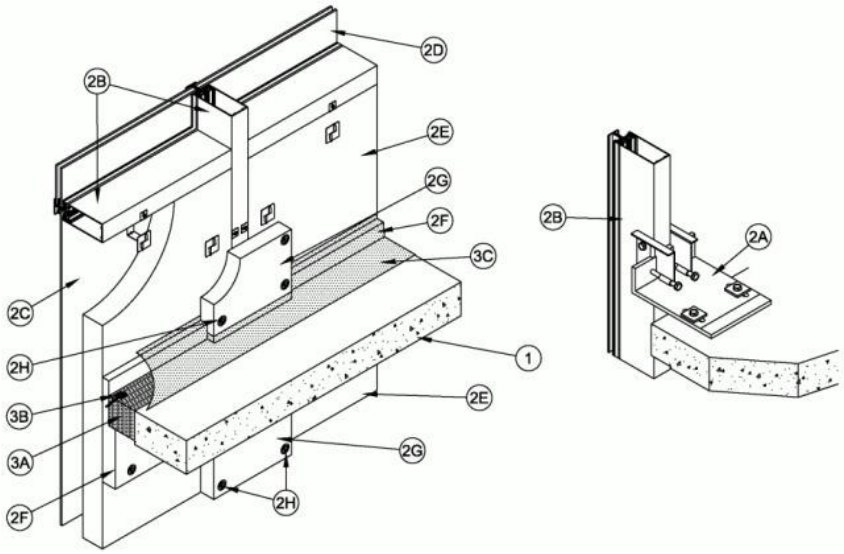
System No. CW-D-1012

September 21, 2021

F Rating — 3 Hr
T Rating — 1 Hr
Linear Opening Width — 4 In. Max
L Rating At Ambient — Less Than 1 CFM/sq ft
L Rating At 400 F — Less Than 1 CFM/sq ft
Class II Movement Capabilities — 5% Vertical Shear



1. **Floor Assembly —** Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf).

2. **Curtain Wall Assembly —** The curtain wall assembly shall incorporate the following construction features:

A. **Mullion Mounting Brackets —** Min 9-1/4 in. (235 mm) wide by 0.47 in. (12 mm) thick galvanized steel mounting brackets with one nom 3.4 in. (86 mm) high leg for support and attachment of mullion and with one leg at least 12 in. (305 mm) long, provided with two nom 3/4 in.

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(19 mm) wide by 3-1/4 in. (83 mm) long slots for attachment to the floor assembly. 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 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 brackets (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 mullion mounting bracket in conjunction with an extruded aluminum hook/leveling connector. Interior face of mullions to be max 4 in. (102 mm) from edge of floor assembly. Transoms to be spaced min 36 in. (0.91 m) OC. The minimum height from the top of the floor to the bottom of the vision panel sill is 15 in. (381 mm).

C. **Spandrel Panels —** The spandrel panels shall consist of one of the following types:

a. **Glass Panels —** Nom 1/4 in. (6 mm) thick opaque heat-strengthened glass. Each panel secured in position with aluminum pressure plates in conjunction with glazing gaskets and steel screws.

b. **Aluminum Panels —** Nom 1/8 in. (3 mm) thick aluminum panels with 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. (46 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.

D. **Vision Panels —** Nom 1/4 in. (6 mm) thick transparent heat-strengthened glass or nom 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 1/2 in. (25 mm) air space. Each panel secured in position with aluminum pressure plates in conjunction with glazing gaskets and steel screws.

E. **Curtain Wall Insulation* —** Min 3 in. (76 mm) thick mineral wool batt insulation faced on one side with aluminum foil/scrim vapor retarder. Impasse® Horizontal Hangers are installed in the insulation batt 6 in. (152 mm) from each mullion end and spaced max 16 in. (406 mm) OC across. Impasse® Vertical Hangers are installed along both vertical mullion sides of the insulation batt at 6 in. (152 mm) down from top, and 6 in. (152 mm) up from the bottom of the insulation batt. Insulation batt is then installed in spandrel area flush with the interior surface of the framing with no vertical or horizontal seams. Impasse® Horizontal Hangers are screw attached to top horizontal transom, Impasse® Vertical Hangers are screw attached to vertical mullions using min No. 10 by min 1/2 in. (13 mm) self-drilling/self-taping screws. No attachment to the lower horizontal transom is required. **THERMAFIBER INC** — FIRESPAN® 90

F. **Curtain Wall Insulation* —** Min 12 in. (305 mm) wide by 2 in. (51 mm) thick with min 6 in. (152 mm) wide section cut down to min 1 in. (25 mm) thick mineral wool batt insulation faced on one side

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with aluminum foil/scrim vapor retarder. Insulation installed continuous over the curtain wall insulation (Item 2E) and vertical mullions (Item 2B) at the level of the floor with the min 1 in. (25 mm) thick portion extending 2 in. (51 mm) above the top surface of the floor with vertical seams tightly abutted. Vertical seams in FireLedge™ Insulation (Item 2F) must be staggered with vertical seams in Safing Insulation (Item 3A). Insulation panels secured to curtain wall insulation (Item 2E) with Spiral Anchors (Item 2H) installed at a maximum angle of 45° through Safing Insulation (Item 3A), FireLedge™ Insulation (Item 2F), and into Curtain Wall spandrel insulation (Item 2E), at a maximum spacing of 16 in. (406 mm) OC above the floor assembly (Item 1). Spiral Anchors (Item 2H) are installed below the floor assembly at a 90° angle through the min 2 in. (51 mm) section of the FireLedgeTM, at a max 12 in. (51 mm) OC.
THERMAFIBER INC — FIRELEDGE™

a. Alternate Curtain Wall Insulation* — Two pieces of mineral wool insulation to form L-shaped ledge, consisting of one minimum 12 in. (305 mm) wide by 1 in. (25 mm) thick piece mineral wool batt insulation, layered with one minimum 6 in. (152 mm) wide by 1 in. (25 mm) thick mineral wool batt insulation faced on one side with aluminum foil/scrim vapor retarder. The two pieces are secured together with spiral anchors placed in two rows, spaced 1-1/2 in. (38 mm) from each end, and spaced 12 in. (305 mm) OC. Insulation installed continuous over the curtain wall insulation (Item 2E) and vertical mullions (Item 2B) at the level of the floor with the min 1 in. (25 mm) thick portion extending 2 in. (51 mm) above the top surface of the floor with vertical seams tightly abutted. Vertical seams in FIRESPAN® 90 Insulation (Item 2F) must be staggered with vertical seams in Safing Insulation (Item 3A). Insulation panels secured to curtain wall insulation (Item 2E) with Spiral Anchors (Item 2H) installed at a maximum angle of 45° through Safing Insulation (Item 3A), FIRESPAN® 90 Insulation (Item 2F), and into Curtain Wall spandrel insulation (Item 2E), at a maximum spacing of 16 in. (406 mm) OC above the floor assembly (Item 1). Spiral Anchors (Item 2H) are installed below the floor assembly at a 90° angle through the two layered 1 in. (25 mm) sections of the FIRESPAN® 90 (Item 2F), at a max 12 in. (305 mm) OC.

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G. **Mullion Covers - Curtain Wall Insulation* —** Min 2 in. (51 mm) thick mineral wool batt insulation faced on one side with aluminum foil/scrim vapor retarder, supplied in min 24 by 48 in. (610 by 1219 mm) boards. Min 10 in. (254mm) wide strips to be centered over mullions secured to curtain wall insulation (Item 2E) with a min of four Spiral Anchors (Item 2H) spaced a max 12 in. (305mm) OC. Mullion covers notched to step over FireLedge material (Item 2F) and abut the forming material (Item 3A) above the floor. Mullion Covers below the floor will abut the FireLedge material (Item 2F). Mullion covers to be notched with approximately 1/2 in. (13 mm) thickness removed for up to 3-1/2 in. (89 mm) high and 9-1/4 in. (235 mm) wide to accommodate the mullion mounting bracket (Item 2A).
THERMAFIBER INC — FIRESPAN® 90

H. **Light Gauge Framing* - Spiral Anchor —** Galv steel wire spiral anchors used to secure the curtain wall insulation (Item 2F and 2G). Nom length of spiral anchors to be min 3-3/4 in. (95 mm), spaced max 12 in. (305 mm) OC.

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THERMAFIBER INC — Spiral Anchor

3. **Safing System —** Max separation between edge of floor assembly and face of framing members (at time of installation) is 4 in. (102 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/m^3) density mineral wool batt insulation. Batt sections cut to a 4 in. (102 mm) width and stacked to a thickness which is min 25 percent greater than the width of the 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 piece of forming material to be friction-fit into gap between batt sections above mullion mounting clip at each mullion location.
THERMAFIBER INC — SAF

B. **Light Gauge Framing* - Spiral Anchor —** Min 3-3/4 in. (95 mm) long galv steel wire spiral anchors. Spiral anchors driven through forming material at a max 45° angle into the curtain wall insulation (Item 2F) and spaced max 16 in. (406 mm) OC.
THERMAFIBER INC — Spiral Anchor

C. **Fill, Void or Cavity Material* —** Min 1/8 in. (3 mm) wet thickness (min 1/16 in. (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 curtain wall insulation (Item 2E) and mullion covers.

SPECIFIED TECHNOLOGIES INC — SpecSeal AS200 Elastomeric Spray, SpecSeal Safing 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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