

# Door Component Modeling

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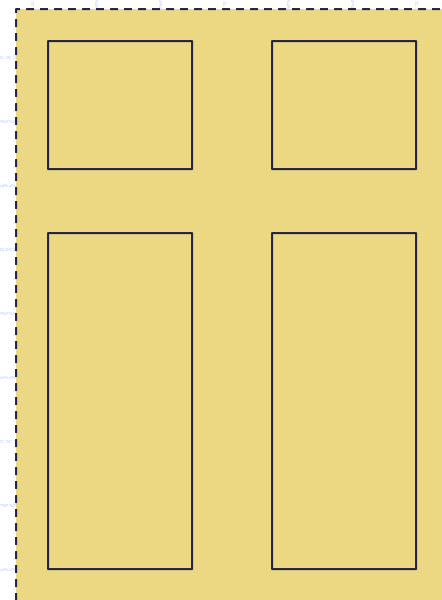
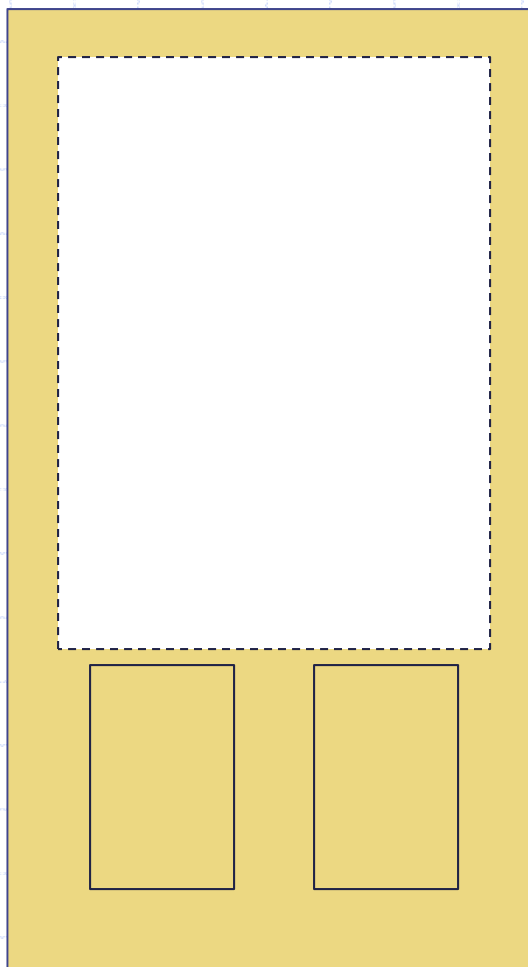
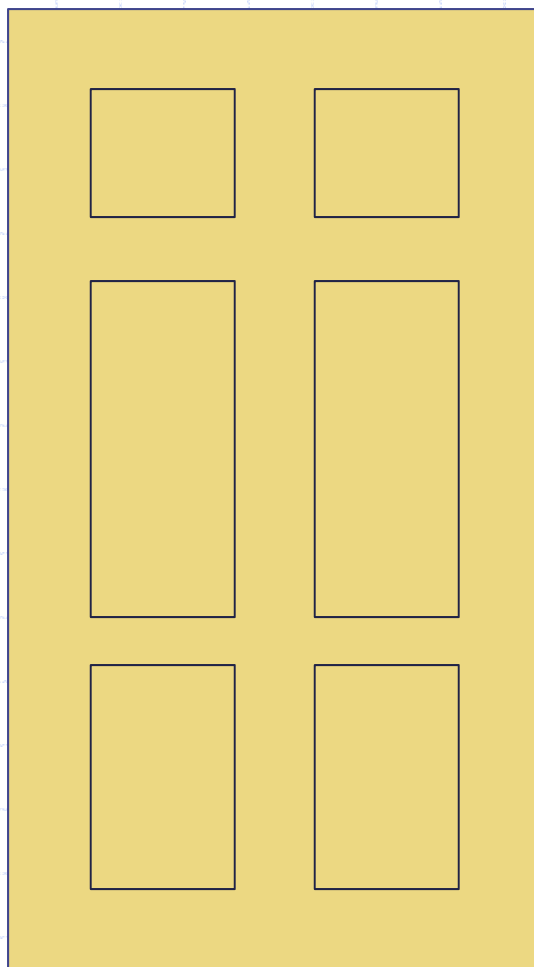
WESTLab

November 14, 2011

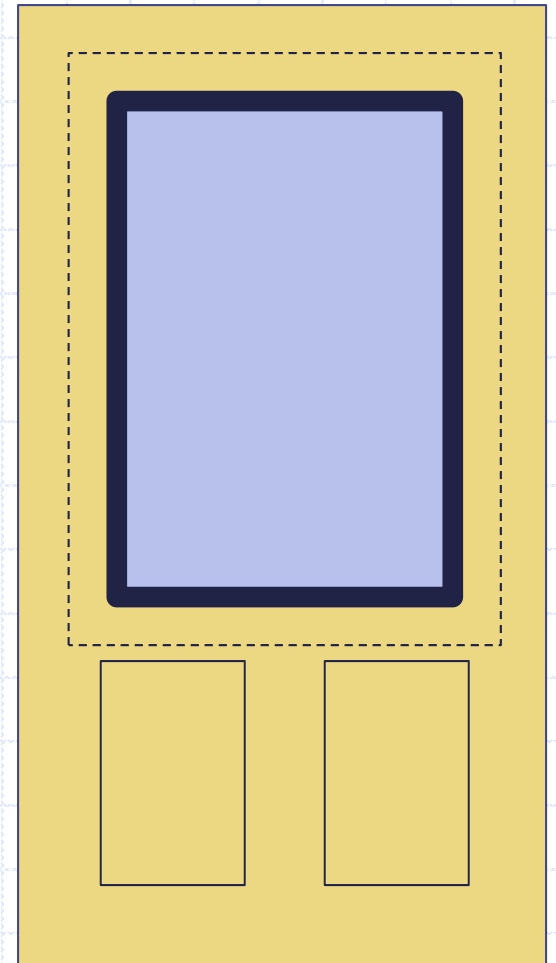
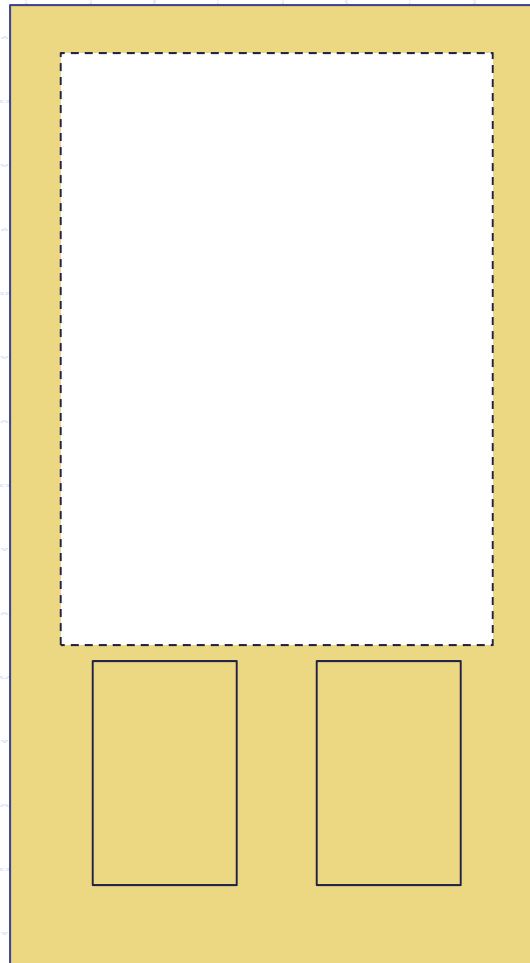
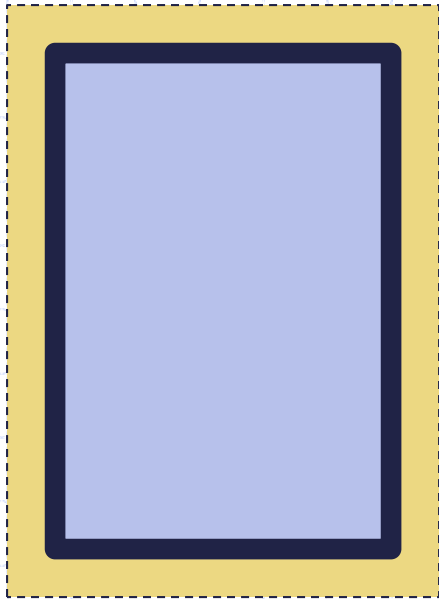
# Door Component Modeling

- ◆ Can doors and door lites be modeled separately and combined as needed?
  - How are they separated?
  - How are they recombined?

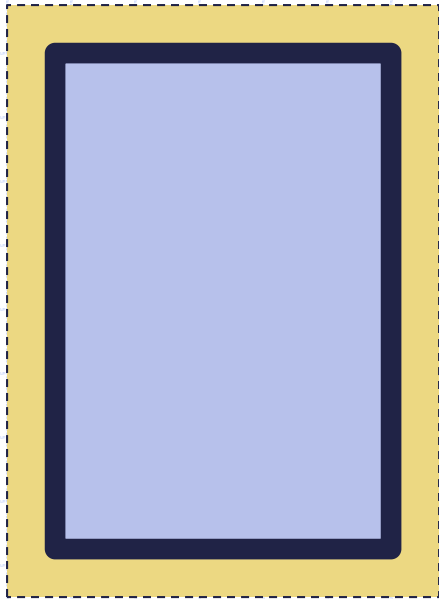
# Door Modeling



# Door Lite Modeling



# Door Lite Modeling



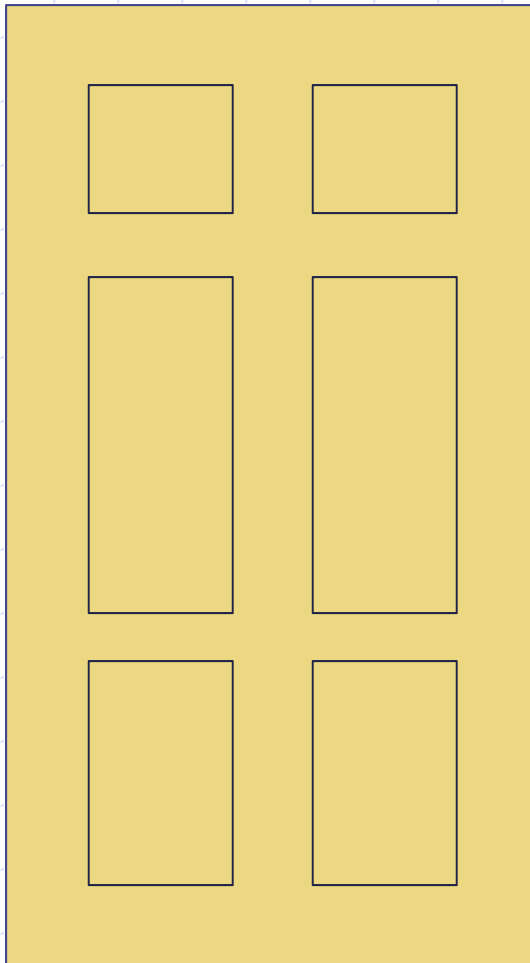
## ◆ Steel Door

- EPS core
- Polyurethane core

## ◆ Fiberglass Door

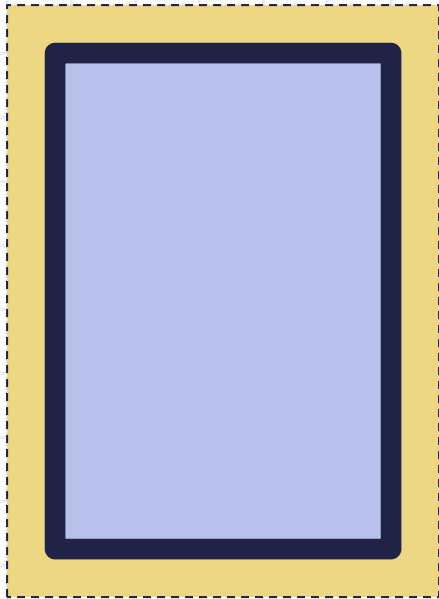
- EPS core
- Polyurethane core

# Door Manufacturers Modeling



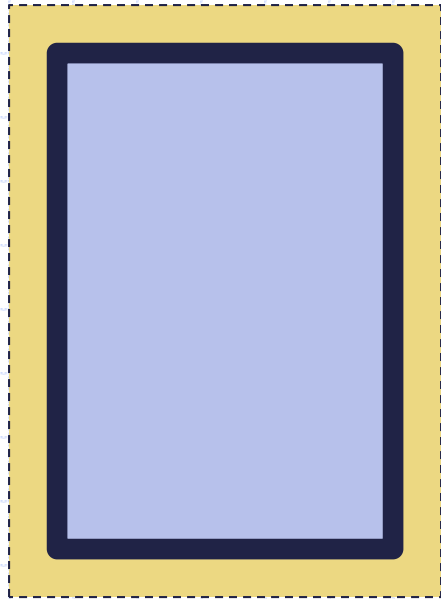
- ◆ Opaque door U-factor
- ◆ Door  $\frac{1}{4}$  lite cut out U-factor
- ◆ Door  $\frac{1}{2}$  lite cut out U-factor
- ◆ Door  $\frac{3}{4}$  lite cut out U-factor
- ◆ Door full lite cut out U-factor

# Door Lite Manufacturers Modeling



- ◆ Door lite cut out U-factors
  - Door lite  $\frac{1}{4}$  lite cut out U-factor
  - Door lite  $\frac{1}{2}$  lite cut out U-factor
  - Door lite  $\frac{3}{4}$  lite cut out U-factor
  - Door lite full lite cut out U-factor
  
- ◆ Repeat door lite cut-out U-factors for each default door core material

# Door Lite Modeling with Default Door Core Material



- ◆ Default vs. Unique Door Core Materials
  - Variations between door manufacturers using the same generic door slab construction is very small
  - i.e. the door core U-factor of a steel door with polyurethane core from one manufacturer does not vary measurably from another manufacturer.
  - Default door core U-factors can be determined.

# Door U-factor, SHGC, and VT Calculator

