

APPLICATION PROCEDURES

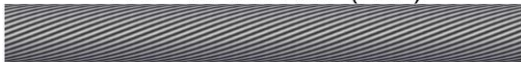
PMI HELICAL ROD PRODUCTS

SPLICE ♦ ARMOR ♦ FILLER ♦ LASHING

INSTALLATION GUIDELINES

1. Be sure to read and completely understand this procedure before applying this product.
2. PMI helical products are precision formed devices that should be handled carefully. To minimize grit loss, distortion, or damage, they should be safely stored until used.
3. PMI helical rods are designed for use on jacketed and un-jacketed cables. For un-jacketed cables, the lay direction of the outer armor layer must match the lay direction of the PMI helical rods.

LEFT HAND LAY (LHL)



RIGHT HAND LAY (RHL)

4. PMI helical rods may be removed and re-installed only once prior to any loading. If removal of the rods is necessary after they have been installed and loaded, they must be replaced with a new set of rods.
5. A marlin spike or screwdriver may be used to work the rod ends into place.
6. Avoid winding the cable into the rods. For flexible cable, apply the rods with the cable under some tension. The stiffer the cable, the easier it is to apply helical rods.
7. Be careful during handling not to permanently bend the rods. If they become deformed or bent, discard and use a new set.
8. Tape or bands may be used to serve the rod ends and avoid snags.

SAFETY GUIDELINES

1. For proper performance and personal safety, be sure to select the proper size product for your application.
2. This application procedure is not intended to supersede any company safety standards. This procedure is offered only to illustrate safe application for the individual. Failure to follow these procedures may result in personal injury.

3. When assembling, installing or using this product, appropriate clothing and personal protective equipment should be used at all times. At a minimum, this includes use of leather gloves and safety glasses. However, there may be circumstances where additional clothing and personal protective equipment may be necessary. You should consult with your supervisor as to what the appropriate (1) gloves or other hand protection, (2) safety glasses, face shield or other eye and face protection, and (3) other clothing and equipment, are necessary for your particular use and/or application of the product.
4. The safe and proper assembly, installation and use of this product is ultimately the responsibility of the user. The user is expected to assemble, install and use the product in compliance with all applicable industry and government standards and regulations that apply to the use of the product, including without limitation: OSHA, ANSI, ASTM and other comparable standards and regulations.
5. When passing this product over a sheave, the sheave diameter needs to be at least 40 times the diameter over the helical rods (cable + applied rods). To prevent the rod ends from lifting off the cable when passing over the sheave, use tape and/or metal bands to serve the rod ends in place.

MAINTENANCE GUIDELINES

1. **IMPORTANT:** After each use of this product, inspect all parts for abnormal wear and tear and to ensure that no parts were damaged during use.
2. Replace all parts that are worn or damaged before further use of the products. **HELICAL RODS SHOULD BE REPLACED AFTER EVERY USE.**
3. If you have questions about whether a part should be replaced, please contact a PMI representative. PMI is not responsible for any damage or incident caused by the use of worn or damaged parts.

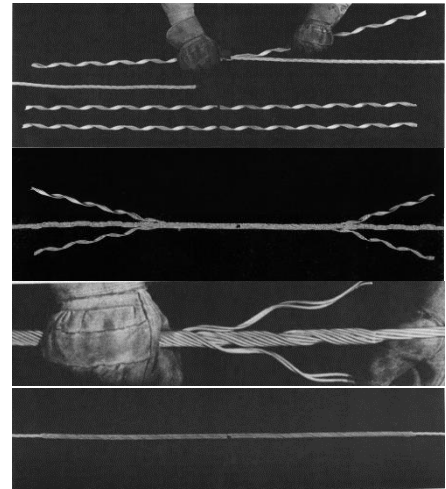
WARRANTY INFORMATION

Assembly, installation or use of this product in a manner inconsistent with these procedures and instructions may void any warranties that accompanied the purchase of this product.

SKIP AHEAD TO SECTION PERTAINING TO YOUR SPECIFIC PRODUCT

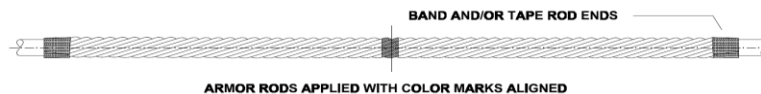
APPLICATION PROCEDURE SPLICE RODS

1. For un-jacketed cables or wire rope apply a thin layer of tape to each end of the cables being joined.
2. Begin Splice Rod application with one subset of rods. Position the subset by matching the subset color mark (located at center of rods) with one cable end. Hold it securely with thumb and finger pressure (as shown) and wrap the subset onto the cable.
3. Position the other cable end to be spliced aligned and in contact with the first cable and wrap the subset onto the cable completely, adjoining both ends.
4. Match the color mark of the first Splice Rod subset and apply the second subset for 2-3 pitch lengths on each side of center. Apply the remaining subsets in the same manner, then wrap the subsets simultaneously, to within one or two pitch lengths of completion, as shown.
5. Complete wrapping the subsets, one at a time, onto the cable. Each subset can be separated into single rods to ease the application. Using fingers to support the cable apply thumb pressure to the rod ends until they snap into place.
6. Splice Rods shown completely applied without end treatment. To prevent snagging, wrap the splice rod ends with steel band clamps and friction tape.



ARMOR/LASHING RODS

1. Locate the section of cable where the Armor Rods are to be applied.
2. At the center of the designated cable section start one rod (or rod subset) at the center color mark on the Armor Rods. While holding the rod firmly in position, wrap the rod around the cable, first in one direction and then in the other.



3. Apply the remaining Armor Rods in the same manner being sure to align the rods using the center color mark on each rod (or subset). Do not allow Armor Rods to cross-over each other. Rod subsets may be split into single rods for the last 1 or 2 pitch lengths if snapping a rod subset end into place becomes difficult.
4. Make sure all rod ends are snapped into place and are laying on the cable. If necessary, tap rods down with a rubber mallet to help rods lie flat. Application of the Armor Rods is now complete.

NOTE: Lashing Rods follow the same procedure only applied to a group of cables rather than a single cable.

FILLER RODS

1. Locate the section of cable where the Filler Rods will be applied. If required, remove any cable "hair fairing" for the length of the rods.

Hair fairing (braided DACRON with loose strands of "hair") increases the cable diameter with material which is not uniformly round or dense. These properties can subtract from the holding performance of helical gripping products. Therefore, the fairing "hair" should be removed from the braid for the length of the Filler Rods. This installation approach provides a uniform diameter and density for transferring the helical gripping rods' radial clamping pressure through the braid and into the underlying cable.

2. Follow steps 2-4 of Armor Rods section to finish Filler Rods.