

Design No. CEJ 266 P

PERIMETER FIRE BARRIER SYSTEM

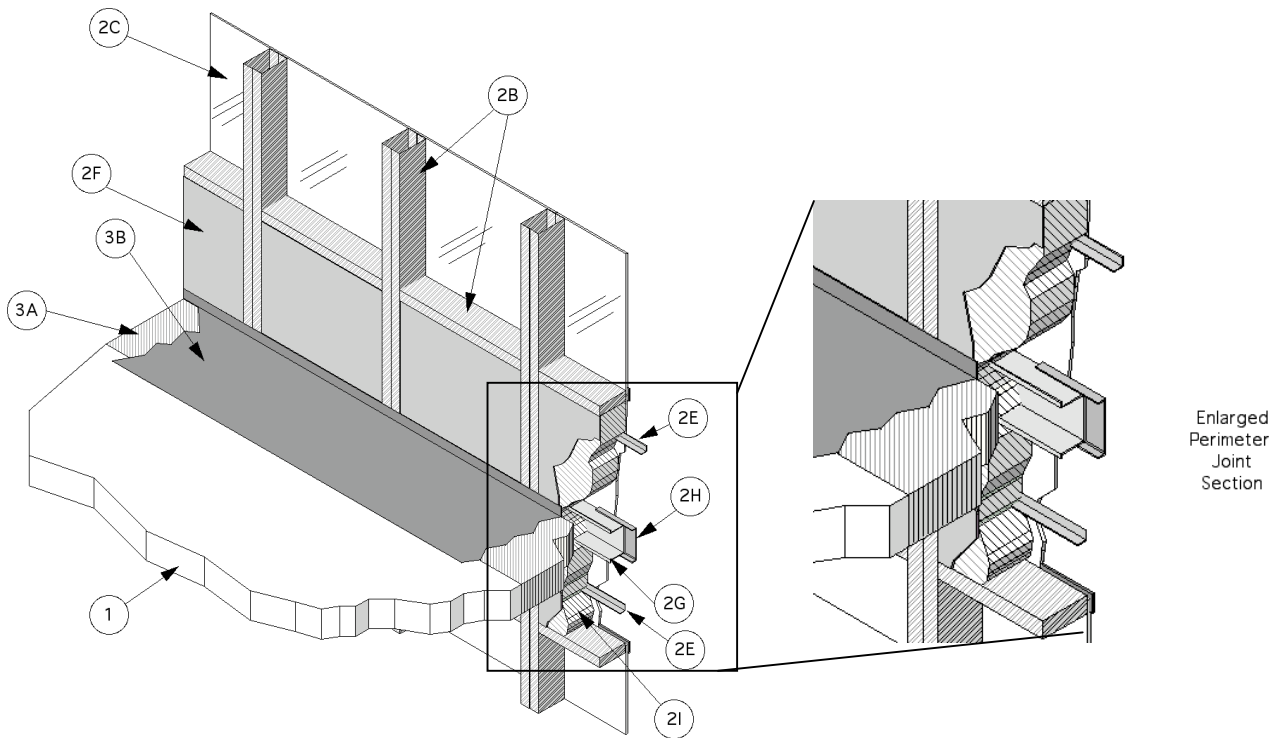
T-Rating - 3/4 hr.

F-Rating - 2 hr.

L-Rating - < 1.0 SCFM/LF

Rated for $\pm 10\%$ horizontal movement

Rated for $\pm 6.25\%$ vertical shear movement



1. **CONCRETE FLOOR ASSEMBLY:** Two-hour rated concrete floor assembly made from either lightweight or normal weight concrete with a density of 100-150 pcf, with a min. thickness of 4-1/2-in. at the joint face. Overall slab thickness may vary to accommodate various blockout depths (longitudinal recesses) formed in the concrete, to house the architectural cover plate. The blockout width may also vary without restriction.

2. **CURTAIN WALL ASSEMBLY:** The Steel Back-Pan System curtain wall assembly shall incorporate the following construction features:

- A. **Mounting Attachment:** (Not shown)
Attachment of the curtain wall framing

to the structural framing shall be according to the curtain wall manufacturer's instructions. When required, the mounting attachments to the floor slab shall be connected to the joint face of the floor slab, according to the curtain wall manufacturer's instructions. Max. distance between mounting attachments shall be 60 in.

- B. **Aluminum Framing:** Rectangular aluminum tubing mullions and transoms, sized according to the curtain wall system manufacturer's guidelines. Min. overall dimensions of framing required is 0.100 in. thick aluminum with a min. 4 in. height and a min. of 2-1/2 in. width of the extrusion. Mullions

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- are to be spaced a min. 60 in. o.c. and transoms are to be spaced a min. 48-1/2 in. o.c. Transoms are to be located at a height of 20 in. above the top surface of the concrete floor assembly (as measured from the bottom of the transom).
- C. Glass Panels: Glass panels shall be sized and attached to curtain wall framing according to the curtain wall system manufacturer's guidelines. Use a min. 1/4 in. thick, clear heat-strengthened (HS) glass or tempered glass with a max. width and height less than the aluminum framing o.c. spacing, which allows the glass to be secured between the notched shoulder of the aluminum framing and pressure bar. The spandrel area contains a single pane and the vision glass area contains a double pane insulated glass panel. Panels are secured with a thermal break (rubber extrusion), pressure bar (aluminum extrusion), min. 1/4-20 x 5/8 in. long screws, and a snap face (aluminum extrusion).
- D. Aluminum Anchor Brackets: (not shown) Min. 9/16 in. thick aluminum anchor brackets serve as part of the mounting attachment (2A) and are rigidly secured to the vertical wall framing (2B) with 1/2 in. diameter 2-1/4 in. long Grade 5 anchor bolt.
- E. Steel Retainer Angle – Min. 22 Ga. 1-1/2 in. x 1-1/2 in. angle is placed horizontally 12 in. above and below the floor line in the spandrel area, and is secured to the wall framing (2B) with No. 10 sheet metal screws. The angle is oriented so that the horizontal flange is below the vertical flange and situated where the horizontal flange is fully embedded into the curtain wall insulation.
- F. Steel Backpan: Minimum 22 GA. galvanized steel backpan installed on the interior face of the curtain wall system in the spandrel region. The backpan is secured to the wall framing (2B) with 1 in. hex-head sheet steel screws. The cavity of the backpan is filled with curtain wall insulation(2I) that is adhered to the back pan with latex adhesive.
- G. Backpan Stiffener: Minimum 18 GA. galvanized hat-shaped stiffener placed horizontally and measuring 4 in. wide x 3 in. deep and having 1 in. flanges, is secured to the backpan with No.10 sheet steel screws. The lower flange of the stiffener is placed within the plane of the packing material (3A), and the screw holding the top flange of the stiffener to the backpan (2F) is spaced a minimum of 2-7/32 in. above the top surface of the floor.
- H. Steel Paches: 6 in. wide, 18 GA. galvanized steel C-shaped patches measuring 6 in. wide and 1-1/2 in. deep are placed horizontally, centered on the outside of the backpan stiffener (2G) and are secured to the stiffener with No. 10 sheet steel screws.
- I. Curtain Wall Insulation: A nom. 3 in. thick, 8pcf density mineral wool batt insulation** faced on one side with aluminum foil scrim (vapor retarder) which faces the room interior and is installed to fill the cavity of the steel backpan (**Listed with Omega Point Laboratories). Batts are fitted tightly within the backpan(2F) and are adhered to the backpan with latex adhesive.
3. PERIMETER JOINT PROTECTION: The perimeter joint (linear opening) shall not exceed a 6 in. nom. joint width (joint width at installation) and the perimeter joint treatment shall incorporate the following construction features:
- A. Packing Material: Use a min. 4 in. thick, 4pcf density mineral wool batt insulation** installed with the fibers running parallel to the slab edge and curtain wall(**Listed with Omega Point Laboratories). The packing material shall be compressed 33% in the nominal joint width. Compress the batt insulation into the perimeter joint such that the top surface of the batt insulation is flush with the top surface of the concrete floor slab. Splices (butt joints) in the lengths of mineral wool batt insulation are to be tightly compressed

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together. Reference the Introduction to Fire Resistive Joint Systems Section of this Directory for more details on how to determine the cut width of the insulation to be installed in the nominal joint width, and how to determine the compressed percentage of a known insulation width installed in a known nominal joint width.

- B. Fill, Void or Cavity Material: Liquid is to be spray applied to cover the exposed surface of the mineral wool installed in the perimeter joint. Apply a min. wet film thickness of 1/8 in. and overlap the material a min. 1/2 in. onto the adjacent curtain wall assembly and concrete FireDam Spray 100™

floor slab assembly. If the spraying process is stopped and the applied liquid cures to an elastomeric film before process is restarted, then overlap the edge of the cured material at least 1/8 in. with the spray. Reference Product Section of this Directory for more details about the Listed product.

Listed Manufacturer:

3M

Joint Sealant

Spray