



THERMOLIGN® SUSPENSION INSTALLATION INSTRUCTIONS

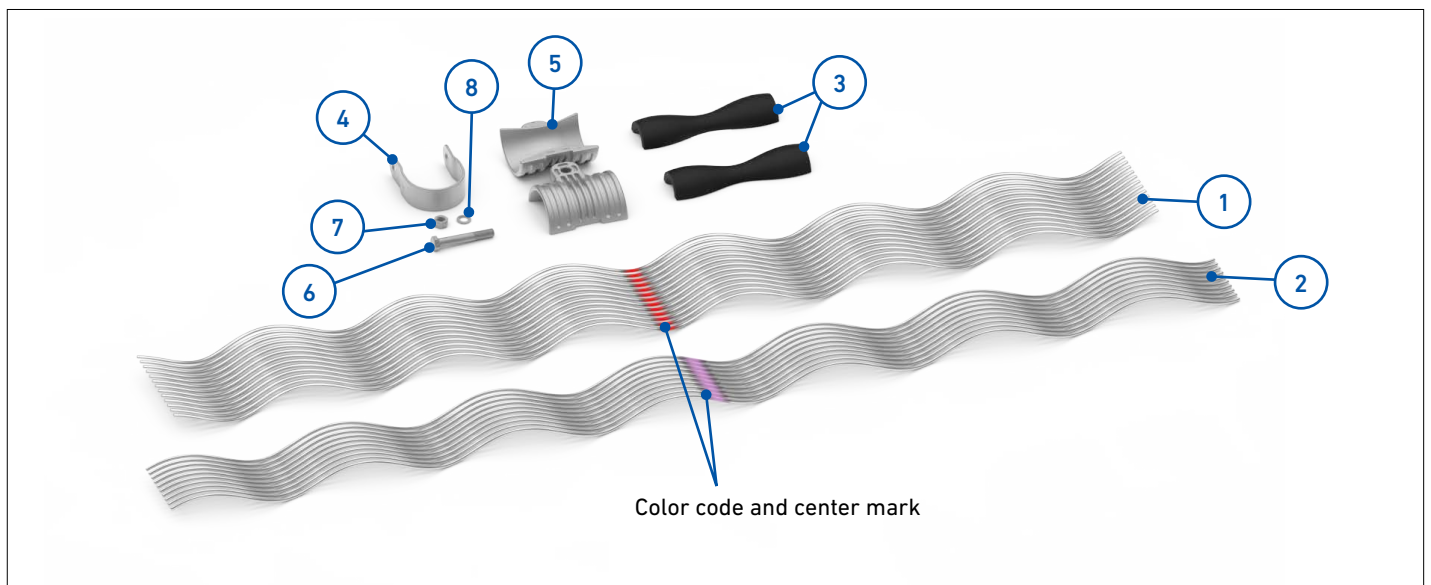


IMPORTANT SAFETY INFORMATION

READ AND COMPLETELY UNDERSTAND ALL INSTRUCTIONS BEFORE INSTALLING PRODUCT. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY OR DEATH.

This product is intended for use by trained technicians only. This product should not be used by anyone who is not familiar with and not trained to use it. When working in the area of energized lines, extra care should be taken to prevent accidental electrical contact. Be sure to wear proper safety equipment per your company protocol. These instructions are not intended to supersede any company construction or safety standards. These instructions are offered only to illustrate safe installation for the individual. PLP products are intended for the specified application only. Do not modify this product under any circumstances. Do not reuse or reinstall any PLP product unless that capability is expressly indicated in the product's Installation Instructions. For proper performance and personal safety, be sure to select the proper PLP product before installation. PLP products are precision devices. To ensure proper performance, they should be stored in cartons under cover and handled carefully.

PACKAGE COMPONENTS



1. THERMOLIGN Outer Rods (1 set)
2. Structural Reinforcing Rods (1 set)
3. THERMOLIGN Insert (2)
4. Strap (1)
5. Housing (2)
6. Bolt (1)
7. Lock Nut (1)
8. Lock Washer (1)

Tools Required:

- Two wrenches are required to torque down the nut and bolt, since the bolt has no backing force until the lockwasher is flattened.

GENERAL NOTES

CAUTION

THERMOLIGN Outer Rods and Structural Reinforcing Rods are precision devices. To ensure a proper assembly, they should be stored and handled carefully. To prevent distortion and damage, they should be installed as illustrated.

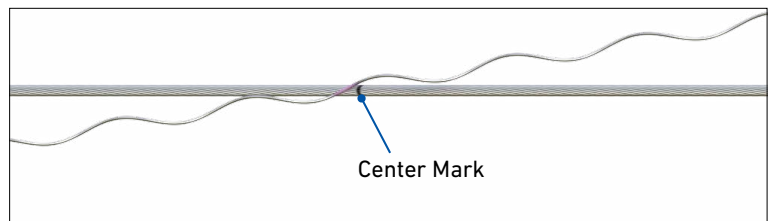
- THERMOLIGN Suspension Rods are **NOT** interchangeable with standard ARMOR RODS.
- THERMOLIGN Outer Rods and Structural Reinforcing Rods are factory matched; do **NOT** intermix rods from different sets.
- On some sizes of THERMOLIGN Suspension, there will appear to be enough gap between the outer rods to apply an additional rod. **BUT**, all THERMOLIGN Outer Rods are packed in sets. Apply only the number of rods in the set.
- Maximum line angle of deviation:
 - a. The single support THERMOLIGN Suspension may be used on line angles up through 30°.
 - b. Use the double support THERMOLIGN Suspension for line angles between 30° and 60°. Consult your PLP sales rep for an engineering recommendation regarding this application.
- The alignment of the rod ends should be maintained within 2 inches for voltages of 230kV and lower. For 345kV and above, the alignment of the ends of the rods should be maintained within 3/4 inch.

INSTALLATION

- 1 Plumb insulator string and mark conductor at center of sheave. Use a felt marking pen or lumber crayon; do not scratch conductor. Lift the conductor beyond the ends of the rods to allow enough clearance for the application.



- 2 Align the factory-marked centerline of the first inner rod with the mark made on the conductor in **Step 1**. Wrap the first inner rod around the cable, leaving the last 10-14 inches (254 - 356 mm) loose on both ends. This will allow you to check that the rod has not shifted or 'walked' on the cable and will simplify the final make-up.



- 3 Apply all remaining inner rods around the cable. When most of the inner rods are applied and most gaps are closed, the remaining rods will push between rods already applied to ensure a strong, armored reinforcement.

NOTE: Make sure that no rods are crossed and all rods are evenly spaced.



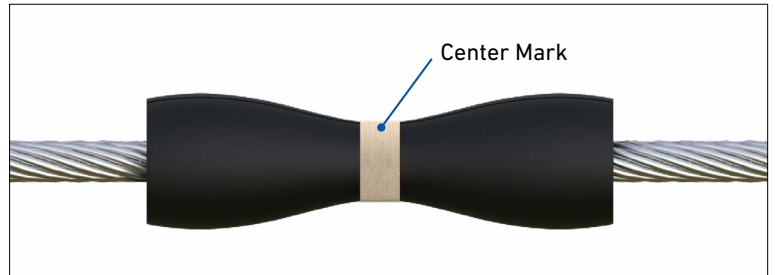
4

To complete application of the inner rods, use both hands to wrap the inner rods simultaneously into position. First do one bundle, then the other end.



5

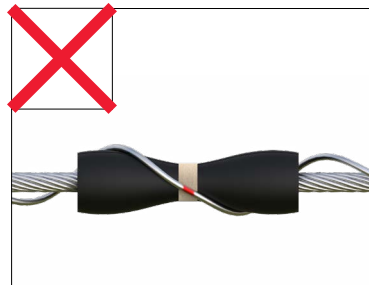
Align the center marks of the THERMOLIGN inserts with the centerline of the applied inner rods. Be sure to position the inserts so that the joining faces are parallel to the ground. Tape the inserts in place with a thin layer of tape.



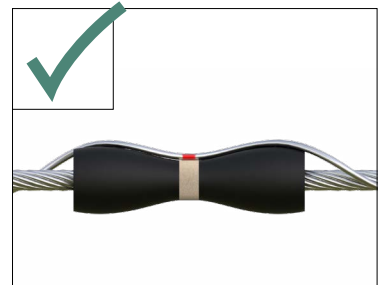
6

Center one THERMOLIGN outer rod on the insert with the color mark facing outward and wrap it over the insert. Apply enough length of the rod (approximately two wraps) so that it will stay on the conductor. **DO NOT distort the rods.**

NOTE: Make certain that there is no gap between the rod and insert. Do not wrap the rod around the neoprene insert.



Incorrect Installation



Correct Installation

7

Apply all remaining rods evenly around the insert, ensuring that no rods are crossed. As you add more rods, trace the gaps between them back to the insert to determine the proper placement of subsequent rods. Apply the last rod to the largest remaining gap; its pressure will cause all rods to space themselves uniformly around the cable.

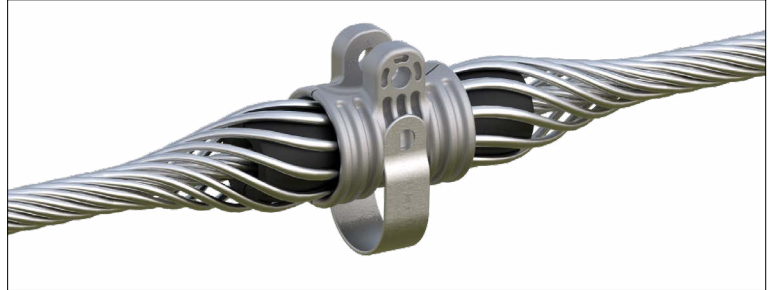
NOTE: Installing the rods opposite of one another (i.e. the first rod on the top, the second rod on the bottom) can help keep the AGS insert halves aligned.



- 8 Using both hands, encircle the free rod ends at one end of the application and twist them into position simultaneously. Repeat this process at the other end. Ensure that the insert remains perpendicular to the suspension.

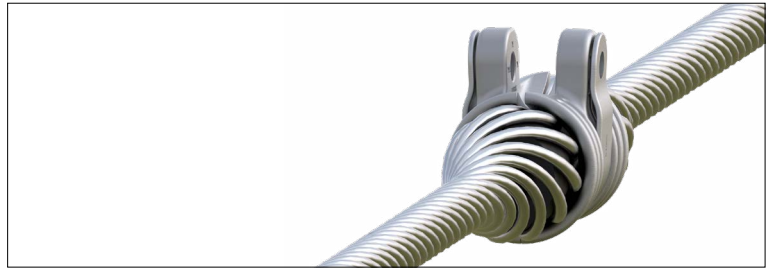


- 9 Center the two housing halves on both sides of the neoprene insert and rod assembly. Slide the strap into place around the housing halves and tap it firmly into position using the heel of your hand.



- 10 Spread the ears of the housing halves and tap the strap into position again. This will ensure alignment so that the bolt can be easily inserted.

NOTE: The bolt may be used to help align the strap and the housing holes.



- 11 Position an appropriately sized insulator connection fitting between the ears, and slide the bolt through the strap and the housing halves. Apply the lock washer and nut. Tighten the nut until the lock washer becomes almost flat. Ensure the locking tab on the nut faces the end of the bolt to prevent it from backing off during vibration. Avoid over-tightening and do not squeeze the ears of the housing against the attachment fitting.



CAUTION

DO NOT over-tighten. DO NOT squeeze the ears of the AGS housing against the fitting.