Design No. CEJ 196P

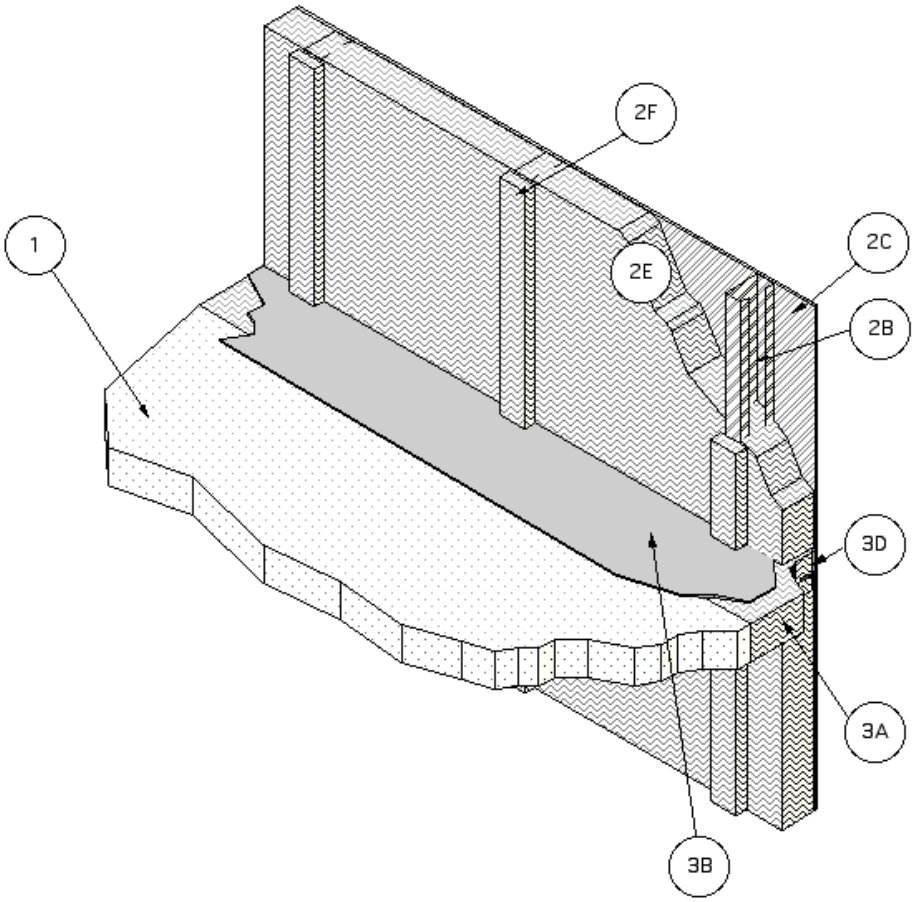
PERIMETER FIRE BARRIER SYSTEM

T-Rating - 3/4 hr.

F-Rating - 2 hr

L-Rating NA

Rated for ± 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 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 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. If required, horizontal framing members shall be installed according to the curtain wall system manufacturer's guidelines.

C. Steel Panels: Steel panels shall be installed to curtain wall framing according to the curtain wall system manufacturer's guidelines. Use a min. 20 GA sheet steel panel with max. dimensions of 48 in. by 144 in.

D. Impaling Pins: (Not shown) When used with insulation and framing covers, the pins shall be located, sized and installed according to the curtain wall system manufacturer's guidelines, or be a min. 4-1/2 in. long, 12 GA steel pin, attached to a nom. 2 in. by 2 in. galvanized sheet steel plate, a nom. 2 by 2 by 2 in. long angle, or directly attached to steel panel using a stud gun. Pins shall be spaced a max. of 12 in. o.c. and installed around the periphery (min.) so that the interior face of the curtain wall insulation is flush with the interior face of the framing.

E. Curtain Wall Insulation: Use a nom. 4 in. 4 pcf mineral wool batt insulation** faced on one side with aluminum foil scrim (vapor retarder) which is exposed to the room interior. (** Listed with Omega Point Laboratories) In lieu of filling the full depth of the stud cavity with 4 pcf mineral wool, the use of nom. 2 in. 8 pcf mineral wool is allowed. Attach a min. 16 GA angle around the entire perimeter of each batt. The vertical 16 GA angles are attached to the mullions with screws. At the horizontal butt joints of the insulation in the field of the steel spandrel panels (2C), the horizontal angles are placed back to back to form a "T", the first of which is located at the horizontal centerline of the perimeter joint protection. All other horizontal seams in the insulation are to be at least 6 in. from the top surface of the perimeter joint treatment. Fit batts tightly between vertical and horizontal angles and secure with screws placed a max. 8 in. o.c. Install the batts flush with the interior face of the curtain wall framing. Install the min. 24-in. wide batts without vertical seams. Fill the spandrel panel area completely. Fill the cavity of all "C"-shaped studs with batt insulation. All meeting edges of insulation are sealed with nom. 4-in. wide pressure sensitive aluminum foil faced tape centered over the junction so that approx. 2 in. of tape covers each edge of the adjacent insulation.

F. Framing Covers: Strips made of min. 1 in. thick by 4 in. wide, 8 pcf, mineral wool batt insulation** faced on one side with aluminum foil scrim (vapor retarder), which is exposed to the room interior. (** Listed with Omega Point Laboratories) Framing covers are centered over each vertical framing member and secured to the member with impaling pins and clips spaced at least 12 in. o.c. and attached in accord with 2D. Framing covers do not pass through the perimeter joint treatment. They are butted to the top and bottom surfaces of the perimeter joint treatment.

3. PERIMETER JOINT PROTECTION: The perimeter joint (linear opening) shall not exceed an 8 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, 4 pcf 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 33.34% 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 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 applied, (sprayed, brushed, or painted) to cover the exposed surface of the mineral wool installed in the perimeter

joint. Apply a min. dry film thickness of 1/16 in. and overlap the material a min. 1 in. onto the adjacent curtain wall assembly and concrete 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:

Johns Manville --

Joint Sealant

Spray

Johns Manville Firetemp SE

Johns Manville Firetemp SI

C. Support Clips: (Not Shown) Support clips are optional but recommended for installations subject to vertical shear movement. Standard Z-shaped clips are 20 GA galvanized steel with the following dimensions: 1 in. wide by 3 in. high with a 2 in. upper leg and 3 in. lower leg.

D. Support Angle: Install a min. 1.5 in. x 1.5 in. 24 GA steel angle mechanically fastened to the interior of the framing at the mid point location of the packing material.

** Cycling: Before testing, the spliced, test specimen was cycled 500 times at 30 cpm in accordance with ICBO ES AC 30 (Jan. 1997) and ASTM E 1966.