

# APPLICATION PROCEDURE & SAFETY CONSIDERATIONS **PREFORMED LINE PRODUCTS**



OCTOBER 1994

## TAP™ PROTECTION RODS

For use with Tapping Clamps

**CAUTION:** COMPLETELY READ AND UNDERSTAND THIS PROCEDURE BEFORE APPLYING PRODUCT. SPECIAL ATTENTION SHOULD BE GIVEN TO THE SAFETY CONSIDERATIONS LOCATED ON THE LAST PAGE. WE ADVISE THE READER TO REVIEW THOSE CONSIDERATIONS NOW, AND THEN AGAIN DURING THE GENERAL REVIEW OF THIS PROCEDURE.

### SUBSET PROCEDURE



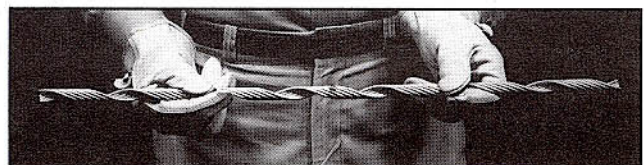
**1.00** Form the rods into subsets by holding them flat, making sure that no rods are crossed and that the center marks are lined up. Refer to installation guidelines for further instructions.



**2.00** Twist the lay of the rods until the first subset is formed.

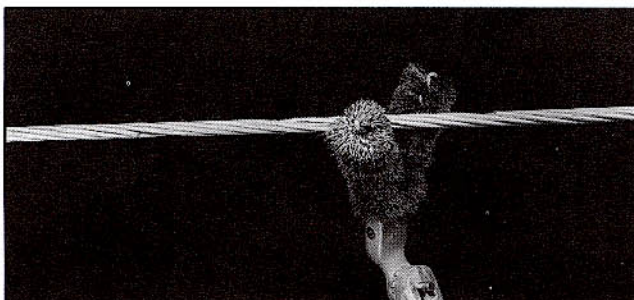


**3.00** Continue twisting the rods until the subset is completed



**4.00** Completed subset.

### CONDUCTOR PREPARATION



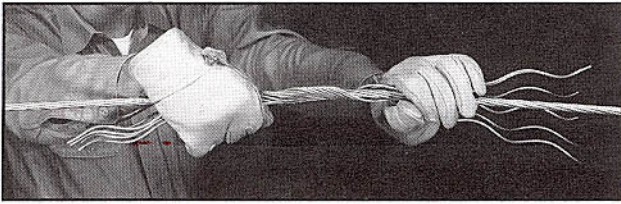
**NOTE:** The following application steps will produce optimum long term electrical current transfer:

**Step 1:** Thoroughly wire brush conductor for the full length of the Tap Protection Rods to be applied.

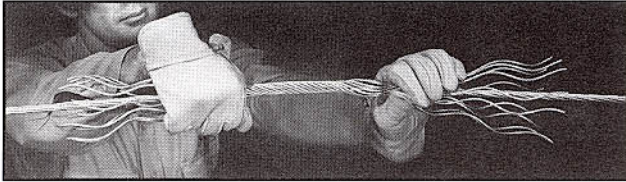
**Step 2:** Apply an inhibitor to the full length of this area before applying the Tap Protection Rods.



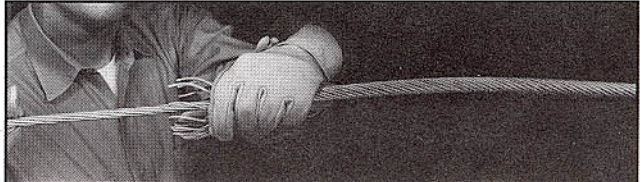
## HAND APPLICATION



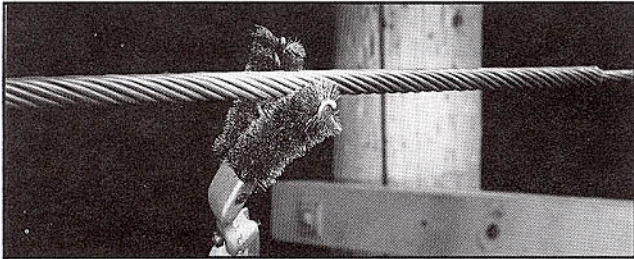
**5.00** Start with either a maximum of half the individual rods or a subset as described in the Subset Procedure and Installation Guidelines. Make certain the rods are even, together and the color codes line up. Apply at least one wrap in the center of the rods, keeping the rods together so there are no large gaps between each rod. The rest of the rods may be completely applied if desired.



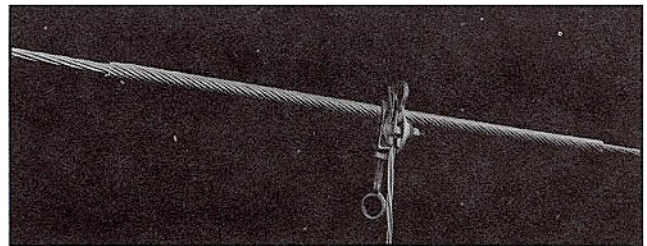
**6.00** Repeat previous step with all the remaining rods. Make certain each rod is on the conductor and no rods are crossed. Also make certain to apply only the correct number of individual rods as described in the Installation Guidelines.



**7.00** With a firm twist, snap the ends into place on both sides. Make certain all rod ends are snapped completely into place.

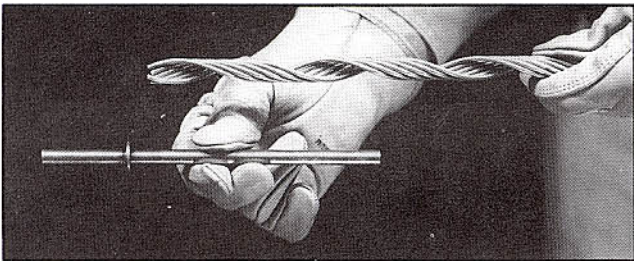


**8.00** After Tap Protection Rods are completely installed, wire brush and apply an inhibitor to the surface of the rods in the area where the tapping clamp is to be attached. Repeat this procedure each time the clamp is removed and reattached.

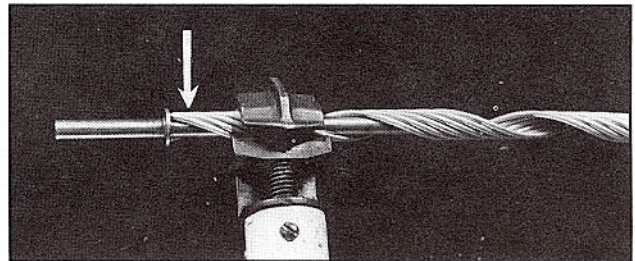


**9.00** Completed application of Tap Protection Rods.

## HOT-STICK APPLICATION

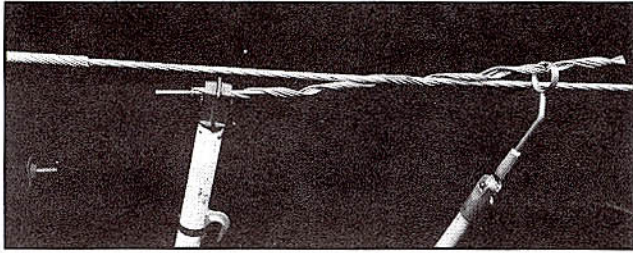


**10.00** When using the subset method of installation it is necessary to place a pin or dowel inside the subset to hold it in proper position.

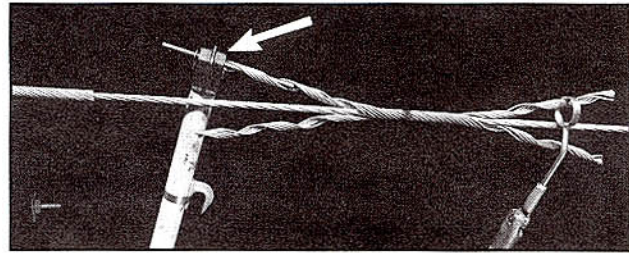


**11.00** Insert pin into subset, then clamp with hold stick. NOTE: Rod-ends are positioned on top of the pin.

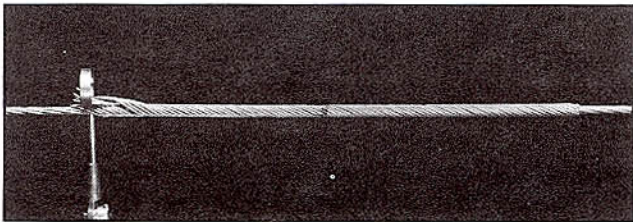




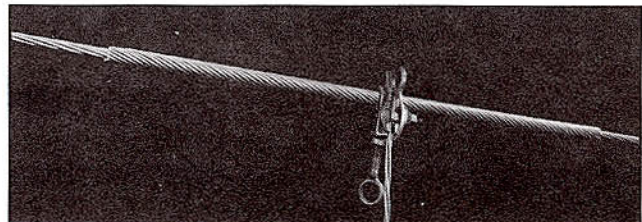
**12.00** Prepare the conductor before applying rods.  
With the rod-ends on the top of the pin as shown in picture #11, begin the application by applying at least one wrap of the subset with an Applicator Ring as shown.



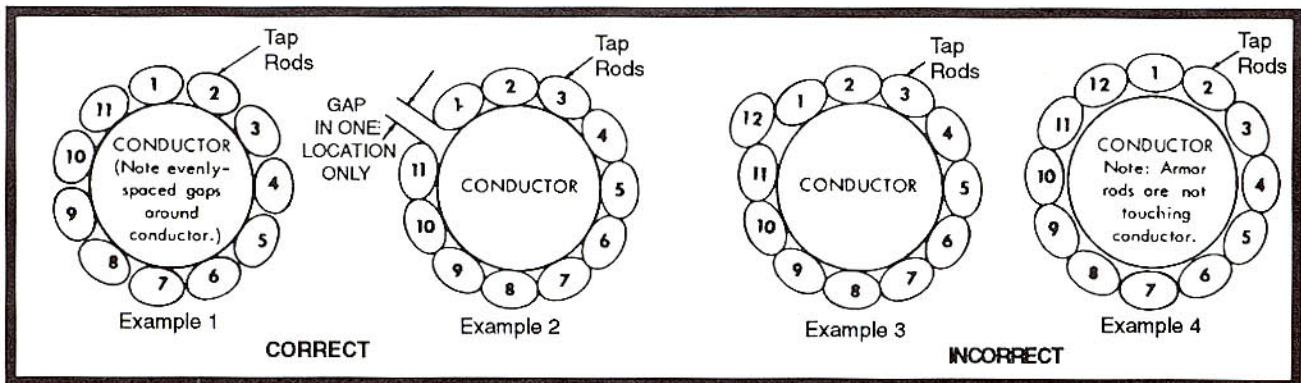
**13.00** With the rod ends of the second subset on the bottom of the pin, as shown by arrow, the subsets phase properly. Align the center marks and begin the application of the second subset. After both subsets have been started, work them alternately out to the ends.



**14.00** While holding rods in place, finish applying subsets making certain all rod ends are snapped into place. Make sure rods do not cross or overlap.



**15.00** Completed application with tapping clamp. Remember to wire brush and apply inhibitor to Tap Rod surface before attaching clamp.



## GENERAL NOTES

### INSTALLATION GUIDELINES

1. PREFORMED™ Tap Protection Rods are not to be reused after initial installation.
2. On aluminum conductor sizes #4 through and including 3/0 (diameter .447") Tap Protection Rods may be applied one half set at a time, loose or subset.
3. On aluminum conductors 4/0 through and including #636 MCM (diameter .977"), Tap Protection Rods should not be applied more than four at a time, loose or subset.
4. On aluminum conductors over one inch in diameter, Tap Protection Rods should not be applied more than three at a time, loose or subset.
5. After application of the correct number of rods, a slight gap between the rods should be present. Study the above examples. Example 1: Excellent application. Example 2: Satisfactory, but may lead to applying an extra, unneeded rod. Example 3: Extra rod produces bridging condition, potential rod abrasion. Example 4: Extra rod, expanded tube condition, affords little protection, allows severe abrasion and other conductor damage. If undecided about adding an extra rod, follow this rule: When in doubt, leave it out.
6. Hand application should follow these same instructions. We suggest, however, that in hand application, rods be applied as outlined above.

(Continued on next page)



**GENERAL NOTES**  
**INSTALLATION GUIDELINES**

(continued)

7. PREFORMED rods are precision devices. To insure a tight assembly, they should be stored in cartons under cover and handled carefully. To prevent distortion and damage, they should be installed as illustrated.
  - c) Make copper-to-aluminum transition in the clamp body itself.
8. Keep ends of tap rods at least six inches away from ends of rods at the support point.
9. In applying Tap Protection Rods, the alignment of the ends of the rods should be maintained within 3/4 inch.
10. TAP ONLY AT THE CENTER OF THE RODS.
11. Clamp:
  - a) Use a compatible spring-loaded clamp.
  - b) Groove of the clamp should be well contoured
12. Make certain that the tap is tight enough to eliminate the possibility of loosening from vibration.
13. If there are 11 rods in the set, apply the rods in groups of 4-4-3, following the same procedures demonstrated above.
14. Wood or steel dowels approximately 20% smaller than the conductor diameter can also be used to install Tap Protection Rods.
15. Do not use Tap Protection Rods for conductor repair; refer instead to Line Guard, Armor Rod and Splice products.

**SAFETY CONSIDERATIONS**

1. This Application Procedure is not intended to supersede any company construction or safety standards. This procedure is offered only to illustrate safe application for the individual. **CAUTION: FAILURE TO FOLLOW THESE PROCEDURES AND RESTRICTIONS MAY RESULT IN PERSONAL INJURY OR DEATH.**
2. This product is intended for a single (one-time) use and for the specified application. **CAUTION: DO NOT REUSE OR MODIFY THIS PRODUCT UNDER ANY CIRCUMSTANCES.**
3. This product is intended for use by trained craftspeople only. This product **SHOULD NOT BE USED** by anyone who is not familiar with and trained in the use of it.
4. When working in the area of energized lines with this product, **EXTRA CARE** should be taken to prevent accidental electrical contact.
5. For **PROPER PERFORMANCE AND PERSONAL SAFETY** be sure to select the proper size PREFORMED™ Tap Protection Rods before application.
6. PREFORMED™ Tap Protection Rods are precision devices. To insure proper performance, they should be stored in cartons under cover and handled carefully.

**PREFORMED** LINE PRODUCTS 

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