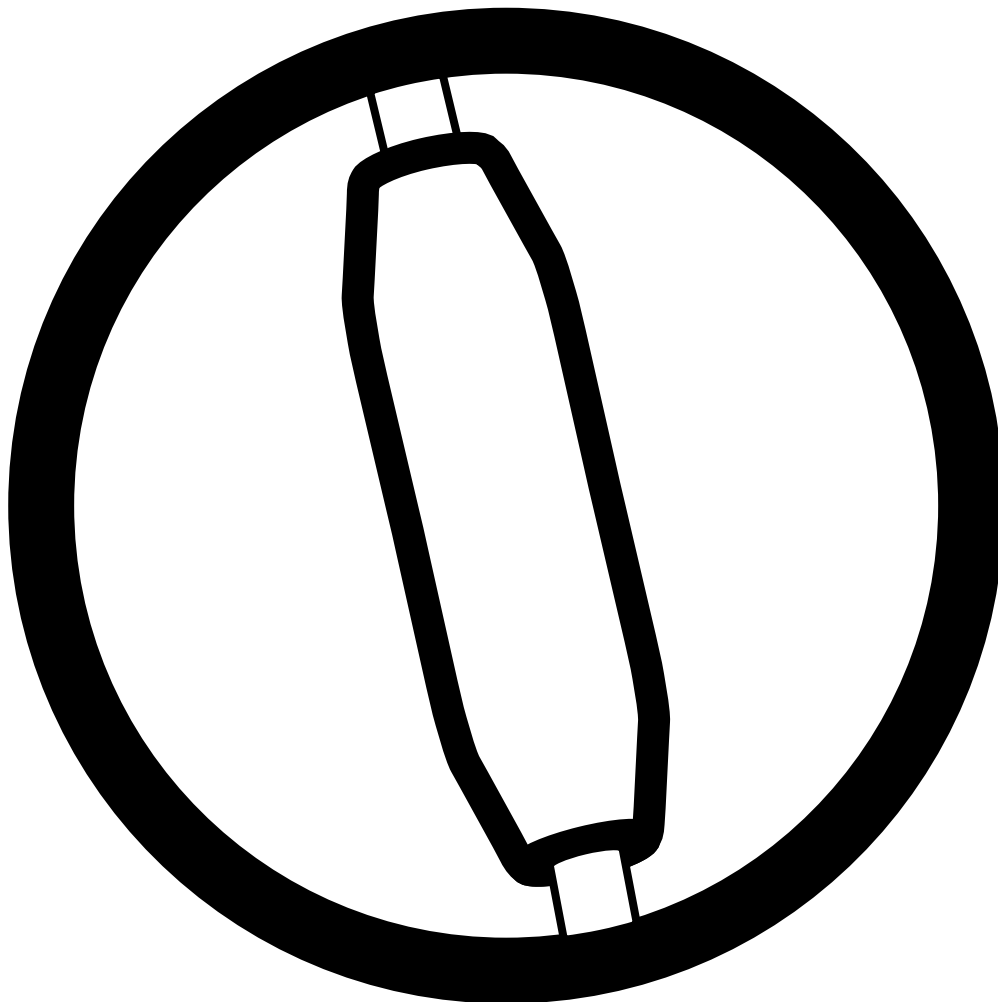


## HVS Series Cable Splice

Shim Kit for 1/C Extruded Dielectric (Poly/EPR) Power Cables: Metallic Tape, Wire Shield, UniShield<sup>®</sup>, LC Shield, Lead Sheath or Concentric Neutral URD Cables



UniShield is a registered trademark of Cablec Corporation.

## General Instructions

### Suggested Installation Equipment (not supplied with kit)

- Cable preparation tools
- Raychem P42 cable preparation kit or cable manufacturer approved solvent
- Clean, lint-free cloths
- Non-conducting abrasive cloth, 120 grit or finer
- Electrician's tape
- Connectors and installation tools
- Raychem recommended torch
- Solder and soldering iron

### Recommended Raychem Torches

**Warning:** Torches and accessory equipment should be checked for leaks before using.

Install heat-shrinkable cable accessories with a "clean burning" torch -- a propane fuel torch that does not deposit soot or contaminants on the product.

Clean burning torches include the Raychem FH-2609, FH-2629 (uses refillable propane cylinders) and FH-2616A1 (uses disposable cylinder).

### Adjusting the Torch

**Warning:** When using gas torches, follow the safety precautions from the torch manufacturer or standard, safe work practices. Provide adequate ventilation during installation.

Adjust regulator and torch as required to provide an overall 12-inch bushy flame. The FH-2629 will be all blue, the other torches will have a 3- to 4-inch yellow tip. Use the yellow tip for shrinking.

#### Regulator Pressure

FH-2616A1	Full pressure
FH-2609	5 psig
FH-2629	15 psig

### General Shrinking Instructions

- Apply outer 3- to 4-inch tip of the flame to heat-shrinkable material with a rapid brushing motion.
- Keep flame moving to avoid scorching.

- Unless otherwise instructed, start shrinking tube at center, working flame around all sides of the tube to apply uniform heat.

**Note:** Inspect installation. Reheat any flat spots or wrinkles, paying particular attention to the back of the splice.

### Installation Instructions

**Caution:** This kit is for use only with Raychem single conductor, poly cable splices.

#### 1. Choose cable type.

Find the appropriate cable type listed in Choice 1 or Choice 2 and follow the directions given.

#### CHOICE 1

**If Metallic Tape Shield, LC Shield, or Lead Sheath Cable**

Go to Part I, page 3.

#### CHOICE 2

**If Drain Wire, UniShield, Jacketed or Unjacketed Concentric Neutral Cable**

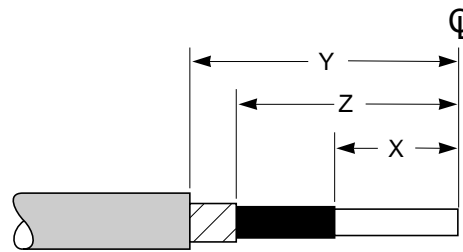
Go to Part II, page 6.

**Part I - Metallic Tape Shield, LC Shield, or Lead Sheath Cable**

**2. Prepare cable.**

Refer to the instructions in the base kit.

Prepare the smaller cable using these dimensions.



"Y" Jacket Cutback = Standard Jacket Cutback + 3" (76mm)

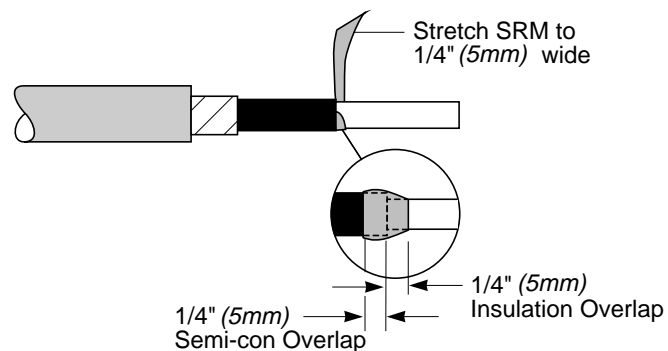
"Z" Metallic Shield Cutback = Standard Shield Cutback + 1" (25mm)

"X" Semi-Con Cutback = Standard Semi-Con Cutback + 1" (25mm)

772

**3. Apply SRM at semi-con cutback.**

Remove backings from the short angle-cut piece of SRM. Place tip of SRM at semi-con cutback and tightly wrap to fill semi-con step. Overlap semi-con and insulation as shown. Taper SRM down to meet insulation.



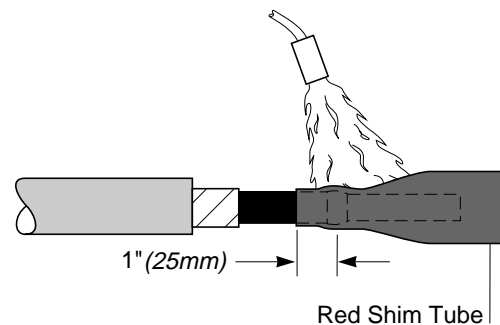
773

**4. Position red shim tube(s);\* shrink in place.**

Position red shim tube to overlap semi-con by 1" (25mm) as shown.

Shrink in place beginning at the end nearest the cable jacket.

**\*Note:** If the kit has 2 red shims, shrink the *smaller* diameter shim first. Repeat with the *larger* diameter shim.

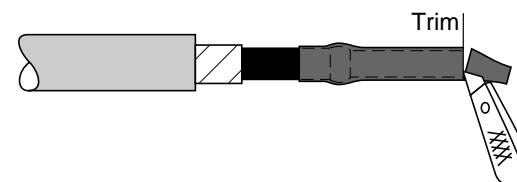


774

**5. Remove surplus red shim tube.**

**Note:** Allow red shim to cool enough to touch before proceeding.

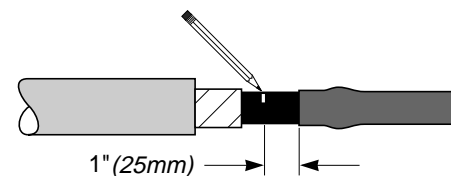
Ring cut and remove surplus red shim from the end of the cable.



775

**6. Mark position of red sealant.**

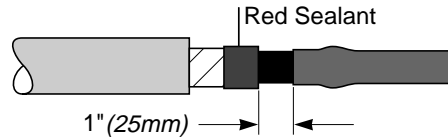
Mark semi-con as shown.



776

## 7. Apply red sealant.

Apply 1 wrap red sealant to semi-con as shown.

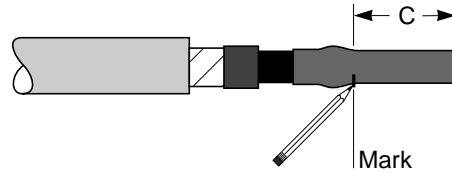


777

## 8. Mark position of semi-con shim.

Mark cable at Dimension C.

**Note:** Dimension C is the standard semi-con cutback given in the installation instructions from the base kit.

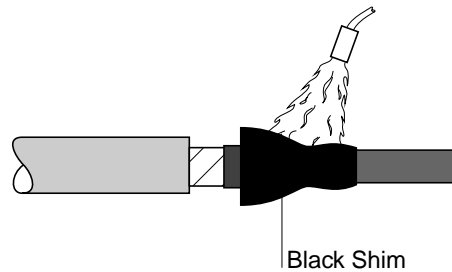


778

## 9. Position semi-con shim tube; shrink in place.

Position semi-con shim (black conductive tube) at mark made in Step 8.

Shrink in place, beginning at the end nearest the mark and working towards the cable jacket.



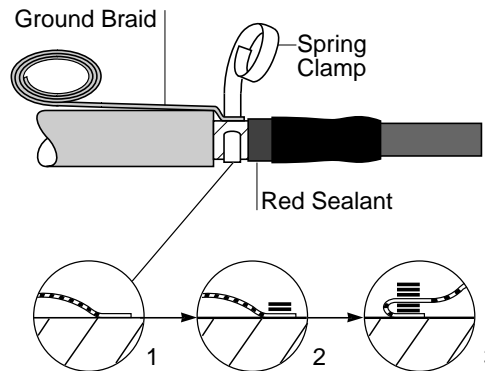
779

## 10. Install ground braid.

(1) Take the ground braid from the base kit. Flare one end of the braid and place it onto the metallic tape butted up to the installed red sealant.

(2) Take the roll spring from the shim kit. Attach the braid to the shield by placing two wraps of the spring clamp over the braid.

(3) Fold the braid back over the spring clamp wraps. Continue to wrap the remaining clamp over the braid. Tighten clamp by twisting it in the direction it is wrapped and secure with copper foil tape provided.



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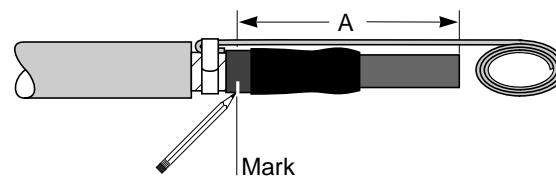


800

## 11. Mark position of jacket shim.

Mark cable at Dimension A.

**Note:** Dimension A is the standard jacket cutback given in the installation instructions from the base kit.

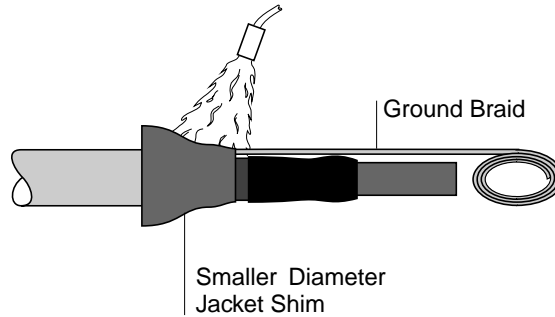


781

## 12. Position *smaller diameter* jacket shim; shrink in place.

Position *smaller diameter* jacket shim at mark made in Step 11.

Shrink in place, beginning at the end nearest the mark and working towards the cable jacket.

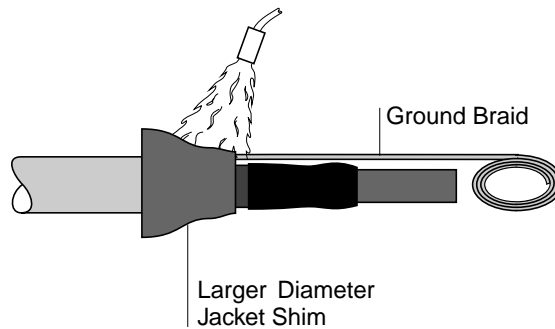


782

## 13. Position *larger diameter* jacket shim; shrink in place.

Position *larger diameter* jacket shim over the first at mark made in Step 11.

Shrink in place, beginning at the end nearest the mark and working towards the cable jacket.



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## 14. Shim kit is complete.

Return to base kit installation instructions.

The remaining instructions apply only to Drain Wire, UniShield, Jacketed or Unjacketed Concentric Neutral Cables.



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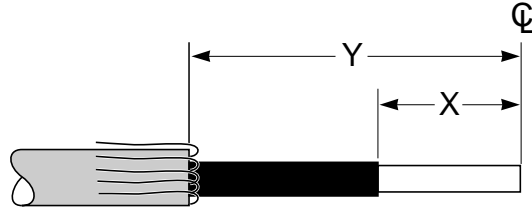
**Part II - Drain Wire, UniShield, Jacketed or Unjacketed Concentric Neutral Cable**

**2. Prepare cable.**

Choose the cable type (Choice 1-4). Prepare the smaller cable as shown in the following drawings. Refer to installation instructions in Base Kit.

**CHOICE 1**

If Drain Wire Cable



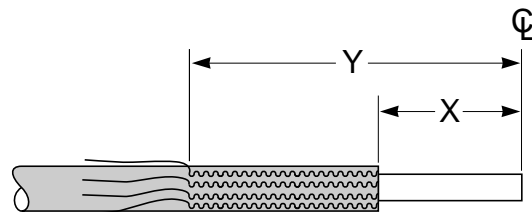
"Y" Jacket Cutback = Jacket Cutback from Standard Kit + 3"

"X" Semi-Con Cutback = Semi-Con Cutback from Standard Kit + 1"

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**CHOICE 2**

If UniShield Cable



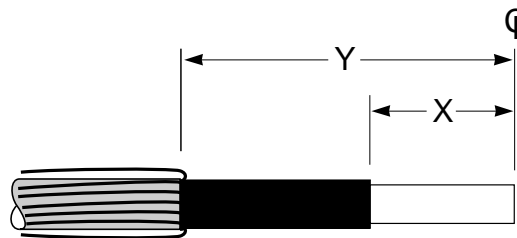
"Y" Jacket Cutback = Jacket Cutback from Standard Kit + 3"

"X" Semi-Con Cutback = Semi-Con Cutback from Standard Kit + 1"

786

**CHOICE 3**

If Jacketed Concentric Neutral Cable



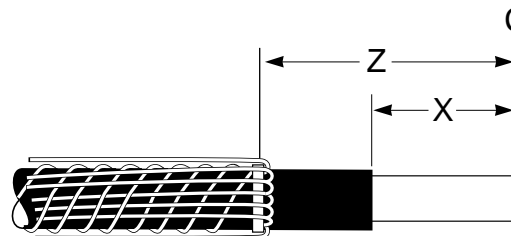
"Y" Jacket Cutback = Jacket Cutback from Standard Kit + 3"

"X" Semi-Con Cutback = Semi-Con Cutback from Standard Kit + 1"

787

**CHOICE 4**

If Unjacketed Concentric Neutral Cable



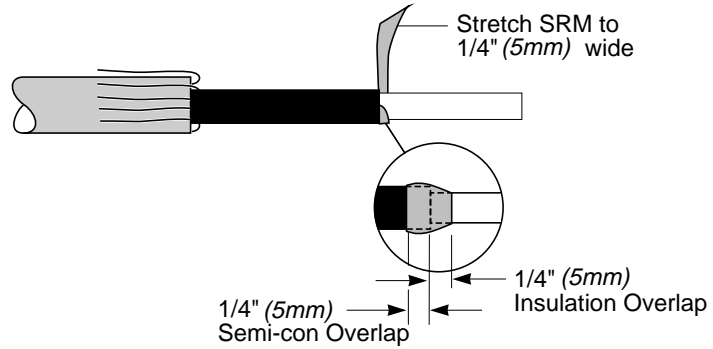
"Z" Neutral Wire Pull Back = Neutral Wire Pull Back from Standard Kit + 1"

"X" Semi-Con Cutback = Semi-Con Cutback from Standard Kit + 1"

788

### 3. Apply SRM at semi-con cutback.

Remove backings from the short angle-cut piece of SRM. Place tip of SRM at semi-con cutback and tightly wrap to fill semi-con step. Overlap semi-con and insulation as shown. Taper SRM down to meet insulation. Discard roll spring provided in Shim Kit.



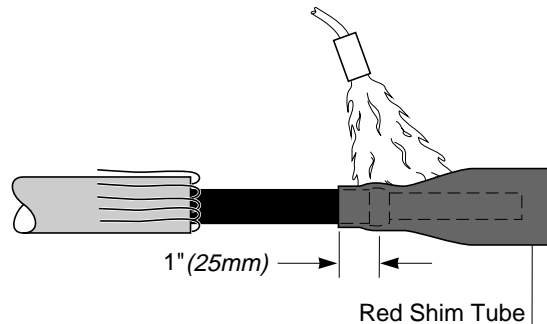
789

### 4. Position red shim tube(s);\* shrink in place.

Position red shim tube to overlap semi-con as shown.

Shrink in place beginning at the end nearest the cable jacket.

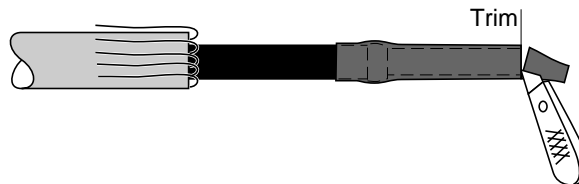
**\*Note:** If the kit has 2 red shims, shrink the *smaller* diameter shim first. Repeat with the *larger* diameter shim.



790

### 5. Remove surplus red shim tube.

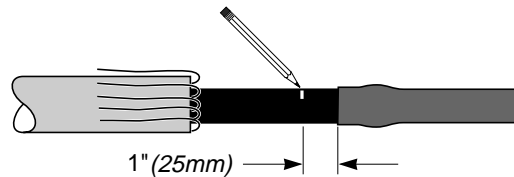
When the red shim tube has cooled sufficiently to touch, ring cut and remove surplus tubing from the end of the cable as shown.



791

### 6. Mark position of red sealant.

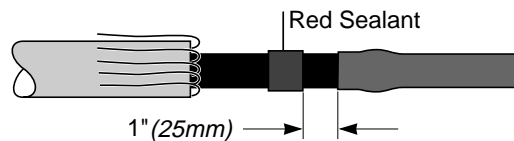
Mark semi-con as shown.



792

### 7. Apply red sealant.

Apply 1 wrap red sealant to semi-con as shown.

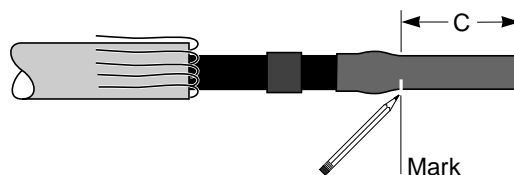


793

### 8. Mark position of semi-con shim.

Mark red shim tube at Dimension C.

**Note:** Dimension C is the standard semi-con cutback given in the installation instructions from the base kit.

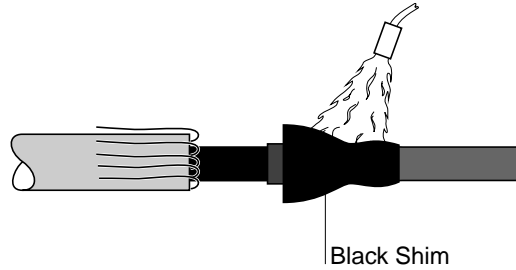


794

## 9. Position semi-con shim tube; shrink in place.

Position semi-con shim (black conductive tube) at mark made in Step 8.

Shrink in place, beginning at the end nearest the mark and working towards the cable jacket.



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## 10. Choose cable type.

Choose the cable type (Choice 1-2) and follow the directions given.

### CHOICE 1

If using Unjacketed Concentric Neutral Cable

**Shim procedure is complete.**  
Return to base kit installation instructions to complete the splice.

### CHOICE 2

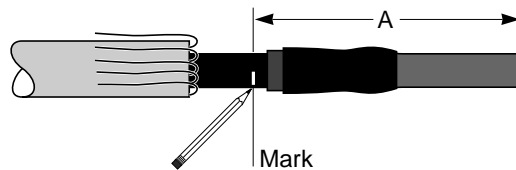
If using Jacketed Concentric Neutral, Drain Wire Shield or UniShield Cable

**Go to Step 11.**

## 11. Mark position of jacket shim.

Mark cable at Dimension A.

**Note:** Dimension A is the standard jacket cutback from the installation instructions given with the base kit.

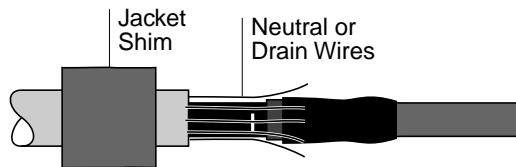


796

## 12. Bend back neutral wires

Bend the neutral or drain wires back along the cable as shown.

Slide the jacket shims over the cable end and wires.

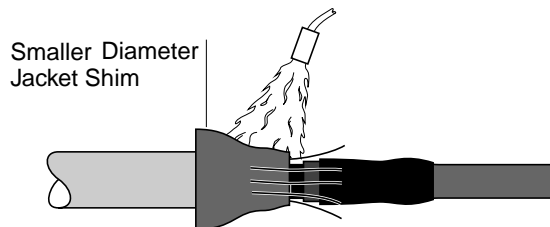


797

## 13. Position smaller diameter jacket shim; shrink in place.

Position *smaller* diameter jacket shim at mark made in Step 11.

Shrink in place, beginning at the end nearest the mark and working towards the cable jacket.



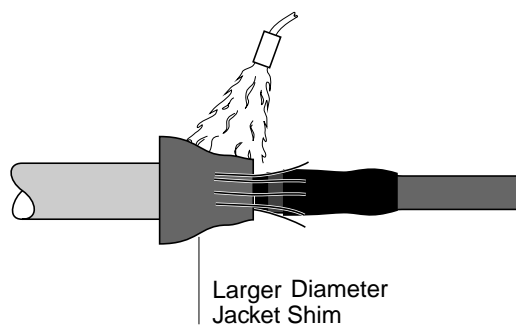
798

## 14. Position larger diameter jacket shim; shrink in place.

Position *larger* diameter jacket shim over the first at mark made in Step 11.

Shrink in place, beginning at the end nearest the mark and working towards the cable jacket.

**Shim kit is complete.** Return to base kit installation instructions.



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