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# ELE-3COP-356

## Title – Termination of a Primary Wire to a Overall Cable Screen using a Solder Sleeve.

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Before starting work please read this document carefully and note the guidance given.

### 1 Purpose and Scope

This COP describes the procedure to be used when carrying out the installation of a primary wire to an overall cable screen using a solder sleeve. The instructions in this document take preference over IPC/WHMA requirements, as do the drawing and any customer documentation.

### 2 Performance Objective

This code of practice is produced to support operators already trained in the installation of heat shrinkable and harnessing products. It identifies the installation procedure that should be used when terminating a primary wire to an overall cable screen using solder sleeves with or without a pre-installed lead.

### 3 Materials and Equipment:

Appropriate Solder Sleeve with or without with Pre-installed lead

Appropriate primary Wire if required

RNF 100 Tubing

22 SWG Tinned Copper Wire

Heat Gun CV1981 or equivalent. Other hot air guns may be used but these must be capable of delivering the temperatures required for installation of the solder sleeve. This also includes hot air guns with temperature displays.

Appropriate reflector. (Refer to Table 1)

### 4 Health and Safety

Adhere to local Codes and Regulations relating to Safe Working practices. For the U.K. adhere to requirements of the Health and Safety at Work Act 1974 and subsequent amendments.

A knife should never be used for jacket stripping as this can easily cause personal injury and shield or conductor damage.

### 5 Procedure

If the specified solder sleeve does not have a pre-installed lead, prepare the primary wire of the correct type and gauge as per Figure 1.

See Table 1 for recommended strip lengths.

Details on primary wire stripping can be found in ELE-3COP-251.

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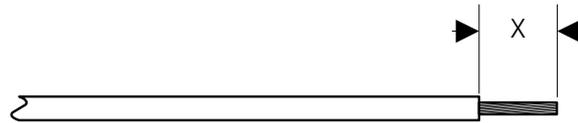


Figure 1

#### Standard Method

Prepare the screened cable as per Figure 2.

Position RNF100 protection sleeve under cable shield to protect wires so that it protrudes approximately 5mm from the end of the solder sleeve onto the wire bundle.

Secure the end of the shield using tinned copper wire wrapped once around shield then ends twisted to pull shield tight together.

Trim ends to 5mm long and fold flat along length of cable.

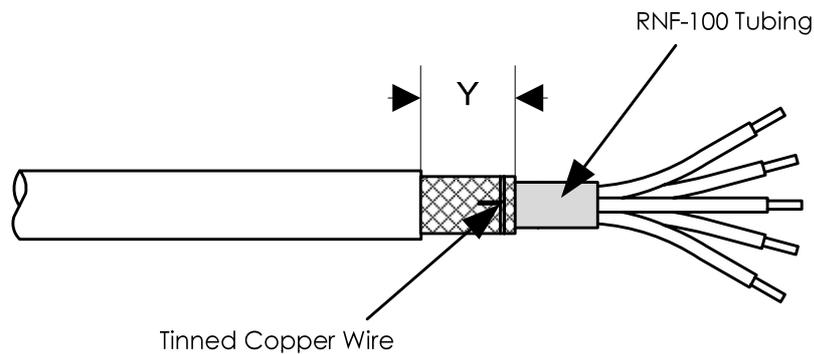


Figure 2

#### Shield Foldback Method

An alternative method may be used where the cable shield is folded back over the cable jacket. Prepare the screened cable as per Figure 3.

Position RNF100 protection sleeve over the wire bundle so that it protrudes approximately 5mm from the end of the solder sleeve.

Secure the end of the shield using tinned copper wire wrapped once around shield then ends twisted to pull shield tight together.

Trim ends to 5mm long and fold flat along length of cable.

See Table 1 for recommended strip lengths.

Details on cable jacket stripping can be found in ELE-3COP-254.

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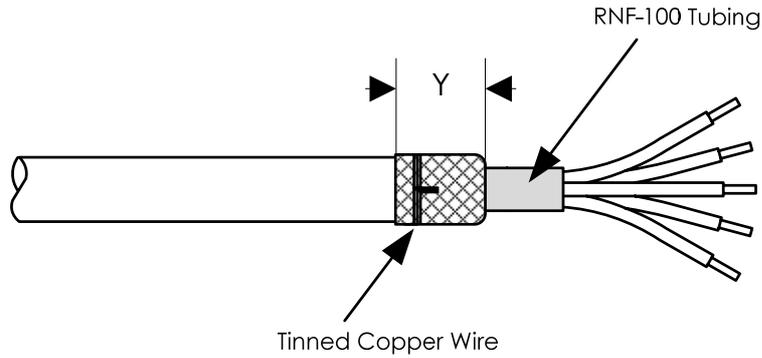


Figure 3

Expanded Solder Sleeve Diameter	Dimension X	Dimension Y	Reflector Part Number
2.5 to 6.0mm	6	6	PR25
7.0 to 8.6mm	6	6	PR25A
10.5 to 13.3mm	8	8	PR25D
17.0 to 23.0mm	10	10	PR34

Table 1

For both methods, if a separate primary wire is used position the pre-strip wire in line with the shield.

Position and recover the Solder Sleeve using the correct heat gun and reflector, slightly rotate either the heat gun or the cable until the solder ring completely disappears and wets the cable shield as shown in Figure 4.

Wire may exit either end of solder sleeve, depending on the application.

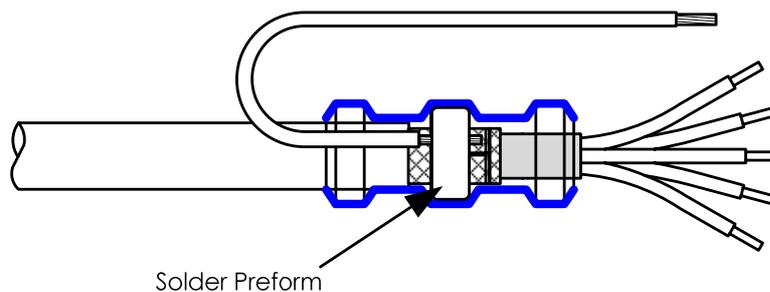


Figure 4

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Always ensure that the air vent on the rear of the hot air gun is open and that it is dust free.  
Always allow the hot air gun to stabilize at the required temperature and setting for two minutes before commencing calibration and installation.  
The recommended recovery temperature range using a CV1981 Heat gun and PR reflector as per Table 1 is 230°C to 250°C.

#### 6 Inspection Requirements

No inspection of the joint should take place until it has completely cooled.  
Check the primary wire conductor is aligned with the cable shield.  
Check there is evidence of wetting at the joint and that the solder has flowed.  
Check the solder sleeve overlaps the cable jacket and the RNF protection sleeve.  
There should be no scorching of the solder sleeve, cable jacket or damage to the wires.  
Ensure no strands are protruding through the solder sleeve insulation.

#### 7 Visual Standards



ACCEPTABLE



NOT ACCEPTABLE  
Insufficient Solder Flow



NOT ACCEPTABLE  
Incorrect Solder Sleeve Position



NOT ACCEPTABLE  
Shield Spike through Solder Sleeve



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4	CR09-DM-018	03/02/09	Paul Newman	Neil Dorricott
5	Visual Identity	06/06/11	Paul Newman	Neil Dorricott

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