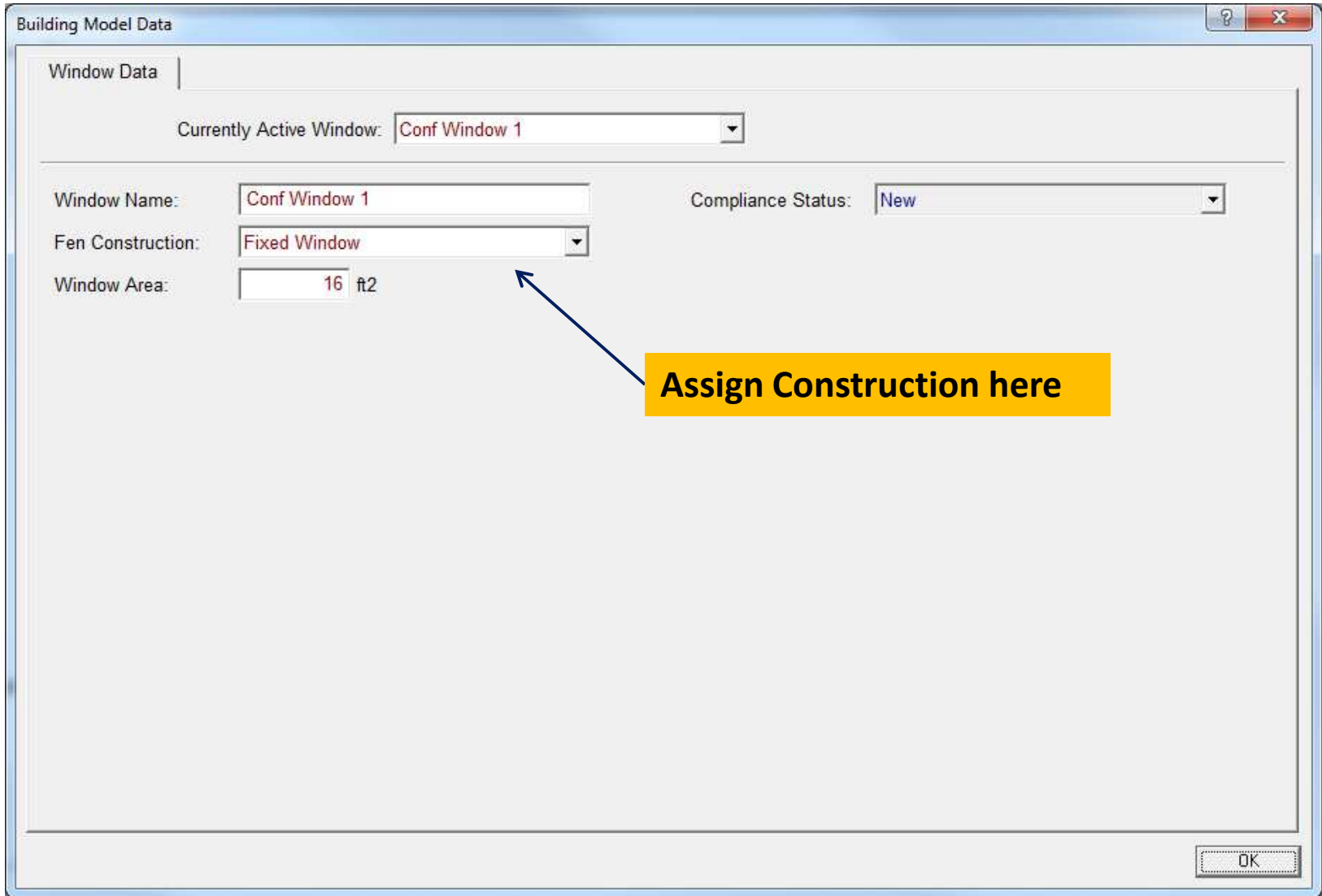
	Interior	Exterior
Solar Absorptance:	<input type="text" value="0.700"/>	<input type="text" value="0.700"/>
Thermal Absorptance:	<input type="text" value="0.900"/>	<input type="text" value="0.900"/>
Visible Absorptance:	<input type="text" value="0.800"/>	<input type="text" value="0.800"/>

Assign Construction here

OK

# Training Module 5: Assign Constructions (Window example)

- ❖ Double-click on any Window to open the Window Data dialog box to assign constructions



The screenshot shows a software dialog box titled "Building Model Data" with a "Window Data" tab. The "Currently Active Window" dropdown is set to "Conf Window 1". The "Window Name" field contains "Conf Window 1". The "Compliance Status" dropdown is set to "New". The "Fen Construction" dropdown is set to "Fixed Window". The "Window Area" field shows "16 ft2". A yellow callout box with the text "Assign Construction here" and a blue arrow points to the "Fen Construction" dropdown menu. A "DK" button is located at the bottom right of the dialog.

## Training Module 5: Door & Window Type Schedule (for Simplified Geometry Approach)

<b>Space Name</b>	<b>External Wall Name</b>	<b>Window Name</b>	<b>Type</b>
Open Office South	Open Office South Ext EWall	Open Office South E Window	Fixed Window
	Open Office South Ext SWall	Open Office South S Window	Fixed Window
Lobby	Lobby Ext SWall	Lobby SWindow	Lobby Window
	Lobby Ext EWall	Lobby EWindow	Lobby Window
	Lobby Ext Swall	Lobby SDoor	Exterior Door
Open Office North	Open Office North Ext NWall	Open Office North N Window	Fixed Window
	Open Office North Ext EWall	Open Office North E Window	Fixed Window
Private Office	Private Office Ext NWall	Private Office Window	Fixed Window
Conference	Conference Ext WWall	Conf Window 1	Fixed Window
	Conference Ext WWall	Conf Window 2	Fixed Window
	Conference Ext WWall	Conf Window 3	Fixed Window