

## 3M Company

**Design No. 3MU/BPF180-03**

## Perimeter Fire Barriers

**ASTM E2307/ASTM E1399/UL 2079**

**FireDam™ Spray 200, Fire Barrier Watertight Spray, Fire and Water Barrier Tape FWBT, Fire Barrier 1000 NS Silicone Sealant, and Fire Barrier 1003 SL Silicone Sealant**

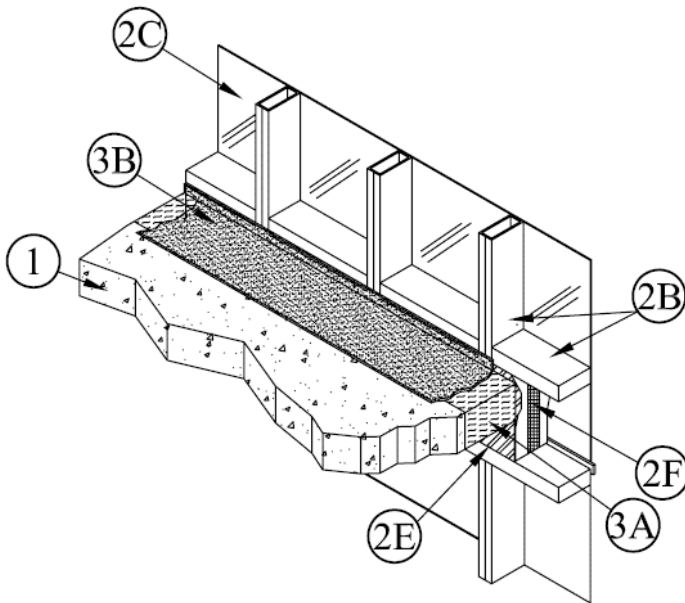
## 50% Compression

<b>F-Rating</b>	3 Hr
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<b>T-Rating</b>	1 Hr
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<b>L-Rating</b> (UL 2079)	<1.0 SCFM/LF
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<b>Cycling (%)</b>	Class IV: 500 cycles @ 30 cpm
<b>Horizontal</b>	± 16.7
<b>Vertical</b>	± 6.25



- 1. CONCRETE FLOOR ASSEMBLY:** 3-hr 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:** Incorporate the following construction features:
  - A. **MOUNTING ATTACHMENT (Not Shown):** Attach aluminum framing (Item 2B) to the structural framing according to the curtain



wall manufacturer's instructions. When required, connect the mounting attachments to the joint face of the concrete floor assembly (Item 1) according to the curtain wall manufacturer's instructions. Limit distance between mounting attachments to max. 60 in. on center (oc).

- B. **ALUMINUM FRAMING:** Use hollow rectangular aluminum extruded tubing with min. overall dimensions of 0.100 in. thick, 4 in. high and 2-1/2 in. wide. Locate mullions (vertical aluminum framing) min. 60 in. oc and locate transoms (horizontal aluminum framing) a min. 10 in. oc. For the spandrel region, locate the upper transom (horizontal aluminum framing) flush with the top of the concrete floor assembly (Item 1).
- C. **GLASS PANELS:** Sized and installed into aluminum framing (Item 2B) according to the curtain wall system manufacturer's guidelines. Use min. 1/4 in. thick clear, heat strengthened (HS) glass or tempered glass with a max. width and height less than the aluminum framing (Item 2B) oc spacing, which allows the glass to be secured between the notched shoulder of the aluminum framing (Item 2B) and pressure bar. 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. **ALUMINUM ANCHOR BRACKETS (Not Shown):** Use min. 9/16 in. thick aluminum anchor brackets to serve as part of the mounting attachment (Item 2A) and are rigidly secured to the aluminum framing

(Item 2B) with 1/2 in. diameter, 2-1/4 in. long, Grade 5, anchor bolts.

- E. **STEEL BACKPAN:** Install min. 22 GA, galvanized steel backpan filled with curtain wall insulation (Item 2F) adhered to the back pan with latex adhesive and steel face facing the interior face of the aluminum framing in the spandrel region. Secure the backpan to the aluminum framing (Item 2B) with 1 in. long, hex-head, sheet steel screws.
- F. **CURTAIN WALL INSULATION:** Fill the cavity of the steel backpan (Item 2E) with nominal 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. Tightly fit, compress at least 1/4 in. in all directions, the mineral wool batt insulation within the backpan (Item 2E) and adhere to the backpan with latex adhesive or with clip washers and 10 GA pins, welded to the back pan. Use only Intertek certified products meeting the above min. requirements.

**3. PERIMETER JOINT PROTECTION:** Do not exceed a 8 in. nominal joint width (joint width at installation). Incorporate the following construction features for the perimeter joint protection (also known as perimeter fire barrier system):

- A. **PACKING MATERIAL:** Use a min. 4 in. thick, 4 pcf density, mineral wool batt insulation installed with the fibers running parallel to the edge of concrete floor assembly (Item 1) and curtain wall assembly (Item 2). Cut packing material width to achieve required compression when installed in the nominal joint width. Compress the packing material



into the perimeter joint. Tightly compress together splices (butt joints) in the lengths of packing material by using min. 1/4 in. compression per piece of packing material. When a spray coating is used, locate the top surface of the packing material flush with the top surface of the concrete floor assembly (Item 1). When the non-sag or self-leveling silicone sealant is used, recess the top surface of the packing material 1/4 in. from the top surface of the concrete floor assembly (Item 1). Use only Intertek certified products meeting the above min. requirements.

**B. CERTIFIED MANUFACTURER:** 3M Company

**CERTIFIED PRODUCT:** FireDam™ or Fire Barrier™

**MODEL:** FD Spray 200 (Elastomeric, Sprayable) Fire Barrier Watertight Spray (Elastomeric, Sprayable) or Fire and Water Barrier Tape FWBT (Tape) or FB 1000 N/S Silicone Sealant (Non-sag) or FB 1003 S/L (Self-Leveling).

**FILL, VOID, OR CAVITY MATERIAL:** Apply either spray coating or sealant over the packing material (Item 3A) as follows:

**SPRAY COATING** – Spray apply the liquid to cover the exposed top surface of the packing material (Item 3A) compressed and installed in the perimeter joint. Apply a min. wet film thickness of 1/8 in. FireDam

Spray 200 or 1/10 in. Fire Barrier Watertight Spray and overlap the spray coating a min. 1/2 in. onto the adjacent curtain wall assembly (Item 2) and concrete floor assembly (Item 1). When the spraying process is stopped and the applied spray coating cures to an elastomeric film before installation process is restarted, then overlap the edge of the cured spray coating at least 1/8 in. with the liquid spray coating.

**TAPE** – Apply the tape such that there is a min. 1 in. overlap onto the adjacent curtain wall assembly (Item 2) and the concrete floor assembly (Item 1). Overlap joints in the tape system by 1/2 in.

**SEALANT** – Apply non-sag or self-leveling sealant to cover the exposed surface of the packing material (Item 3A) compressed and installed in the perimeter joint. Apply min. 1/4 in. thickness non-sag or self-leveling sealant over the packing material (Item 3A) and finish flush with the top surface of the concrete floor assembly (Item 1).

**SUPPORT CLIPS (Optional):** Recommended for installations subject to vertical shear movement. Use standard 20 GA galvanized steel Z-shaped clips having the following nominal dimensions: 1 in. wide × 3 in. high with a 2 in. upper leg and a 3 in. lower leg.