1.0 Purpose and Scope

This document describes the procedure to be used when installing SEIDRS series D-150-C-1X on insulated wires rated at least 135°C. D-150-C-1X is a heat-shrinkable side-entry sleeve designed to repair and seal a damaged primary wire jacket that is either chaffed or has a radial crack or cut on the insulation. The damaged area to be repaired must not exceed 0.250 inches length. There shall be no conductor damage.

2.0 References

D-150-C-1X	Tyco Electronics Customer Drawing

3.0 Tools and Materials

Steinel HL1910E or HL2010E	General Purpose Hot-Air Tool
Steinel HL1802E-074616	SolderSleeve Reflector for HL tools
M81969/8-08 (for D-150-C-11/-12)	Mil spec removal tool
M81969/8-10 (for D-150-C-13/-14)	Mil spec removal tool

Equivalent heating tools may be used

Degreasing solvent (variety leaving tools may be used)

Disposable wipes

Gloves, solvent resistant

240 grit emery cloth or Scotch Brite type A

4.0 Part Selection

Select the appropriate part number and MIL spec tool. Unless otherwise specified. Dimensions are in millimeters (inches are in between parentheses).

Part Number	Color	Wire Jacket OD Range	
		Minimum	Maximum
D-150-C-11	Green	0.80 (.032)	1.10 (.043)
D-150-C-12	Red	1.10 (.043)	1.50 (.059)
D-150-C-13	Blue	1.50 (.059)	2.30 (.091)
D-150-C-14	Yellow	2.30 (.091)	2.80 (.110)

5.0 Procedure:

5.1 Cable preparation

WARNING: Solvent resistant gloves must be worn during the following operation to prevent solvent contact with the skin.

5.1.1 Clean the wire jacket using isopropyl alcohol or approved degreasing solvent and a disposable wipe. Dry the jacket with a wipe.

5.1.2 For extruded TFE and PTFE/Polyimide tape wrapped insulated wire, abrade the wire jacket thoroughly in the damage area with 240 grit emery cloth or Scotch rite. The length of the abraded area shall not be longer than 15 mm (0.590 inches) centered on damage insulation area. The whole surface of the damage area should be abraded. Remove loose particles from the abraded area using a dry tissue. Each extruded TFE, PTFE/Polyimide tape wrapped insulated wire should be prepared using this method. **See Illustration I.**

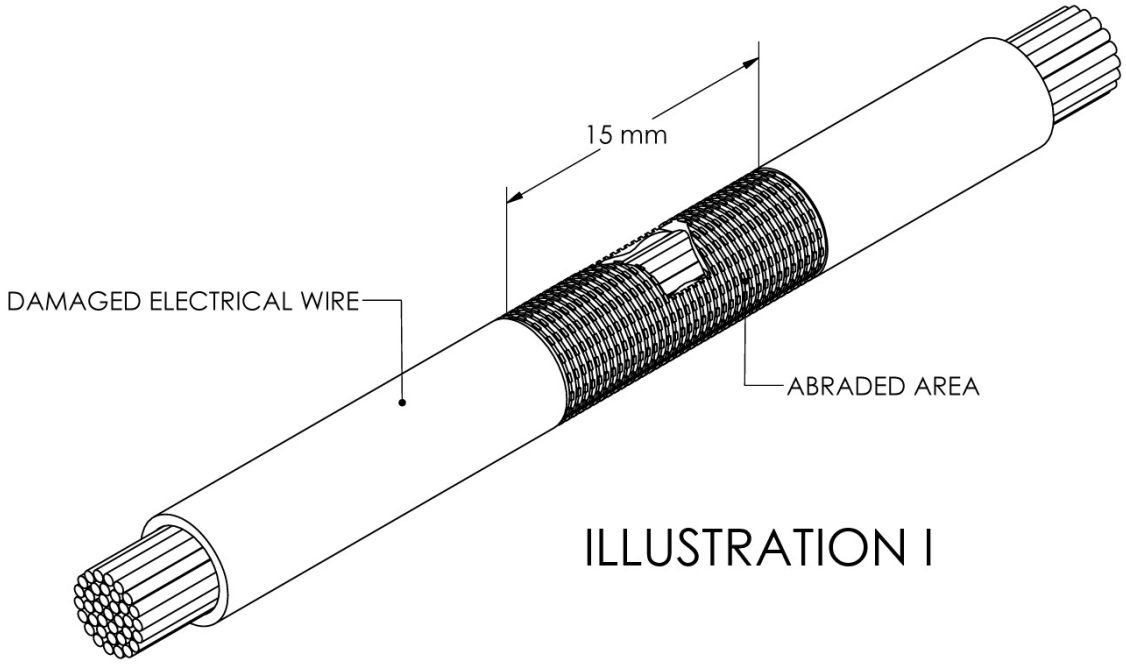


ILLUSTRATION I

5.2 Adhesive sleeve installation.

5.2.1 Clip the adhesive sleeve onto the wire covering the entire damage area. The insulation damage area should be facing opposite to the opening of the C-Wrap. For radial crack damage on the wire insulation, C-Wrap must cover the whole diameter of the damage wire. Center the adhesive sleeve over the damaged area. **See Illustration II.**

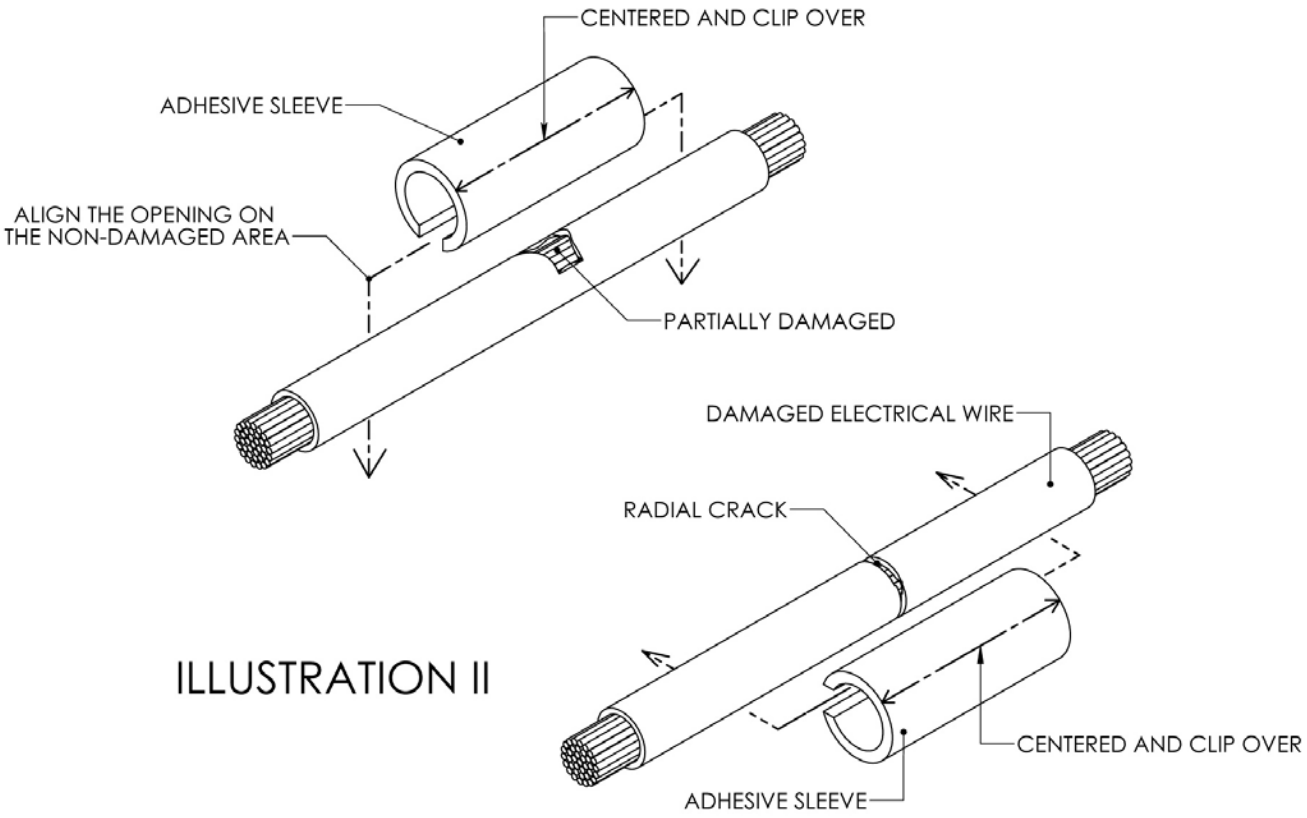


ILLUSTRATION II

5.3 Insulation sleeve installation

5.3.1 Clip the insulation over the adhesive sleeve. Center the insulation over the adhesive sleeve. Align the slit of the adhesive with the slit of the insulation.

See Illustration III.

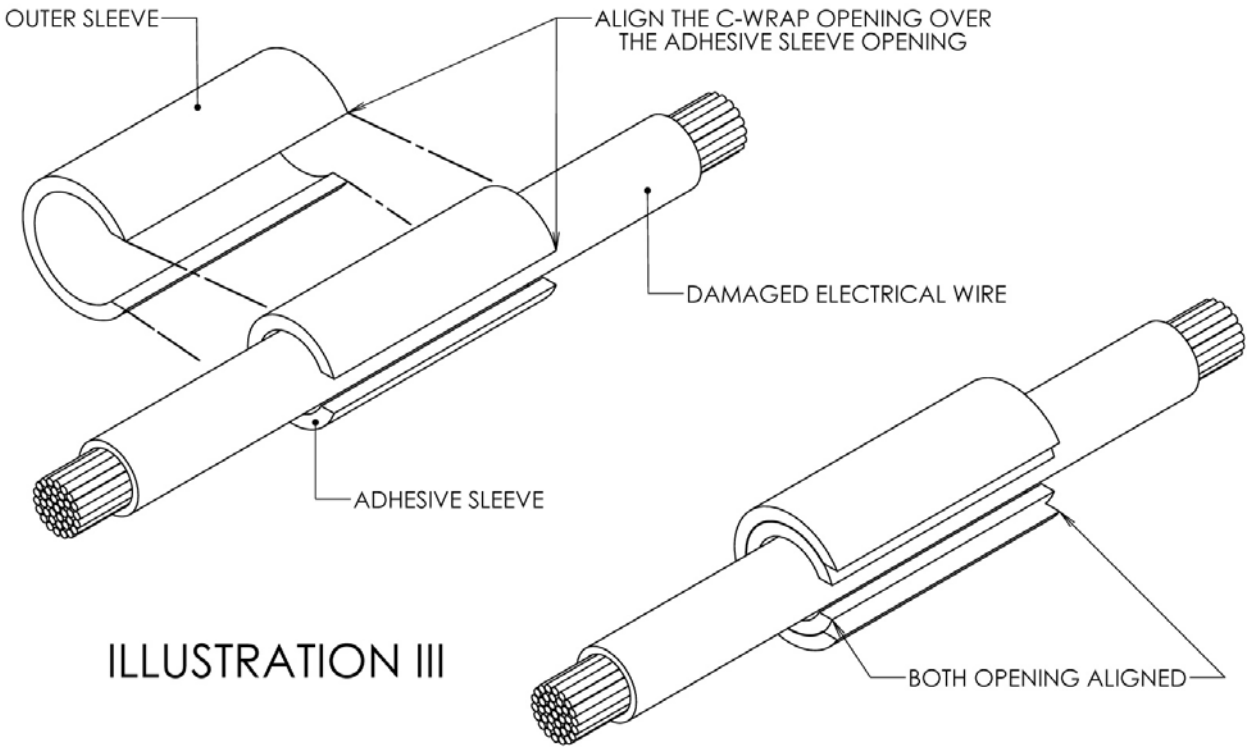


ILLUSTRATION III

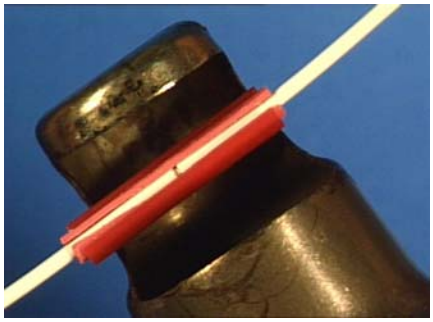
5.4 Heating Procedure

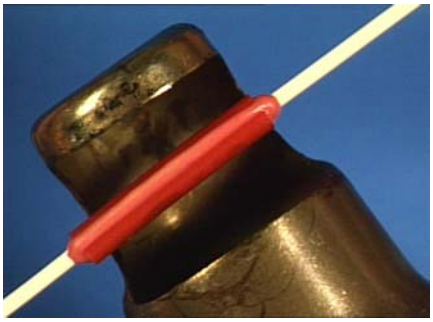
WARNING: Hot air tools can cause severe burns. Do not allow skin to contact the hot surfaces of the tool or the hot air stream. Follow the tool manufacturer's instructions for proper tool operation.

5.4.1 Turn on heating tool and warm up for one minute. Typical temperature setting (HL2010 E)

550° F ± 50° F (290° C ± 30°C). Fan speed: Low. Permissible to adjust heat tool setting as necessary based on the application environment provided the requirement of 6.1 are met.

5.4.2 Center the sleeve in the reflector. Apply heat until the insulation tubing shrinks and the adhesive sleeve has melted and flowed. Continue heating for 3-5 seconds before terminating the heating.





For extruded TFE, and PTFE/Polyimide tape wrapped insulated wire, apply light hand-pressure on the SEIDRS insulation sleeve using the appropriate Mil spec installation tool, whilst the specimen is still hot. Allow a minimum 10 seconds before removing the installation tool.

6.0 Inspection

6.1 Inspect for the following:

- The installed sleeve shall be fully shrunk onto the wire.
- The adhesive shall have melted and flowed and filled the slit of the insulation sleeve.
- The damaged wire jacket shall be completely covered by the repair sleeve.
- Installed repair sleeve or the wire jacket shall not show any evidence of overheating. (burning, browning or severe darkening) or damage.

7.0 SEIDRS Rework

If installation of SEIDRS did not meet the inspection criteria, SEIDRS must be replaced.

7.1 Removal of outer tubing and adhesive

- Set up heating tools as specified on paragraph 5.4.1 to 5 – 10 seconds. Reheat sleeve until it soften and then grasp it with a needle-nose pliers on the side opposite of the seam, and pull gently off the assembly. Clean the adhesive residue using isopropyl alcohol or approved degreasing solvent and a disposable wipe.

7.2 Re-installation

- After inspection on the damage insulation of wire, if it shows no further damage, re-install the SEIDRS repeating the procedure in paragraph 5.0 to 6.0. If further damage is found on the wire insulation that is beyond the purpose and scope of these products, then customer shall look on other means to fix the assembly.