

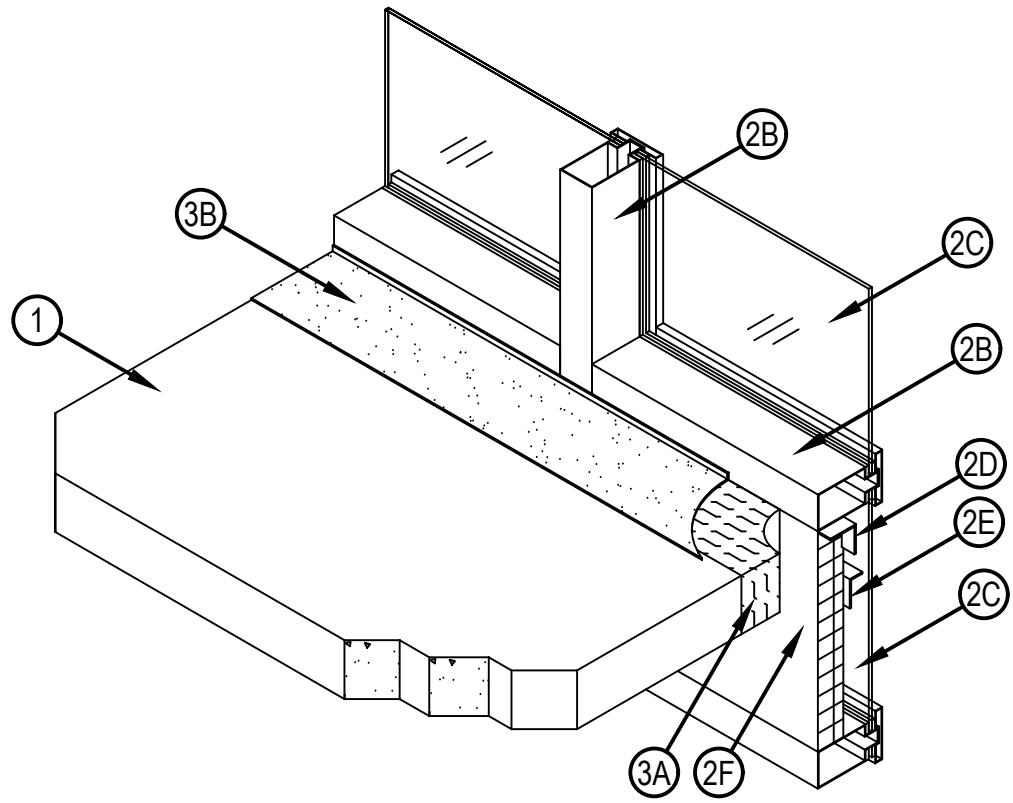
**Design No. HI/BP 60-01**  
**PERIMETER FIRE BARRIER SYSTEM**

Hilti, Inc.  
 ASTM E 2307

**Table 1**

	FIRESTOP JOINT SPRAY CFS-SP WB	SILICONE JOINT SPRAY CFS-SP SIL
F-RATING	1-HR.	1-HR.
T-RATING	54-MIN.	54-MIN.
APPLICATION THICKNESS	1/8" WET FILM (1/16" DRY)	2mm (0.079") WET FILM
CYCLING (%) VERTICAL SEE NOTE 1	±5	±5

**L-Rating <1.0 SCFM/LF**



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 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 min. 1/4 in. plate steel curtain wall framing to the structural framing shall be according to the curtain wall manufacturer's instructions to allow vertical shear movement only. The mounting attachments to the floor slab shall be connected to the joint face of the floor slab, in accordance with the curtain wall manufacturer's instructions.
  - B. Aluminum Framing: Rectangular aluminum tubing mullions and transoms, sized according to the curtain wall system manufacturer's guidelines. Min. overall dimensions of the extruded framing sections are 0.100 in. thick aluminum with a min. 3-3/4 in. depth and a min. of 2-1/2 in. width. Mullion and Transom covers are added to the external side of the framing, giving the framing system a total depth of min. 5-5/16 in. Mullions are to be spaced a min. 60 in. oc and transoms are to be spaced a min. 12-1/2 in. oc For the spandrel region, the lower transom must be placed a min. of 5-1/2 in. below the concrete floor (as measured from the underside of the floor to the top side of the transom) and the upper transom (as measured from the top surface of the floor to the underside of the transom) may be located flush with the top surface of the floor, or higher, while maintaining the min. 10 in. spandrel height.
  - 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. 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. Spandrel Angles: Min. 20 GA 2 in. x 2 in. galvanized steel angle mounted to the underside of the top spandrel transom extending the full length of the transom between each vertical framing member. Position so that the curtain wall insulation (2F), when placed flush against the back surface of the angle, is flush with the internal surface of the vertical framing members. Secure the angle to the transom with min. 1 in. No. 10 self-tapping sheet metal screws spaced a max. 8 in. oc.
  - E. Reinforcing Angle: Min. 20 GA 1 in. x 2 in. galvanized steel angle mounted horizontally in the spandrel area to reinforce the curtain wall insulation. The 2 in. leg is placed flush against the exterior surface of the curtain wall insulation and the 1 in. dimension is positioned at the top of the 2 in. leg, perpendicular to and away from the insulation as illustrated. Place a min. of one angle in each spandrel cavity between vertical framing members. The top of the angle should be located flush with the bottom surface of the floor. On both ends of each angle, cut the 1 in. leg of the angle 2 in. from the end and fold down to form a slot that is slid onto the flange of the z-clip (not shown)
  - F. Curtain Wall Insulation: Use only mineral wool bearing an Intertek certified product label and meeting the following min. requirements. A nom. 2 in. thick, 8 pcf density mineral wool batt insulation, faced on one side with aluminum foil scrim (vapor retarder) which faces the room interior, is installed to fill all cavities of the spandrel region between the framing. The batt is to be fitted tightly to the framing, and is secured to the framing with screws and 1-1/2 in. diameter steel clinch shields (not shown) spaced 11 in. oc and attached to the horizontal perimeter spandrel angles (2D). 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. Place a horizontal seam at the centerline of the perimeter joint protection and reinforce with angle (2E). Strips of 2 in. thick x 8 in. wide, 8 pcf mineral wool batt insulation faced on one side with aluminum foil scrim were installed as mullion covers (not shown). The covers were centered along vertical framing members and secured to the members with impaling pins and clips.

3. PERIMETER JOINT PROTECTION: The perimeter joint (linear opening) shall not exceed an 6 in. nom. joint width (joint width at installation) and the perimeter joint treatment shall incorporate the following construction features:

A. Packing Material: Use only mineral wool bearing an Intertek certified product label and meeting the following min. requirements. 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. After the Perimeter Fire Barrier Reinforcement angle (2F) is installed, the packing material shall be compressed 33% in the nominal joint width. Compress the batt insulation into the perimeter joint. Ensure 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 with min. compression of 0.25 in. per piece.

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: Apply over the Packing Material (3A) as discussed below.

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. When the spraying process is stopped and the applied liquid cures to an elastomeric film before application process is restarted, overlap the edge of the cured material at least 1/8 in. with the spray. Reference Product Section of the Intertek (OPL) Directory for more details about the Listed product.

C. Support Clips: (not shown) An optional but recommended item 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.



**Hilti Firestop Systems**

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December 22, 2014

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