

# Design No. HI/BPF 120-19

## Perimeter Fire Barrier System

Hilti, Inc.

### Edge of Slab QuickSeal CFS-EOS QS

ASTM E2307, CAN/ULC-S115, UL 2079 (Air Leakage), ASTM E1399/E1399M (Cycling)

Table 1

Edge of Slab Quick Seal, CFS-EOS QS	
F-Rating	2 Hour
T-Rating	33 Minute
Cycling (Class IV)	
Horizontal	±11%
Vertical	-8%
L-Rating	< 2.0 SCFM/LF

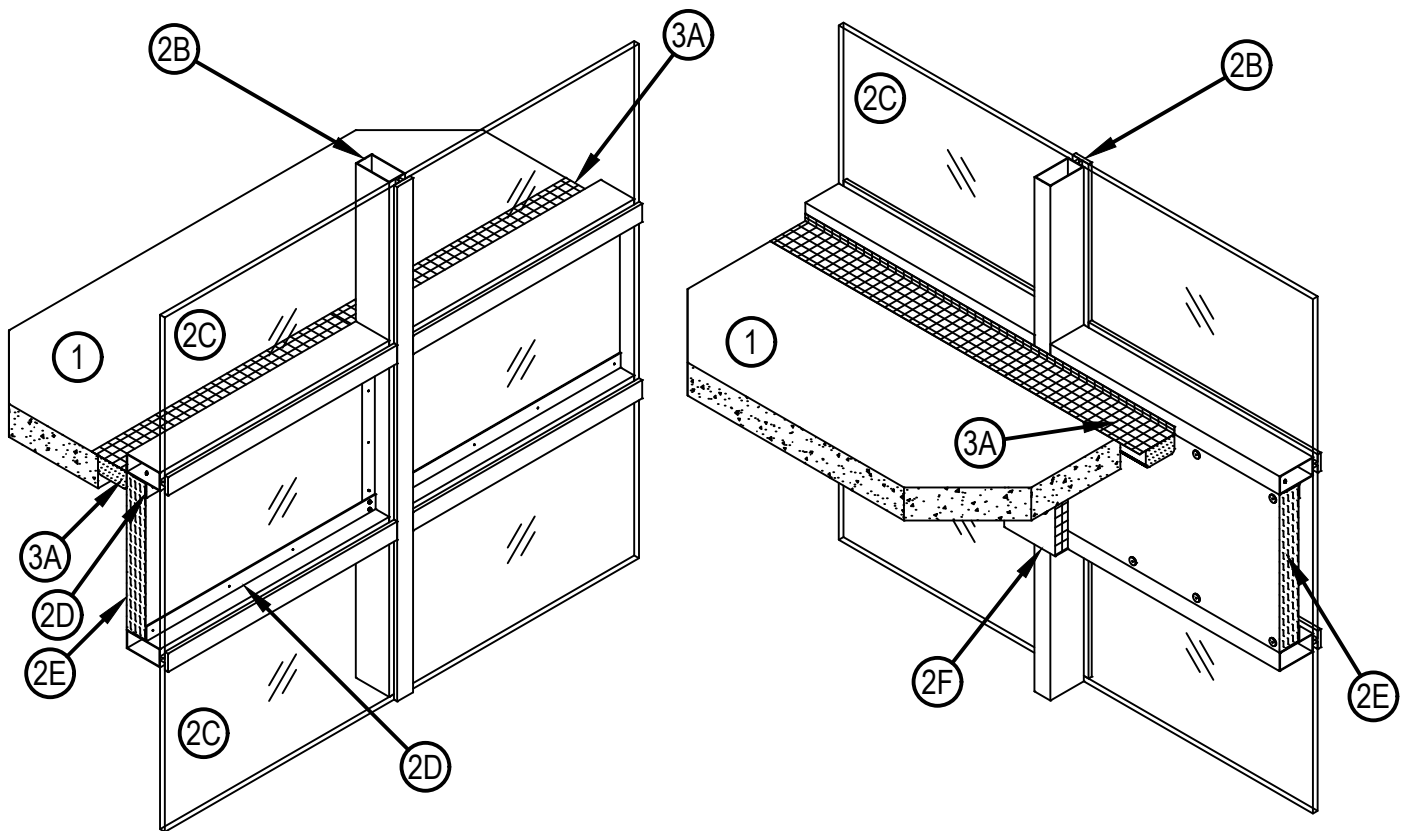


Table 2

Product	Allowable Joint Width	
	Minimum	Maximum
CFS-EOS QS Small	1-1/2 in.	2-1/2 in.
CFS-EOS QS Medium	2 in.	3-1/2 in.
CFS-EOS QS Large	3 in.	4-1/2 in.

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1. CONCRETE FLOOR ASSEMBLY: 2 hour rated concrete floor assembly made from either lightweight or normal weight concrete with a density of 100 to 150 pcf, having a min. thickness of 4-1/2 in. at the joint face. When a longitudinal recess (blockout) is required to contain an architectural joint system, increase concrete floor assembly thickness to maintain a min. thickness of 4-1/2 in. and accommodate depth of blockout formed in the concrete: blockout width unrestricted.
2. CURTAIN WALL ASSEMBLY: The curtain wall assembly shall incorporate the following construction features:
  - A. MOUNTING ATTACHMENT (Not Shown) – Attach aluminum framing (Item 2B) to the structural framing with min 1/2 in. thick aluminum anchor brackets according to the curtain wall manufacturer's instructions. Connect the mounting attachments to the joint face of the concrete floor assembly (Item 1) according to the curtain wall manufacturer's instructions.
  - B. ALUMINUM FRAMING – Use hollow rectangular aluminum extruded tubing with min. overall dimensions of 0.100 in. thick, 5-1/4 in. high and 2-1/2 in. wide. Locate mullions (vertical aluminum framing) min. 60 in. oc and transoms (horizontal aluminum framing) are to be spaced min. 17-1/2 in oc. Locate the transom (horizontal aluminum framing) such that the bottom surface of the transom is at the same height as the top surface of the floor assembly.
  - C. GLASS PANELS – Size and install into aluminum framing (Item 2B) in accordance with the curtain wall manufacturer's instructions. Use min. 1/4 in. thick, clear, heat strengthened (HS) or tempered glass with a max. width and height less than the aluminum framing (Item 2B) oc spacing. OC spacing shall allow glass to be secured to the aluminum framing (Item 2B) between the notched shoulders. Secure glass panels with a thermal break (rubber extrusion), pressure bar (aluminum extrusion), min. 1/4-20 × 5/8 in. long screws, and a snap face (aluminum extrusion).
  - D. SPANDREL ANGLES: Install min. 22 GA 2 in. x 2 in. galvanized steel angles around perimeter of spandrel. Position so that the curtain wall insulation (2E), 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 underside of the upper transom as well as the vertical members with min. 3/4 in. No. 10 self-tapping sheet metal screws spaced a max. 8 in. oc. Steel angles to overlap in each corner and be secured together with two sheet metal screws.
  - E. CURTAIN WALL INSULATION: Use only mineral wool certified by a third party, bearing a listing label, meeting the following requirements: All spandrel panels shall be insulated with a min. 3 in. thick, 8 pcf, mineral wool curtain wall insulation, faced on one side with aluminum foil scrim (vapor retarder) which is exposed to the room interior. Insulation to be tightly fitted between vertical framing members and secured to spandrel angles (item 2D) with steel screws or impaling pins, and steel clinch shields placed a max. 12 in. oc. Min. 3 screws required on vertical angles. All meeting edges of insulation with aluminum framing members are sealed with nom. 4 in. wide pressure sensitive aluminum foil faced tape centered over the junction.
  - F. FRAMING COVERS: Use only mineral wool certified by a third party, bearing a listing label, meeting the following requirements: Install strips made of min. 2 in. thick × 8 in. wide, 8 pcf, mineral wool curtain wall insulation, faced on one side with aluminum foil scrim (vapor retarder) which is exposed to the room interior. Center framing covers over each vertical framing member and secure to spandrel angles (item 2D) with steel screws or impaling pins, and steel clinch shields and clips spaced min 10 in. oc. Framing covers are butted to the bottom surface of the perimeter joint treatment.
3. PERIMETER JOINT PROTECTION: Do not exceed a 4-1/2 in. nominal joint width (joint width at installation) (Per Table 2.) Incorporate the following construction features for the perimeter joint protection (also known as perimeter fire barrier system):
  - A. CERTIFIED MANUFACTURER: Hilti Corporation  
CERTIFIED PRODUCT: Edge of Slab QuickSeal CFS-EOS QS  
Compress the appropriately sized Edge of Slab QuickSeal product (per Table 2) into the perimeter joint opening. Remove paper from adhesive and adhere flaps to top side of concrete floor and front face of mullion. Splices (butt joints) in the length of Edge of Slab QuickSeal are to be tightly compressed together (minimum 1/4 in. compression).
  - B. EDGE OF SLAB WATERSTOP CFS-EOS WS (Optional, Not Shown)  
Use only Hilti Corporation CFS-EOS WS bearing an Intertek Certified Label. Apply 2 mm wet thickness over any seams and overlap a min 1 in. onto Edge of Slab QuickSeal, the adjacent curtain wall assembly and concrete floor slab assembly.
  - C. JOINT COVER (Not Shown)  
Install minimum 0.05 in. (1.29 mm) thick aluminum L-shaped joint cover extending the entire length of the Edge of Slab QuickSeal CFS-EOS QS. The vertical leg of the joint cover must be a minimum of 2.5 in. high and the horizontal leg must extend a minimum 1 in. beyond the joint. When a butted joint cover splice is used, ensure it is offset a minimum of 12 in. from an Edge of Slab QuickSeal CFS-EOS QS splice (butt joint). Joint cover to be continuously connected to transom via integrated keying function per curtain wall manufacturer's instructions.

\*Before testing, the test specimen was subjected to ±0.5 in. (±11%) horizontal movement and -3/8 in. (-8%) vertical movement based on a 4.5 in. nominal joint width through a min. of 100 times at 30 cpm, followed by a min. of 400 cycles at 10 cpm for both vertical and horizontal cycling.



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