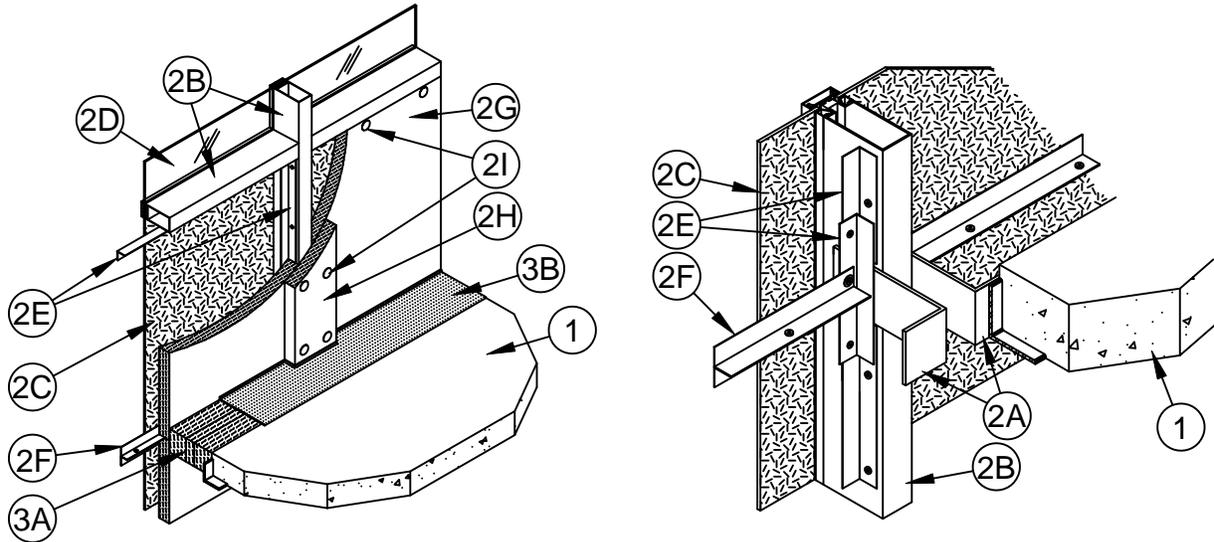


## System No. CW-S-2006

F Ratings - 1-1/2 and 2 Hr (See Item 2B)  
 T Ratings - 0 and 1/4 Hr (See Item 2B)  
 Integrity Ratings - 1-1/2 and 2 Hr (See Item 2B)  
 Insulation Ratings - 0 and 1/4 Hr (See Item 2B)  
 Linear Opening Width - 8 In. Max  
 L Rating At Ambient - Less Than 1 CFM/Lin Ft  
 L Rating At 400°F - Less Than 1 CFM/Lin Ft



1. **Floor Assembly** - Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) structural concrete. Perimeter of floor assembly to be provided with min 3 by 3 by 1/4 in. thick cast-in-place structural steel angle for weld-attachment of mullion mounting clips (Item 2A).
2. **Curtain Wall Assembly** - The curtain wall assembly shall incorporate the following construction features:
  - A. **Mullion Mounting Clips** - Min 4 in. long angles with one nom 4 in. leg for attachment to edge of floor assembly and with one leg approx 4 in. longer than distance to nearest face of mullion. Clips to be formed of min 1/4 in. thick steel. Angles Clips welded to steel angle at edge of floor assembly (Item 1) on each side of vertical mullion (Item 2B) at each floor level. Top edge of each clip to be recessed min 1/2 in. below top surface of floor.
  - B. **Framing** - The rectangular tubing mullions (vertical members) and transoms (horizontal members) shall be min 2-1/2 in. wide by 5 in. deep and shall be formed from min 0.085 in. thick aluminum. Mullions spaced max 60 in. OC and secured to mullion mounting clips (Item 2A) at each floor level with two 3/8-16 by 4 in. long hex head steel bolts in conjunction with steel nuts and washers. Interior face of mullions to be max 8 in. from edge of floor assembly. Transoms to be spaced min 60 in. OC. The Insulation and Integrity Ratings are dependent upon the spandrel panel height (center-to-center of transoms) and the min height from the top of the floor to the bottom of the vision panel sill, as tabulated below:

Min Spandrel Panel Height, in.	Min Vision Panel Sill Height, in.	Integrity Rating, Hr	Insulation Rating, Hr
60	24	1 1/2	0
69	34	2	1/4

- C. **Spandrel Panels** - Nom 1/8 in. thick aluminum panels with 1/4 in. thick edges. Each panel secured in position with aluminum pressure plates in conjunction with gaskets and steel screws.
- D. **Vision Panels** - Nom 1/4 in. thick transparent heat-strengthened glass. Each panel secured in position with aluminum pressure plates in conjunction with glazing gaskets and steel screws.



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- E. **Spandrel Panel Perimeter Angles** - Nom 1-1/2 by 1-1/2 in. No. 22 gauge galvanized steel angles installed around entire perimeter of each spandrel panel. Angles recessed from interior face of framing as necessary to accommodate thickness of curtain wall insulation (Item 2G). Angles cut to be discontinuous at mullion mounting clips (Item 2A). Angles screw-attached to mullions and transom along sides and top of each spandrel panel with No. 8 by 1 in. long self-drilling, self-tapping steel screws spaced max 12 in. OC. Angle along bottom of each spandrel panel to be screw-attached to leg of angle on mullion at each end without any direct attachment to transom. At mullion mounting clips, a length of steel angle shall be installed to bridge between the perimeter angles over the mullion mounting clip. The "bridge" shall be cut approx 6 in. longer than the clear space between angles and shall be secured to the perimeter angles with one No. 8 by 1 in. long steel screw at each end.
- F. **Stiffener Tee** - Two nom 1-1/2 by 1-1/2 in. No. 20 gauge galv steel angles secured together, back-to-back, to form stiffener tees for installation in each horizontal seam of the curtain wall insulation (Item 2G) . The angle legs forming the stem of the tee shall be secured together using No. 8 by 1/2 in. long self-drilling, self-tapping steel screws spaced max 8 in. OC. The tee shall be installed with a clearance of 1/8 to 1/4 in. at each end and shall be screw-attached to the spandrel panel perimeter angles (Item 2E) with No. 10 by 3/4 in. long self-drilling, self-tapping steel screws, with steel washers, through two predrilled 1/4 in. diam holes at each end. One stiffener tee shall be located with its stem at an elevation 2 in. below the top plane of the floor at each floor level.
- G. **Curtain Wall Insulation\*** - Min 2 in. thick mineral wool batt insulation faced on one side with aluminum foil/scrim vapor retarder, supplied in min 36 in. wide batts. Insulation batts to be installed with no vertical seams and with horizontal seams spaced min 36 in. OC. Insulation panels tightly-fitted between vertical mullions and between the stem of the stiffener tee (Item 2F) and the transom, flush with the interior surface of framing. Insulation panels secured to spandrel panel perimeter angles and to each stiffener tee with cup head weld pins (Item 2I) spaced max 12 in OC. The horizontal seam between insulation panels shall be located 2 in. below the top plane of the floor at each floor level.

**THERMAFIBER INC - FIRES PAN 90**

- H. **Framing Covers -Curtain Wall Insulation\*** - Min 8 in. wide strips cut from the same min 2 in. thick mineral wool batt insulation used for the curtain wall insulation (Item 2G) . Framing covers to be centered over mullions and secured to the spandrel panel perimeter angles with cup head weld pins (Item 2I) spaced max 12 in. OC. Where more than one spandrel panel occurs between vertically separated vision panels, the horizontal transom between spandrel panels shall also be covered with an 8 in. wide framing cover in the same manner as on the vertical mullions. Framing covers on mullions to abut the mineral wool batt safig material (Item 3A) above and below floor.

**THERMAFIBER INC - FIRES PAN 90**

- I. **Weld Pin** - No. 12 gauge galv steel weld pin with nom 1-3/16 in. diam galv steel cup head. Cup head weld pins provided in two lengths. One length to be equal to thickness of curtain wall insulation (Item 2G) and second length to be equal to thickness of curtain wall insulation plus thickness of framing cover (Item 2H). Cup head weld pins inserted through curtain wall insulation and mullion covers and welded to spandrel panel perimeter angles max 12 in. OC.
- J. **Light Gauge Framing\* - Spiral Anchor** - (Not Shown) - As an alternate to the weld pins (Item 2I), galv steel wire spiral anchors may be used to secure the framing covers (Item 2H) to the curtain wall insulation (Item 2G) on each side of the mullion. Nom length of spiral anchors to be equal to thickness of curtain wall insulation plus thickness of framing cover. Spiral anchors driven through mullion covers and into curtain wall insulation and spaced max 12 in. OC.

**THERMAFIBER INC**

3. **Safing System** - The safing system shall incorporate the following construction features:

- A. **Forming Material\*** - Nom 4 pcf density mineral wool batt insulation. Batt sections cut to a min 4-1/2 in. width and stacked to a thickness which is min 20 percent greater than the width of linear gap between the curtain wall insulation and the edge of the concrete floor slab. The forming material is compressed and inserted cut-edge-first into linear gap such that its top surface is flush with the top surface of the floor assembly. A max of one tightly-butted seam is permitted between mullions. Additional pieces of forming material to be friction-fit into spaces between mullion mounting clips at each mullion location.

**THERMAFIBER INC - SAF**

- B. **Fill, Void or Cavity Material\*** - Min 1/8 in. wet thickness (min 1/16 in. dry) of fill material spray- applied over top of forming material and lapping min 1/2 in. onto the top surface of the floor and onto the curtain wall insulation and framing covers.

**SPECIFIED TECHNOLOGIES INC** - SpecSeal AS200 Elastomeric Spray or SpecSeal Fast Tack Spray

\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



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