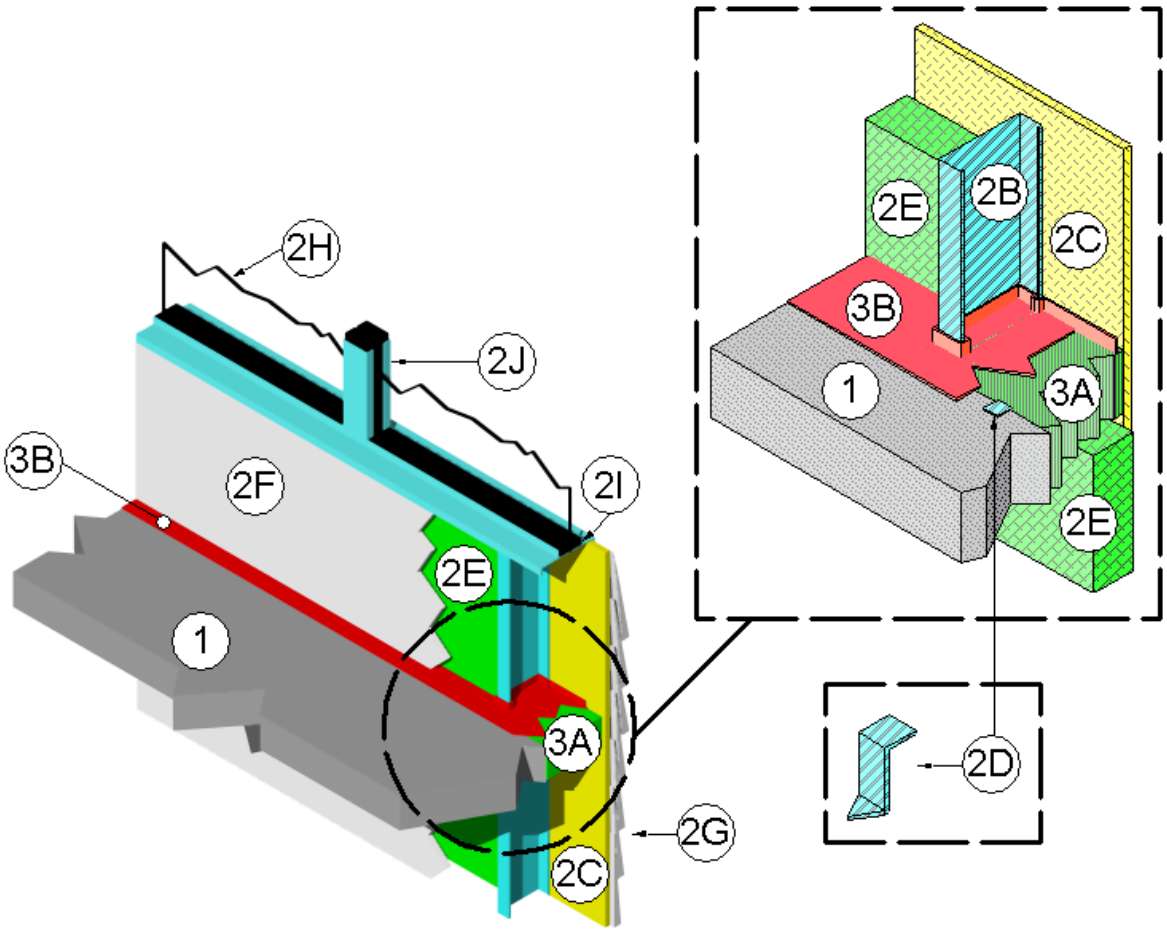
Rectorseal Corporation
Design No. TRC/BP 120-03
Perimeter Fire Barriers
ASTM E2307

	Biostop 750, Biostop 800, Flamesafe FS 3000, Flamesafe FS 4000, Metacaulk 835+ Spray, Metacaulk 1200 Spray, and Metacaulk 1500 Spray
F-Rating	2 Hr
T-Rating	0 Hr
Cycling (%) **Horizontal** **Vertical**	Class IV: ± 12.5 ± 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:** The curtain wall assembly shall incorporate the following construction features:

   A. Mounting Attachment: (Not shown) Attach the steel stud framing (Item 2B) to structural steel framing according to the curtain wall manufacturer's instructions. When required, connect mounting attachments to the joint face of the concrete floor assembly (Item 1) in accordance with the curtain wall manufacturer's instructions. Secure mounting attachments to steel C studs of steel stud framing (Item 2B) in the perimeter joint protection (Item 3) region at a max. spacing of 120 in.

   B. Steel Stud Framing: Use min. 6 in. by 1-5/8 in., 16 GA, C-shaped steel studs as interior vertical framing. Secure steel studs in 16 GA appropriate 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. 24 in. Secure steel-stud framing to the concrete floor assembly (Item 1) with curtain wall clips (Item 2D). Where required, install horizontal framing members according to the curtain wall system manufacturer's guidelines.

   C. Sandwiched Wall Surface: Use a min. 5/8 in. thick, 48 in. wide by 96 in. long, exterior grade fiberglass sheathed gypsum board placed over and secured to framing with min. 1-1/4 in. long Type S drywall screws spaced 8 in. on center (oc).

   D. Curtain Wall Clips: Use min. 18 GA, stair-like, steel clips measuring min. 1 in. wide affixed to each steel stud framing (Item 2B) using 5/8 in. long sheet metal screws and to the surface of the concrete floor assembly (Item 1) using min. 1/4 in. diameter, 1 in. long concrete screws. When the following optional method does not interfere with the installation of the perimeter joint protection (Item 3), weld curtain wall clips to steel stud framing (Item 2B) and to the optional structural pour stop at the edge of the concrete floor assembly (Item 1).

   E. Curtain Wall Insulation: (Optional) When used, install either mineral wool or fiberglass batt curtain wall insulation after the perimeter joint protection (Item 3). Attach curtain wall insulation to steel stud framing (Item 2B) by friction fit or mechanical fasteners.

   F. Interior Curtain Wall Surface: (Optional) When used, install after the perimeter joint protection (Item 3). Install above or below perimeter joint protection (Item 3) or in both locations. When used, secure the interior curtain wall surface to steel stud framing (Item 2B) in accordance with the product's installation instructions.

   G. Exterior Curtain Wall Finish: Do not create voids or openings in the sandwiched wall surface (Item 2C) when attaching the exterior curtain wall finish. Extend exterior curtain wall finish at least 8 in. above and at

least 24 in. below the surface of the concrete floor assembly (Item 1). Acceptable exterior curtain wall finish options applied over sandwiched wall surface (Item 2C):

Glass Panels - Size and install glass panels to steel stud framing (Item 2B) according to the curtain wall system manufacturer's guidelines. Use a min. 1/4 in. thick clear, heat-strengthened (HS) glass or tempered glass with max. width and height less than the steel stud framing (Item 2B) on center spacing, allowing glass panels to be secured between the notched shoulder of the steel stud framing (Item 2B) and pressure bar. Secure glass panels using a thermal break (rubber extrusion), pressure bar (extrusion), min. 1/4-20 x 5/8 in. long screws, and a snap face (extrusion) or other equivalent manner as detailed by the manufacturer. Create monolithic glass panel assembly without expansion or control joints.

Aluminum Panels - Secure min. 1/8 in. thick aluminum panels to the steel stud framing (Item 2B) in accordance with the manufacturer’s installation instructions. When additional framing for the aluminum panels is required, install in accord with the manufacturer’s installation instructions. Create a monolithic assembly without expansion or control joints.

Brick - Use any conventional brick and mortar type to create any brick pattern. Do not to exceed 7/8 in. wide mortar joints. Secure bricks to curtain wall assembly (Item 2) without creating through openings in sandwiched wall surface (Item 2C) using conventional acceptable masonry construction techniques. Create a monolithic assembly without expansion or control joints.

Stone - Use any conventional stone panel and mortar type measuring at least 1 in. thick to create any stone pattern. Do not to exceed 7/8 in. wide mortar joints. Secure stone to curtain wall assembly (Item 2) without creating through openings in sandwiched wall surface (Item 2C) using conventional acceptable masonry construction techniques. Create a monolithic assembly without expansion or control joints.

Siding - Apply any Listed and Labeled non-combustible siding without creating through openings in sandwiched wall surface (Item 2C). The siding shall be classified as non-combustible. Create a monolithic assembly without expansion or control joints.

GFRC Panels - Use glass fiber reinforced concrete (GFRC) panels at least 1 in. thick and attach in accord with the manufacturer’s installation instructions without creating through openings in sandwiched wall surface (Item 2C). Create a monolithic assembly without expansion or control joints

H. Glass Vision Panels: (Optional) When used, locate glass vision panels above spandrel area and a min. 8 in. above the top surface of the concrete floor assembly (Item 1). Install glass vision panels into window framing (Item 2I) 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 steel stud framing (Item 2B). Locate window framing at least 8 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 33% 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

CERTIFIED MODEL: Biostop 750, Biostop 800, FlameSafe FS 3000, FlameSafe FS 4000, 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 (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 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. Optional Reinforcing Angle: Not shown or required. Mount a min. 1-1/2 in. x 1-1/2 in. x 20GA galvanized steel angle to the vertical steel stud framing (Item 2B) so that the vertical leg serves as a backer to the exterior

face of the curtain wall insulation (Item 2E) and the horizontal leg extends away from the curtain wall insulation (Item 2E) and the elevation is located at the centerline of the perimeter joint protection (Item 3). Size the angle 12 in. longer than the span between the interior edges of the vertical steel stud framing (Item 2B) and form the angle so that it has a 6 in. vertical leg on each end. Secure the 6 in. leg to the vertical steel stud framing (Item 2B) on each side with three No. 10 steel self-tapping sheet metal screws placed in a triangular fashion with a max. spacing of 2 in. oc.

* Before testing, the test specimen was subjected to ±6.25% vertical and ±12.5% horizontal movement through a min. of 500 times at 30 cpm, for both vertical and horizontal cycling per ASTM E1399.