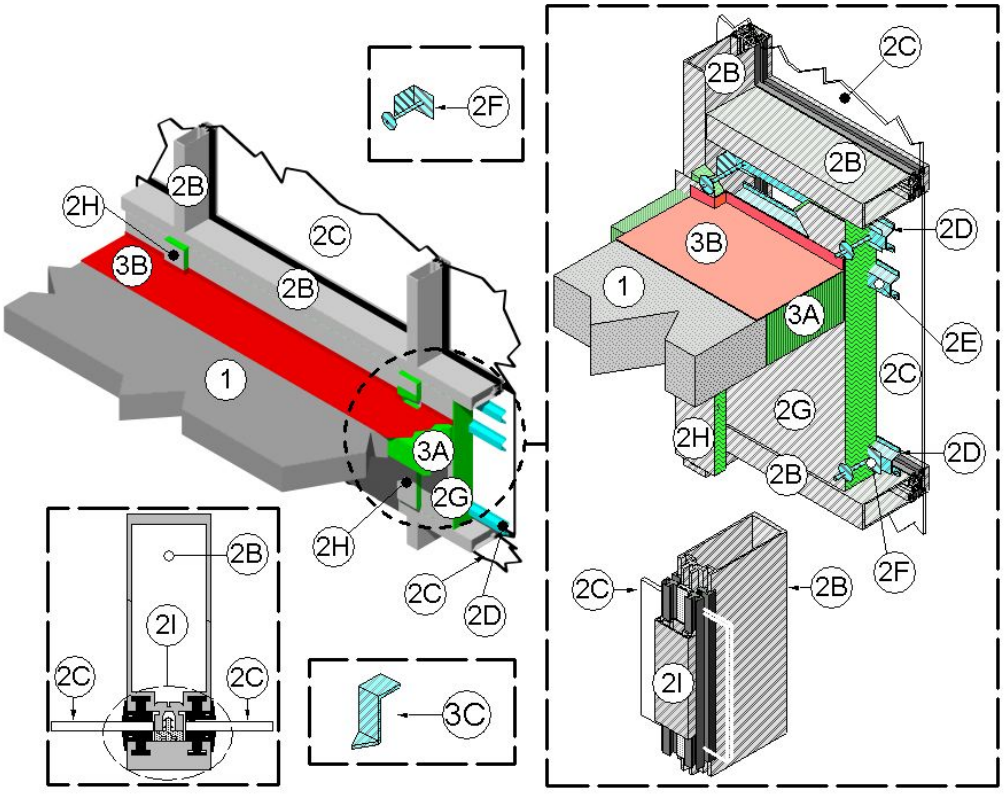
Rectorseal, LLC
Design No. TRC/BP 120-17
Perimeter Fire Barriers
ASTM E2307

	Biostop 750, Biostop 800, Flamesafe FS 3000, Flamesafe FS 4000, Metacaulk 835+ Caulk, Metacaulk 835+ SL, Metacaulk 835+ Spray, Metacaulk 1200 Spray, and Metacaulk 1500 Spray
F-Rating	2 Hour
T-Rating	1-1/4 Hour
L-Rating (UL 2079)	<1.0 SCFM/LF
Cycling (%) Horizontal Vertical	Class IV: ± 0.25 ± 6.25



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 the aluminum framing to min. 1/4 in. structural steel framing according to the curtain wall manufacturer's instructions to allow vertical shear movement only. Connect mounting attachments to the joint face of the concrete floor assembly in accordance with the curtain wall manufacturer's instructions. Secure mounting attachments to each mullion of aluminum framing in the perimeter joint protection region at a max. spacing of 60 in. on center (oc).
   B. ALUMINUM FRAMING: Use hollow rectangular aluminum extruded tubing with min. overall dimensions of 0.100 in. thick, 3-3/4 in. high (total 5-5/16 in. high with mullion and transom covers) and 2-1/2 in. wide. Locate mullions min. 60 in. oc and locate transoms a min. 34 in. oc. For the spandrel region, locate the lower transom min. 13-3/4 in. below the concrete floor assembly as measured from the underside of the floor to the top side of the transom and locate the upper transom a min. 4-1/2 in. above the concrete floor assembly as measured from the top surface of the floor to the underside of the transom.
   C. GLASS PANELS: Sized and installed into aluminum framing 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 on center spacing, which allows the glass to be secured between the notched shoulder of the aluminum framing) and pressure bar. Secure glass panels 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. STEEL HAT CHANNELS: Use nominal 2-1/2 in. wide, 7/8 in. deep, min. 24 GA, steel hat channels. Span steel hat channels between mullions (aluminum framing) to secure the curtain wall insulation. Locate steel hat channels horizontally, at a max. 3 in. above the lower transom and 3 in. below the upper transom of the spandrel area, and at max. 24 in. oc within the spandrel area. Secure each steel hat channel to the mullions (aluminum framing) on both ends. Cut the steel hat channel and form a min. 2 in. tab folded 90° to horizontal position of steel hat channel. Use min. No. 10 self-tapping screws to attach steel hat channels to mullions (aluminum framing).
   E. INSULATION REINFORCEMENT: In addition to the steel hat channels, place an additional steel hat channel to reinforce the perimeter joint protection. Locate insulation reinforcement behind the curtain wall insulation at the mid-depth of perimeter joint protection. Secure insulation reinforcement in the same manner as steel hat channels.
   F. IMPALING PINS: Attach curtain wall insulation to the steel hat channel using min. 12 GA steel cup-head pins spaced max. 8 in. oc at the centerline of the vertical leg.

Size impaling pins to the curtain wall insulation thickness to maintain a firm attachment to the steel hat channel. Install impaling pins so that the interior face of the curtain wall insulation is flush with the interior face of the aluminum framing.

G. CURTAIN WALL INSULATION: Use a nominal 2 in. thick, 8 pcf density, mineral wool batt insulation faced on one side with aluminum foil scrim (vapor retarder), which is exposed to the room interior and installed between and flush with interior face of aluminum framing. Use only Intertek certified products meeting the above min. requirements. Secure the curtain wall insulation using impaling pins, which are attached to steel hat channel. 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 so that approximately 2 in. covers each edge of the adjacent material.

H. FRAMING COVERS: Make from strips of 2 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. Use only Intertek certified products meeting the above min. requirements. Center framing covers over all aluminum framing and secure using impaling pins. Do not pass framing covers through the perimeter joint protection. Allow framing covers to abut top and bottom surfaces of the perimeter joint protection provided that no deformation occurs.

I. ALUMINUM FRAMING ATTACHMENT: Secure glass panels using a thermal break (thermal-set rubber extrusion), pressure bar (aluminum extrusion), 1/4-20 x 5/8 in. long screws, and a snap face (aluminum extrusion). Insulate glass panels in spandrel area using curtain wall insulation.

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) and curtain wall assembly. Cut packing material width to achieve 25% 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. 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.

B. JOINT SEALANT: Rectorseal, LLC Biostop 750, Biostop 800, FlameSafe FS 3000, FlameSafe FS 4000, Metacaulk 835+ Caulk, Metacaulk 835+ SL, Metacaulk 835+ Spray, Metacaulk 1200 Spray, or Metacaulk 1500 Spray

FILL, VOID OR CAVITY MATERIAL: Apply either spray coating or sealant over the packing material as follows:

Spray Coating – spray apply the liquid to cover the exposed top surface of the packing material 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 and concrete floor assembly. 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 compressed and installed in the perimeter joint. Apply min. 1/4 in. thickness non-sag or self-leveling sealant over the packing material and finish flush with the top surface of the concrete floor assembly.

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

* Before testing, the test specimen was subjected to ±6.25% vertical and ±0.25% horizontal movement a min. of 500 times at 30 cpm, for both vertical and horizontal cycling per ASTM E1399.

Consult the listing report on the Directory of Building Products (https://bpdirectory.intertek.com) for the edition of the standard(s) evaluated.

Compliance of the assembly described in this Design Listing with the referenced standard relies on verification that the assembly constructed in the field is consistent with that described herein. Intertek certified products may be verified by the approved Intertek label; other products must be verified by the Authority Having Jurisdiction as meeting the specifications stated herein.