UL Product iQ®

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

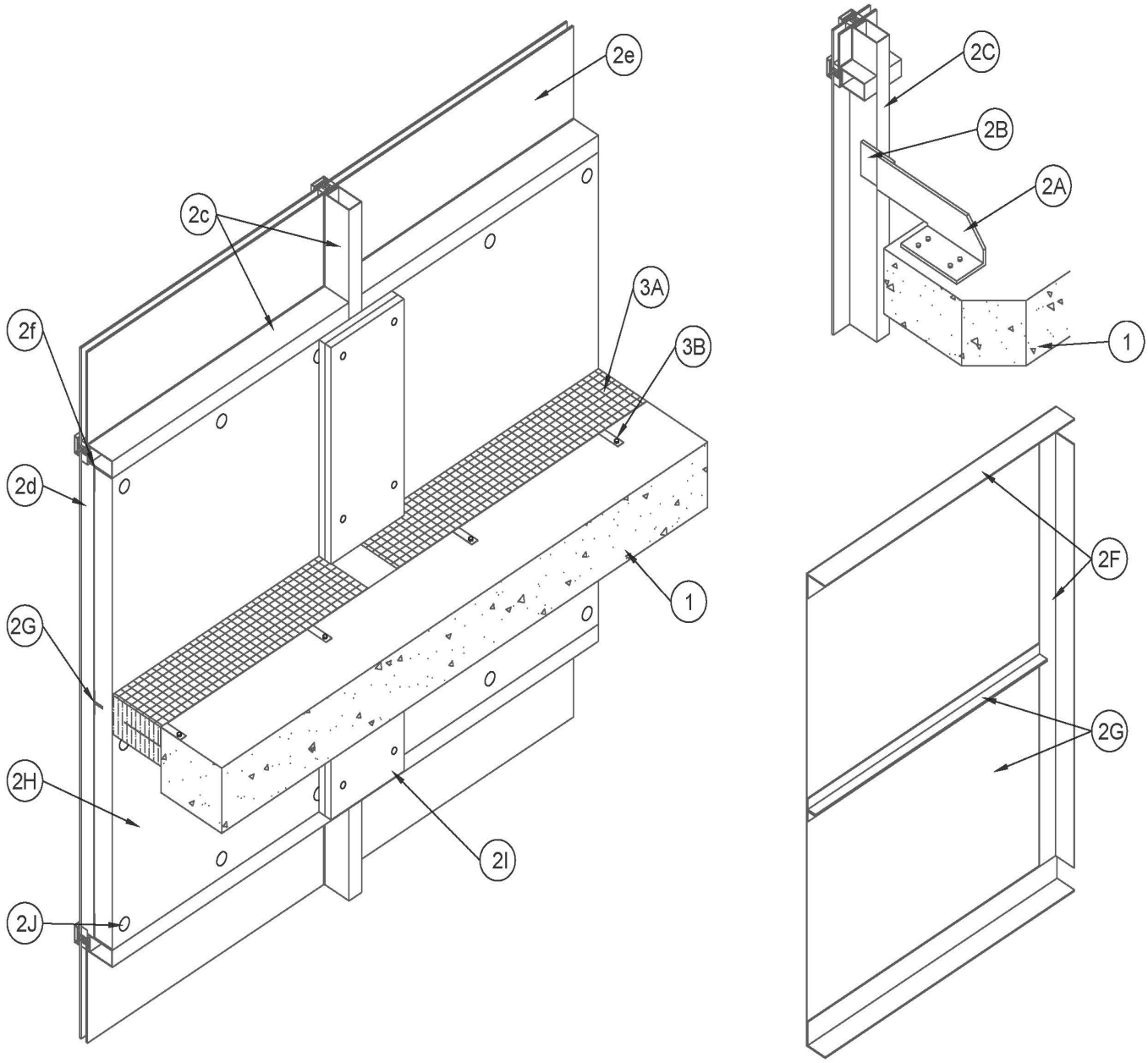
XHDG - Perimeter-fire-containment Systems

See General Information for Perimeter-fire-containment Systems

System No. CW-D-2090

July 04, 2024

ASTM E2307
F Rating — 2 Hr
T Rating — 1/2 Hr
Linear Opening Width - 8 In. Max
Class II Movement Capabilities -5% vertical shear
L Rating At Ambient - Less Than 1 CFM/Lin Ft
L Rating At 400°F - Less Than 1 CFM/Lin Ft



1. **Floor Assembly**- Min 8 in. (203 mm) reinforced normal weight (125-150 pcf or 2000-2400 kg/m3) structural concrete.

2. **Curtain Wall Assembly** — The curtain wall assembly shall incorporate the following construction features:

   A. **Mullion Mounting Clips** — Unique clips made of Galvanized steel with maximum 18.3 in. (465mm-Long leg) and 9 in. long (230mm -short leg) legs. The clip shall be nominal 4.7 in.(120mm) in width and nominal 0.4 in.(10mm) thick. The short leg shall be fixed to the top surface of the floor assembly using two steel masonry anchor bolts of size M8 x 75mm (0.3 in. shaft diameter and 3 in. long). Two clips with short legs pointing in opposite directions are fixed at 2-1/2 in. (64mm) apart to accommodate the mullion and the extension plate. The long legs shall be provided with elongated slots to accommodate the designed amount of movement.

   B. **Extension Plates** —The long leg of mullion mounting clips shall be connected to nominal 6.1 in (156mm) long galvanized steel extension plates with nominal 4 in.(100mm) width by nominal 0.2 in. (6mm) thickness using an 0.4 in diameter (M10 X 100mm) hex head steel bolts in conjunction with steel nuts and washers.

   C. **Framing** — The rectangular tubing mullions (vertical members) and transoms (horizontal members) shall be min 2 in. (52 mm) wide by 4 in. (100 mm) deep and shall be formed from min 0.100 in. (2.2 mm) thick aluminium sheets. Mullions spaced max 58 in. (1483 mm) OC and secured to extension plates (Item 2B) at each floor level with two 0.4 in. diameter (M10 X 100mm) hex head steel bolts in conjunction with steel nuts and washers. Interior face of mullions to be max 8 in. (203 mm) from the edge of the floor assembly. Transoms framing the top and bottom edges of spandrel panels (Item 2D) to be spaced min 59 in. (1500 mm) OC. The transom framing the sill of the vision panel (Item 2E) is to be located such that its bottom surface is at a height of 27 in. (675 mm) above the top surface of the floor (Item 1).

D. **Spandrel Panels** — Nominal 0.4 in. (10 mm) thick heat-soaked toughened glass pre-adhered to 1.6 in.(40mm) long by 0.6 in. (15mm) wide rectangular tubing made from 0.06 in.(1.5mm) thick aluminum plates. Each panel is secured in position with aluminium pressure plates in conjunction with gaskets and steel screws.

E. **Vision Panels** — Nominal 1-1/4 in. (32mm) thick consisting of two layers of 0.2 in.(6mm) thick Heat-soaked toughened glass with an 0.8 in. (20mm) air gap. Each panel secured in position with aluminium pressure plates in conjunction with glazing gaskets and steel screws.

F. **Spandrel Panel connector cleats**— Nominal 0.08 in. (2mm) thick aluminium L-angle cleat having a width of nom 0.4 in. (10mm) and nominal 0.07 in. (17mm) height shall be screwed onto the aluminium tube adhered to the spandrel panel glass using two nominal 0.2 in. diameter (M4.8 x 19mm) pan head screws. The other leg of the cleat shall be screwed onto the mullion profiles using two nominal 0.2 in. diameter (M4.8 x 19mm) pan head screws. Cleats recessed from the interior face of framing as necessary to accommodate the thickness of curtain wall insulation (Item 2H). The Spandrel Panel connector cleats shall be placed at maximum nominal 17.7 in. (450mm) OC.

G. **Spandrel back pan with stiffeners**— A tray made of nominal 0.06 in. (1.5mm) thick galvanized steel sheets fixed to 2 in.(50mm) by 2.6 in (65mm) by 0.06 in. (1.5mm) galvanized steel tray framing L-angles over the perimeter with stainless steel rivets at a maximum of 11.8 in.(300mm) OC. The tray framing L angles shall be fixed onto the transom and mullion approximately 0.2 in.(5mm) from the interior face of the mullion and transom using stainless steel pan head tapping screws of 0.17 in. diameter (M4.3 x 16mm) at 300mm OC.T shaped Stiffeners made of two L angles of size 1 in.(25mm) by 1.6 in by 0.06 in.(25 x 40 x 1.5mm) connected by tack welds shall be fixed horizontally to the tray framing L-angles with the support of four stainless-steel flat head blind rivets of 0.1 in. diameter (M3 x 8mm) facing the interior face of the curtain wall to accommodate the Siderise CW-SI75 curtain wall insulation boards. The stiffener ends and tray framing L-angles shall be provided with a 0.07 in.(1.8mm) thick L-angle cleat of 1.1 in. (28mm) width for additional support. An angle leg of 1.2 in. (30mm) length shall be fixed to the tray framing L angle using stainless-steel flat head blind rivets of 0.1 in. diameter (M3 x 8mm) and the 0.8in. (20mm) long leg of the angel shall be fixed to the stiffeners using 0.08 in. diameter (M2 x 19mm) stainless steel pan head screws. The stiffeners shall be spaced at a max spacing of nominal 15.7 in.(400mm) OC.

H. **Curtain Wall Insulation*** — Min 3 in. (75 mm) thick mineral wool board insulation with minimum 8 pcf (128 kg/m3) density, faced on one side with aluminium foil, supplied in min 47 in. (1200 mm) wide boards. Insulation boards are to be installed with no vertical seams. A horizontal seam may be incorporated into the spandrel insulation located at a nominal height of 18 in. (450mm) above the window head. The boards are fixed to the galvanized steel tray framing L-angles and the T-shaped stiffeners using galvanized steel cup head insulation pins and spaced a maximum of 11-3/4in. (300mm). All the perimeter edges, butted seams and the insulation pin heads shall be covered with min 5 in. (120 mm) wide Aluminium foil tape.

Siderise Insulation LTD — Siderise CW-SI75

I. **Mullion Covers** – Curtain Wall Insulation* —Min 8 in. (200 mm) wide strips cut from the min 1.2 in. (30 mm) thick mineral wool board insulation with minimum 8.94 pcf (140 kg/m3) density, faced on one side with aluminium foil. Mullion covers to be centered over mullions and secured to the curtain wall insulation slabs at the spandrel area to the interior face of the curtain wall using spiral screws at a maximum spacing of nom 11.8 in.(300mm) vertically and nom 4 in.(100mm) horizontally. Two layers of mineral wool slabs shall be installed on each mullion throughout the full height of the spandrel panel. A spiral screw of 1.6 in. (40mm), 2.6 in.(65mm) length shall be used for first and second layer of mullion cover mineral wool boards, respectively. All the exposed edges of the boards shall be covered with min 5 in. (120 mm) wide Aluminium foil tape.

Siderise Insulation LTD — Siderise CW-FB

J. Weld Pin with nominal 1-3/16 in. (30 mm) diameter galvanized steel cup head. Cupped head weld pins are provided in 3 in.(75mm) length. Cup head weld pins inserted through curtain wall insulation and welded to spandrel panel T-shaped stiffeners at maximum 300mm OC spacings.

3. **Safing System** — Maximum separation between edge of floor assembly and face of framing member at time of installation is 8 in. (200 mm). The joint system is designed to accommodate a max. 10 percent compression or extension from its installed width. The system shall incorporate the following construction features:

A. **Forming Material*** — Nominal 4-3/4 in.(120 mm) thick, and Nominal 4.68(75kg/m3) pcf density mineral wool board material faced on both sides with aluminum foil, supplied in minimum 47 in. (1200 mm) length.. The width of forming material to be compressed is at least 20% greater than the width of the joint opening. The forming material is compressed and inserted into the linear gap such that its top surface is flush with the top-surface of the floor assembly using galvanized steel brackets. A maximum of one tightly butted seam is permitted between mullions and the seam and shall be covered with 4.7 in. (120mm) wide Aluminium Jointing tape.

Siderise Insulation LTD — Siderise CW-FS 120

B. **Forming material fixing bracket**- galvanized steel bracket with nominal 0.04 in. (1mm) thickness, nominal 1 in. (25mm) width and maximum nominal 12.6 in (320mm) length bent into “Z” shape and shall be impaled into the fire barrier at an approximate 75% of the depth of the perimeter fire barrier. The other horizontal leg of the “Z” bracket shall be fixed to the surface of the floor assembly using ¼ in. (M6.3 x 45mm) slotted-hex head concrete screws. Two brackets shall be used per piece of forming material slab of length 47 in. (1200mm) at a spacing of 23.6 in. (600mm) OC.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2024-07-04