

Design No. CEJ 159 P

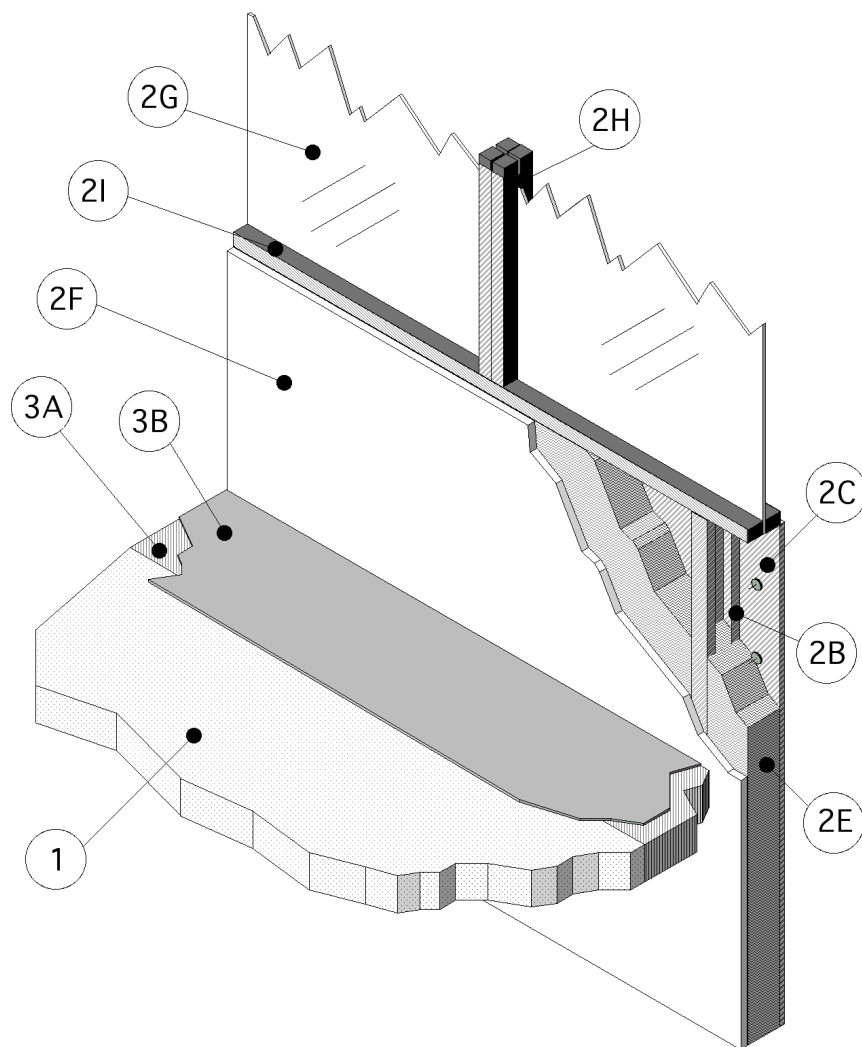
PERIMETER FIRE BARRIER SYSTEM

T Rating - 0 hr.

F-Rating - 2 hr

L-Rating <2 SCFM/LF

Rated for $\pm 16.7\%$ 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 curtain wall assembly shall incorporate the following construction features:
 - A. **Mounting Attachments:** (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. Maximum distance horizontally between mounting attachments shall be 10 feet.

- B. Steel-Stud Framing: Vertical framing members shall be a min. 3-5/8 in. by 1-5/8 in., 18 GA steel "C" studs. Attachment shall be according to the curtain wall system manufacturer's guidelines. Vertical framing shall not exceed a spacing of 48 in. o.c. Horizontal framing members shall be installed according to the curtain wall system manufacturer's guidelines and, in the spandrel area, are required to be installed to a minimum of 33 in. above the top surface of the floor.
- C. Steel Panels: Steel panels shall be installed to curtain wall framing according to the curtain wall system manufacturer's guidelines. Use a min. 20GA sheet steel panel with max. dimensions of 48 in. wide x 144 in. high.
- D. Impaling Pins: (Not shown) When curtain wall insulation is used, use impaling pins when required by manufacturer's instructions. The pins shall be located, sized and installed according to the curtain wall system manufacturer's guidelines.
- E. Curtain Wall Insulation (Optional): Perimeter joint treatment shall be installed before curtain wall insulation. Insulation material designed and installed according to the curtain wall system manufacturer's guidelines for steel framing. Insulation shall be installed flush against the top and bottom surfaces of the perimeter joint protection with out deforming it. Either mineral wool or fiberglass batt insulation may be used.
- F. Interior Curtain Wall Surface: Framing covered with one layer of 5/8 in. thick, Type X gypsum wallboard on interior face. The face layer of gypsum

wallboard fastened to steel studs with min. #6 1-1/8 in. long bugle-head phillips drywall screws spaced 12 in. o.c. Joint Tape and Compound - vinyl or casein, dry or premixed joint compound applied to face layers of gypsum wallboard in two coats to all exposed screw heads and gypsum wallboard joints. A min. 2-in. wide paper, plastic or fiberglass tape embedded in first layer of compound over joints in gypsum wallboard. A min. wall cavity depth of 3-5/8 in. created from unexposed side of gypsum wallboard to unexposed side of panel. The joint face of the curtain wall covered as shown with one layer of gypsum wallboard.

The following vision glass panel detail is included as an optional installation detail outside the spandrel area:

- G. Glass Vision Panels: Glass vision panels shall be a min. 33 in. above the top surface of the floor assembly. Glass vision panels shall be installed to curtain wall framing according to the curtain wall system manufacturer's guidelines. Use a min. 1/4 in. thick, clear tempered glass with a nom. width and height as determined by the framing.
 - H. Window Gaskets: Secure glass vision panels with a thermal break (thermal-set rubber extrusion).
 - I. Window Framing: Steel framing members shall be a min. 3-5/8-in. by 1-5/8-in. 18 GA steel "U" channel or similar construction that is compatible with steel-stud framing (2b). Locate window framing at least 33 in. above the top surface of the floor assembly.
3. PERIMETER JOINT PROTECTION: The perimeter joint (linear opening) shall not exceed 8" (joint width measured between deck edge and interior face of curtain wall framing) and the perimeter joint treatment shall incorporate the following construction features:
- 4. Packing Material: Cut 4" thick, 4 pcf mineral wool batt insulation** into minimum 4" widths. Rotate the cut pieces to align the fibers parallel to the

slab edge. The packing material shall be compressed 25% in the nominal joint. Mechanically attach with #6 1/2 in. long screws at each vertical framing member, a nominal 1-1/2 in. by 1-1/2 in., 20 GA steel angle (not shown) installed at mid depth of the packing material and running perpendicular to the vertical framing. Compress the batt insulation into the perimeter joint with the top surface of the batt insulation flush with the top of the concrete floor slab and its mid depth is compressed against the 20 GA steel angle. Splices (butt joints) in the lengths of mineral wool batt insulation are to be tightly compressed together. Reference the Introduction to Fire Resistive Joint section of this directory for more details on how to determine the cut width of the insulation to be installed in the joint width and how to determine the compressed percentage of a known insulation width installed in a known nominal joint. (** Listed with Omega Point Laboratories)

- B. Fill, Void or Cavity Material: Liquid is to be applied (sprayed, brushed, or

troweled) 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 wall curtain wall assembly and the concrete floor assembly. If spraying process is stopped and the applied material cures to an elastomeric film before the 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

FireDam™ Spray 100

- ** Before testing, the spliced, test specimen was cycled 500 times at 30 cpm according to ASTM E 1399 and ICBO ES AC 30 (Jan. 1997).