

System No. CW-D-2058

F Rating - 2 Hr

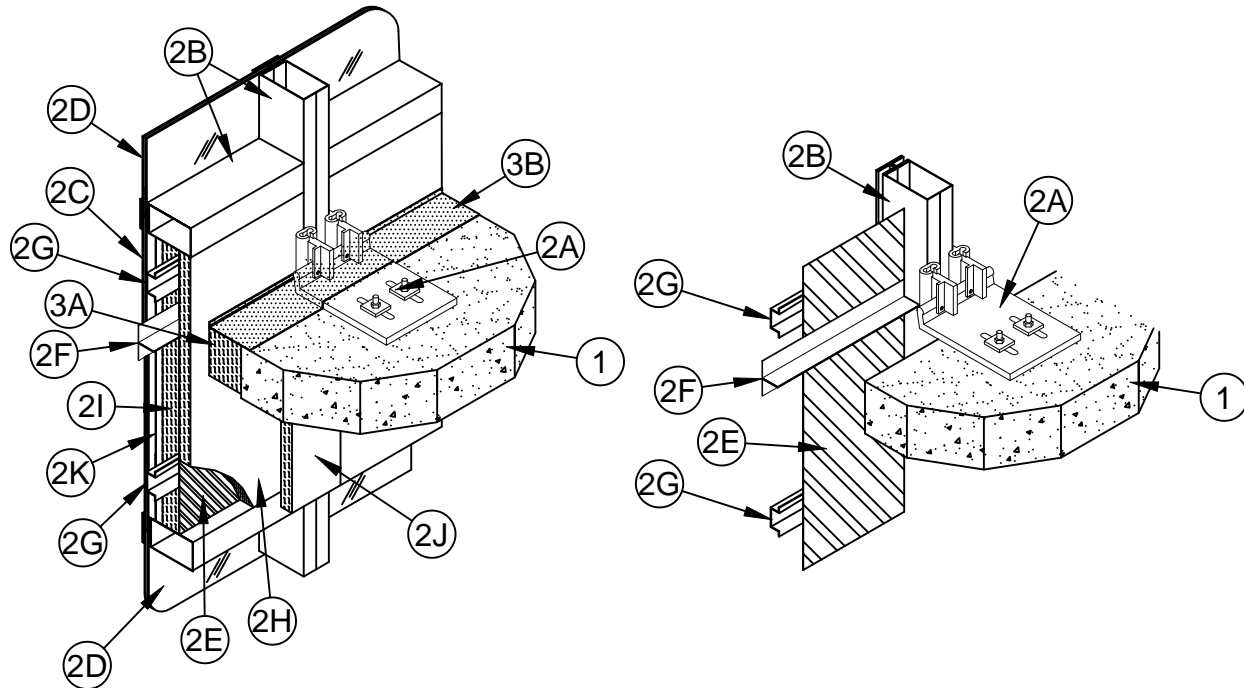
T Rating - 1/4 Hr

Linear Opening Width - 10 In. Max

Class II or III Movement Capabilities - 5% Vertical Shear

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. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) structural concrete.
2. **Curtain Wall Assembly** - The curtain wall assembly shall incorporate the following construction features:
 - A. **Mullion Mounting Brackets** - Min 8 in. (203 mm) wide by 3/4 in. (19 mm) thick extruded aluminum Halfen mounting brackets with one nom 2 in. (51 mm) high leg for support and attachment of mullion and with one leg at least 6 in. (152 mm) longer than the width of linear opening between floor assembly and mullion. Mounting bracket attached to top of floor with two min 1/2 in. (13 mm) diam steel masonry anchors in conjunction with washer plates supplied with mounting bracket.
 - B. **Framing** - The one or two-piece rectangular tubing mullions (vertical members) and transoms (horizontal members) shall be min 2-1/2 in. (64 mm) wide by 5 in. (127 mm) deep and shall be formed from min 0.100 in. (2.5 mm) thick aluminum. Mullions spaced max 60 in. (1.52 m) OC and secured to mullion mounting anchors (Item 2A) at each floor level in conjunction with extruded aluminum clips bolted to the sides of the mullions and designed to engage the vertical leg of the Halfen mullion mounting bracket in conjunction with an extruded aluminum hook/leveling connector. Interior face of mullions to be max 10 in. (254 mm) from edge of floor assembly. Transoms to be spaced min 36 in. (0.91 m) OC. Sill of vision panel to be located min 6 in. (152 mm) above top surface of floor assembly.
 - C. **Spandrel Panels** - The spandrel panels shall consist of one of the following types:
 - a. **Glass Panels** - Min 1/4 in. (6 mm) thick opaque heat-strengthened glass or min 1 in. (25 mm) thick insulated glass units with two layers of nom 1/4 in. (6 mm) thick heat-strengthened glass separated by a min 1/2 in. (25 mm) air space. Each panel secured in position with aluminum pressure plates in conjunction with glazing gaskets and steel screws.
 - b. **Aluminum Panels** - Min 1/8 in. (3 mm) thick aluminum panels with nom 1/4 in. (6 mm) thick edges. Each panel secured in position with aluminum pressure plates in conjunction with gaskets and steel screws.
 - c. **Stone Panels** - Nom 1-3/16 in. (30 mm) thick polished granite spandrel panels with 1 in. (25 mm) thick gauged edges. Each panel secured in position with aluminum pressure plates in conjunction with gaskets and steel screws.



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- D. **Vision Panels** - Min 1/4 in. (6 mm) thick transparent heat-strengthened glass or min 1 in. (25 mm) thick insulated glass units with two layers of nom 1/4 in. (6 mm) thick transparent heat-strengthened glass separated by a min 1/2 in. (13 mm) air space. Each panel secured in position with aluminum pressure plates in conjunction with glazing gaskets and steel screws.
- E. **Back Pan** - No. 22 gauge (min 0.031 in. or 0.79 mm thick) galvanized steel panels installed between mullions and transoms used to frame spandrel panels (Item 2K). Back pan provided with min 1/2 in. (13 mm) wide lip around all four sides. Back pan recessed 2 in. (51 mm) from interior face of framing and screw-attached to mullions and transom along all sides with min No. 8 by 1/2 in. (13 mm) long self-drilling, self-tapping steel screws spaced max 8 in. (203 mm) OC.
- F. **Stiffener Tee** - Nom 1-1/2 by 1-1/2 in. (38 by 38 mm) T-shaped stiffener formed of 22 gauge (min 0.031 in. or 0.79 mm thick) galv steel. Stiffener tee secured to interior side of back pan with min No. 10 by 1/2 in. (13 mm) long self-drilling, self-tapping steel screws spaced max 4 in. (102 mm) OC. on both upper and lower portion of stiffener tee. Stem of stiffener tee to be located 2 in. (51 mm) below top plane of floor.
- G. **Stiffener Channels** - Nom 2 in. (51 mm) wide by 1-1/2 in. (38 mm) deep hat-shaped channels formed of 22 gauge (min 0.031 in. or 0.79 mm thick) galv steel. Secured to exterior side of back pan with min No. 10 by 1/2 in. (13 mm) long self-drilling, self-tapping steel screws spaced max 4 in. (102 mm) OC. on both upper and lower portion of channel. A min of two channels used within each spandrel panel. One channel to be located with its centerline approx 10 in. (254 mm) below floor and one channel to be located with its centerline approx 3 in. (76 mm) above floor.
- H. **Curtain Wall Insulation*** - (Interior) - Min 2 in. (51 mm) thick mineral wool batt insulation faced on one side with aluminum foil/scrims vapor retarder. Insulation batts to be installed as a continuous piece with no seams, partially kerfed on one face to receive stem of stiffener tee. Insulation panels tightly-fitted between vertical mullions and the transoms and secured to steel backpan with No. 12 gauge steel weld pins with steel clinch shields or with cup head weld pins spaced max 12 in. (305 mm) OC.
- ROXUL ASIA SDN BHD - CURTAINROCK 80**
ROXUL INC - CURTAINROCK 80
THERMAFIBER INC - FIRESpan 90
- I. **Curtain Wall Insulation** - (Exterior) - Min 3 in. (76 mm) thick mineral wool board insulation, unfaced or faced on one side with aluminum foil/scrims vapor retarder, supplied in min 36 in. wide boards. Insulation batts to be installed as a continuous piece with no seams, partially grooved to tightly conform to and receive each stiffener channel. Insulation panels tightly-fitted between vertical mullions and the transoms and secured to steel backpan with No. 12 gauge steel weld pins with steel clinch shields or with cup head weld pins spaced max 12 in. (305 mm) OC.
- ROXUL ASIA SDN BHD - CURTAINROCK 80**
ROXUL INC - CURTAINROCK 80
THERMAFIBER INC - FIRESpan 90
- J. **Framing Covers - Curtain Wall Insulation*** - Min 8 in. (203 mm) wide strips cut from the same min 2 in. (51 mm) thick mineral wool batt insulation used for the curtain wall insulation (Item 2H). Framing covers to be centered over mullions between transoms used to frame top and bottom edges of spandrel panels (Item 2K) and secured to the back pan with No. 12 gauge galv steel cup head weld pins spaced a max 8 in. (203 mm) OC. Framing covers are optional on top surface of floor.
- ROXUL ASIA SDN BHD - CURTAINROCK 80**
ROXUL INC - CURTAINROCK 80
THERMAFIBER INC - FIRESpan 90
- K. **Aluminum Sandwich Panel** - (Optional) - Min 1/8 in. (3 mm) solid aluminum panel or aluminum composite panel installed on exterior surface of curtain wall insulation (Item 2I).



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3. **Safing System** - Max separation between edge of floor assembly and face of framing members (at time of installation) is 10 in. (254 mm). The safing system is designed to accommodate vertical shear movement up to a max of 5 percent of its installed width. The safing system shall incorporate the following construction features:

A. **Forming Material*** - Nom 4 pcf (64 kg/m³) density mineral wool batt insulation. Batt sections cut to a min 4 in. (102 mm) width and stacked to a thickness which is min 25 percent greater than the width of linear gap between the curtain wall insulation and the edge of the concrete floor slab. The stacked forming material is compressed 20 percent in the thickness direction and inserted cut-edge-first into the 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.

ROXUL ASIA SDN BHD - Safe

ROXUL INC - Safe

THERMAFIBER INC - SAF

B. **Fill, Void or Cavity Material*** - Min 1/8 in. (3 mm) wet thickness (1/16 in. or 1.5 mm dry thickness) of fill material spray-applied over top of forming material and lapping min 1/2 in. (13 mm) onto the top surface of the floor and onto the steel backpan.

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

*Bearing the UL Classification Mark



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