

TW Series THRU-WALL BARRIER® Cable/Conduit Sealing Device TWB Sealing Block Assemblies Installation & Maintenance Information

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

APPLICATION

TW THRU-WALL BARRIER Cable/Conduit Sealing Device consists of TWF frames assembled with TWB Sealing Block Assemblies.

TWB Sealing Block Assemblies are inserted into TWF frames and are aligned and held in place by keyways on the inside of the frame. Orientation of these keyways, either perpendicular or parallel to the bottom of the cable tray, determine the position of TWB Sealing Block Assemblies.

The following instructions are to be followed after all cables/conduits have been located in the opening of the TWF frame. Be sure quantities and sizes of cables/conduits installed do not exceed the capacity of assembled sealing device.

NOTE: Cable characteristics such as size, number of conductors, insulation types, and jacket types may have significant effect on fire retardant performance of devices. Cable and conduit types and percent cable fill with which devices have been UL Classified are described in UL Report R8819-4 (IF 838) which is available upon request.

IMPORTANT: Read all paragraphs of each step before performing operation in that step.

INSTALLATION

NOTE:

1. All inside surfaces of frame and edges of frame opening must be free of grout, dust, or foreign materials (see Figure 1).

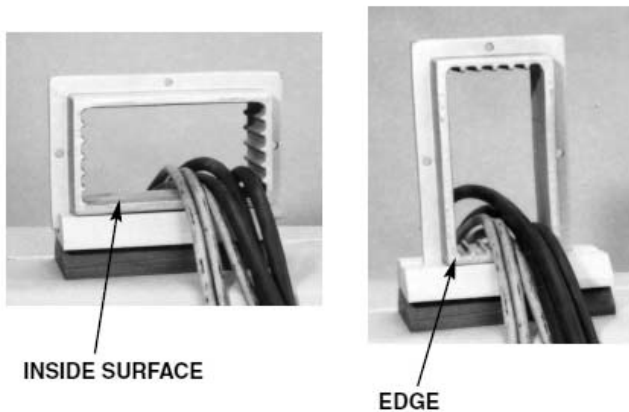


Figure 1.

NOTE: Special instructions for TWF-12

The #0103695 Partition Kit, supplied with TWF-12 frame, includes the partition and either General Electric Co. RTV7403 or RTV106 High Temperature Sealant. Before inserting partition, arrange cables/conduits into portion of frame they will occupy when sealed. Apply a liberal amount of sealant (supplied with partition) to full length of both upper and lower keyways in frame into which partition is to be inserted (see Figure 2). Slide partition completely into keyways and wipe away excess RTV Sealant (see Figure 3).

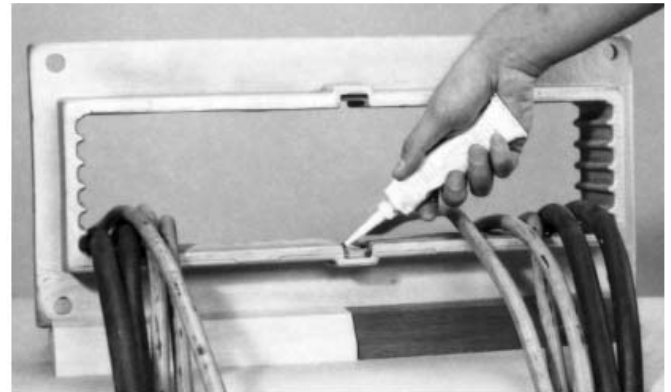


Figure 2.

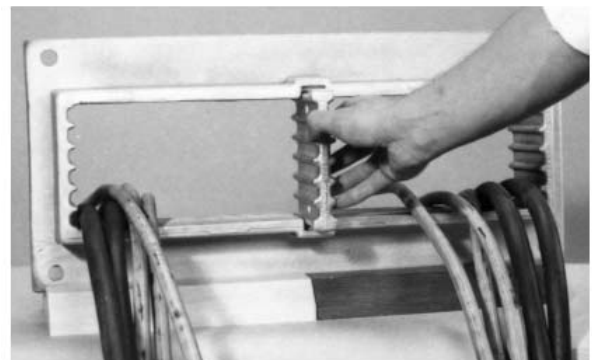


Figure 3.

2. Move cables away from immediate area of frame where first sealing block assemblies will be installed. Group cables according to their diameter and with respect to sizes of openings in TWB Sealing Block Assemblies to be installed. The diameter of openings of sealing block assemblies are in one-quarter inch increments, ranging from 0.25" (6.4mm) to 0.50" (12.7mm) through 4.25" (108mm) to 4.50" (114.3mm) and each are marked with their size range (see Figure 4).

NOTE: Cables to be sealed in a given TWB Sealing Block Assembly need not all be of the same size. TWR Reducers may be used with cables having an O.D. 0.25" (6.4mm) smaller than the range of the opening in the TWB Sealing Block Assembly.

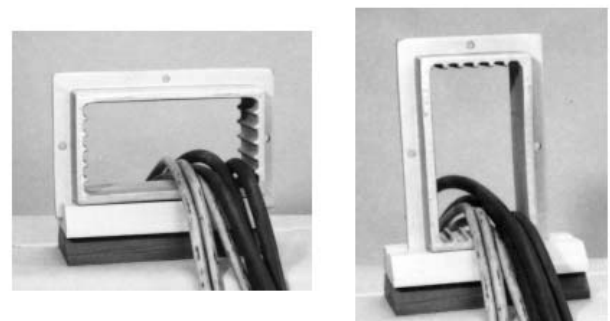


Figure 4.

3. Lubricate all inside surfaces of TWF frames with DC 316 Silicone Release Spray by Dow Corning Corp. or LU206 All-Purpose Silicone Lubricant by Sprayon Products (see Figure 5). Best results are obtained if surfaces are lubricated just prior to installing TWB Sealing Block Assemblies.



Figure 5.

- Slide first section of TWB Sealing Block Assembly into frame keyways, beginning at one end or bottom (or top) of frame. Be certain that flat side of this assembly is against inside surface of frame (see Figure 6).

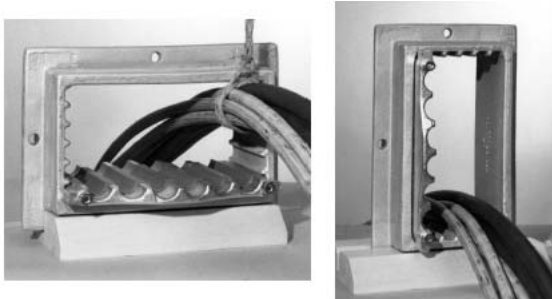


Figure 6.

- Arrange cables in slots of installed TWB Sealing Block Assembly section. While holding these cables in place, slide the mating section of sealing block into frame (see Figure 7).

CAUTION

To prevent heating of the pressure plate due to electromagnetic induction, all conductors of a circuit should be installed in the same sealing block assembly. See Article 300.20 of the National Electrical Code®.

Repeat operations of Steps 4 and 5 with appropriate TWB Assemblies until all sealing blocks are in place.

- Install TWR Reducers where needed. Fill unused frame spaces with blank TWB1 or TWB3 Sealing Block Assemblies. Fill unused openings in the TWB Sealing Block Assemblies with correct size TWP Plug. Be sure TWP Plugs and TWR Reducers are fully inserted into openings of sealing block assemblies (see Figure 7).
- Any number of cables may be installed in a single 1/2" (12.7mm) or 3/4" (17.8mm) opening of a TWB Sealing Block Assembly provided the bundle diameter does not exceed the size of the opening in the sealing block. (Do not install multiple cables in openings larger than 3/4"). For proper assembly, fully seal spaces between cables with General Electric RTV7403 or RTV106 High Temperature Sealant (or equivalent) just prior to tightening compression hardware (see Figure 7).

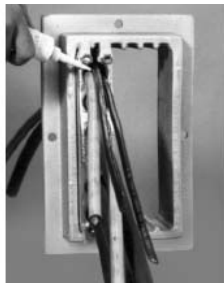


Figure 7.

- To ensure watertightness, it is recommended that General Electric RTV7403 or RTV106 High Temperature Sealant (or equivalent) be used to coat elliptical or corrugated armored cables immediately prior to tightening compression hardware of TWB Sealing Block Assemblies (see Figure 8).

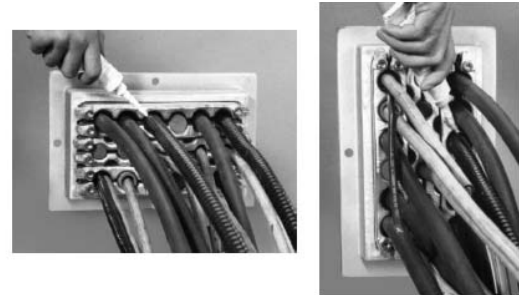


Figure 8.

- Tighten all nuts only a few turns at a time, until sealing material "rolls" into spaces between pressure plates of sealing block assemblies, and between pressure plates and frame.

This step is to be performed when ambient temperature is at least 40°F (4.5°C).

NOTE: Uniform tightening of compression hardware is important. It can be properly done by noting how far threaded studs extend through nuts. In general, when assemblies are all installed, extension of threaded studs will be nearly the same for those assemblies occupying the same number of frame spaces (see Figure 9).

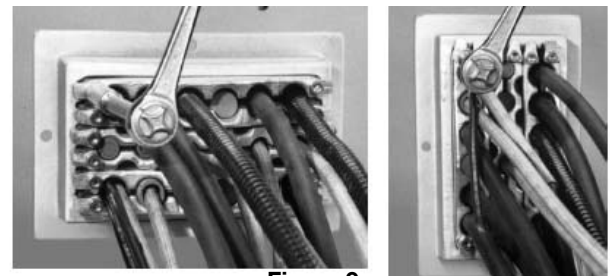


Figure 9.

CAUTION

Torque values on nuts should not exceed 16 lb.-ft. (21.7 N-m) on 5/16" bolts nor 45 lb.-ft. (61.0 N-m) on 7/16" bolts. These torque levels are not ordinarily required to affect a seal. However, if nuts are torqued to these values and a tighter seal is required, retorque after 24 hours.

NOTE: The elastomeric material will continue to compress for a limited time after tightening of compression hardware has been completed. This will ensure a positive seal.

- Check tightness of assembly by placing a bright light source on the one side of the assembly and inspecting it from the opposite side to see if any light is visible through the assembly. Any visible light indicates that a proper seal has not been formed. Tighten compression hardware further (see Figure 10).

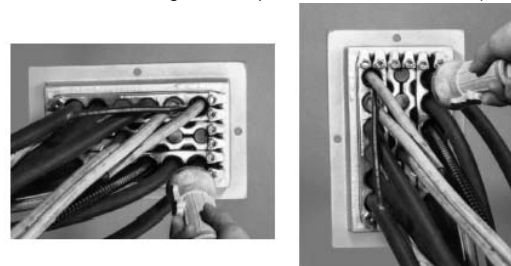


Figure 10.

MAINTENANCE

Periodic visual inspection is recommended to ensure that:

- No damage has occurred to sealing device resulting in loosening of pressure plates or any supplementary fire insulation that may have been applied to wiring system.
- All grounding/bonding means are intact.
- No combustible materials have fallen onto or against sealing device or cables.
- No metal objects have fallen onto face of device.

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