

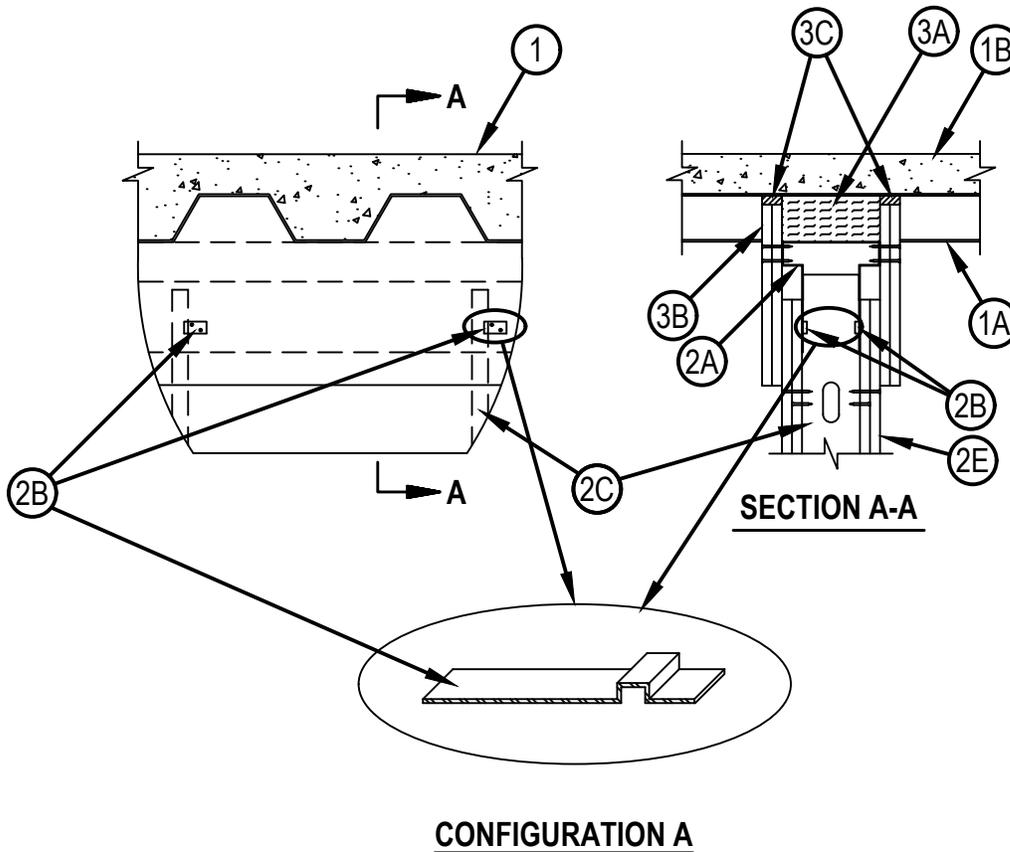


Classified by
Underwriters Laboratories, Inc.
to UL 2079 and CAN/ULC-S115

System No. HW-D-1125

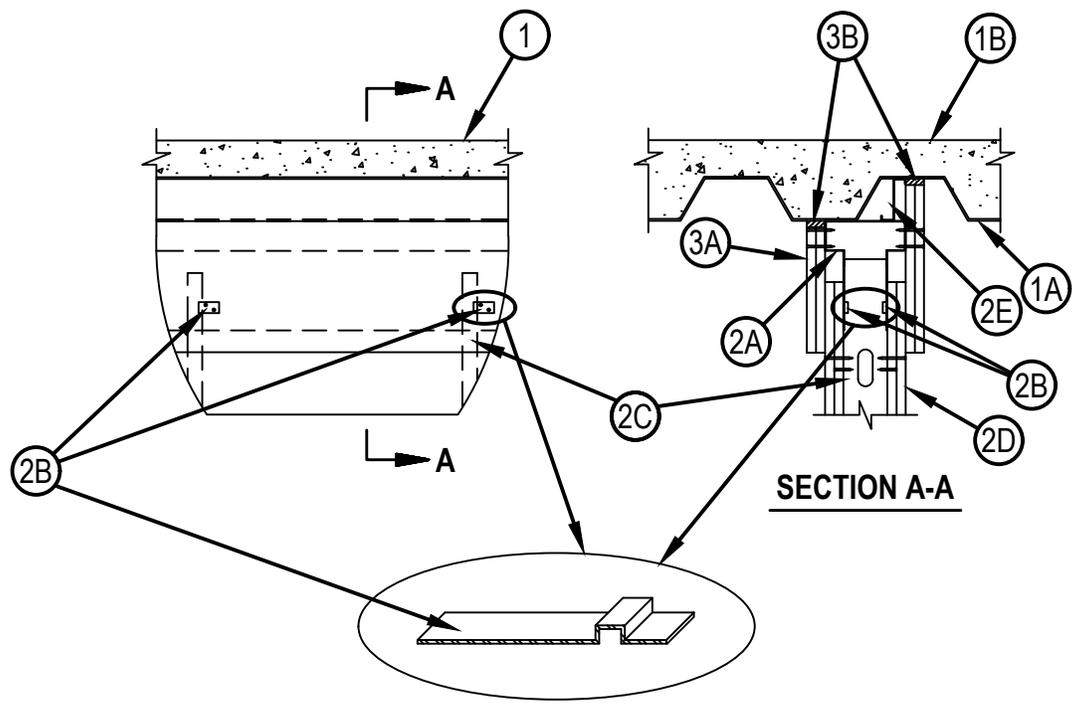
HWD 1125

ANSI/UL2079	CAN/ULC S115
Assembly Ratings — 1 and 2Hr (See Item 2)	F Ratings — 1 and 2 Hr (See Item 2)
Nominal Joint Width — 0, 1, 2, 3 and 4 In. (See Item 3)	FT Ratings — 1 and 2 Hr (See Item 2)
Class II or III Movement Capabilities — 100% Compression or Extension or 100% Compression, or Combination (See Item 3)	FH Ratings — 1 and 2 Hr (See Item 2)
L Rating At Ambient — Less Than 1 CFM/lin ft	FTH Ratings — 1 and 2 Hr (See Item 2)
L Rating At 400 F — Less Than 1 CFM/lin ft	Nominal Joint Width — 0, 25, 51, 76 or 102 mm
	Class II or III Movement Capabilities — 100% Compression or Extension or 100% Compression, or Combination (See Item 3)
	L Rating At Ambient — Less Than 1.55 L/s/m
	L Rating At 204 C — Less Than 1.55 L/s/m

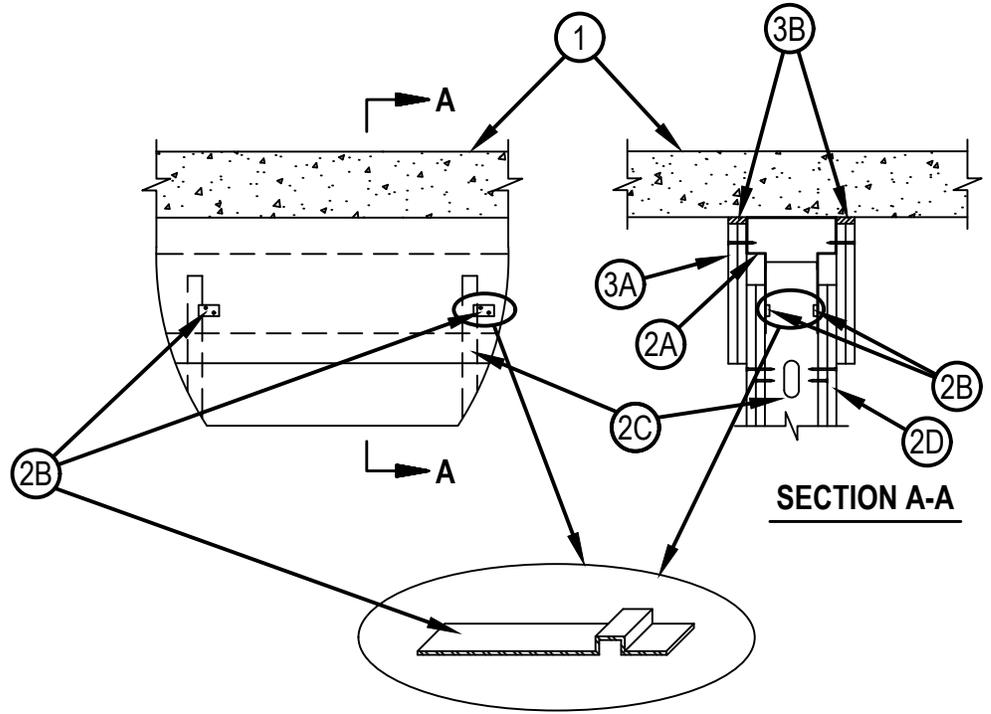


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System No. HW-D-1125



CONFIGURATION B



CONFIGURATION C



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System No. HW-D-1125

HWD 1125

1. Floor Assembly — The fire-rated fluted steel deck/concrete floor assembly shall be constructed of the materials and in the manner described in the individual Floor-Ceiling Design in the UL Fire Resistance Directory. The hourly fire rating of the floor assembly shall be equal to or greater than the hourly fire rating of the wall assembly. The floor assembly shall include the following construction features:

A. Steel Floor And Form Units* — Max 3 in. (76 mm) deep galv fluted floor units.

B. Concrete — Min 2-1/2 in. (64 mm) thick reinforced (100-150 pcf or 1600-2400 kg/m³) concrete, as measured from the top plane of the floor units.

1A. Roof Assembly* — As an alternate to Item 1, the fire-rated roof assembly shall be constructed of the materials and in the manner described in the individual P700, P800 or P900 Series Roof-Ceiling Designs in the UL Fire Resistance Directory and shall contain max 3 in. deep galv steel fluted roof units. The hourly fire rating of the roof assembly shall be equal to or greater than the hourly fire rating of the wall assembly. In the case of spray-applied protection materials on the steel roof units, the joint system shall be installed prior to the spray-applied protection material.

1B. Floor Assembly — As an alternate to Item 1, min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) structural concrete or any min 6 in. (152 mm) thick UL Classified hollow-core Precast Concrete Units*.

See Precast Concrete Units (CFTV) category in the Fire Resistance Directory for names of manufactures.

2. Wall Assembly — The 1 or 2 hr fire-rated gypsum board /steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400-Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. Light Gauge Framing* — Deflection Track — Deflection track of wall assembly shall consist of min No. 25 gauge galv steel channels sized to accommodate steel studs (Items 2C) and offset bottom legs to accommodate wall cladding (Item 3A). Deflection track installed parallel or perpendicular to the floor units. When installed perpendicular (Configuration A), min No. 25 gauge deflection track secured on both sides to valley of floor units with 1-1/2 in. (38 mm) long welds spaced max 12 in. (305 mm) OC. Min No. 20 gauge deflection track may be secured with No. 8 by 1/2 in. (13 mm) long steel tek screws spaced 12 in. (305 mm) OC. When installed parallel (Configuration B), min No. 25 gauge deflection track secured on one side to valley of floor units with 1-1/2 in. (38 mm) long welds spaced 12 in. (305 mm) OC. Min No. 25 gauge deflection track may be secured with No. 8 by 1/2 in. (13 mm) steel tek screws spaced max 12 in. (305 mm) OC. The other side of the deflection track is secured to Z-Furring clips (Item 2B) with two No. 8 by 1/2 in. (13 mm) long steel tek screws. On concrete floor (Configuration C), min No. 25 gauge deflection track attached to concrete at ceiling with 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long steel expansion anchors spaced max 12 in. (305 mm) OC.

CLARKDIETRICH BUILDING SYSTEMS — BlazeFrame RIPTRAK 1-3, 2-3, 1-4, 2-4

B. Light Gauge Framing* — Clips are attached to the inside bottom leg of the ceiling runner (Item 2A) with 2 — No.8 by 1/2 in. (13 mm) long steel self-drilling framing screws and engage the return lip of the studs.

CLARKDIETRICH BUILDING SYSTEMS — RipTRAK Clip

B1. Light Gauge Framing* — (Not Shown) As an alternate to Item 2B, Spazzer bridging bar to be installed in wall spanning between studs with prenotches of bar friction fit to the stud knockouts. Spazzer bridging bar to be located maximum 16 in. (406 mm) from the bottom of the steel deck (Item 1A).

CLARKDIETRICH BUILDING SYSTEMS — TradeReady Spazzer 9200 Bar

B2. Bridging — (Not Shown) As an alternate to Item 2B, min 16 ga by 1-1/2 in. (38 mm) by 1/2 in. (13 mm) steel U-Channel or Cold Rolled Channel (CRC), is passed through the stud knockouts and attached to studs with 90 degree steel clips and screws installed per manufacturer installation instructions, Bridging to be located maximum 16 in. (406 mm) from the bottom of the steel deck (Item 1A).

C. Studs — Steel studs to be min 2-1/2 in. (64 mm) wide except that for Configuration A, when Items 3A1 and 3B1 are used, the min steel stud width is 3-5/8 in. (92 mm). In addition, steel studs to be as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory. Studs cut 1/2 in. (13 mm) less in length than the assembly height plus maximum joint width. Stud bottom nesting in and resting on floor runner and with top nesting in ceiling runner without attachment. Stud spacing not to exceed 24 in. (610 mm) OC.

D. Gypsum Board* — Gypsum board sheets installed and attached to studs and runners as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory, except that a max 4-1/4 in. (108 mm) gap shall be maintained between top of the gypsum board and the bottom of the top leg of the deflection track. Top row of screws shall be installed into the studs, maximum 2 in. (51 mm) below lowest edge of gypsum cladding or 5-1/2 in. (140 mm) below the bottom leg of the ceiling runner.

E. Z-Furring — (Parallel Units) — When track is installed parallel to floor units, Z-Furring clips are attached to the bottom of the floor units within the crests and top of the deflection track with two No. 8 by 1/2 in. (13 mm) long steel tek screws. Clip spacing not to exceed 24 in. (610 mm) OC.



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Page: 3 of 6

System No. HW-D-1125

HWD 1125

CLARKDIETRICH BUILDING SYSTEMS — Z-Furring Clips

The hourly assembly rating of the joint system is equal to the fire rating of the wall.

Firestop Configuration A

3. Joint System — Max separation between the bottom of the return of the deflection track and top of wallboard (at the time of installation of the joint system) is between 0 and 4 in. (102 mm) in the following configurations:

Nominal Joint Width Installed	RIPTRAK 1-4 and 2-4. (4 in.)		RIPTRAK 1-3 and 2-3. (3 in.)	
	Extension	Compression	Extension	Compression
0 in. (0 mm)	4 in. (102 mm)	0 in. (0 mm)	3 in. (76 mm)	0 in. (0 mm)
1 in. (25 mm)	3 in. (76 mm)	1 in. (25 mm)	2 in. (51 mm)	1 in. (25 mm)
2 in. (50 mm)	2 in. (51 mm)	2 in. (50 mm)	1 in. (25 mm)	2 in. (50 mm)
3 in. (76 mm)	1 in. (25 mm)	3 in. (76 mm)	0 in. (0 mm)	3 in. (76 mm)
4 in. (102 mm)	0 in. (0 mm)	4 in. (102 mm)	NA	NA

The joint system consists of packing/forming material, wall cladding strips and a fill material as follows:

A. Packing Material — Min 4 pcf (64 kg/m³) density mineral wool batt insulation cut to the shape of the fluted deck, 25 percent larger than the area of the flutes and compressed into the flutes of the steel floor units above the ceiling runner as a permanent form.

A1. Forming Material* — As an alternate to Item A and when Item 3B1 Wall Cladding Strips is used, min 4 pcf (64 kg/m³) density mineral wool batt insulation cut to the shape of the fluted deck, 33 percent larger than the area of the flutes and compressed into the flutes of the steel floor units above the ceiling runner as a permanent form. Mineral wool to fill entire flute and extend to be flush with exposed surface of gypsum wall cladding strips (Item 3B1) at both sides of wall. In addition and as an alternate to the sealant (Item 3C) specified for Items 3A1 and 3B1, pieces of fill material shall be applied to the maximum extent possible to fill any voids between top edge of gypsum wall cladding strips and steel floor units at any embossments within the steel deck.

INDUSTRIAL INSULATION GROUP L L C — MinWool-1200 Safing

JOHNS MANVILLE — Safing

THERMAFIBER INC — Type SAF

ROCKWOOL — Type Safe

ROCKWOOL MALAYSIA SDN BHD — Type Safe

B. Wall Cladding Strips — Strips of the gypsum board material cut to the contour of the steel floor units and attached to the deflection track.

The number of layers, board type and thickness and fastener type shall be specified for the gypsum board in the individual Wall and Partition Design in the UL Fire Resistance Directory. Cladding is attached to the deflection track with fasteners located in the center of the top leg and shall be max spaced 3 in. (76 mm) OC. The top of the wall cladding shall be recessed min 1/8 in. (3.2 mm) to max 1/2 in. (13 mm) from the steel floor units and overlap the gypsum board (Item 2E) a min of 3-1/2 in. (89 mm) at maximum joint width.

B1. Wall Cladding Strips — As an alternate to Item 3B and when Item 3A1 Forming Material is used, strips of the gypsum board material are cut to be flush with underside of valleys of the steel floor units and attached to the deflection track along length of joint. The number of layers, board type and thickness and fastener type shall be specified for the gypsum board in the individual Wall and Partition Design in the UL Fire Resistance Directory. Cladding strips are to butt tightly against underside of valleys of steel floor units and are attached to the deflection track with fasteners located in the center of the top leg and shall be max spaced 3 in. (76 mm) OC. The wall cladding strips shall overlap the gypsum board on wall (Item 2E) a min of 3-1/2 in. (89 mm) at maximum joint width. Butt joints in the wall cladding strips to be offset between layers.



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System No. HW-D-1125

HWD 1125

C. Fill, Void or Cavity Material* — When Items 3A and 3B are used, full depth of fill material installed on each side of the wall between the top of the wall cladding strips and the surface of the steel floor units, flush with each surface of the cladding. When Items 3A1 and 3B1 are used, fill material shall be applied to the maximum extent possible to fill any voids between top edge of gypsum wall cladding strips and steel floor units at any embossments within the steel deck (see Item 3A1 for alternate), and for L Rating, a min 3/8 in. (9.5 mm) bead of sealant shall be applied at the interface of each valley of deck to the gypsum cladding strips.

3M COMPANY 3M FIRE PROTECTION PRODUCTS

FB 1000NS, FB 2000, FB 2000+, FD-150+, CP 25 WB+

DAP PRODUCTS INC — DAP Firestop Sealant

EGS NELSON FIRESTOP — ES 1399 Sealant

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP601S, CFS-S SIL GG, CP606, FS-ONE Sealant or FS-ONE MAX Intumescent Sealant.

NATIONAL GYPSUM CO — FS-90

NUCO INC — Self Seal GG-200

PASSIVE FIRE PROTECTION PARTNERS — 4100NS, 4800DW

RECTORSEAL — Metacaulk 835+, Metacaulk 1000, Biostop 500+Caulk, Biotherm 100, FS1900, FS4000

SPECIFIED TECHNOLOGIES INC — SpecSeal ES Sealant

TREMCO INC — TREMstop Acrylic

UNITED STATES GYPSUM CO — FC, RFC

Firestop Configuration B

3. Joint System — Max separation between the bottom of the return of the deflection track and top of wallboard (at the time of installation of the joint system) is between 0 and 4 in. (102 mm) in the following configurations:

Nominal Joint Width Installed	RIPTRAK 1-4 and 2-4. (4 in.)		RIPTRAK 1-3 and 2-3. (3 in.)	
	Extension	Compression	Extension	Compression
0 in. (0 mm)	4 in. (102 mm)	0 in. (0 mm)	3 in. (76 mm)	0 in (0 mm)
1 in. (25 mm)	3 in. (76 mm)	1 in. (25 mm)	2 in. (51 mm)	1 in. (25 mm)
2 in. (50 mm)	2 in. (51 mm)	2 in. (50 mm)	1 in. (25 mm)	2 in. (50 mm)
3 in. (76 mm)	1 in. (25 mm)	3 in. (76 mm)	0 in (0 mm)	3 in. (76 mm)
4 in. (102 mm)	0 in. (0 mm)	4 in. (102 mm)	NA	NA

The joint system consists of wall cladding (Item 3A) and a fill material (Item 3B) as follows:

A. Wall Cladding — Strips of the gypsum board material attached to the deflection track. The number of layers, board type and thickness and fastener type shall be as specified for the gypsum board in the individual Wall and Partition Design in the UL Fire Resistance Directory. Cladding is attached to the deflection track with fasteners located in the center of the top leg and shall be max spaced 3 in. OC. The top of the wall cladding shall be recessed min 1/8 in. (3.2 mm) to max 1/2 in. (13 mm) from the steel floor units and overlap the gypsum board 7 in. (178 mm).

B. Fill, Void or Cavity Material* — Full depth of fill material installed on each side of the wall between the top of the wall cladding and the surface of the steel floor units, flush with each surface of the cladding.

3M COMPANY 3M FIRE PROTECTION PRODUCTS — FB 1000NS, FB 2000, FB 2000+, FD-150+, CP 25 WB+

DAP PRODUCTS INC — DAP Firestop Sealant

EGS NELSON FIRESTOP — ES 1399 Sealant



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HWD 1125

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP601S, CFS-S SIL GG, CP606, FS-ONE Sealant or FS-ONE MAX Intumescent Sealant.

NATIONAL GYPSUM CO — FS-90

NUCO INC — Self Seal GG-200

PASSIVE FIRE PROTECTION PARTNERS — 4100NS, 4800DW

RECTORSEAL — Metacaulk 835+, Metacaulk 1000, Biostop 500+Caulk, Biotherm 100, FS1900, FS4000

SPECIFIED TECHNOLOGIES INC — SpecSeal ES Sealant

TREMCO INC — TREMstop Acrylic

UNITED STATES GYPSUM CO — FC, RFC

Firestop Configuration C

3. Joint System — Max separation between the bottom of the return of the deflection track and top of wallboard (at the time of installation of the joint system) is between 0 and 4 in. (102 mm) in the following configurations:

Nominal Joint Width Installed	RIPTRAK 1-4 and 2-4. (4 in.)		RIPTRAK 1-3 and 2-3. (3 in.)	
	Extension	Compression	Extension	Compression
0 in. (0 mm)	4 in. (102 mm)	0 in. (0 mm)	3 in. (76 mm)	0 in. (0 mm)
1 in. (25 mm)	3 in. (76 mm)	1 in. (25 mm)	2 in. (51 mm)	1 in. (25 mm)
2 in. (50 mm)	2 in. (51 mm)	2 in. (50 mm)	1 in. (25 mm)	2 in. (50 mm)
3 in. (76 mm)	1 in. (25 mm)	3 in. (76 mm)	0 in. (0 mm)	3 in. (76 mm)
4 in. (102 mm)	0 in. (0 mm)	4 in. (102 mm)	NA	NA

The joint system consists of wall cladding (Item 3A) and a fill material (Item 3B) as follows:

A. Wall Cladding — Strips of the gypsum board material attached to the deflection track. The number of layers, board type and thickness and fastener type shall be as specified for the gypsum board in the individual Wall and Partition Design in the UL Fire Resistance Directory. Cladding is attached to the deflection track with fasteners located in the center of the top leg and shall be max spaced 3 in. OC. The top of the wall cladding shall be recessed min 1/8 in. (3.2 mm) to max 1/2 in. (13 mm), or max 3/8 in. (9.5 mm) when Item 2A1 is used, from the bottom of the concrete floor and overlap the gypsum board 7 in. (178 mm).

B. Fill, Void or Cavity Material* — Full depth of fill material installed on each side of the wall between the top of the wall cladding and the bottom of the floor assembly, flush with each surface of the cladding.

3M COMPANY 3M FIRE PROTECTION PRODUCTS — FB 1000NS, FB 2000, FB 2000+, FD-150+, CP 25 WB+

DAP PRODUCTS INC — DAP Firestop Sealant

EGS NELSON FIRESTOP — ES 1399 Sealant

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP601S, CFS-S SIL GG, CP606, FS-ONE Sealant or FS-ONE MAX Intumescent Sealant.

NATIONAL GYPSUM CO — FS-90

NUCO INC — Self Seal GG-200

PASSIVE FIRE PROTECTION PARTNERS — 4100NS, 4800DW

RECTORSEAL — Metacaulk 835+, Metacaulk 1000, Biostop 500+Caulk, Biotherm 100, FS1900, FS4000

SPECIFIED TECHNOLOGIES INC — SpecSeal ES Sealant

TREMCO INC — TREMstop Acrylic

UNITED STATES GYPSUM CO — FC, RFC

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



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