

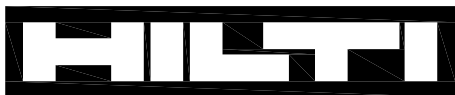
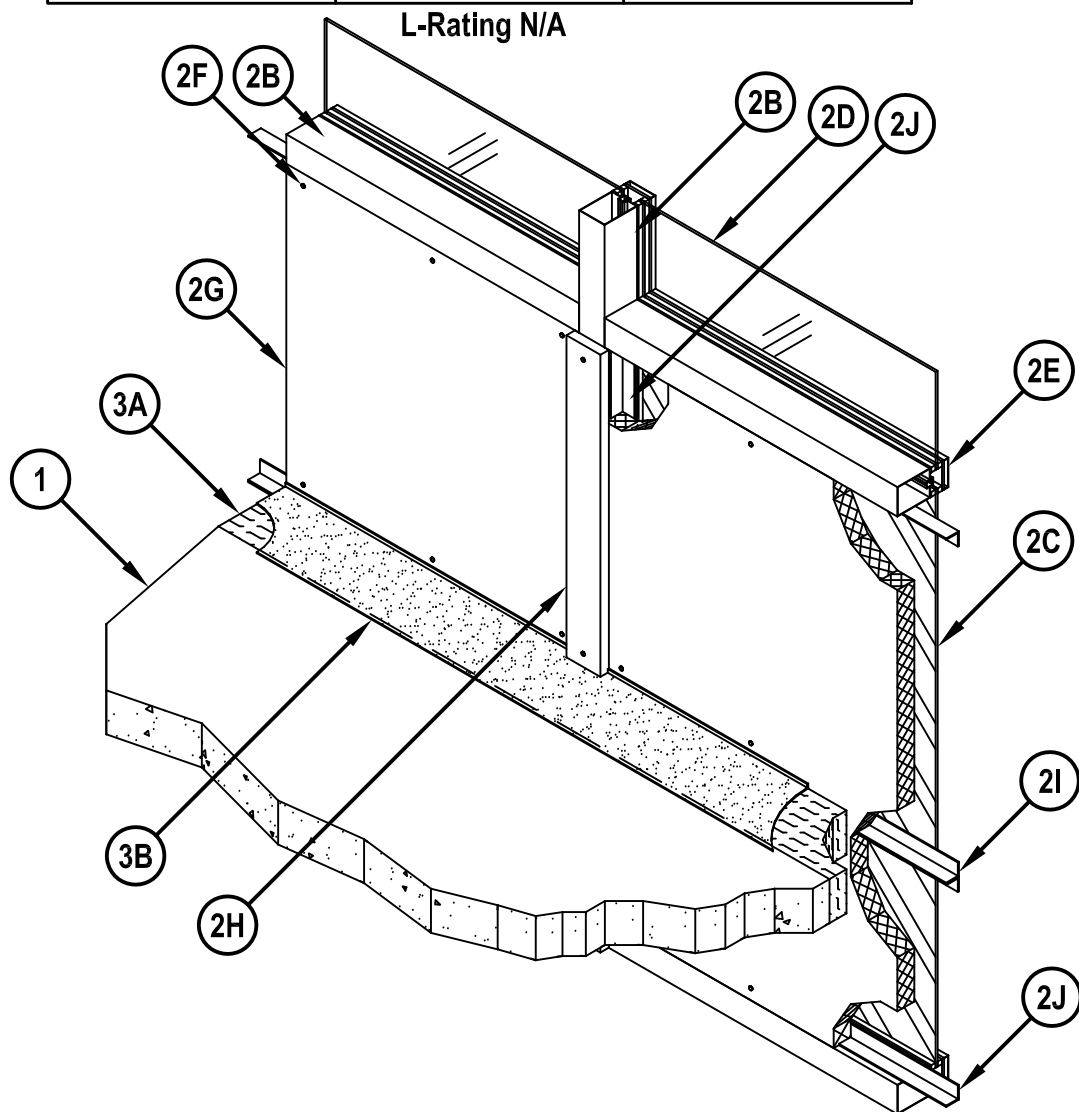
Design No. CEJ 246 P (HI/BP 120-01)
PERIMETER FIRE BARRIER SYSTEM

CEJ 246 P

Hilti, Inc.
ASTM E 2307

Table 1

	FIRESTOP JOINT SPRAY CFS-SP WB	SILICONE JOINT SPRAY CFS-SP SIL
F-RATING	1 3/4-HR.	1 3/4-HR.
T-RATING	1 1/4-HR.	1 1/4-HR.
APPLICATION THICKNESS	1/8" WET FILM (1/16" DRY)	2mm (0.079") WET FILM
CYCLING (%) HORIZONTAL VERTICAL SEE NOTE 1	± 15 ± 5	± 7.5 ± 5



Hilti Firestop Systems

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1. 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 increase to accommodate various blockout depths (longitudinal recesses) formed in the concrete, to house an 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 is required at each floor. The mounting attachments to the floor slab shall be either to the top surface of the floor slab or the joint face of the floor slab, according to the curtain wall manufacturer's instructions. The distance between mounting attachments shall be a min. 60 in. on center (oc) The mounting attachments shall be steel.
 - 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. 5-1/4 in. height and a min. of 2-1/2 in. width of the extrusion. Mullions are to be spaced a min. 60 in. oc and transoms are to be spaced a min. 72 in. oc Transoms are to be located at a min. height of 33 in. above the top surface of the concrete floor assembly (as measured from the bottom of the transom).
 - C. Glass Spandrel Panels: Glass spandrel 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 max. width of 59 in. and height of 71 in.
 - D. Glass Vision Panels: Glass vision panels shall be at least 35-1/2 in. above the top surface of the floor assembly and installed to curtain wall framing according to the curtain wall system manufacturer's guidelines. Same min. requirements as in 2C.
 - E. Secure panels with a thermal break (thermal-set rubber extrusion), pressure bar (aluminum extrusion), 1/4-20 x 5/8 in. long screws, and a snap face (aluminum extrusion). The spandrel panels shall be insulated according to 2G.
 - F. Impaling Pins: When pins are used instead of screws, locate pins in the same manner as the screws in 2F, 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 the framing using a stud gun. Space pins a max. of 12 in. oc and install around the periphery so that the interior face of the curtain wall insulation is flush with the interior face of the framing.
 - G. Curtain Wall Insulation: Insulate all spandrel panels with a min. 2 in. thick, 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 Intertek) Tightly fit insulation between vertical framing members, and secure with screws placed a max. 8 in. oc attached to perimeter spandrel angles (2j). Locate horizontal seam at the mid-height of the perimeter joint protection (3). All other horizontal seams in the insulation are to be at least 6 in. from the top surface of the perimeter joint treatment. The interior face of the batts is flush with the interior face of the curtain wall framing. A min. 2 in. air space is created between the glass and the insulation. The 36 in. wide batts shall be installed without vertical seams, spanning the full length between the vertical and horizontal curtain wall framing members, which create the spandrel panel area.
 - H. Framing Covers: Make strips 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 Intertek) Center framing covers over each vertical framing member and secured to the member with impaling pins and clips spaced max. 12 in. oc Do not pass framing covers through the perimeter joint protection (3). Butt framing covers to the top and bottom surfaces of the perimeter joint protection (3). Seal the sides of the mullion covers with aluminum foil tape flared min. 1 in. onto curtain wall insulation (2G).
 - I. Reinforcing Angle: At the horizontal butt joints of the insulation in the field of the glass spandrel panels (2C), place two 20 GA steel angles back to back to form a "T". Locate the "T" reinforcing angle at the horizontal centerline of the perimeter joint protection and secure the "T" angle to the perimeter spandrel angles (2J).
 - J. Perimeter Spandrel Angles: Use a min. 16 GA 1-1/2 x 1-1/2 steel angles around the entire perimeter of spandrel window area. Attach the vertical angles to the mullions with screws. Attach the horizontal angles to the vertical angles with secures.



3. PERIMETER JOINT PROTECTION: The perimeter joint (linear opening) shall not exceed 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 Intertek) 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 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. CERTIFIED MANUFACTURER: Hilti, Inc.

CERTIFIED PRODUCT: Joint Spray or Sealant

MODEL: Firestop Joint Spray CFS-SP WB or Silicone Joint Spray CFS-SP SIL

Fill, Void or Cavity Material: To be spray applied to cover the exposed surface of the mineral wool installed in the perimeter joint. Apply at the thickness specified in Table 1 and overlap the material a min. 1/2 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.

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.

**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.



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