



**Installation Procedure for Products Designed for In-Line Splice
Installed with Hot Air Gun**

Products:

Low Temperature: B-008-13/ B-008-14/ B-008-15 Type and Equivalent

Low Temperature: B-155-008-13/ B-155-008-14/ B-155-008-15 Type and Equivalent

High Temperature: D-1744 Type and Equivalent

Summary

Product Selection, According to Application.

Application Equipment

Wire Preparation

Installation Procedure

Control

Repair

Reference Documents

SCD: Technical data sheet B-008-1X

Technical data sheet B-155-008-1X

Technical data sheet D-1744

Appendix: Guide for Visual Inspection

Unless otherwise specified dimensions are in millimeters.
(Inches dimensions are in between brackets)

1.0 Product Selection, According to Application:
Consult the Technical Data Sheet of the product (or Specification Control Drawing).

2.0 Application Equipment:

2.1 Hot air gun:

Generator	Product ⁽¹⁾ Temperature Class T2 (125°C Max) (B-008 and B-155-008)		Product ⁽¹⁾ Temperature Class T3 (150°C Max) (D-1744)	
	Set-up	Temperature ⁽²⁾	Set-up	Temperature ⁽²⁾
Steinel HL-1802E	Power 8 Air flow ●●●	330±20°C	Power 11 Air flow ●●●	400±20°C

⁽¹⁾ Consult the Technical Data Sheet for the Product.

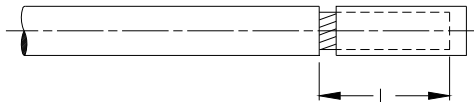
⁽²⁾ Control of Temperature:

- Equip the hot air gun with the reflector, as recommended in para. 2.2, using the specific adaptor HL 1802E-ADAPT-PR.
- Measure the temperature with a thermocouple located in the center of the reflector and connected to a numeric thermometer.

2.2 Reflector: Use either - PR-25 + adaptor HL 1802E-ADAPT-PR or - HL 1802E-070519

2.3 Optional Accessories: - Holding fixture AD-1319

3.0 Wire Preparation: Pre-strip the wires at L mm, as per table below. Remove the pre-stripped insulation just before installation, in order to avoid damage or conductor oxidation:



B-008-13/-14/-15 B-155-008-13/-14/-15	D-1744 Series
L= 12.5±1.0mm (0.500±0.040)	L= 12.0±1 mm (0.472±0.040)

Control: The wire strands must not be damaged or oxidized.
The wire jacket must be cut properly.

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4.0 Installation Sequence:

WARNING

Follow installation instructions carefully. Use adequate ventilation and avoid charring or burning during installation. Charring or burning the product will produce fumes that may cause eye, skin, nose and throat irritation. Consult the appropriate Material Safety Data Sheets **RAY5103** (B-008) or **RAY1504** (D-1744) for further information.

4.1 Wire preparation and positioning:

- Align the wires that are to be spliced with an overlap of 10 to 12mm.
- Slide the SolderSleeve device onto one wire, in a stand-by position.
- For a small gauge wires, (up to 1mm²), and when a mechanical attachment is required, secure the 2 wire ends, by twisting them together. Align carefully the strands in order to avoid any poke through of the sleeve.
See Fig. 1 and Fig. 2.

In other cases, align wires in such a manner that all strands are parallel. Then, slide the sleeve over the splice area and center the solder preform of the sleeve at the center of the splice length.

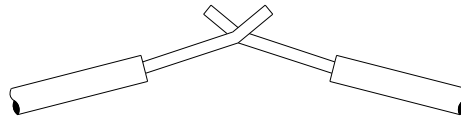


Fig. 1

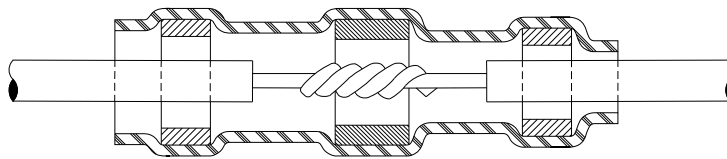


Fig. 2

NOTE: The splicing operation is made easier by using the recommended holding fixture (AD-1319), keeping the wire aligned and the sleeve positioned during the termination.

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4.2 Heating:

WARNING

The heating tool and the assembly become hot during the installation of the SolderSleeve Wire Splice. To prevent burns, allow tool and the assembly to cool down before handling.

- Pre-heat the hot air gun equipped with the appropriate reflector, until the operating temperature is achieved (see paragraph 2), (2 minutes approx.).
- Center the reflector at the solder preform location.
- Heat the SolderSleeve device until the sleeve is totally shrunk; the solder preform has melted and flowed through the strands.
- Stop heating when a solder fillet can be seen between the conductors.
ATTENTION: The deformation of the solder perform is not enough to consider that the soldering has been done efficiently.
- Finish by shrinking totally both ends of the sleeve, to complete the melting of the sealing rings.
- SolderSleeve with thermal Indicator
 - Some terminators contain a thermal indicator to signal when the correct amount of heat has been applied to the solder. There are two types of indicators. One is a thermochromic material which signals correct heating by loss of color. Terminators with this type of indicator should be heated until all of the colored material in the joint area has turned colorless. (slight traces of the material may remain in the stranding of the shield). The other type of thermal indicator is a ring of fusible material around solder perform. Terminators with this Bi-Alloy indicator should be heated until the solder performs melts and the indicator ring completely disappears in the joint area. The thermal indicator is only an aid for deciding when to stop heating.
- Allow the assembly to cool down before handling.

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5.0 Control

5.1 Control of the Positioning:

- The conductors must not pass over the wire jackets.
- The solder joint must have a minimum length of 3.5 mm.
- The Soldersleeve device must cover the entire stripped area.

5.2 Control of the Heat:

- The solder preform must be totally melted and flowed along the conductors to create a solder fillet.
- A solder fillet must be visible between conductors. Visible remains of solder indicate that the joint has been under-heated.
- A lack of solder indicates that the joint has been over-heated (the solder may have disappeared in the strands by capillary effect).
- The sleeve must be completely shrunk.

5.3 Control of the Assembly:

- The SolderSleeve device must not be cut, split or pierced.
- No copper strands must poke through the sleeve.
- The sleeve and the wire jackets must not show evidence of mechanical damage or over-heating, such as melting zones, burning, spikes, etc.
- A slight browning of the sleeve is not considered as a defect and is not sign of performance degradation.

6.0 Repair (if necessary)

6.1 Repair of the Underheated Assembly:

- Heat the assembly again in order to complete the melting and flowing of the solder preform.

6.2 Repair of an Over-heated Assembly:

Remove the SolderSleeve device as indicated below:

- Cut the sleeve with a sharp cutter blade. Take care not to damage the wires.
- Heat the device with a hot air gun, to soften it and remove it with a pair of pliers.
- Install a new device by following the operations described in paragraph

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Appendix To The RPIP-850-00
-Guide for Visual Inspection-

1. Underheated Installation
 - Contour of solder preform is visible in joint area.
 - Contour of wires, in joint area, is obscured by solder.

Unacceptable



2. Acceptable Installation
 - Joint area is clearly visible through the sleeve.
 - Solder preform has lost all appearance of ring shape.
 - Contour of wires is visible through the solder.
 - Fillet is clearly visible along the wires interface.
 - Inserts have melted along the wires.

Acceptable



Over-Heated Installation

- Joint area is not visible because of severe darkening.
- Solder fillet is not visible along the wires interface.
- Wire insulation is damaged outside the sleeve.

Unacceptable



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