

# XHEZ.W-L-3359 - Through-penetration Firestop Systems

## 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.

## XHEZ - Through-penetration Firestop Systems

## XHEZ7 - Through-penetration Firestop Systems Certified for Canada

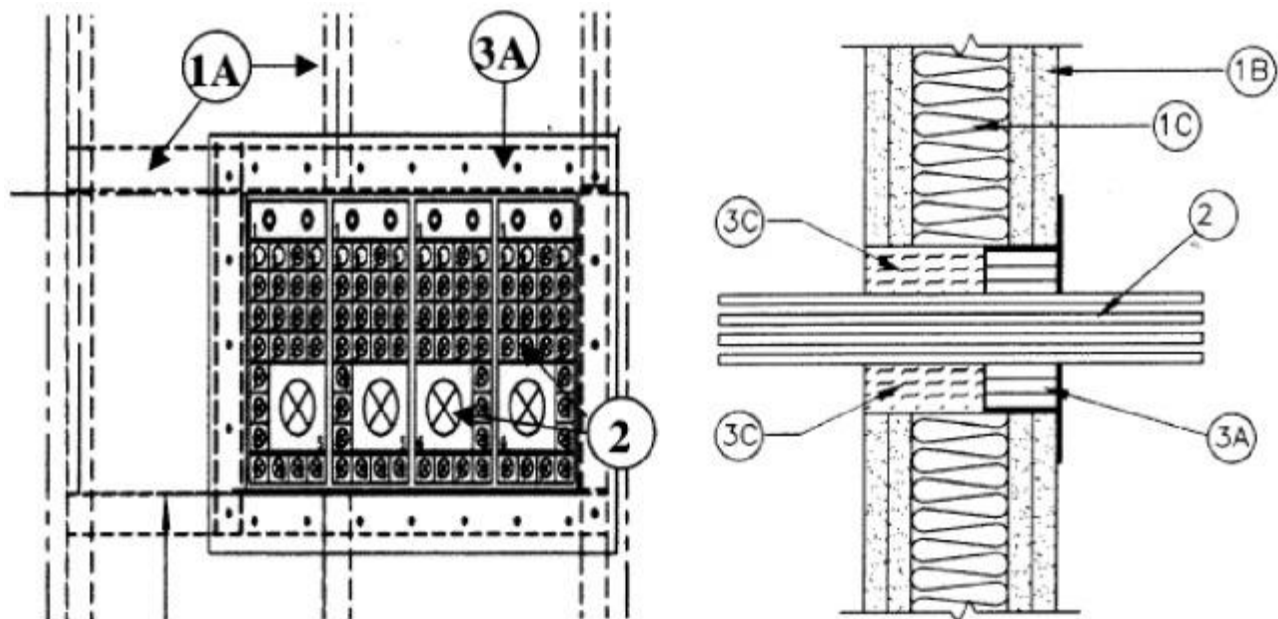
[See General Information for Through-penetration Firestop Systems](#)

[See General Information for Through-penetration Firestop Systems Certified for Canada](#)

### System No. W-L-3359

February 29, 2016

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 0 and 1/2 Hr (See Items 1 and 3)	FT Rating — 0 and 1/2 Hr (See Items 1 and 3)
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Rating — 1 and 2 Hr (See Item 1)
	FTH Rating — 0 and 1/2 Hr (See Items 1 and 3)



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

A. **Steel Studs** — (Not Shown) — Channel-shaped, 3-5/8 in. (92 mm) deep. Additional framing members to be installed to form a rectangular box having dimensions which are max 1/4 in. (6 mm) greater than the width and height of the firestop device frame (Item 3A), excluding mounting flanges. The opening must be framed in such manner to meet structural requirements of U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory. Max dimension of framed opening is 21-1/16 in. (535 mm) wide by 11-5/8 in. (295 mm) high (G 8X4 Device).

B. **Gypsum Board\*** — For 1 hr rating, one layer of nom 5/8 in. (16 mm) thick gypsum board, as specified in individual Wall and Partition Design. For 2 hr rating, two layers of min 1/2 in. (13 mm) thick, gypsum board, as specified in the individual Wall and Partition Design.

**The hourly F and FH Ratings is are equal to the hourly fire rating of the wall assembly in which it is installed. The hourly T, FT and FTH Ratings are 0 hr and 1/2 hr for 1 and 2 hr rated assemblies, respectively.**

C. **Batts and Blankets\*** — Mineral wool batt, completely filling the stud cavity. See **Batts and Blankets** (BZJZ) category for names of manufacturers.

**2. Cables** — Within the loading area for each firestop device module the cables may represent a 0 to 100 percent visual fill. Cables to be rigidly supported on both sides of wall assembly. Any combination of the following types and sizes of cables may be used:

A. Max 4/C No. 8 AWG copper conductor power cable with Crosslinked Polyolefin insulation and Neoprene jacket materials.

B. Max 19/C No. 14 AWG TC or TC-ER type copper conductor control power cable with Ethylene Propylene Rubber (EPR) insulation and Chlorinated Polyethylene (CPE) jacket materials.

C. Max 3/C No. 750 kcmil metal clad or Tech 90 type copper conductor power cable with XLP insulation and PVC jacket materials.

D. Max 3/C No. 500 kcmil copper conductor power cable with Ethylene Propylene Rubber (EPR) insulation and PVC jacket materials.

E. Max 3/C No. 14 AWG MC type copper conductor power cable with XLP insulation and PVC jacket materials.

F. Max 2/C No. 14 AWG metal clad or Tech 90 type copper conductor control power cable with XLP insulation and PVC jacket materials.

G. Max 3/C No. 500 kcmil TC or TC-ER type copper conductor power cable with Okonite FRM Insulation and PVC jacket materials.

H. Max 3/C No. 500 MCM TC or TC-ER type copper conductor power cable with Polyethylene insulation and PVC jacket materials.

3. **Firestop System** — The firestop system shall consist of the following:

A. **Firestop Devices\*** — Firestop devices each consist of a rectangular steel frame, multi diameter elastomeric sealing modules, steel stay plates and a compression unit consisting of a Roxtec Wedge. The firestop devices shall be inserted into the framed opening on one side of the wall assembly. The steel frame of each firestop device shall be secured to the steel stud framing of the wall assembly, through the gypsum board layers, by means of No. 8 by min 3 in. (76 mm) long self-drilling, self-tapping steel screws through the pre-drilled holes spaced max 3-1/2 in. (89 mm) OC in the device frame mounting flange. The rectangular opening(s) of each device frame shall be filled with multiple rows of multi diameter elastomeric sealing modules with a max of one cable in each sealing module. The sheets of the multi diameter sealing modules halves are removed one by one until a max gap of 0.04 in. (1 mm) is formed between the two module halves. When the number of sealing modules exceeds the number of cables, the solid cylindrical cores of the unpenetrated multi diameter sealing modules shall be left in place or "blank" (solid) sealing modules shall be used. During installation of the elastomeric sealing modules, thin steel stay plates shall be used to separate the rows of sealing modules and to retain the sealing modules within the steel frame. After installation of the modules, the bolts of the compression unit are tightened to form an effective seal around the through penetrants and insert modules. The firestop devices shall be installed in accordance with the accompanying installation instructions.

**ROXTEC INTERNATIONAL AB** — B-2x1, B-4x1, B-6x1, B-8x1, G-2x1, G-2x2, G-2x3, G-2x4, G-4x1, G-4x2, G-4x3, G-4x4, G-6x1, G-6x2, G-6x3, G-6x4, G-8x1, G-8x2, G-8x3, G-8x4, GH-2X1, GH-2X2, GH-2X3, GH-2X4, GH-4X1, GH-4X2, GH-4X3, GH-4X4, GH-6X1, GH-6X2, GH-6X3, GH-6X4, GH-8X1, GH-8X2, GH-8X3, GH-8X4, GH BG-2X1, GH BG-2X2, GH BG-2X3, GH BG-2X4, GH BG-4X1, GH BG-4X2, GH BG-4X3, GH BG-4X4, GH BG-6X1, GH BG-6X2, GH BG-6X3, GH BG-6X4, GH BG-8X1, GH BG-8X2, GH BG-8X3, GH BG-8X4, , GHM-2x1, GHM-2x2, GHM-2X3, GHM-2X4, GHM-4x1, GHM-4x2, GHM-4X3, GHM-4X4, GHM-6x1, GHM-6x2, GHM-6X3, GHM-6X4, GHM-8x1, GHM-8X2, GHM-8X3, GHM-8X4, GHM BG-2X1, GHM BG-2X2, GHM BG-2X3, GHM BG-2X4, GHM BG-4X1, GHM BG-4X2, GHM BG-4X3, GHM BG-4X4, GHM BG-6X1, GHM BG-6X2, GHM BG-6X3, GHM BG-6X4, GHM BG-8X1, GHM BG-8X2, GHM BG-8X3, GHM BG-8X4, GKOH-2x1, GKOH-4x1, GKOH-6x1, GKOH-8x1, GOH-2x1, GOH-4x1, GOH-6x1, GOH-8x1, SF-2x1, SF-2x2, SF-2x3, SF-2x4, SF-4x1, SF-4x2, SF-4x3, SF-4x4, SF-6x1, SF-6x2, SF-6x3, SF-6x4, SF-8x1, SF-8x2, SF-8x3, SF-8x4

**ROXTEC INC** — B-2x1, B-4x1, B-6x1, B-8x1, G-2x1, G-2x2, G-2x3, G-2x4, G-4x1, G-4x2, G-4x3, G-4x4, G-6x1, G-6x2, G-6x3, G-6x4, G-8x1, G-8x2, G-8x3, G-8x4, GH-2X1, GH-2X2, GH-2X3, GH-2X4, GH-4X1, GH-4X2, GH-4X3, GH-4X4, GH-6X1, GH-6X2, GH-6X3, GH-6X4, GH-8X1, GH-8X2, GH-8X3, GH-8X4, GH BG-2X1, GH BG-2X2, GH BG-2X3, GH BG-2X4, GH BG-4X1, GH BG-4X2, GH BG-4X3, GH BG-4X4, GH BG-6X1, GH BG-6X2, GH BG-6X3, GH BG-6X4, GH BG-8X1, GH BG-8X2, GH BG-8X3, GH BG-8X4, , GHM-2x1, GHM-2x2, GHM-2X3, GHM-2X4, GHM-4x1, GHM-4x2, GHM-4X3, GHM-4X4, GHM-6x1, GHM-6x2, GHM-6X3, GHM-6X4, GHM-8x1, GHM-8X2, GHM-8X3, GHM-8X4, GHM BG-2X1, GHM BG-2X2, GHM BG-2X3, GHM BG-2X4, GHM BG-4X1, GHM BG-4X2, GHM BG-4X3, GHM BG-4X4, GHM BG-6X1, GHM BG-6X2, GHM BG-6X3, GHM BG-6X4, GHM BG-8X1, GHM BG-8X2, GHM BG-8X3, GHM BG-8X4, GKOH-2x1, GKOH-4x1, GKOH-6x1, GKOH-8x1, GOH-2x1, GOH-4x1, GOH-6x1, GOH-8x1, SF-2x1, SF-2x2, SF-2x3, SF-2x4, SF-4x1, SF-4x2, SF-4x3, SF-4x4, SF-6x1, SF-6x2, SF-6x3, SF-6x4, SF-8x1, SF-8x2, SF-8x3, SF-8x4

**Where RM ES B, RM PE B or RM BG, RM BG B, RM BG C elastomeric sealing modules are used the T, FT and FTH Ratings are 0 Hr.**

B. **Silicone RTV Sealant** — (Not Shown) — A min 1/4 in. (6 mm) diam bead of silicone RTV sealant shall be applied as a gasket between the device frame mounting flange and the gypsum board. The sealant bead shall be located between the edge of the opening and the line of fasteners around the entire perimeter of the framed opening.

B1. **Butyl Rubber Gasket** — (Not Shown) — As an alternate to the RTV sealant, a nom 5/16 in. (8 mm) thick by 5/16 in. (8 mm) wide butyl rubber gasket with self-adhesive may be installed around the mounting flange. The gasket shall be recessed in approx 1/2 in. (13 mm) and 2 in. (51 mm) from the perimeter of the device frame mounting flange such that the continuous gasket bracket the line of fasteners along each side of the device.

C. **Packing Material** — Pieces of min 3 in. (76 mm) thick min 2.76 pcf (44 kg/m<sup>3</sup>) density mineral wool batt insulation cut to line four sides of through opening within wall cavity. Pieces cut to length and tightly friction-fit between framing of wall opening and cables and in-between cables and made flush with wall surface.

**\* 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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