

**Design Number TRC/BP 120-07**  
**PERIMETER FIRE BARRIERS**

Rectorseal Corporation

Biostop 750, Biostop 800, FlameSafe FS 3000, FlameSafe FS 4000, Metacaulk 1200 Spray, and Metacaulk 1500 Spray

**ASTM E 2307**

T-Rating- 1-3/4 hr

F-Rating-2 hr

**ASTM E 2307/ASTM E 1399 Cycling**

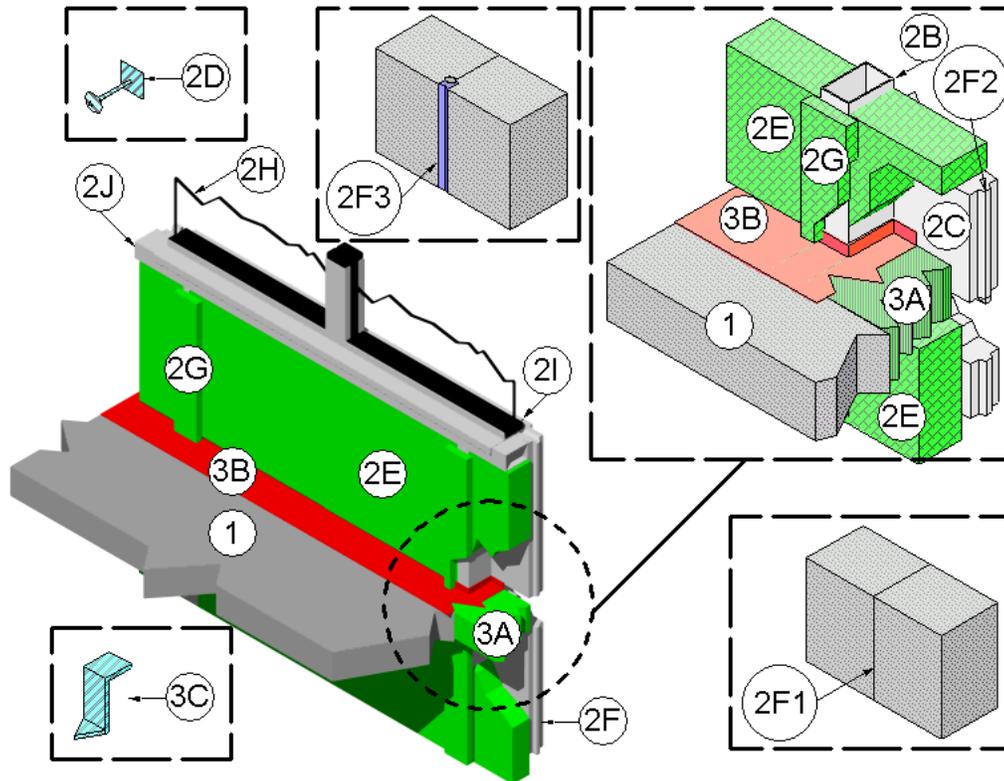
Class IV: 500 cycles @ 30 cpm

± 15% horizontal movement

± 6.25% vertical shear movement

**UL 2079**

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 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)

## Division 07 Thermal Protection

### 07 84 00 Firestopping

#### 07 84 53 Building Perimeter Firestopping

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. 48 inches.

- B. Aluminum Framing: Use a min. 2-1/2 in. wide by 4 in. deep, 0.100-inch thick rectangular aluminum tubing members. Attach according to the curtain wall system manufacturer's guidelines. Locate vertical framing a max. spacing of 60 in. on center (oc) and position on the internal side of the concrete panels (Item 2C) only. When required, install horizontal framing members according to the curtain wall system manufacturer's guidelines.
- C. Concrete Panels: Use any non-combustible exterior concrete based panels. Use min. 1-1/2 in. thick, 12 in. high, 12 in. long panels. Attach concrete panels to aluminum framing (Item 2B) according to the curtain wall system manufacturer's requirements.
- D. Impaling Pins: When used with curtain wall insulation (Item 2E) and framing covers (Item 2G), locate, size and install impaling pins according to the curtain wall system manufacturer's guidelines, or be a min. 4-1/2 in. long, 12 GA pin attached to one of the following: a nominal 2 in. by 2 in. plate; a nominal 2 in. by 2 in. long angle; or can be directly attached to the aluminum framing (Item 2B) using a stud gun. Space impaling pins a max. of 12 in. oc. Install impaling pins around the periphery of the curtain wall insulation (Item 2E) so that its interior face is flush with the interior face of the aluminum framing (Item 2B).
- E. Curtain Wall Insulation: Use a nominal 4 in. thick, 4 pcf, mineral wool batt insulation faced on one side with aluminum foil scrim (vapor retarder), which is exposed to the

room interior and installed the full depth of the stud cavity. Install curtain wall insulation between aluminum framing (Item 2B). Secure curtain wall insulation with clips, impaling pins, or friction fit using curtain wall insulation length at least 1/4 in. longer than the distance between aluminum framing (Item 2B). Seal all meeting edges of curtain wall insulation with nominal 4 in. wide pressure sensitive aluminum foil faced tape centered over the junction so that approximately 2 in. of tape covers each edge of the adjacent curtain wall insulation. Apply pressure sensitive aluminum foil faced tape over all meeting edges of curtain wall insulation and aluminum framing (Item 2B) so that approximately 2 in. covers each edge of the adjacent material. Option – in lieu of filling the full depth of the stud cavity with 4 in. thick, 4 pcf curtain wall insulation, use min. 2 in. thick, 8 pcf curtain wall insulation mechanically secured and must use additional 1-1/2 in. x 1-1/2 in. x 20 GA horizontal support angle installed at the mid depth of the perimeter joint protection (Item 3) and mechanically attached to all aluminum framing (Item 2B). When required, compress interior face of curtain wall insulation flush with the interior face of the aluminum framing (Item 2B). Install 24 in. wide curtain wall insulation without vertical seams, spanning the full length between aluminum framing (Item 2B). Locate horizontal seams in the curtain wall insulation at least 6 inches from the top surface of the perimeter joint protection (Item 3).

- F. Concrete Panel Joint: No through joints allowed. When required, the surface of the concrete panel joints can be sealed with gaskets or sealants. Use one of the following for vertical and horizontal concrete panel joints
  1. flush type (butt joint) or
  2. key way type (tongue and groove) or
  3. recessed.

## Division 07 Thermal Protection

### 07 84 00 Firestopping

#### 07 84 53 Building Perimeter Firestopping

- G. Framing Covers: Framing Covers: Make from strips of 1 in. thick by 4 in. wide, 8 pcf density, mineral wool batt insulation faced on one side with aluminum foil scrim (vapor retarder), which is exposed to the room interior. Center framing covers over all aluminum framing (Item 2B) and secure using impaling pins (Item 2D). Do not pass framing covers through the perimeter joint protection (Item 3). Allow framing covers to abut top and bottom surfaces of the perimeter joint protection (Item 3) provided that no deformation occurs.
- H. Glass Vision Panels: (Optional) When used, locate glass vision panels above spandrel area and a minimum 6 inches above the top surface of the concrete floor assembly (Item 1). Install glass vision panels to window framing (Item J) according to manufacturer's guidelines. Use a min. 1/4 in. thick, clear tempered glass with a max. 56-1/2 in. width and max. 69 in. height.
- I. Window Gaskets: When glass vision panels (Item 2H) used, use a thermal break (thermal-set rubber extrusion) to secure glass vision panels (Item 2H).
- J. Window Framing: When glass vision panels used, use steel framing members a min. 3-5/8 in. by 1-5/8 in., 18 GA steel, U-shaped channel or similar construction compatible with aluminum framing (Item 2B). Locate window framing at least 6 in. above the top surface of the concrete floor assembly (Item 1).
3. PERIMETER JOINT PROTECTION: Do not exceed an 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 50% 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. Use only Intertek certified products meeting the above min. requirements. 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).

- B. CERTIFIED MANUFACTURER:  
Rectorseal Corporation

CERTIFIED PRODUCT: Biostop,  
FlameSafe, Metacaulk

MODEL: Biostop 750, Biostop 800,  
FlameSafe FS 3000, FlameSafe FS  
4000, Metacaulk 1200 Spray, or  
Metacaulk 1500 Spray

Fill, Void or Cavity Material: Apply either spray coating or non-sag or self leveling silicone 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. 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.

Sealant – Apply non-sag or self leveling sealant to cover the exposed surface of the packing material (Item 3A) compressed and

**Division 07 Thermal Protection**

**07 84 00 Firestopping**

**07 84 53 Building Perimeter Firestopping**

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).

- C. 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-inch wide by 3 in. high with a 2 in. upper leg and a 3 in. lower leg.