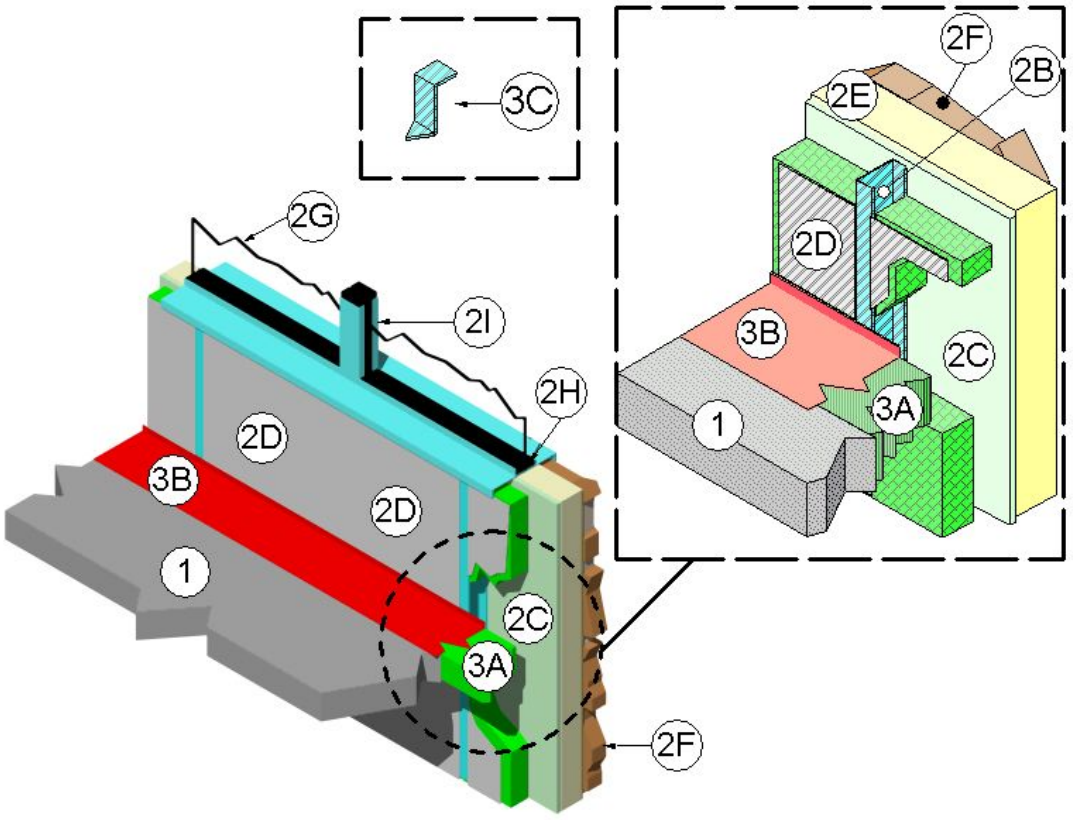
Rectorseal, LLC
Design No. TRC/BP 120-10
Perimeter Fire Barriers
ASTM E2307

	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 Hour
L-Rating (UL 2079)	<1.0 SCFM/LF
Cycling (%) Horizontal Vertical	Class IV: ± 6.25 ± 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 steel stud framing 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 according to the curtain wall manufacturer's instructions. Limit distance between mounting attachments to max 48 in.
   B. STEEL STUD FRAMING: Use min. 3-1/2 in. by 1-1/4 in., 18 GA, C-shaped steel studs as interior vertical framing. Secure steel studs in 18 GA appropriately sized steel tracks, located top and bottom, using #6 x 1-1/4 in. long bugle-head SD PT screws. Limit distance between steel stud framing to max. 16 in. When required, install horizontal framing members according to the curtain wall system manufacturer's guidelines.
   C. SANDWICHED WALL SURFACE: Use a min. 1/2 in. thick, 48 in. wide by 96 in. long, exterior grade gypsum board (ASTM C 79). Option to exterior grade gypsum board, use min. 5/8 in. thick, water-resistant, Type X gypsum board with embedded glass mat facing and non-flammable primer coating, and having a nominal weight of 2300 lb/msf. Place sandwiched wall surface over and secure to exterior face of steel stud framing with 1-1/4 in. long Type S drywall screws spaced 8 in. on center (oc) around the periphery and 12 in. on center in the field.
   D. CURTAIN WALL INSULATION: Use nominal 24 in. wide, min. 34 in. tall, 4 in. thick, 4 pcf mineral wool batt insulation, sealed on one side with aluminum foil scrim (vapor retarder), which faces the room interior. Use only Intertek certified products meeting the above minimum requirements. Cut to width slightly larger than 16 in. and install by tightly fitting in each stud cavity between steel stud framing. Locate curtain wall insulation so that a min. of 4-1/2 in. extends above the surface of the perimeter joint protection and min. of 13-3/4 in. extends below the concrete floor assembly while maintaining the min. 34 in. vertical dimension. Completely fill the recess of the "C-shaped" steel stud framing with curtain wall insulation.
   E. EXTERIOR CURTAIN WALL INSULATION: (Optional) Apply an Exterior Insulation Finish System (EIFS) composed of an expanded polystyrene foam (EPS) insulation, a base coat, a float coat, a reinforcing mesh, and a finish coat. Install the EIFS system as a monolithic assembly without expansion or control joints. Use EPS foam boards measuring min. 24 in. wide, 48 in. long, and 4 in. thick with a nominal 1 pcf density. Attach EPS foam to the sandwiched wall surface using an adhesive, which is a polymer-based material mixed with 1-1/2 to 2 gallons of potable water per 50-pound bag of adhesive. Apply adhesive using a 3/8 in. notched trowel to the entire backside surface of each EPS board. Install the EPS boards in a running bond (bricklike) pattern and staggered over the joints of the

sandwiched wall surface. Apply pressure to the EPS boards to assist in the bonding process. Butt all EPS boards together with no gaps or voids between them. Allow a min. of 12 hours before continuing the application process. Rasp the EPS boards to remove all irregular seams and establish a continuous flat surface.

F. EXTERIOR CURTAIN WALL FINISH: Use stone and mortar of any type. Do not exceed 7/8 in. wide mortar joints. Secure stone to curtain wall assembly using conventional acceptable masonry techniques.

G. GLASS VISION PANELS: (Optional) When used, locate glass vision panels above spandrel area and a min. 6 in. above the top surface of the concrete floor assembly. Install glass vision panels to window framing 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.

H. WINDOW GASKETS: When glass vision panels are used, use a thermal break (thermal-set rubber extrusion) to secure glass vision panels.

I. WINDOW FRAMING: When glass vision panels are 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 structural framing. Locate window framing at least 6 in. above the top surface of the concrete floor assembly.

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 ±6.25% 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.