

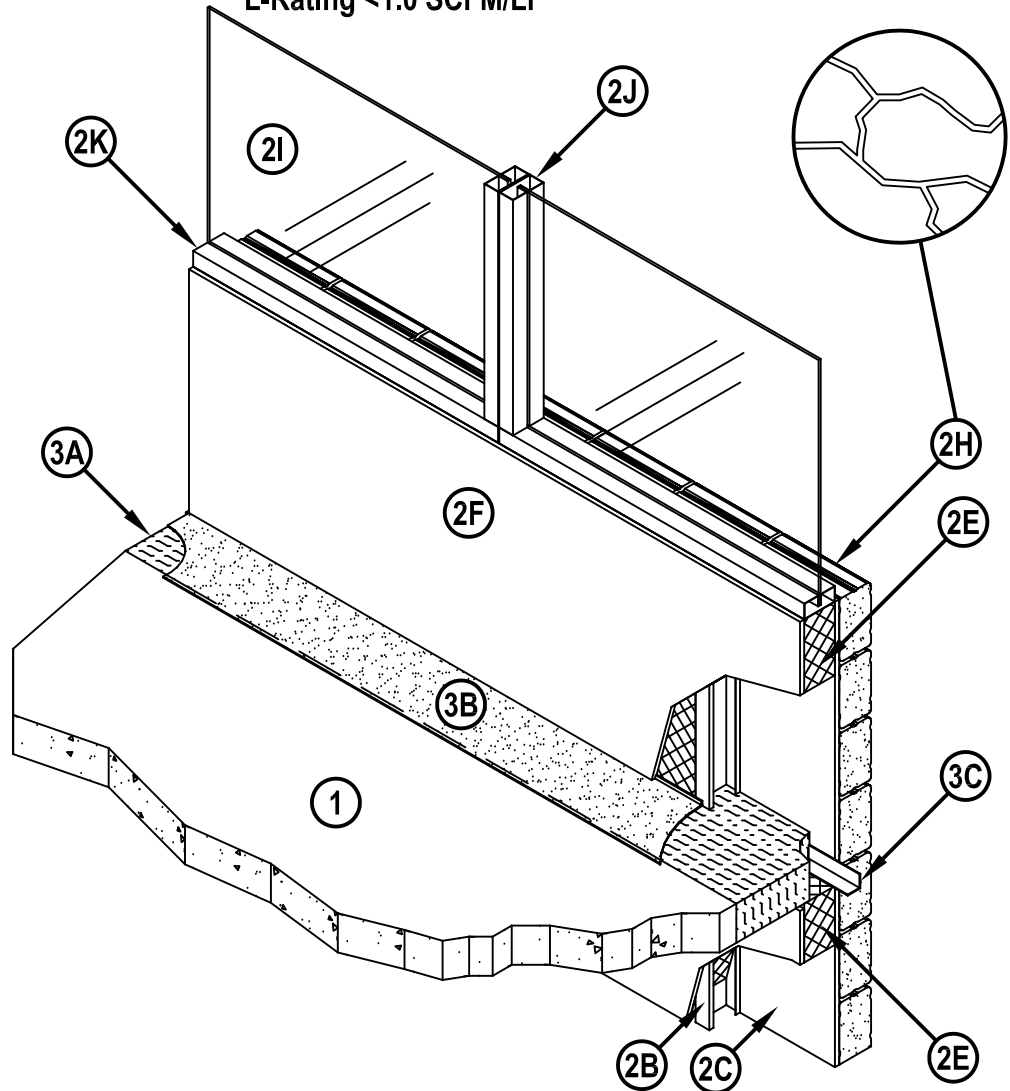
Design No. CEJ 261 P (HI/PHV 120-07)
PERIMETER FIRE BARRIER SYSTEM

Hilti, Inc.
ASTM E 2307

Table 1

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

L-Rating <1.0 SCFM/LF



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1. **CONCRETE FLOOR ASSEMBLY:** Two- our 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 blackout depths (longitudinal recesses) formed in the concrete, to house the architectural cover plate. The blackout 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 ft.
 - 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 secured in an 18 GA steel track top and bottom using #6 x 1.25 in. Bugle head SD PT screws. Vertical framing shall not exceed a spacing of 24 in. on center (oc).
 - C. **Sandwiched Wall Surface:** Use a min. 1/2 in. thick, 48 in. wide by 96 in. long, exterior grade gypsum wallboard (ASTM C 79), cement board, or fiberglass sheathed gypsum wallboard placed over and secured to framing with min. 1-1/4 in. long Type S drywall screws 8 in. oc.
 - D. **Curtain Wall Insulation:** (Optional – Not Shown) A faced or un-faced mineral wool or fiberglass** batt insulation installed in each stud cavity in accordance with manufacturer's instructions. (** Listed with Intertek)
 - E. **Barrier Insulation:** Use a nom. 24 in. wide by 4 in. thick min. 4 pcf faced or un-faced mineral wool** batt insulation cut to size as required. Install barrier insulation in each stud cavity so that min. 32 in. of barrier insulation is above the surface of the perimeter joint protection and a min. of 24 in. is below the perimeter joint protection. Barrier insulation length is min. 24 in. and fitted tightly between vertical framing members filling all studs. Seal all butt joints of barrier insulation with min. 4 in. wide aluminum foil faced tape. The curtain wall insulation shall completely fill the recess of the min. 3-5/8 in. by 1-5/8 in., 18 GA steel "C" studs. (** Listed with Intertek)
 - F. **Interior Curtain Wall Surface:** Apply after Perimeter Joint Protection (3) is installed. Use a min. 1/2 in. thick, 48 in. wide by 96 in. long, Type X gypsum wallboard (ASTM C 36), placed over and secured to framing with #6 by 1-1/4 in. long Type S drywall screws 8 in. oc on the periphery and 12 in. oc in the field. Screw heads are covered with joint compound. Joints created between gypsum wallboard are taped and floated with joint compound. Gypsum wallboard only required to be continuously placed a min. 32 in. above surface of perimeter joint protection. Gypsum wallboard below the slab is optional.
 - G. **Exterior Curtain Wall Insulation:** (Optional -Not Shown) An expanded polystyrene foam (EPS) insulation. The EPS foam boards measure 24 in. wide by 48 in. long by 4 in. thick with a nominal density of 1 pcf. The EPS foam is attached to the sandwiched wall surface using mechanical fasteners or an adhesive in accordance with manufacturer's recommendations. Install the EPS boards in a running bond (brick-like) pattern and staggered over sandwiched wall surface (2C) joints. Apply pressure to the EPS boards to assist in the bonding process. All EPS boards must be butted together with no gaps or voids between them. Allow a min. of 12 hours before continuing the application process when using adhesive. The EPS boards must be rasped to remove all irregular seams and establish a continuous flat surface.
 - H. **Exterior Curtain Wall Finish:** Use stone and mortar of any type. Mortar joints not to exceed 7/8 in. Secure stone wall finish to wall assembly using conventional acceptable masonry techniques.
 - I. **Glass Vision Panels:** Glass vision panels shall be a min. 35-1/2 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 of 59 in. and height of 71 in.
 - J. **Window Gaskets:** Secure glass vision panels with a thermal break (thermal-set rubber extrusion).
 - K. **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 35 in. above the top surface of the floor assembly.



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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. 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, min. compression 0.25 in. per piece. Notch packing material to receive support angle (3C) so that packing material is in contact with Sandwiched Wall Surface (2C). 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. (** Listed with Intertek)

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 applied (sprayed, Brushed, or painted) 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 with Barrier Insulation (2E) and Concrete Floor Assembly (1). 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 Angle: Standard 1-1/2 x 1-1/2 in. min. 20 GA galvanized steel angle attached between all studs with self tapping self drilling screws. Set angle at mid height of Packing Material (3A).

D. 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.

**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).



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