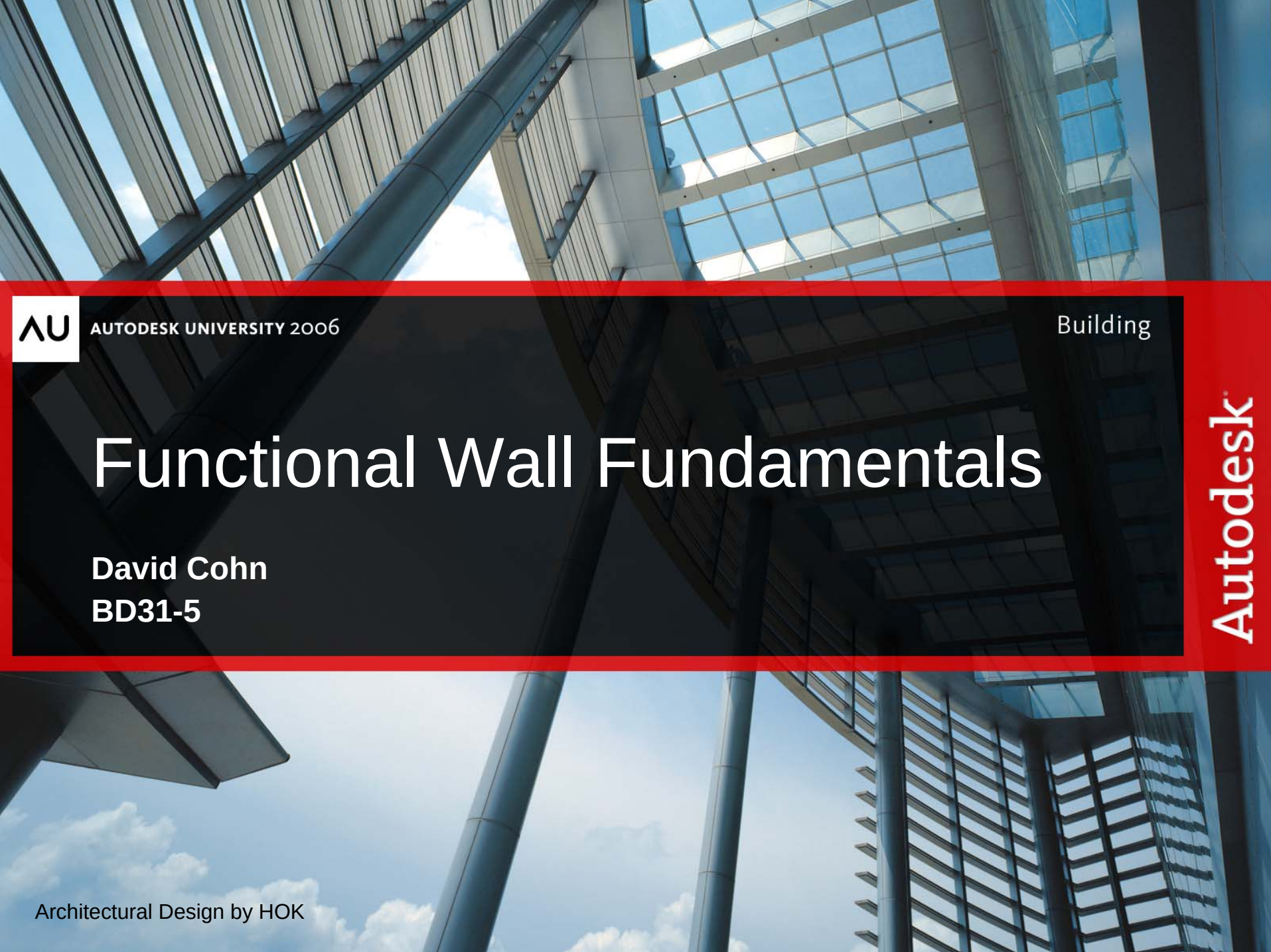


AUTODESK UNIVERSITY 2006

Building

Functional Wall Fundamentals

David Cohn

BD31-5

Autodesk

Architectural Design by HOK

David S. Cohn

- Application engineer with The PPI Group
- Contributing editor *Desktop Engineering* contributing editor
- Former editor of *CADalyst*, *Engineering Automation Report* and *CADCAMNet*
- Frequent contributor to *Computer Graphics* World, *PC* Magazine, and others
- Registered architect—25+ years experience
- AutoCAD experience—20+ years
- Author of numerous books & articles
- President of Eclipse Software

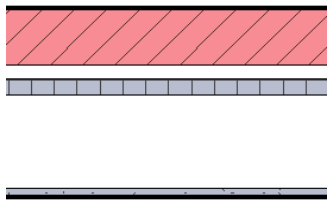
COMPUTER GRAPHICS WORLD DE PC MAGAZINE

Autodesk

© 2006 Autodesk

Compound walls

- A wall is a compound structure consisting of parallel layers
- Each layer is a plane of material or multiple materials
- Each layer is represented by the layer's material, thickness, and function



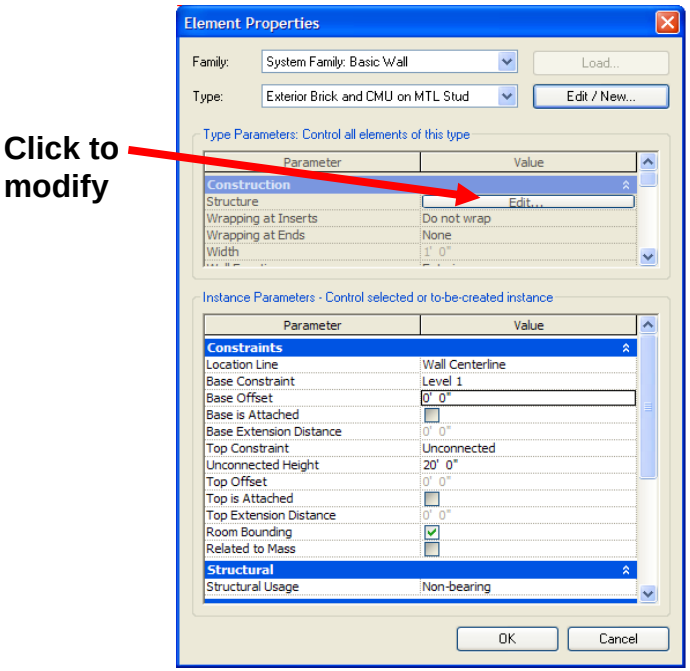
The easiest way to create a new wall type is to edit an existing wall type.

© 2006 Autodesk

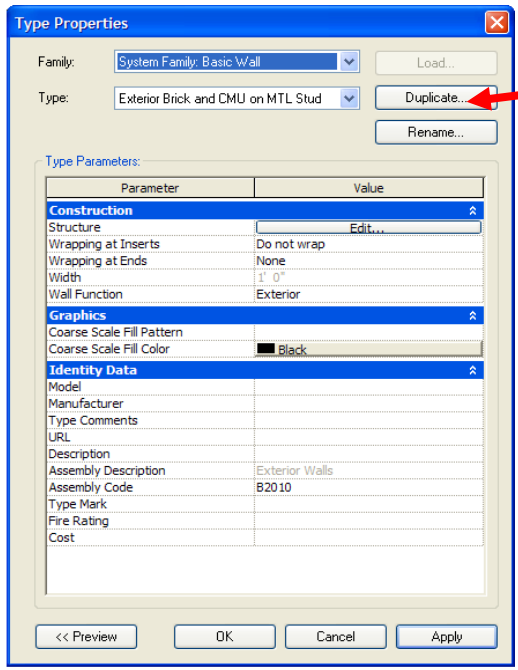
Autodesk®

Wall Elements

- Controlled using the Elements Properties dialog box
  - Top portion controls type parameters – affect all walls of that type
  - Lower portion controls instance parameters – affect selected wall



Click to modify



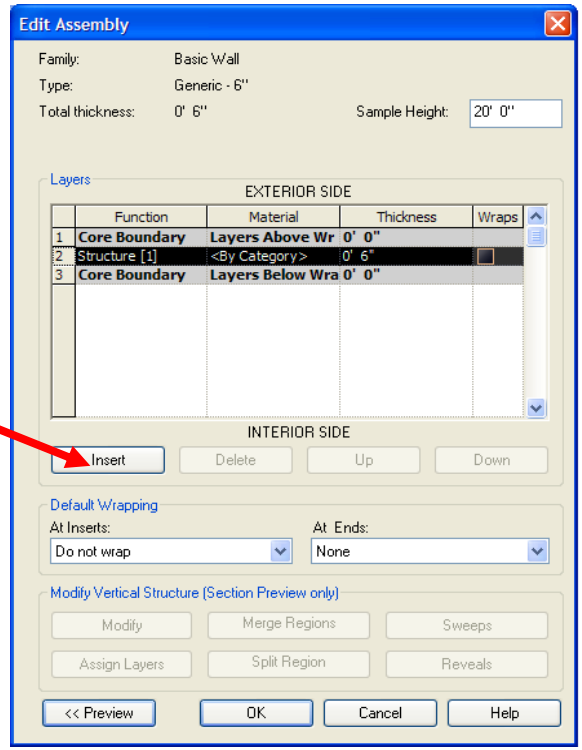
Click to create new

© 2006 Autodesk

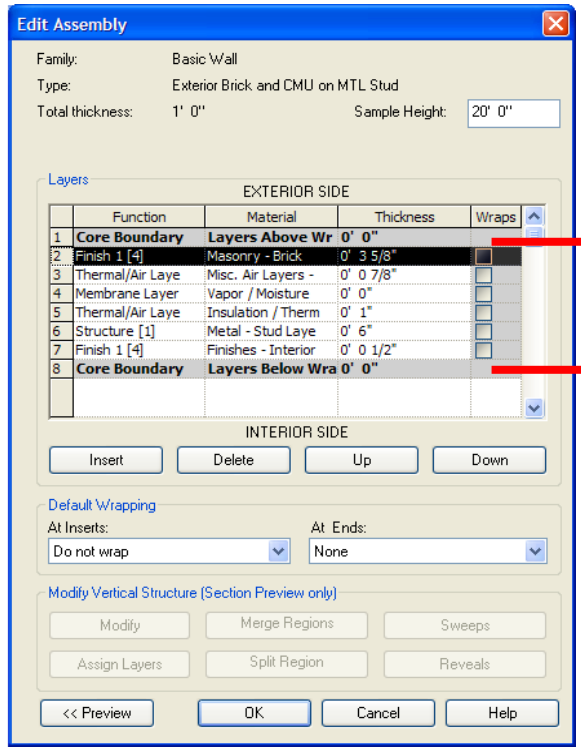
Autodesk

Defining Wall Assembly

- Each layer has a specified function, material, and thickness



Click to add new layer



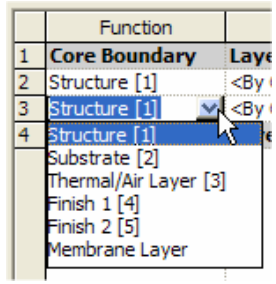
Bounded by exterior and interior core boundaries

© 2006 Autodesk

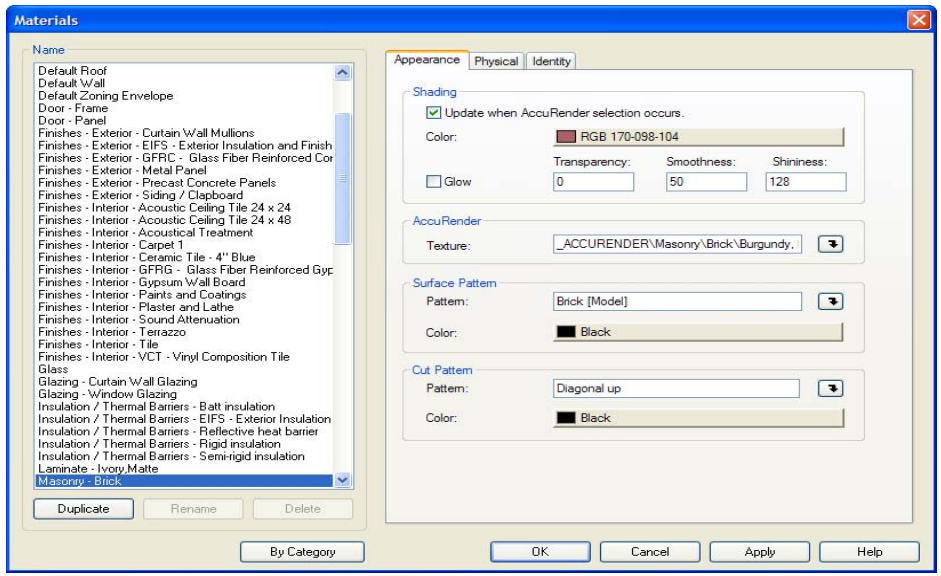
Autodesk

Defining Wall Assembly (cont.)

- Function – choose from drop-down list



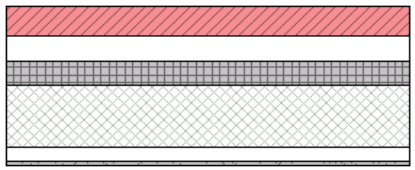
- Material – click on arrow to select from dialog box



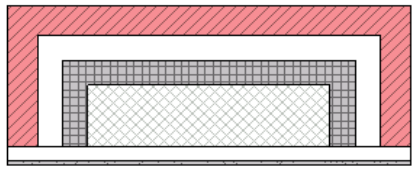
© 2006 Autodesk

Defining Wall Assembly (cont.)

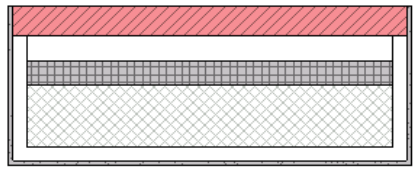
- Thickness – must specify for all layers except membrane
- Wrap (optional) – determines condition at doors and windows and ends of walls



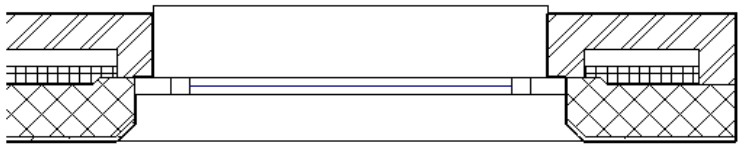
Compound wall with no end-cap wrapping



Exterior wrapping at a wall's end caps



Interior wrapping at the end caps



Interior wrapping at window insert

Note: Boundaries are only for position reference. Walls are dimensioned based on centerline, core centerline, interior or exterior face, or interior or exterior core boundary. Core boundaries often represent face of structure. You can add layers outside the boundaries

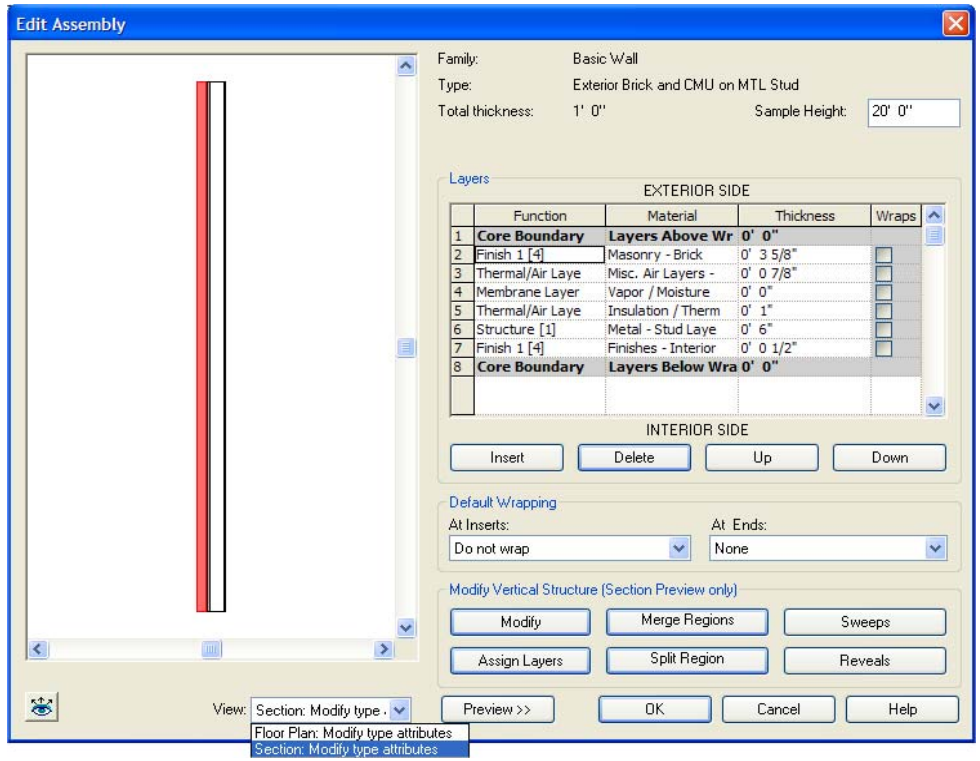
© 2006 Autodesk

Autodesk

Previewing Wall Assembly

- It's helpful to preview image of wall assembly
  - Click << Preview button
  - Select Plan or Section view

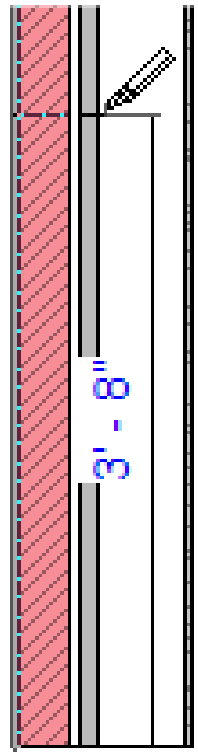
Note that you can pan and zoom within the preview window



© 2006 Autodesk

Splitting Regions

- You can split regions within the wall to create compound walls
  - Divides a layer
  - New region assumes same material as original layer
    - You can then change the material
- If you need to modify the location of the split:
  - Click the Modify button and then click the split line
- To remove the split:
  - Click the Merge Region button and then click the split line



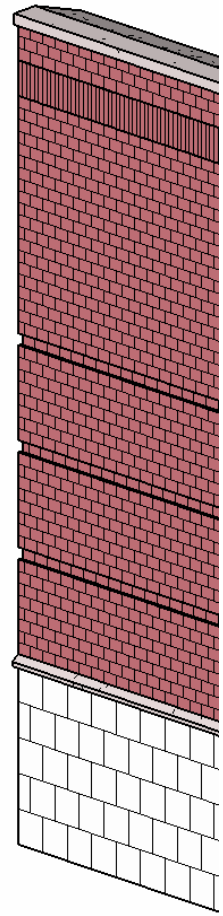
© 2006 Autodesk

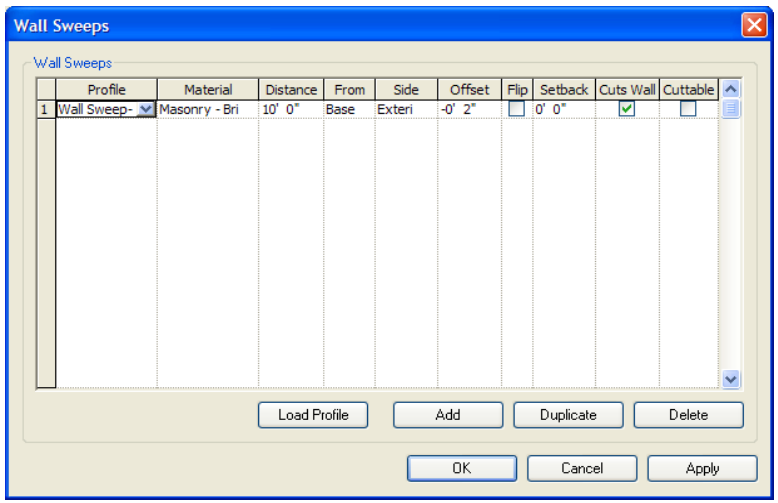
Sweeps and Reveals

A sweep is a material that runs the entire length of the wa

A reveal is a cut into existing material

- To add, you must first display a section preview
  1. Click the Sweeps or Reveals button
  2. In the dialog box, click the Add button
     - For sweeps, specify the profile, material, and other settings
     - For reveals, specify profile and other settings



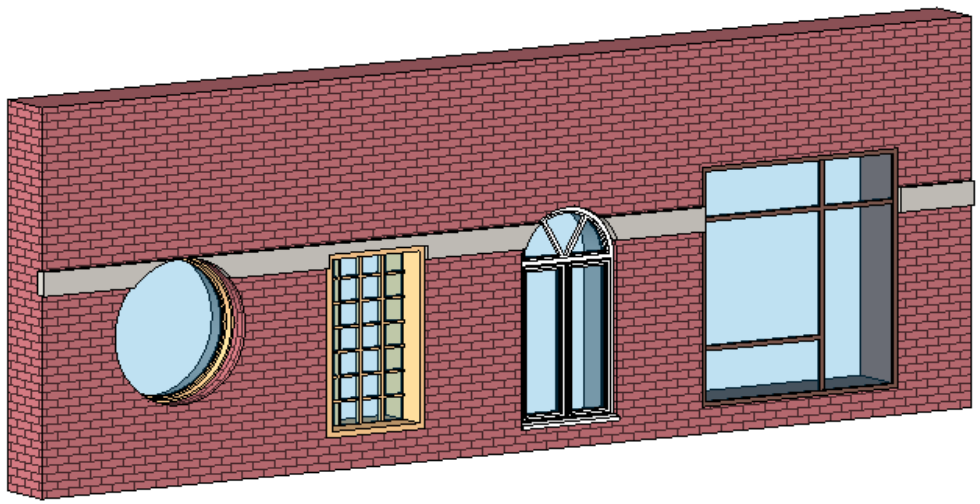


© 2006 Autodesk

Autodesk

Sweeps and Reveals (cont.)

- Specify Distance from Top or Bottom of wall
- Specify Offset if necessary (negative moves toward core)
- Select Flip to measure distance from top of profile rather than bottom
- Specify Setback if necessary to set back from doors and windows
- Select Cuttable to cut sweep by wall inserts



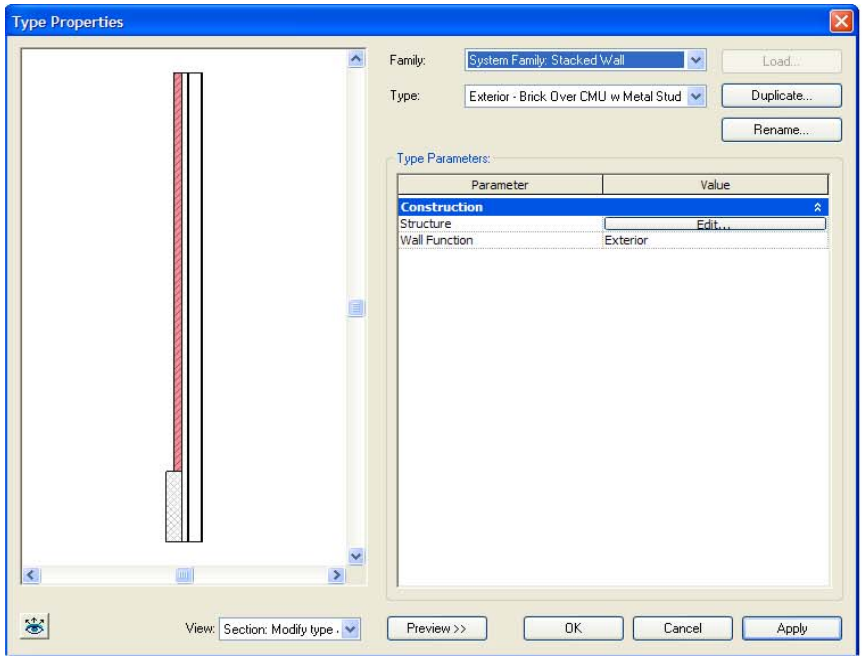
© 2006 Autodesk

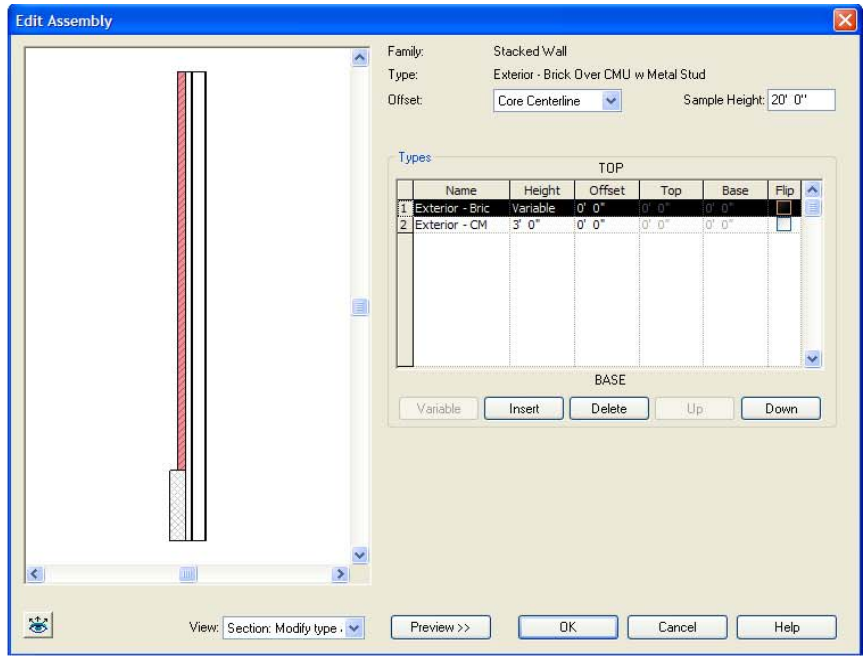
Autodesk

Vertically Stacked Walls

One main wall that comprises several different subwalls stacked on top of each other

- You can have different wall thicknesses at different heights
- Defined through Type Properties



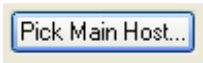


© 2006 Autodesk

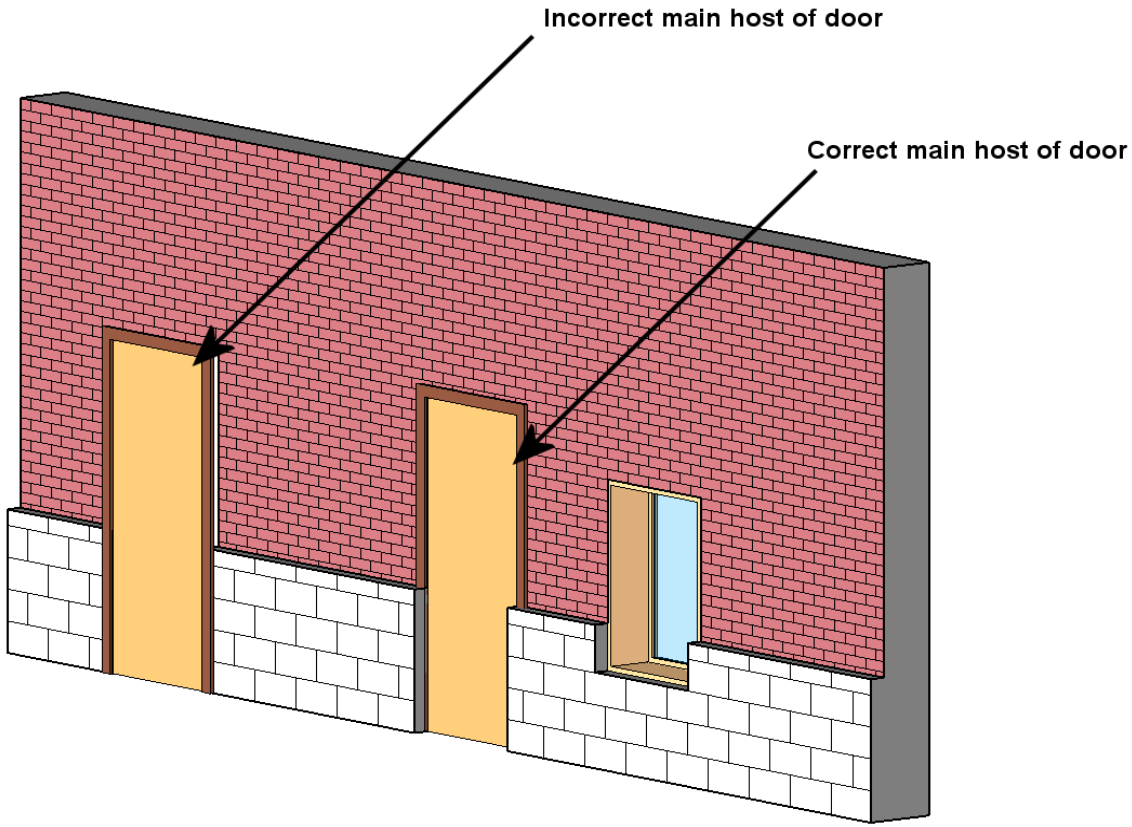
Autodesk

Vertically Stacked Walls (cont.)

- When you place doors into stacked walls, pay attention to the portion of the wall you select as the host

- To correct door on left:
  1. Select the door
  2. Click 

  3. Click on portion of wall that should be the host



© 2006 Autodesk

Questions & Answers

To contact me:

David S. Cohn

711 Chuckanut Drive North

Bellingham, WA 98229-6921

360-733-0711

mailto:david@dscohn.com

www.dscohn.com

Remember to fill out your evaluation forms:

BD31-5

© 2006 Autodesk

Autodesk®

Autodesk®