

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

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

APPLICATION

TW Series THRU-WALL BARRIER® cable/conduit sealing devices for welding to steel bulkheads consist of TWBS Sealing Block Assemblies assembled into TWFS Series cast carbon steel mounting frames. TWBS Series Sealing Block Assemblies are inserted into installed TWFS Series frames and aligned and held in place by keyways on the inside of the frame. Keeper bars are included on the frames to fit over the ends of the front compression plates of the TWBS Sealing Block Assemblies to securely hold sealing blocks in position when installed.

Watertightness for shipboard application is obtained through a factory applied silicone fluid coating on the sealing block assemblies and a field applied silicone lubricant coating applied to the inside surfaces of the TWFS frame. O-ring gaskets seal the TWBS Sealing Block Assembly bolts.

THRU-WALL BARRIER devices must be installed, inspected, and maintained by qualified and competent personnel.

INSTALLATION

1. Follow Installation and Maintenance Information IF 1019 for properly mounting TWFS Series frames into bulkhead or deck.
2. Pull all cabling/conduit through frame opening. Be sure that quantities and sizes of cable/conduit do not exceed the capacity of assembled TWBS Sealing Block Assemblies.

IMPORTANT

Be sure to leave sufficient slack in cables between supports on opposite sides of TWFS frame to permit cables to be moved to any position in the frame window. This will allow for repositioning cables when installing TWBS sealing blocks.

3. Remove keeper bars from frame (see Figure 1).

NOTE

TWBS sealing blocks must be installed from the side of the frame where the keeper bars are installed.

4. Clean all inside surfaces of frame and edges of frame opening, removing any dirt, dust, or other foreign materials.

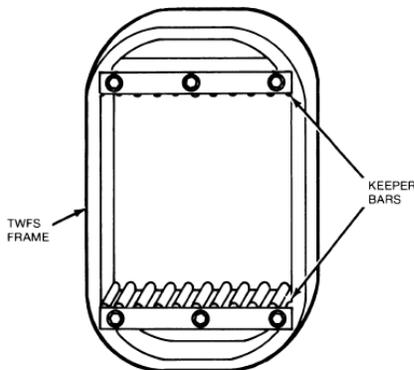
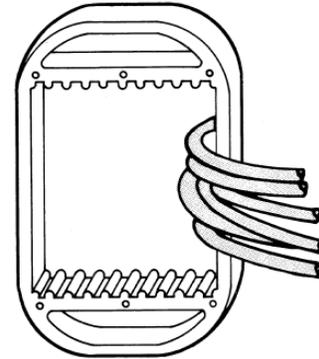


Figure 1.

5. Lubricate all inside surfaces of TWFS frame with a light coat of Slipicone® Brand Release Agent by DC Products or LU206 All-Purpose Silicone Lubricant by Sprayon Products.
6. Move cables away from immediate area of frame where first sealing block assemblies will be installed. Group cable/conduit according to diameter with respect to sizes of openings in TWBS Sealing Block Assemblies. See Table I. 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 3.25" (83.4mm) to 3.50" (89.9mm) and each is marked with its size range.



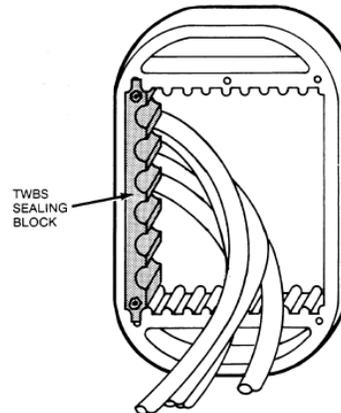
NOTE

Cables to be sealed within a given TWBS 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 TWBS Sealing Block Assembly. Use reducers whenever they will fit. If cables are at the minimum diameter of the range, use reducers if they fit. Use reducers on TWP Plugs that are at the minimum diameter of the range of the sealing block.

Table I.

Opening Size Range		Sealing Block Assembly Cat. No.
Inches	Millimeters	
0.250-0.500	6.4-12.7	TWBS2111
0.250-0.500	6.4-12.7	TWBS1111
0.500-0.750	12.7-19.1	TWBS2062
0.500-0.750	12.7-19.1	TWBS2112
0.750-1.000	19.1-25.4	TWBS2063
1.000-1.250	25.4-31.8	TWBS3054
1.250-1.500	31.8-38.1	TWBS3045
1.500-1.750	38.1-44.5	TWBS30355
1.750-2.000	44.5-50.8	TWBS4036
2.000-2.250	50.8-57.2	TWBS40366
2.250-2.500	57.2-63.5	TWBS5027
2.500-2.750	63.5-69.9	TWBS50277
2.750-3.000	69.9-76.2	TWBS5028
3.000-3.250	76.2-82.6	TWBS60288
3.250-3.500	82.6-88.9	TWBS6029

7. Slide first section of TWBS Sealing Block Assembly into frame keyway from side of frame where keeper bars will be reinstalled beginning at one end or bottom (or top) of frame. Make sure that the flat side of the sealing block is placed against the inside surface of the frame.

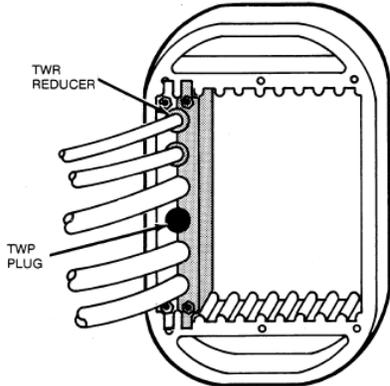


8. Install cable/conduit in slots of installed TWBS Sealing Block Assembly section, placing TWR Reducers on cables where needed.

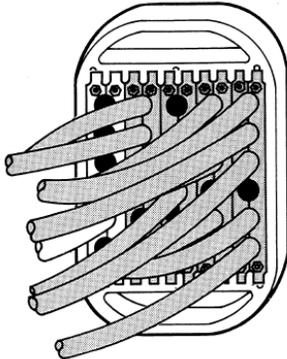
CAUTION

To prevent possible heating of the pressure plates due to electromagnetic induction, when individual power circuit conductors are carried through frame, all conductors of that circuit should be installed in the same sealing block assembly.

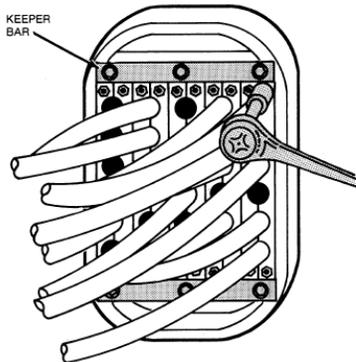
- Slide mating section of sealing block into frame while holding cables in place.



- Repeat Steps 7, 8, and 9 with appropriate TWBS Sealing Block Assemblies until all sealing blocks are in place.
- Fill unused frame spaces with blank TWBS1 or TWBS3 Sealing Block Assemblies. Fill unused openings in the TWBS Sealing Block Assemblies with correct size TWP Plug or TWP Plug and TWR Reducer combinations. Make sure that TWP Plugs and TWR Reducers are fully inserted into openings of sealing block assemblies.



- Assemble keeper bars over cast stops of front pressure plates. Securely tighten fastening screws to 30 lb.-ft. (40.6 N-m) torque.
- Sequentially tighten all sealing block 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. Torque nuts to 16 lb.-ft. (21.7 N-m) on 5/16" nuts and 45 lb.-ft. (61.0 N-m) on 7/16" nuts.



IMPORTANT

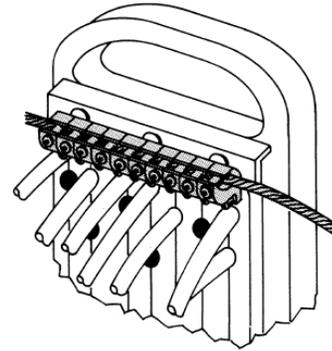
This step must be performed when the ambient temperature is at least 40°F (4.5°C).

When completed, each bolt should extend through the nut approximately the same length for all sealing block assemblies of the same cable diameter range. After the specified torque is attained on one or two nuts, torque all the others in the same cable range to about the **same bolt extension** length even though the torque levels on some may be lower than the specified level.

- A suggested method to check tightness of the assembly is to place a bright light source on one side of the assembly and inspect the other side to see if any light is visible through the assembly. Any visible light indicates that a proper seal has not been formed. Another method for checking tightness is by pressurizing compartment and checking for excessive leakage.

If further tightening is required, retighten after waiting 24 hours.

- If grounding or bonding of pressure plates and/or frame is required, use Cooper Crouse-Hinds Type TWG Grounding Kit to interconnect TWBS sealing block hardware, TWFS frame, and equipment grounding conductor.



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.
- Check tightness of assembly by placing a bright light source on one side of the assembly and inspecting the other side to see if any light is visible through the assembly. Any visible light indicates that a proper seal has not been formed. Another method for checking tightness is by pressurizing compartment and checking for excessive leakage.
- 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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