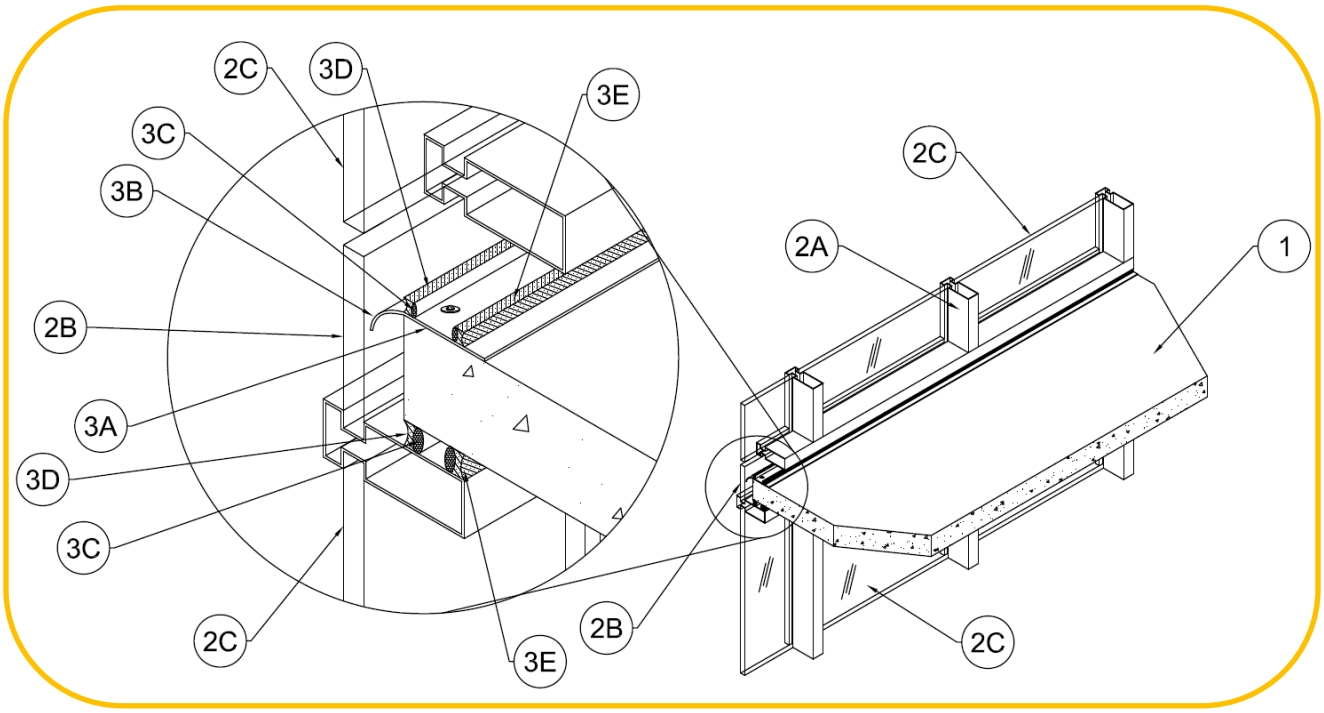
Specified Technologies, Inc.
Design No. STI/BPF 120-04
Perimeter Fire Barrier System
SpecSeal® Window Wall Gasket, SpecSeal® SIL300 Silicone Sealant
ASTM E2307, CAN/ULC-S115
Rating: F-Rating – 2 hr, T-Rating – 1 hr



1. **CONCRETE FLOOR ASSEMBLY:** Two hour rated concrete floor assembly made from either lightweight or normal weight concrete with a density of 100-150 pcf, with a minimum thickness of 4-1/2 in. (114 mm) at the joint face.

2. **WINDOW WALL ASSEMBLY:** The window wall assembly shall incorporate the following construction features:

   A. **ALUMINUM FRAMING** - Size rectangular aluminum tubing mullions and transoms, according to the window wall system manufacturer's guidelines. The one or two-piece framing members shall have minimum overall dimensions of 2-1/2 in. (64 mm) wide by 6 in. (152 mm) deep and shall be formed from min 0.100 in. (2.5 mm) thick aluminum. Mullion and Transom covers are added to the external side of the framing giving the framing system a total depth of nominal 6-3/4 in. (171mm). Mullions spaced min 60 in. (1.52 m) OC and positioned above and below the floor so that the exterior of the framing extends a maximum 2-3/4 in. past the edge of the floor assembly. The framing is to be installed with a construction gap above the floor of maximum 5/8 in. (16 mm), and below the floor of max. 11/16 in. (18mm). Anchor the aluminum framing to

the concrete floor assembly (Item 1) according to the window wall manufacturer's instructions.

B. SPANDREL PANELS - - The spandrel panels shall consist of one of the following types.

i. **GLASS PANELS** - Min 1/4 in. (6 mm) thick transparent or opaque heat-strengthened glass or min 1 in. (25 mm) thick insulated glass units with two layers of nom 1/4 in. (6 mm) thick heat-strengthened glass separated by a min 1/2 in. (13 mm) air space. Each panel secured in position with aluminum pressure plates in conjunction with glazing gaskets and steel screws or with silicone structural glazing.

ii. **ALUMINUM PANELS (Not Shown) -** Min 1/8 in. (3 mm) thick aluminum panels with nom 1/4 in. (6 mm) thick edges. Each panel secured in position with aluminum pressure plates in conjunction with gaskets and steel screws.

iii. **STONE PANELS (Not Shown) -** Nominal 1-3/16 in. (30 mm) thick polished granite spandrel panels with 1 in. (25 mm) thick gauged edges. Each panel secured in position with aluminum pressure plates in conjunction with gaskets and steel screws.

iv. **ALUMINUM COMPOSITE PANELS (Not Shown) -** Min 1/8 in. (3 mm) thick aluminum composite comprised of min 0.02 in. (0.5 mm) aluminum skin with LDPE or mineral-filled Fire-Resistant core. Each panel secured in position with steel furring channels in conjunction with gaskets and steel screws.

v. **METAL COMPOSITE PANELS (Not Shown) -** Min 1 in. (25 mm) thick, comprised of 0.032 in. (0.8 mm) smooth aluminum exterior skin, 0.157 in. (4 mm) thick mineral fiber cement board exterior stabilizer, 5/8 in. (16 mm) thick Micore 300 mineral fiberboard insulation core, 0.157 in. (4 mm) thick mineral fiber cement board interior stabilizer, and a 0.032 in. (0.8 mm) smooth aluminum interior skin. Each panel secured in position with aluminum pressure plates in conjunction with glazing gaskets and steel screws or with silicone structural glazing.

vi. **INSULATED STEEL OR ALUMINUM BACKPAN (Not Shown) -** Min 22 GA (min 0.031 in. or 0.79 mm thick) galvanized steel or aluminum panels installed behind glass panel (Item 2Bi) between mullions and transoms within spandrel panel area. Backpan provided with min 2 in. (51 mm) wide flange around all four sides. Backpan installed flush with interior face of framing and screw-attached to mullions and transom along all sides with min No. 10 by 1 in. (25 mm) long self-drilling, self-tapping steel screws spaced max 8 in. (203 mm) OC. The backpan flanges may be offset with up to a 3/8 in. (10 mm) gap between the pan and the aluminum framing. Nom 5/16 in. (8mm) wide by 5/16 in. (8 mm) thick adhesive backed polyurethane foam glazing tape installed between the pan and the

framing. Tape is recessed nom 1/4 in. (6 mm) to accommodate one-part silicone sealant to be applied at nom 1/4 in. (6 mm) depth over the recessed tape, around the perimeter of the pan. Backpan may be filled with nom 4 pcf (64 kg/m3) density, or heavier, mineral wool batt insulation.

C. **VISION PANELS -** Nominal 1/4 in. (6 mm) thick transparent heat-strengthened glass or nominal 1 in. (25 mm) thick insulated glass units with two layers of nom 1/4 in. (6 mm) thick transparent heat-strengthened glass separated by a 1/2 in. (13 mm) air space. Each panel secured in position with aluminum pressure plates in conjunction with glazing gaskets and steel screws or with silicone structural glazing.

3. **CONSTRUCTION GAP SEAL** - Maximum separation between top of concrete floor assembly (Item 1) and underside of the transom is 5/8 in. (16 mm). Maximum separation between the underside of the concrete floor assembly (Item 1) and the transom is 11/16 in. (18mm). The seal system shall incorporate the following construction features:

   A. **WEATHER SEAL** - (optional for weather resistant purposes) – A nominal 1/4 in. (6mm) bead of silicone sealant is applied to the top of the concrete floor assembly (Item 1) surface before the Intumescent gasket (Item 3B) is placed on the slab and secured in place.

   B. **MANUFACTURER:** Specified Technologies, Inc.

      CERTIFIED PRODUCT: Intumescent Wrap Strip

      CERTIFIED MODEL: SpecSeal® Window Wall Gasket

      Intumescent Gasket nominal 1/8 in. (3mm) thick and 8 in. (203mm) wide intumescent gasket is positioned so that a min. 3 in. (76mm) portion of the width extends past the slab edge. The intumescent gasket is secured to the concrete floor assembly (Item 1) with nominal 1-1/4 in. (32mm), 1/4 in. (6mm) diameter concrete screws and fender washer spaced 12 in. (305mm) OC. Alternatively, the intumescent gasket can be applied to the underside of the transom above the concrete floor assembly (Item 1) with self-tapping screws and fender washers on 12 in. centers.

   C. **CLOSED-CELL BACKER ROD** – Install appropriately sized closed cell backer rod into the gap space on the interior side of the wall (required), and exterior side of the wall (optional), both above and below the concrete floor assembly (Item 1). Recess the backer rod to receive a 1/2 in. (13mm) depth of weather seal sealant.

   D. **EXTERIOR WEATHER SEAL** - (Optional, for weather resistant purposes) – Install exterior grade silicone sealant as required by design to resist weather intrusion. Install sealant over closed cell backer rod (Item 3C) above and/or below the concrete floor assembly (Item 1) so that the sealant is flush with the front edge of the concrete floor assembly (Item 1). Tool the sealant with a concave surface facing the exterior.

   E. **MANUFACTURER:** Specified Technologies, Inc.

      CERTIFIED PRODUCT: Sealant

      CERTIFIED MODEL: SpecSeal® SIL300 Silicone Sealant

INTERIOR FIRE SEAL - Install silicone sealant over the closed cell backer rod (Item 3C) to a min 1/2 in depth, so that the sealant is flush with the interior of the wall framing. Install the sealant between the transom and the ceiling of the concrete floor assembly (Item 1) below the floor. Install the sealant between the intumescent gasket (Item 3B) and the transom above the concrete floor assembly (Item 1). Tool the sealant with a concave surface facing the interior.