

**RAYCHEM'S AWSP**  
**(AUXILIARY WRAP SLEEVE, TYPE P)**  
**FOR**  
**INTER-SHEATH DAMS ON DOUBLE SHEATH CABLE**  
**WHEN THE 2 TYPE SPLICE CASE IS USED**

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**1. GENERAL**

**1.01** This section is being issued to describe the proper placement of Raychem's Auxiliary Wrap Sleeve Type P (AWSP). This method replaces that method described in Section 633-506-201.

**1.02** (Reserved for future use.)

**1.03** It is issued to cover the installation of AWSP (16 inch length) as a water and airtight seal between inner and outer sheaths of double sheathed cable.

**1.04** This installation is to be used *only* in conjunction with the 2B2, 2C2 or 2D2 Splice Cases.

**1.05** By using this method, the maximum splice opening normally available with single sheath cable is retained.

**1.06** Bonding is accomplished internal to the splice case and across the splice opening. External grounding to a common manhole ground can be established as described in Section 633-506-201.

**1.07** *The AWSP system is installed only with an approved nonflame heating element in manhole environments.*

**2. PRECAUTIONS**

**2.01** AWSP should be applied at temperatures *above 0° F.*

**2.02** Safety goggles and gloves *must* be worn when applying the auxiliary sleeve. The craftsperson should wear clothing that will protect arms and body from heated AWSP.

**2.03** If applying to aerial plant, use extreme caution in handling the open flame torch. The flame should be directed *away* from the craftsperson at all times.

**2.04** *Do not* place AWSP over a wet cable sheath. *Do not* allow any water to collect inside the sleeving. When heat is applied, the steam generated will cause blowouts or tunnels under the sleeving. If the adhesive side of AWSP gets wet, wipe it thoroughly dry *before* assembly and installation.

**2.05** When AWSP sleeves are applied to polyethylene-sheathed cable, the adjacent cable sheath must be protected with wraps of aluminum tape. The tape should extend a minimum of 4 inches beyond the end of the AWSP and 1 inch under the AWSP sleeve.

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**2.06** Use only *recommended* torches or heating tools for the installation of AWSP.

**2.07** Observe standard safety precautions when using AWSP in manholes or trenches.

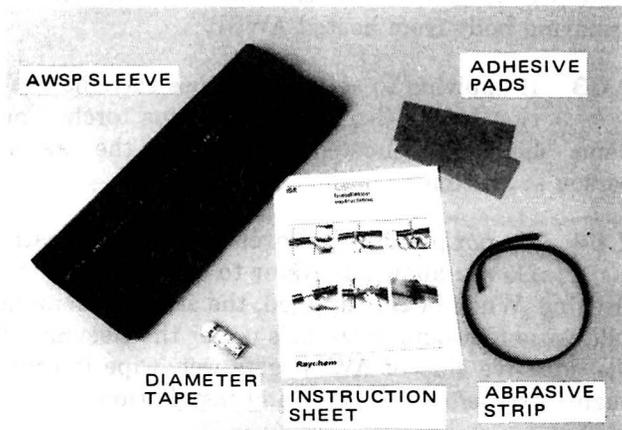
**3. MATERIALS**

**3.01** The following materials are required or recommended for the application of AWSP.

**3.02** Materials (Fig. 1):

- AWSP
- Aluminum tape, B
- DR tape
- ADP-12 Adhesive Pads (6" × 2-1/2")

**Note:** These materials may be procured separately. Raychem also supplies the AWSP and Adhesive Pads in a kit identified as Inter-Sheath Sealing Kit (ISS).



**Standard Materials Found in a Box of ISS Kits  
Fig. 1**

**4. DESCRIPTION**

**4.01** Table A lists the various ISS Kits and sizes.

**TABLE A**

Size	Length	Diameter Ranges
AWSP 50-100-16	16"	.50"-1.00"
AWSP 75-150-16	16"	.75"-1.50"
AWSP 101-200-16	16"	1.00"-2.00"
AWSP 151-300-16	16"	1.50"-3.00"
AWSP 201-400-16	16"	2.00"-4.00"

**4.02** The heat-sensitive paint on the exterior of the sleeve changes color and informs the craftsperson when the adhesive on the interior of the sleeve has reached the temperature necessary to adhere to the cable jacket.

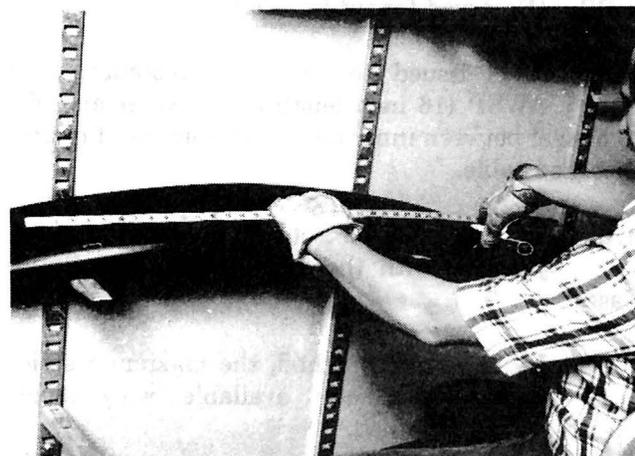
**4.03** Each sleeve is individually packed with one abrasive cloth strip.

**4.04** Each box of 10 sleeves contains one diameter tape.

**5. INSTALLATION**

**5.01** Determine the area in which the splice will be made.

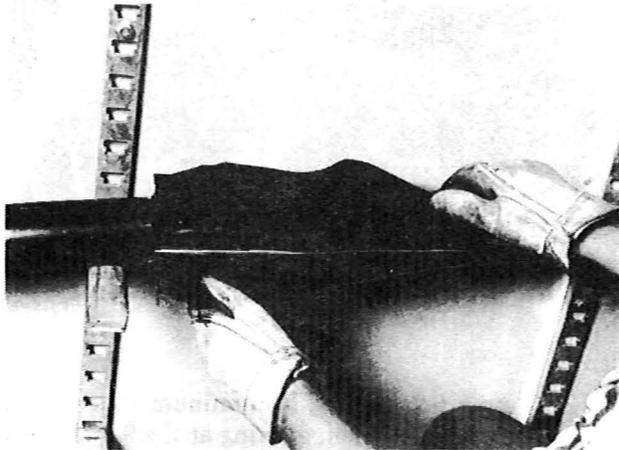
**5.02** Mark the cables leaving 33 inches for a splice opening (using "A" length splice cases, ie 20 inch sheath opening) [Fig. 2].



**Mark Exterior Sheaths  
Fig. 2**

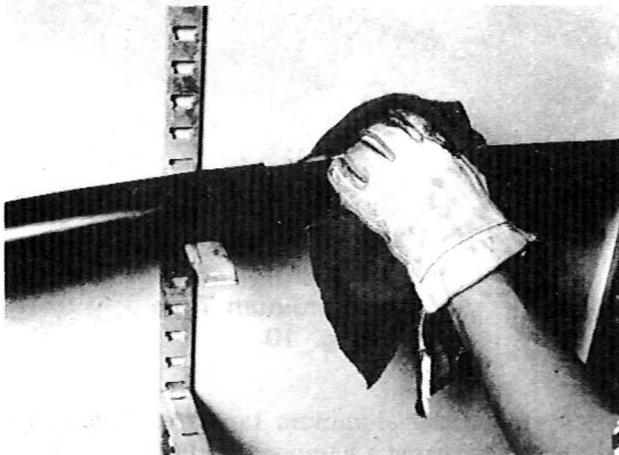
5.03 The following instructions will apply to both cables. For simplification, only one cable end will be illustrated and discussed.

5.04 Remove the outer sheath and metal shield and/or armor from the cable end (Fig. 3).



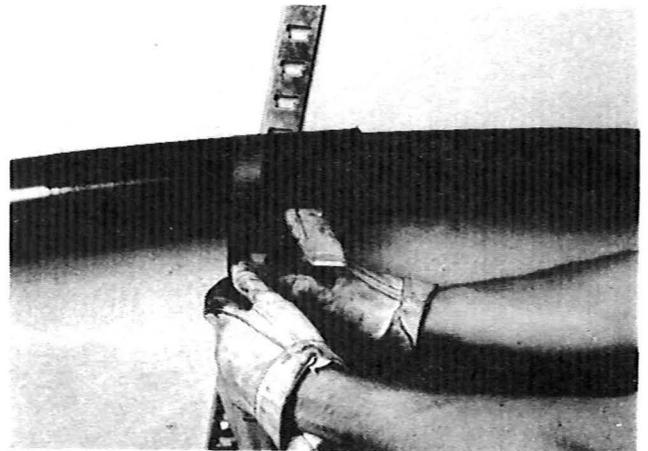
Removing Outer Sheath and Shield  
Fig. 3

5.05 Clean any loose dirt, pulling grease, lubricant or water from the inner and outer sheaths for a distance of 10 inches on either side of the transition (Fig. 4).



Clean the Cable for a Total of 20 Inches  
Fig. 4

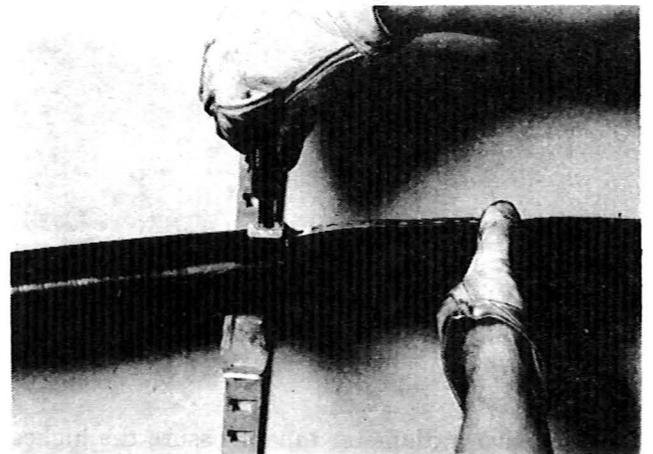
5.06 Using the supplied abrasive cloth, circumferentially scuff 7 inches of inner sheath and 10 inches of outer sheath (Fig. 5).



Scuff the Cable on Both Sides  
of the Transition  
Fig. 5

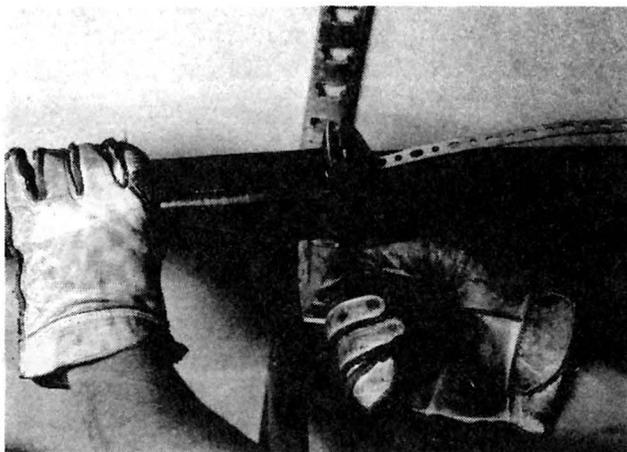
5.07 Install B bonding clamps and 12 inches of bond strap (Fig. 6).

*Note:* Any solid continuous strap is adequate. *Do not use* a braided or twisted bond strap.

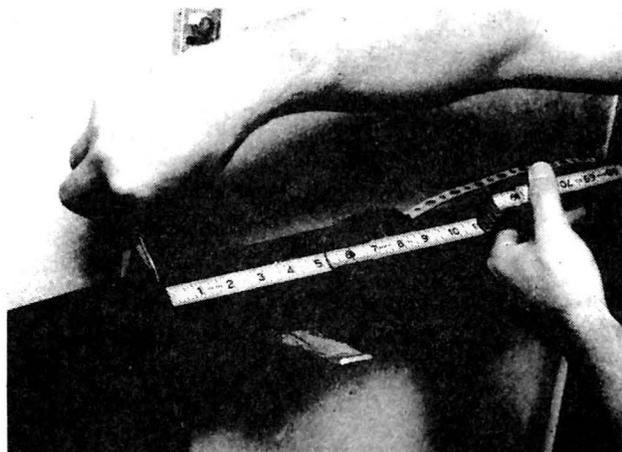


Place the Bond Strap Over the Inner Sheath  
Fig. 6

5.08 Cut off any excess bonding clamp stud (Fig. 7).



**Remove the Excess Stud**  
Fig. 7



**Mark the Outer Sheath at 9 Inches**  
Fig. 9

**5.09** Apply three layers of 2-inch wide DR tape over the bond clamp (Fig. 8).



**DR Tape will Protect the AWSP Sleeve from the Bonding Clamps**  
Fig. 8

**5.10** Using a diameter tape, measure the highest and lowest areas to be covered by the AWSP sleeve and choose the appropriate size AWSP (see Table A).

**5.11** Measure 9 inches on the outer sheath, starting at the edge of the DR tape and the inner sheath cut mark (Fig. 9).

**5.12** Apply 6 inches of B-aluminum tape on the outer cable jacket, starting at the 9 inch mark and continuing away from the splice area (Fig. 10).

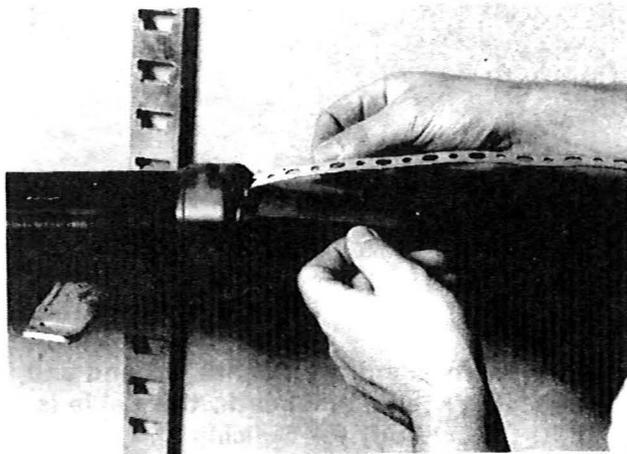


**Apply B-aluminum Tape**  
Fig. 10

**5.13** Dress the aluminum tape free from sharp edges, using a hammer handle.

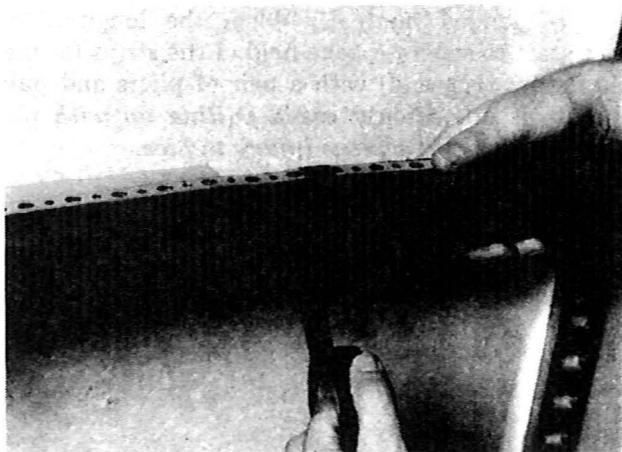
**5.14** Lift the bond strap 90° from the sheath, and using an approved method preheat the area between the aluminum tape and 6 inches on the inner sheath for 15 to 20 seconds or until the area is warm to the touch.

5.15 Place two ADP-17 Pads (one on top of the other) under the bond strap and up to the DR tape (Fig. 11).



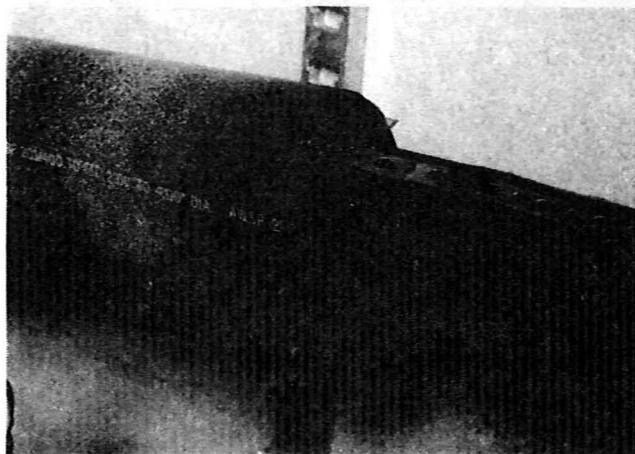
Proper Placement of the ADP-17 Pads will Ensure a Complete Seal  
Fig. 11

5.16 Bend the bond strap back onto position and hold it in place 4 inches from the ADP-17 Pads with several laps of friction tape (Fig. 12).



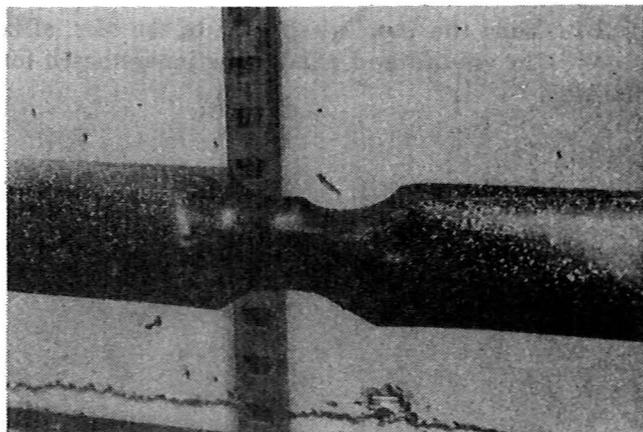
Secure the Bond Strap Prior to Sleeve Installation  
Fig. 12

5.17 Slide the appropriate AWSP sleeve over the aluminum tape, the scuffed area and the ADP-17 Pads. The sleeve should be aligned with the ADP-17 Pads and overlap the aluminum tape by 1 inch (Fig. 13).



Position the Sleeve Directly over the ADP-17 Pads and the Aluminum Tape  
Fig. 13

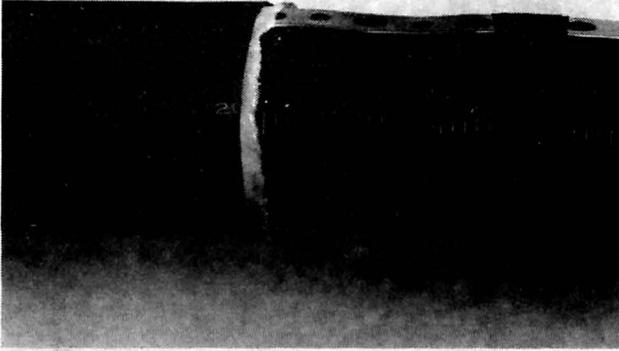
5.18 Using an approved method, start heating the AWSP sleeve from the middle and proceed to both ends (Fig. 14).



Start Heating the AWSP Sleeve in the Middle  
Fig. 14

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**5.19** Convert all the heat-sensitive paint, and allow a small amount of adhesive to extrude from the ends of the sleeve (Fig. 15).



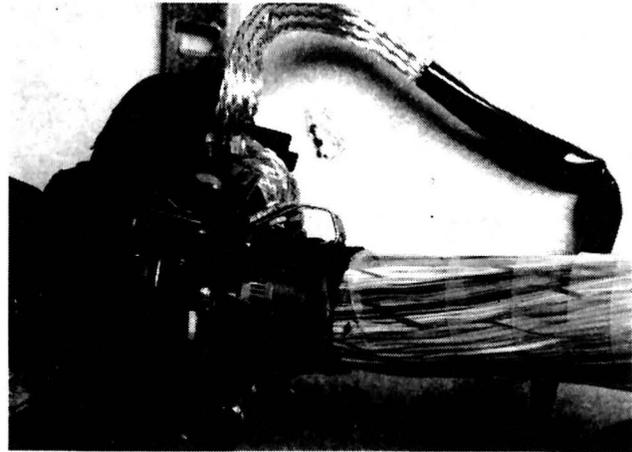
**After Paint Conversion and Adhesive Flow the Installation is Complete**  
**Fig. 15**

**5.20** When the sleeve is cool to the touch, the end plate of the splice case may be installed in the same manner prescribed for single sheathed cables.

**Note:** The AWSP sleeve will not permit the jaw tooth clamps to penetrate into the cable core. By placing the clamps close to the edge of the AWSP (on the inner sheath), a 20 inch splice opening is obtainable (Fig. 16).

**Caution:** The AWSP sleeve *must* be scuffed and treated as if it were the outer cable jacket.

**5.21** Bend the bond strap back to the disc, affix the ground and remove the inner sheath for splicing.



**After Establishing the Sheath Ground and Removing the Inner Sheath, the Cable is Ready for Splicing**  
**Fig. 16**

## **6. REMOVAL**

**6.01** If it should become necessary to remove the AWSP sleeve, remove the end plates and make four or five longitudinal cuts the full length of the AWSP sleeve with a cable knife.

**Caution:** *Do not cut through the cable jacket.*

**6.02** Reheat the sleeve using one of the recommended methods. When the longitudinal cuts start to separate, take hold of the strips (at the aluminum tape end) with a pair of pliers and pull the strips off. *Always avoid pulling up with the pliers to prevent serious injury to face.*