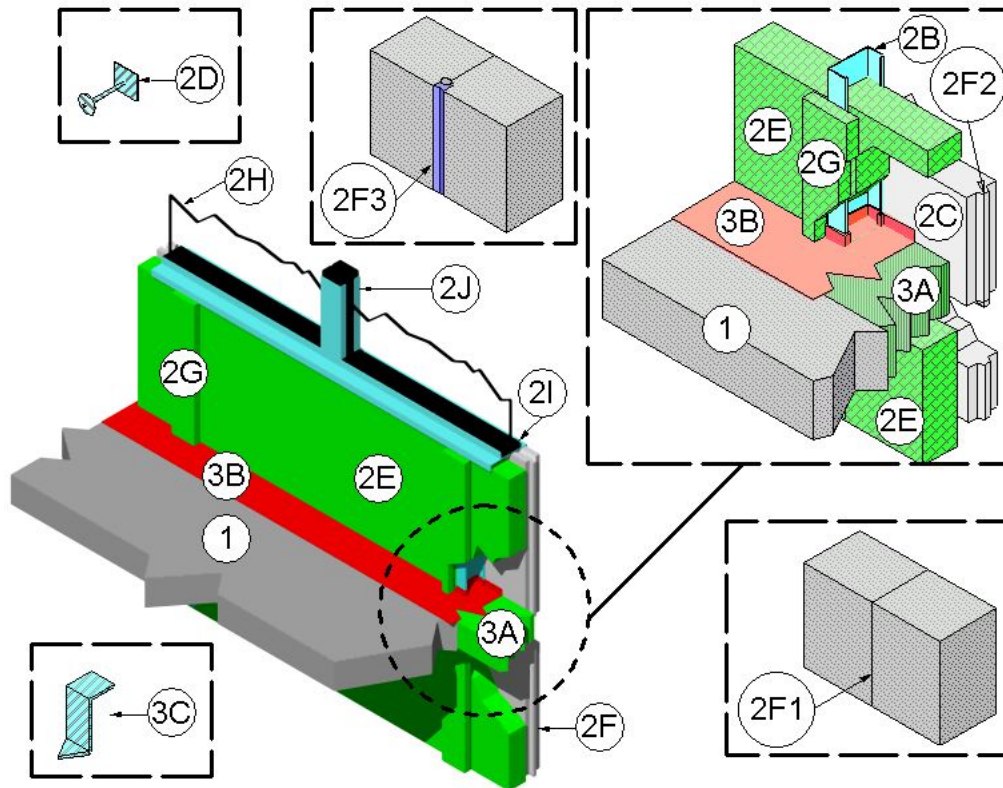


# ASTM E2307

**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**

<b>F-Rating</b>	2 Hour
<b>T-Rating</b>	1-3/4 Hour
<b>L-Rating (UL 2079)</b>	<1.0 SCFM/LF
<b>Cycling (%)</b>	Class IV:
<b>Horizontal</b>	± 15
<b>Vertical</b>	± 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. 3-5/8 in. by 1-5/8 in., 18 GA, C-shaped steel studs as interior vertical framing. Attach according to the curtain wall system manufacturer's guidelines. Limit distance between steel stud framing to max. 48 in. 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 steel stud framing according to the curtain wall system manufacturer's requirements.
  - D. **IMPALING PINS:** (Optional) Use, locate, size, and install impaling pins according to the curtain wall system manufacturer's guidelines.
  - E. **CURTAIN WALL INSULATION:** (Optional) When used, install either mineral wool or fiberglass batt curtain wall insulation after the perimeter joint protection. Attach curtain wall insulation to steel stud framing by friction fit or mechanical fasteners.
  - 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. keyway type (tongue and groove), or
    3. recessed.
    4. When max. 1 in. vertical through joints are required use the following joint treatment:
      - a. Install a polyethylene or polyurethane backer rod into the opening. Backer rod shall be oversized so that it is compressed into the opening.
      - b. Install a FlameSafe Joint Strip, Biostop Joint Strip or Metacaulk Joint Strip (listed by third party certification company) min. 1-1/2 in. wide. Install joint strip against the backer rod on the interior side of the joint.
      - c. Install BASF Sonolastic NP1, BASF Sonolastic NP2 or Sika Corporation Sikaflex 2C NS sealant a min 1/2 in. depth in the joint to completely fill the exterior opening of the joint flush with the surface of the wall exterior.
      - d. Install Packing Material into the internal side of the joint to entirely fill any space between the joint strip and the Packing Material. Packing Material installed in joint must maintain required compression as specified in Item 3A.



- G. **FRAMING COVERS:** (Optional) When used, locate, size, and install framing covers according to the curtain wall system manufacturer's guidelines. 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.
- H. **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.
- I. **WINDOW GASKETS:** When glass vision panels used, use a thermal break (thermal-set rubber extrusion) to secure glass vision panels.
- J. **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 steel stud 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 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. 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 non-sag or self-leveling silicone 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  $\pm 6.25\%$  vertical and  $\pm 15\%$  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.*