

Draft Proposal:

Proposed Standard Products for NFRC Commercial Product Ratings:

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Date: 7/16/2009

The following new standard products are proposed for commercial fenestration ratings:

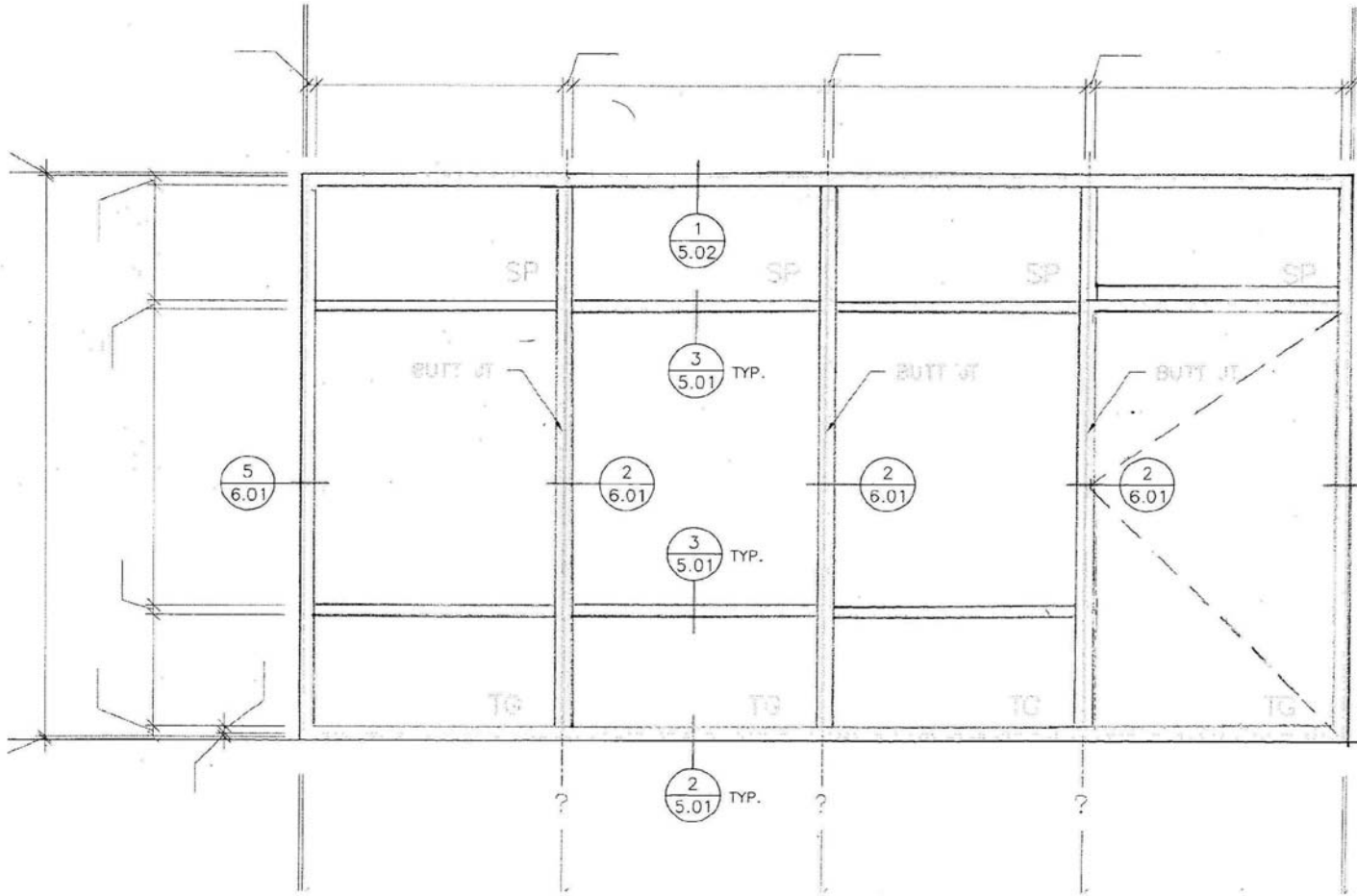
- Storefronts
- Standard products with the integral mullion
- Composite products
- Glazed wall with the spandrel panel
- Custom Products
- Corner Products

Storefront:

Simulation: 240 in. x 120 in. product consisting of typical glazed wall section with three 60" wide sections, separated by intermediate mullions, with each section divided vertically into three sections; 36", 48", 36", separated by intermediate integral mullions and a 48" x 84" door, with 48" x 36" section above the door.

Validation: Standard glazed wall: 80" x 80"

Example of the Storefront:

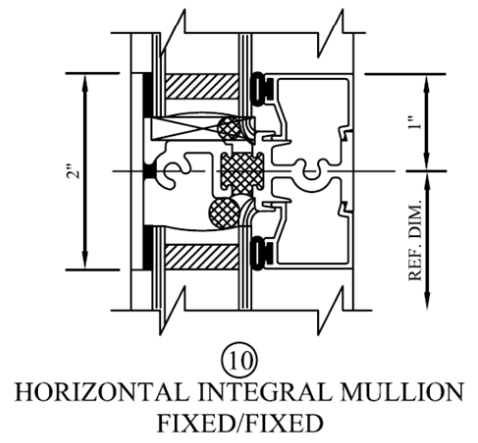
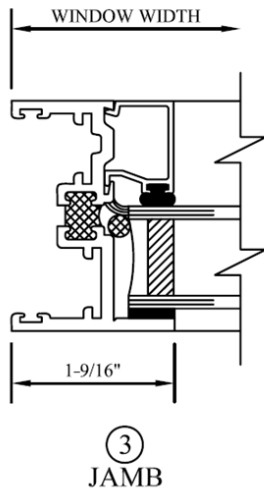
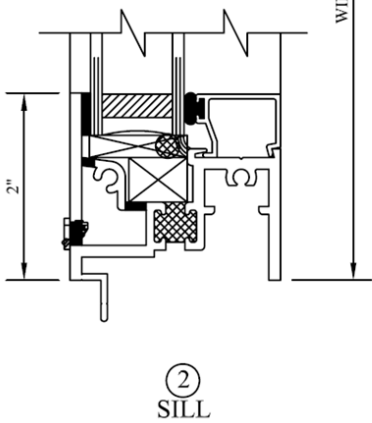
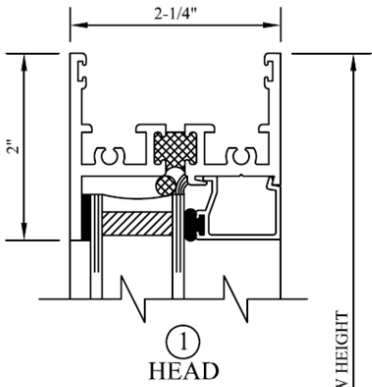
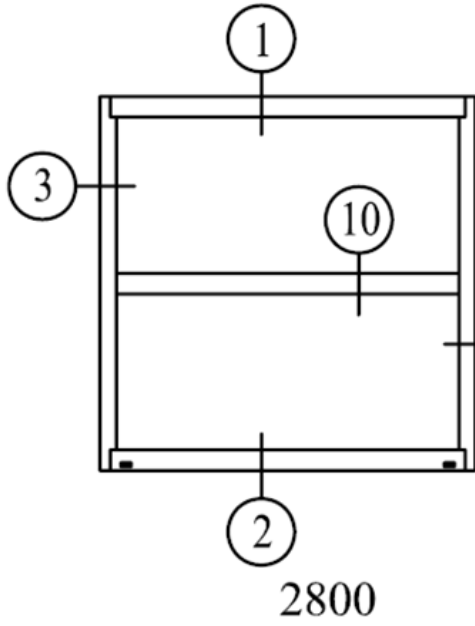


Standard product with the integral mullion:

Simulation and Rating: Each standard product can have integral mullion option that divides each glazing lite into two equal sections.

Validation: Each product type validated with integral mullion option

Example of the Product with Integral Mullion:



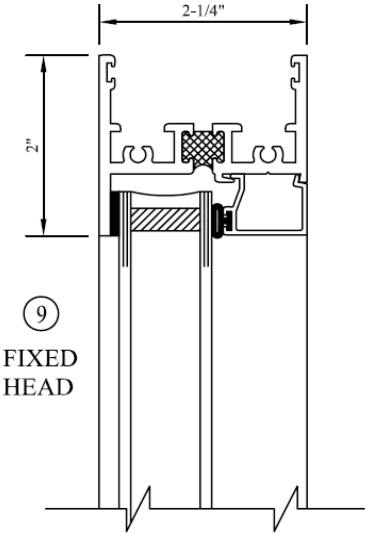
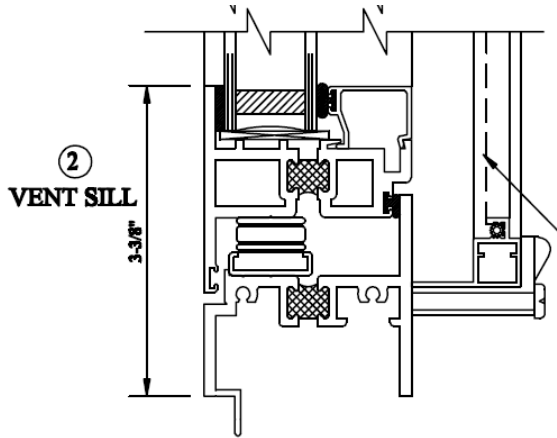
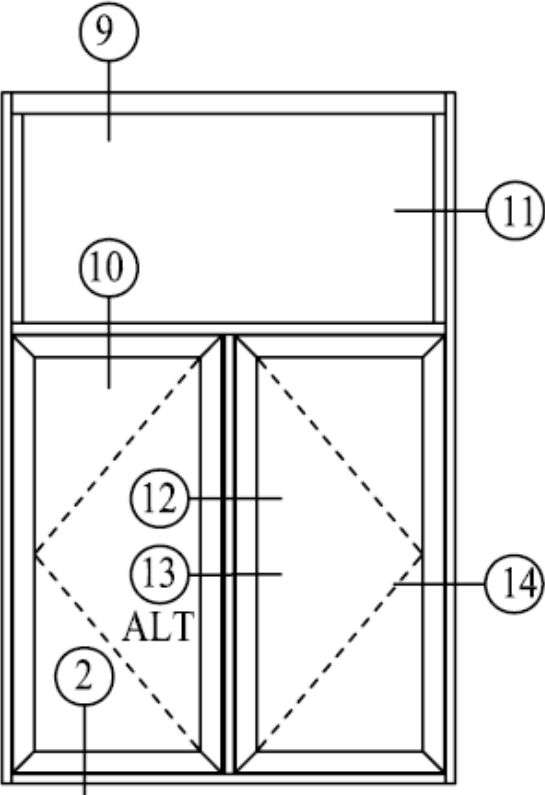
Composite Products:

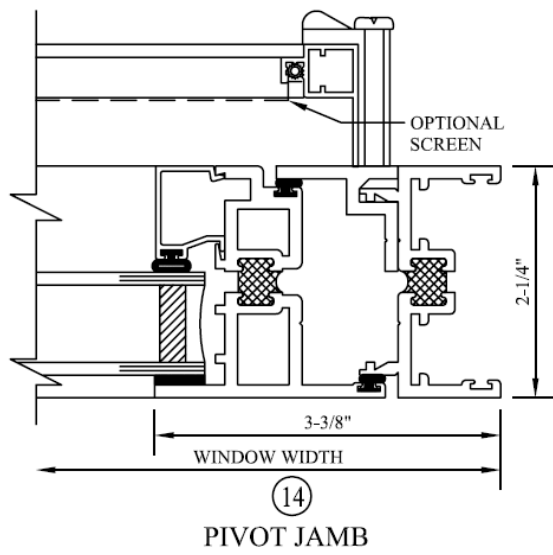
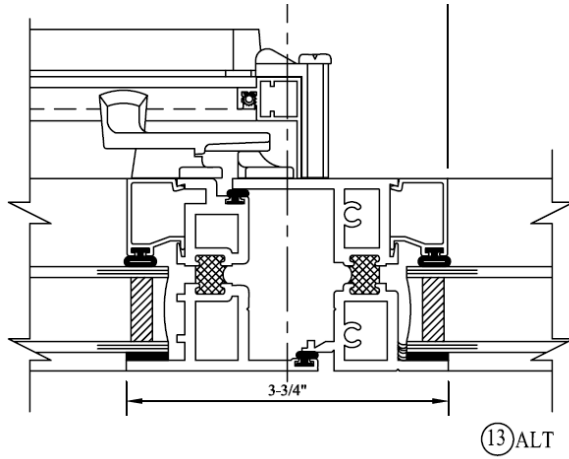
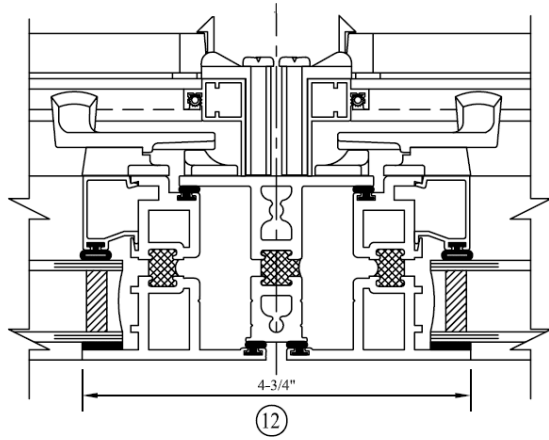
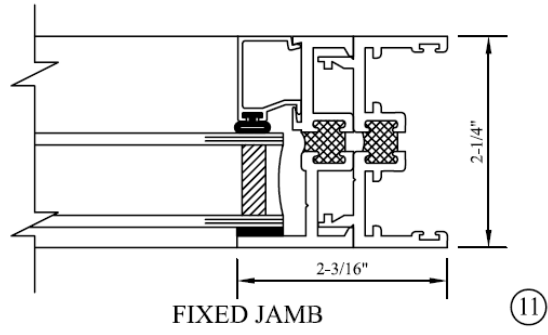
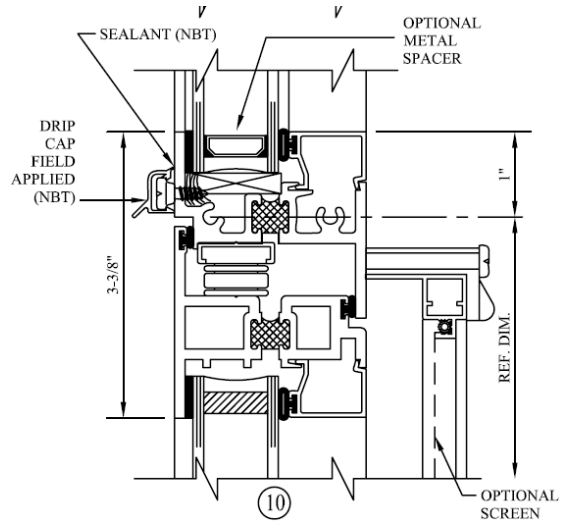
Description of Composite Products: Composite assembly: a window, door or skylight unit consisting of two or more sash or product types within a single frame and/or utilizing an integral mullion.

Simulation and Rating: Two vented products side by side with the fixed product over both vented products, all of them connected with the stacked mullion. Overall size 96" x 72".

Validation: Individual framing product lines validation can be used and stacked mullions need to be validated with a single set of vented and fixed products in the configuration above. For example, if stacked mullions are validated with two casements side by side and one fixed above, they don't need to be validated for double hung products or horizontal slider products.

Example of Composite product:





Glazed Wall with the Spandrel Panel:

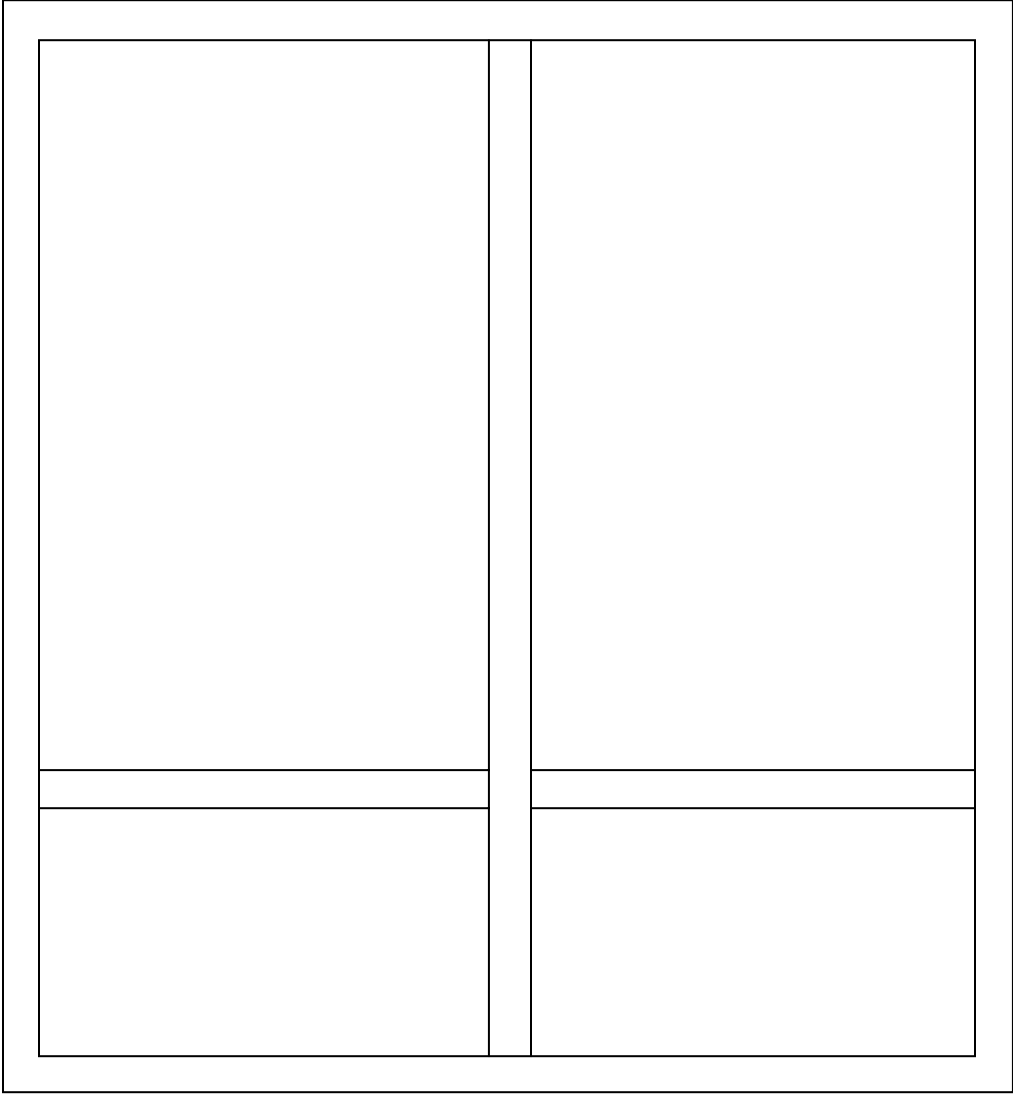
Description of the Glazed Wall with the Spandrel Panel: Glazed wall with the spandrel panel is a glazed wall system, where upper portion of the glazed wall is transparent, while lower portion is opaque. Spandrel panel may or may not include glass material.

Note: Spandrel Area is the area of the spandrel infill between the primary sash or frame members.

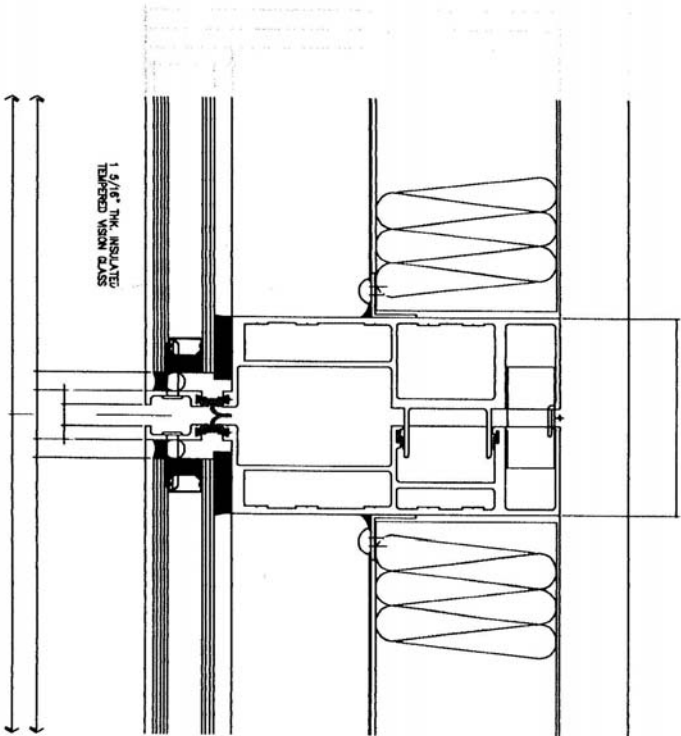
Simulation and Rating: 80 in. x 80 in. product consisting of typical glazed wall section with lower third portion of the glazed wall having spandrel panel.

Validation: If the frame components have been validated for the framing product line, no additional validation is required for the glazed wall with spandrel panels. It is treated as an additional glazing option.

Example of the Glazed Wall with the Spandrel Panel:



Example of the Spandrel Panel:



D3-12

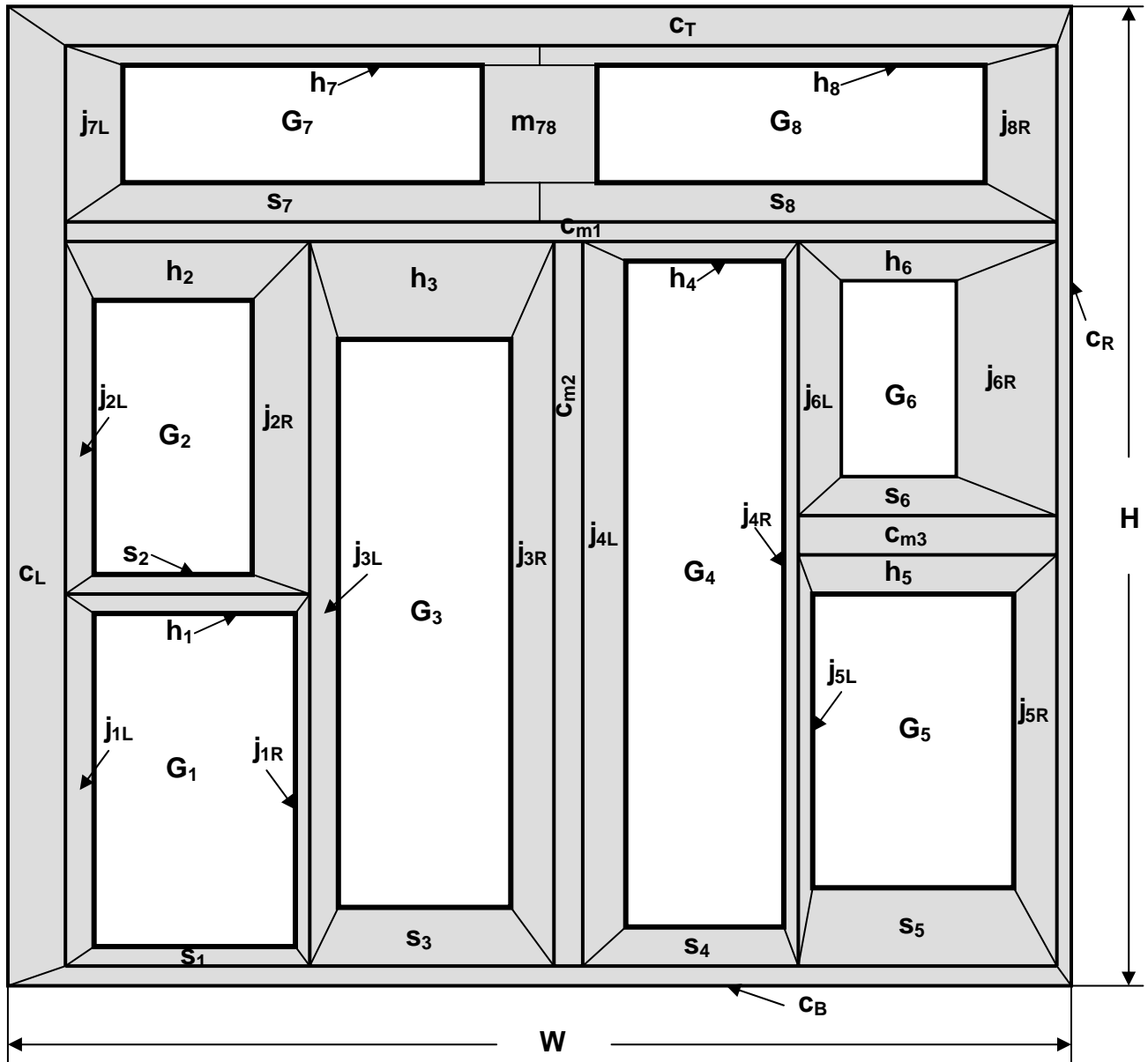
Custom Products:

Description of the Custom Product: A custom product is an arbitrary configuration of simple product(s) and/or any number of frame members in-between. Frame members can be common to two glazing lites but they also can be mullied next to other frame members. Any complex product that does not fit under “Combination and Composite” is considered custom. Therefore, layouts involving combination or composite products, but with some additional mullions, or other frame members, which cannot be classified as combination or composite are considered Custom layouts.

Simulation and Rating: It is impossible to generalize custom products. Simulation is done for actual configuration and actual size. NFRC standard size in this case is actual size and disclaimer clearly states that this product has been configured to fit specific opening in the building and that comparison between different products have to be made at that size.

Validation: If the frame components have been validated for the framing product line(s) whose components are part of the custom assembly, no additional validation is required for the glazed wall with spandrel panels. If there are frame components that are not part of a validated framing product line, then standard glazed wall 80 in. x 80 in. is tested for validation.

Example of Custom Products:



Corner Products:

Description of the Corner Product: Corner product is a fenestration product that has glazing systems at an angle (usually at 90°) and framing systems that support this configuration

Simulation and Rating: Simulation of corner products is done at the standard glazed wall size of 80 in. x 80 in., where intermediate mullion is the framing member supporting glazing systems at an angle. Product is simulated at an angle of actual installation.

Validation: Corner products cannot be easily measured in the hot box chamber, so validation of the framing product line is done using standard glazed wall layout (i.e., glazing systems are in the same plane). Framing member supporting glazing systems at an angle has to have U-factor that is within 20% of the other frame components within a framing product line, otherwise, separate validation needs to be done with the frame component that has closer thermal performance as the corner framing component.

Example of Corner Products:

