



# FHIT.25C - Electrical Circuit Integrity 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.

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## FHIT - Electrical Circuit Integrity Systems

### **System No. 25C**

October 15, 2020

### **Fire-Resistive Rating (FRR) - 2 Hr.**

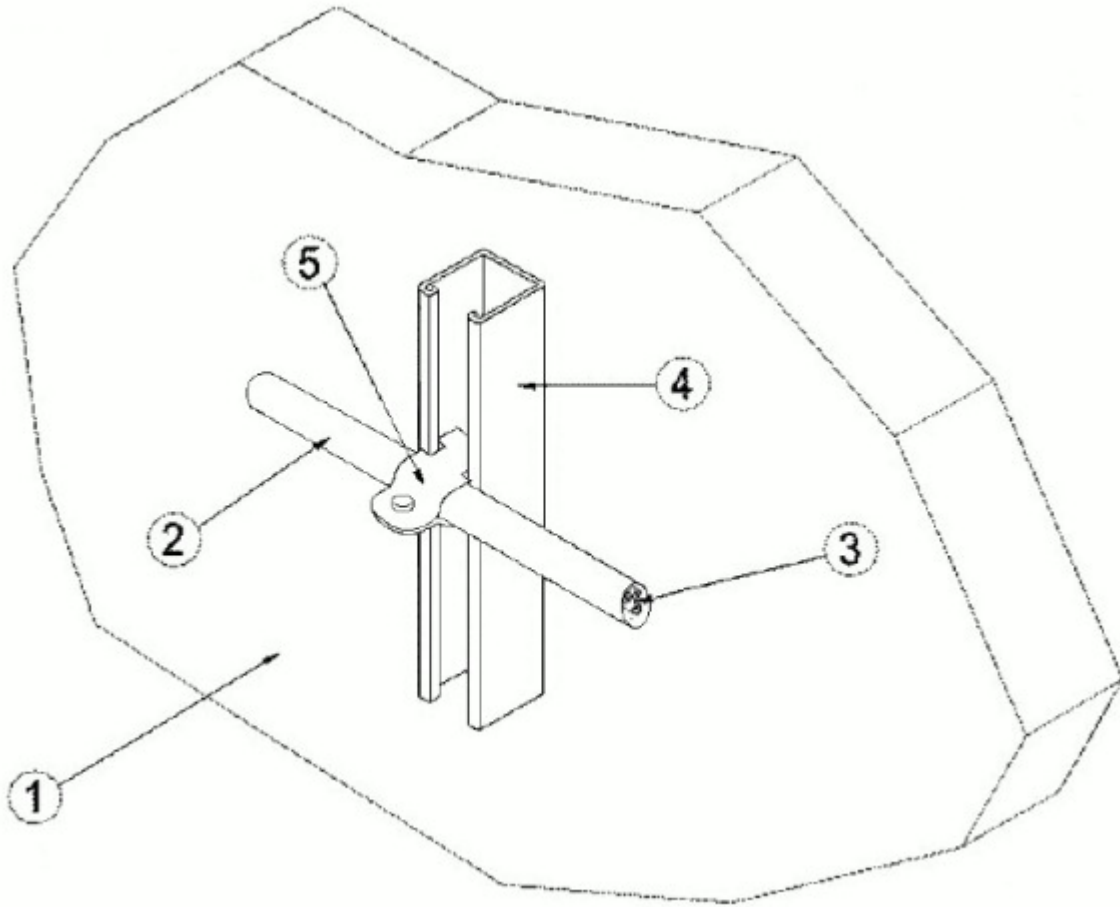


Fig. 1  
Two-piece Single-bolt Pipe Clamp

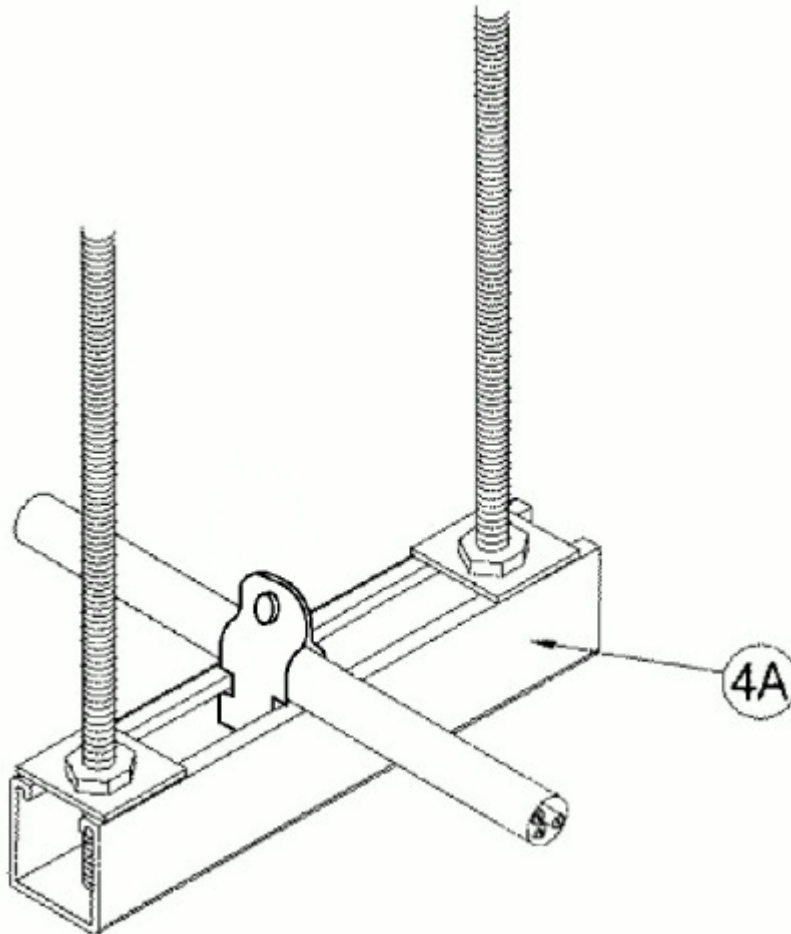


Fig. 2  
Steel Strut Trapeze

1. **Wall or Floor Assembly\*** — Minimum 2 hour fire rated concrete or masonry wall or concrete floor. Opening in wall or floor through which raceway passes is to be sized to closely follow the contour of the raceway. Through opening in wall or floor to be firestopped using a compatible firestop system.

See **Through-penetration Firestop Systems** (XHEZ) category for presently Certified firestop systems.

2. **Raceway\*** — Reinforced Thermosetting Resin Conduit. Horizontal or Vertical installation; or EMT type steel conduit. Horizontal installation.

**FRE COMPOSITES INC** — BreathSaver Brand Type XW Conduit and Type XW elbows as follows:

**Minimum XW Raceway Trade Size, in.**

Cable Size, AWG/ kcmil	Horizontal Installation: No. of Cables				Vertical Installation: No. of Cables			
	1	2	3	4	1	2	3	4
	8	3/4	3/4	1	1	3/4	1	1-1/4
6	3/4	1	1-1/4	1-1/4	1	1-1/2	2-1/2	2-1/2
4	3/4	1	1-1/4	1-1/2	1-1/4	2	2-1/2	3
3	3/4	1-1/4	1-1/4	1-1/2	1-1/4	2	2-1/2	3
2	3/4	1-1/4	1-1/2	1-1/2	1-1/4	2-1/2	3	3
1	1	1-1/2	2	2-1/2	1-1/2	2-1/2	3-1/2	3-1/2
1/0	1-1/4	1-1/2	2-1/2	2-1/2	2	3	3-1/2	3-1/2

2/0	1-1/4	2	2-1/2	3	2	3	3-1/2	4
3/0	1-1/4	1-1/2	2-1/2	2-1/2	2-1/2	3-1/2	4	4
4/0	1-1/4	2	2-1/2	3	2-1/2	3-1/2	4	5
250	1-1/4	2-1/2	3	3	2-1/2	3-1/2	4	5
300	1-1/2	2-1/2	3	3-1/2	2-1/2	3-1/2	5	5
350	1-1/2	2-1/2	3	3-1/2	3	3-1/2	5	5
400	1-1/2	2-1/2	3-1/2	4	3	4	5	6
500	2	3	3-1/2	4	2-1/2	3-1/2	5	6
600	2-1/2	3	4	5	3	4	5	5
750	2-1/2	3-1/2	4	5	3	4	5	6

**ALLIED TUBE & CONDUIT CORPORATION** — Type EMT E-Z Pull Brand

**WESTERN TUBE & CONDUIT CORP** — Type EMT

**Minimum EMT Raceway Trade Size, in.**

**Horizontal Installation: No. of Cables**

<b>Cable Size, AWG/ kcmil</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
8	1/2	1	1-1/4	1-1/4
6	3/4	1-1/4	1-1/4	1-1/2
4	1	1-1/4	1-1/2	2
3	1	1-1/4	1-1/2	2
2	1	1-1/4	1-1/2	2
1	1-1/4	2	2	2-1/2
1/0	1-1/4	2	2-1/2	2-1/2
2/0	1-1/2	2	2-1/2	3
3/0	1-1/2	2-1/2	2-1/2	3
4/0	2	2-1/2	3	3
250	2	2-1/2	3	3
300	2	2-1/2	3	3-1/2
350	2	2-1/2	3	3-1/2
400	2	3	4	4
500	2-1/2	3	3-1/2	4

600	2-1/2	3	4	—
750	2-1/2	3-1/2	—	—

2A. **Raceway Coupling\*** — (Not Shown).

**FRE COMPOSITES INC** — BreathSaver Brand Type XW coupling. Trade size to correspond with the type XW raceway size

**RACO** — Steel (all components) EMT Compression Couplings. Trade size to correspond with the EMT raceway size.

3. **Fire Resistive Cables\*** — The hourly fire rating applies to cable passing completely through a fire zone and terminating a minimum of 12 inches beyond the fire rated wall or floor bounding the fire zone.

**PRYSMIAN CABLES AND SYSTEMS USA LLC** — Type RHW-2 Lifeline Brand of the following part numbers: G300 followed by 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 77, 78; or G31501 or G31496. To be installed as described herein and in accordance with the manufacturer's installation instructions SPL-FPT-0013 (TIS301H) dated Sep 2020, SPL-FPT-0012 dated Sep 2020.

4. **Supports** — (Figure 1) — Min 12 gauge, by 1-1/2 in. wide or 1-5/8 in wide, painted or unpainted, slotted steel channels with hemmed flange edges. Channel bottom with or without holes. Lengths of slotted steel channels 5 ft and less shall be secured to the wall or floor with a min of two 1/4 in. diameter (or larger) by 2-1/4 in. min long concrete screws, or 1/4 in. diameter (or larger) by 1-3/4 in. long min steel masonry anchors. One screw or anchor to be located at each end of the slotted steel channel. Lengths of slotted steel channel in excess of 5 ft require a min of three screws or anchors, one at each end of the channel and one centrally located within the length of the channel. The supports shall be spaced a maximum of 5 ft. OC. When installing cable(s) in vertical runs, the maximum distance of cable within raceway shall be 24 ft.

4A. **Trapeze-type Supports** — (Figure 2) — The raceways shall be installed on/from trapeze-type supports. The trapeze-type supports shall be secured from the surface of the floor. The supports shall be spaced a maximum of 5 ft. OC.

5. **Clamps** — Steel 1-1/4 in. wide two-piece single-bolt pipe clamps. Size to correspond with the outside diameter of the raceway and as follows: Trade size 3/4-2 in. conduit, min 14-gauge; Trade size 2-1/2 in. conduit, min 12-gauge; Trade size 3 in. and larger conduit, min 11-gauge.

6. **Pulling Lubricant** — (Not Shown) — When installing cables within a raceway, the cables shall be coated with pulling lubricant.

**AMERICAN POLYWATER CORP** — Polywater LZ

7. **Pull Box** — (Optional Not Shown) — Cables installed in the horizontal or vertical orientation within type XW raceway, or in the horizontal orientation within EMT raceway, may utilize a Resolve One NEMA-4X stainless steel industrial control panel enclosure. Refer to the manufacturer's installation instructions, for additional details.

7A. **Box Connector** — (Not Shown) - For installation with item 7.

**FRE COMPOSITES INC** — BreathSaver Brand Type XW box connector. Trade size to correspond with the type XW raceway size.

8. **Pull Box** — (Optional Not Shown) — Cables installed in the horizontal orientation within EMT raceway may utilize a Wiegmann NEMA-1 steel cutout box enclosure. Refer to the manufacturer's installation instructions, for additional details.

8A. **Box Connector** — (Not Shown) - For installation with item 8.

**RACO** — Steel (all components) EMT Compression Box Connector. Trade size to correspond with the raceway size.

9. **Insulating Bushing** — For installation with item 8A. Prysmian P/N CUSEMT. Refer to the manufacturer's installation instructions, for additional details.

\*Bearing the UL Classification Mark

Last Updated on 2020-10-15

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