
Specified Technologies, Inc.
Design No. STI/BPF 90-02
Perimeter Fire Barrier System – Window Wall Assembly
SpecSeal® AS200 Series Elastomeric Spray
SpecSeal® Fast Tack® Firestop Spray
ASTM E2307, CAN/ULC-S115
Ratings: F-Rating – 1-1/2 Hour, T-Rating – 1 Hour

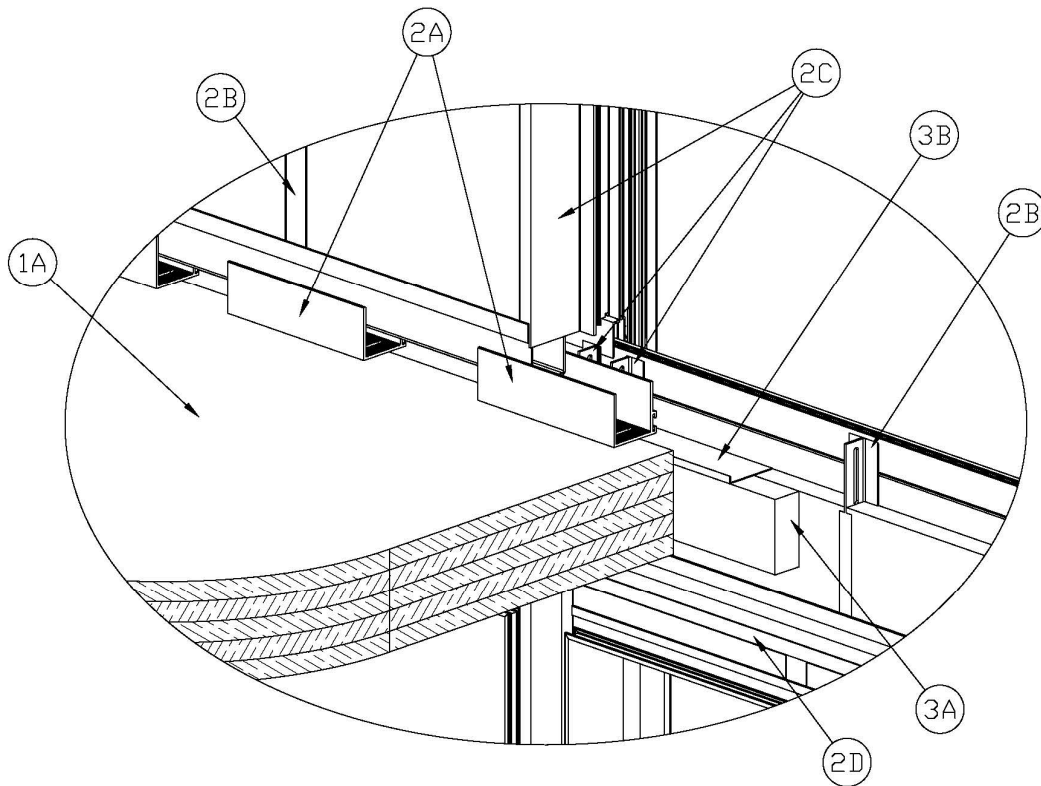


Figure 1 - Isometric with Interior Vertical Mullion Detail

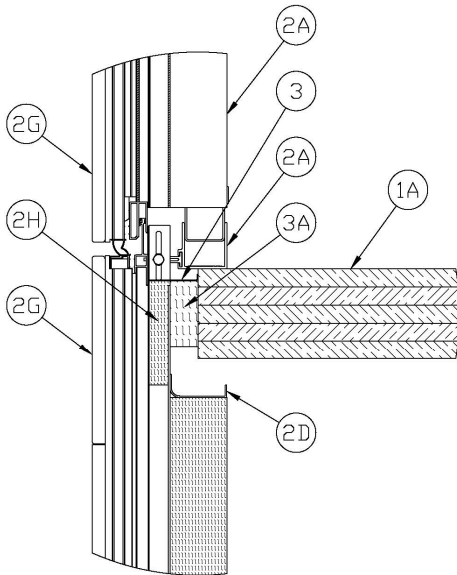


Figure 2 - Base Detail at Vertical Mullion

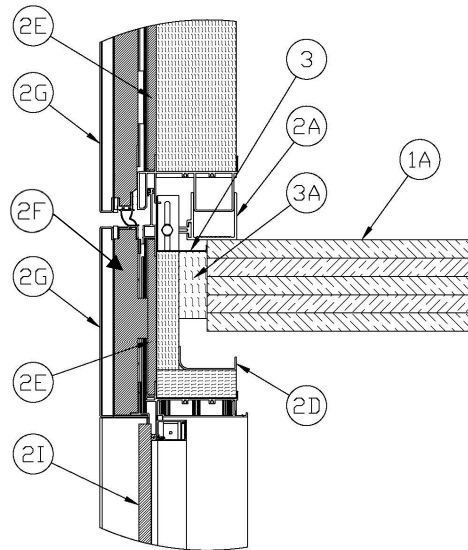


Figure 3 - Base Detail Intermediate at Anchors

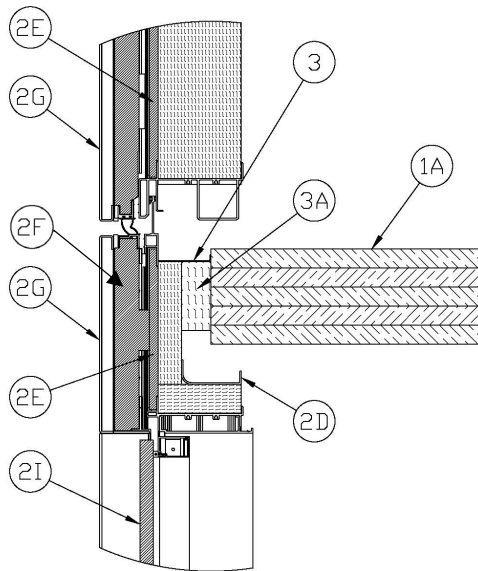


Figure 4 - Base Detail Between Anchors



1. FLOOR ASSEMBLY: Mass timber floor assembly shall have a min. 1 hr. fire resistance rating to ASTM E119, UL 263, and/or CAN/ULC S101 as applicable and the criteria described below in Item 1A. Fire resistance may also be calculated based on applicable building code provisions. F-rating will be determined by the rating of the floor system up to a max. 1-1/2 hr. F-rating. T-rating shall be a max. 1 hr., and for floor assemblies with a rating of less than 1-1/2 hr., T-rating shall be 1 hr.

A. **MASS TIMBER FLOOR ASSEMBLY** – Mass timber floor assembly to consist of min. 6-7/8 (175 mm) thick, min. 5-ply, cross-laminated timber (CLT). Mass timber floor shall be certified in accordance with ANSI/APA PRG-320 (2018 or later).

i. **GYPSON BOARD:** (Optional, not shown)
As an option, gypsum wallboard of any thickness, type, or layer quantity may be applied to the underside of the mass timber floor assembly. Install gypsum wallboard in accordance with wallboard manufacturer instructions and/or the local building code requirements.

ii. **FLOOR TOPPING:** (Optional, not shown)
Use a code-compliant floor topping when acceptable for use in the listed or prescribed fire-rated floor/ceiling design. See Item 3B for joint coating details.

iii. **ACOUSTICAL UNDERLAYMENT:** (Optional, not shown) When using a concrete floor topping (Item 1Aii), an acoustical underlayment may be installed between the mass timber floor assembly (Item 1A) and the concrete topping.

2. WINDOW WALL ASSEMBLY: Construct the exterior wall assembly in compliance with applicable building code and regulatory requirements. Spandrel panel shall extend a min. of 10-5/8 in. (270 mm) below the floor

assembly (Item 1) and shall terminate into exterior cladding (Item 2G) or vision glass (Item 2I), a min. of 1/2 in. (13 mm) above the floor assembly, or into an exact duplicate of the spandrel panel profile with a max. 1 in. (25 mm) gap between the spandrel panel and the panel above at the stack joint. Duplicate panel profile may also terminate into exterior cladding (Item 2G) or vision glass (Item 2I). The wall is constructed such that the interior surface is slotted, nominally 4 in. (102 mm) deep at the floor line to accommodate the floor extending into the plane of the wall. The slot extends from the underside of the upper panel frame located nominally 2 in. (51 mm) above the top of the floor assembly to nominally 2-1/2 in. (64 mm) below the bottom of the floor assembly.

A. **MOUNTING ATTACHMENT** – The mounting attachments to the floor shall consist of 12 in. (305 mm) long × 3-1/4 in. (83 mm) wide × 3-1/4 in. (83 mm) tall, extruded aluminum U-Shaped anchor channels connecting to slots in the aluminum I-mullion structure via connecting hardware to control vertical position. The anchor channels are spaced 24 in. on center (oc) and the base is anchored to the top of the floor (Item 1) with min. 1/4 in. (6 mm) diameter lag screws extending a min. 2 in. (51 mm) into the floor.

B. **EXTERIOR ALUMINUM STUD FRAMING** – Wall panel structure is provided by min. 6 in. (152 mm) deep × 0.20 in. (5 mm) thick extruded I-shaped mullions spaced max. 24 in. oc.

C. **VERTICAL PANEL SEAM MULLION** – At vertical seams between panel sections, the panel structure is provided by a two-piece extruded aluminum mullion having a min 0.20 in. (5 mm) wall thickness. The mullion,



when joined with the mating adjacent section, contains a wet chamber on the external side and dry chamber on the internal side, and has a total depth of min. 6 in. (152 mm).

- D. **UNIT TOP CHANNEL** – At the top of the lower spandrel panel below the floor, install an extruded aluminum top channel to cap the mullion cavity. The space between the top channel and the underside of the floor is a max. distance of 3 in. (76 mm).
- E. **EXTERIOR GRADE CORE BOARD** – Use min. 5/8 in. (15.9 mm) exterior grade, glass-mat, gypsum wallboard or fiber-reinforced cement board mounted to the exterior side of the exterior aluminum stud framing (Item 2B). Secure with self-tapping drywall screws at max. 12 in. (305 mm) oc. If required, install on the exterior of the core board an air/vapor barrier that complies with applicable building code and regulatory requirements.
- F. **EXTERIOR INSULATION** – Use min. 2-1/2 in. (51 mm) thick, nominal 8 pcf (128 kg/m³) density, exterior grade mineral wool or actual 6 pcf (96 kg/m³), Thermafiber Rain Barrier HD mineral wool exterior continuous insulation, installed in accordance with the exterior curtain wall assembly (Item 2) design specifications.
- G. **EXTERIOR CLADDING** – Use an exterior cladding system that complies with applicable building code and regulatory requirements. Install in accordance with the exterior curtain wall assembly (Item 2) manufacturer's instructions and the design specifications. Ensure a max. 1 in. gap between the top of the spandrel panel and the exterior panel directly above, at the stack joint.

H. **CERTIFIED PRODUCT:** Thermafiber Firespan 90

INTERIOR INSULATION – Use min. 6 in. (152 mm) thick, faced or unfaced, min. 8 pcf (128 kg/m³) mineral wool curtain wall insulation placed in cavities between the exterior aluminum stud framing (Item 2B). Within the slotted section of the window wall assembly (Item 2), the interior insulation thickness is reduced to 2 in. (52 mm) in thickness and the top of the insulation in this space is recessed nominally up to 1 in. (25 mm) below the top of the floor assembly (Item 1).

- I. **VISION PANELS** – (Optional) Vision panels must comply with exterior curtain wall assembly (Item 2) design specifications. Glazing panels may be secured in position with aluminum pressure plates in conjunction with glazing gaskets and steel screws, or with structural silicone installed in accordance with the manufacturer's instructions.
- J. **EXTERIOR GRADE SEALANT** – (Optional, not shown) At the seams between panels, exterior grade silicone sealant may be installed for weatherproofing as needed per the wall assembly design specifications.

3. **PERIMETER JOINT PROTECTION:** The perimeter joint (linear opening) is not to exceed 2 in. (51 mm) nominal joint width (joint width at installation) between the edge of slab and the interior surface of the wall.

The perimeter joint treatment shall incorporate the following construction features:



A. CERTIFIED PRODUCT: Thermafiber Safing

PACKING MATERIAL – Install min. 4 in. thick (102 mm) 4 pcf (64 kg/m³) density mineral wool batt insulation, installed with the fibers running parallel to the floor edge (Item 1) and the interior face of the window wall (Item 2). Measure the space between the Unit Top Channel (Item 2D) and the underside of the floor (Item 1). Divide the nominal joint width, as measured by the distance from the edge of the floor to the interior surface of the window wall, by 0.75 to provide the width of mineral wool to be cut and installed to produce the required min. 25% compression in the nominal joint width. Install the batt insulation into the perimeter flush with the top or recessed up to a max. 1 in. (25 mm) below the top of the floor assembly (Item 1A). Splices (butt joints) in the lengths of mineral wool batt insulation are to be tightly compressed together.

B. CERTIFIED PRODUCT: Specified Technologies, Inc. SpecSeal® AS200 Series Elastomeric Firestop Spray, or SpecSeal® Fast Tack® Firestop Spray

FILL, VOID, OR CAVITY MATERIAL – Apply a min. wet film thickness of 1/8 in. (3 mm) over the packing material (Item 3A) and overlap the liquid spray material a min. 1/2 in. (12.7 mm) onto the interior surface of the adjacent curtain wall assembly (Item 2) and the mass timber floor assembly (Item 1A). When the packing material is flush with the top of the Interior Insulation (Item 2H) and or mass timber floor assembly (Item 1A), the spray shall be applied so that it extends over the top of the interior insulation and onto the interior surface of the Exterior Grade Core Board (Item 2E) and a min. 1/2 in. (12.7 mm) onto the mass timber floor assembly (Item 1A). If the spraying process is stopped and the applied liquid spray material cures to an elastomeric film before the process is restarted, then overlap the edge of the cured spray material at least 1/8 in. (3.2 mm) with the liquid spray material. When a floor topping is used (Item 1Aii), the overlapping edge of the sealant, on the floor edge side, may only be applied to the following non-combustible materials: concrete or metallic surfaces.

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.