
ELE-3COP-604

Title - Application of S1125 Adhesive

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 using S1125 adhesive. The instructions in this document take preference over IPC/WHMA requirements, as do the drawing and any customer documentation.

It is good working practice that where trained operators have not installed this product for over 6 months, a sample installation should be carried out by the operator to refresh installation practice. Performance of the sample can be checked using the inspection standards described within this document.

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 procedure to be used with the application of S1125 adhesive from a sachet, or a nozzle with an adhesive dispensing gun, to ensure that a high performance, flexible joint with a good environmental seal is achieved.

Note

Best results will be obtained if 10% unresolved recovery (grip) for all outlets of the moulded parts is available. Please check for compliance with this requirement before assembly. Unresolved recovery is defined as the difference between the installed diameter and the fully shrunk (recovered) diameter as given on the SCD expressed as a percentage of the fully shrunk diameter. For example a moulded part fully shrunk with a diameter of 10mm and an installed diameter of 11mm has a 10% unresolved recovery.

3 Materials and Equipment:

Appropriate Moulded part.

Appropriate moulded part adaptor.

S1125 Adhesive, supplied in various pack sizes

S1125-KIT-1 – five 10gm sachets

S1125-KIT-2 – two 10gm sachets

S1125-KIT-4 – five 10gm sachets

S1125-KIT-5 – one 10gm sachet

S1125-KIT-8 – two 50ml syringes (Supplied with 3 epoxy mixing nozzles)

Applicator gun

100 grit Emery Cloth or equivalent.

Degreasing Agent isopropyl alcohol or isopropanol (IPA) impregnated tissue wipe.

Heavy duty tissues.

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 moulded part. This also includes hot air guns with temperature displays.

ELE-3COP-604

Title – Application of S1125 Adhesive

Reflector PR 26 or equivalent.
Bend Test Fixture 500Z1270 (TE)
Heat Resistant Gloves.
Safety Glasses.
Small Mixing Container
Wooden Spatula.

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. The installation should be carried out in a well ventilated area. Always wear heat resistant safety gloves when handling hot plastics and adhesives. The use of suitable protective gloves and barrier cream is recommended when using solvents. Avoid prolonged repeated skin contact with solvents and always wash hands after using solvents. Care should be taken to wear safety glasses when using and handling chemical solvents. If eyes do become contaminated, flush with water and obtain medical assistance immediately.

Material Safety Data S1125



Irritant and dangerous for the environment.
Part A contains Polymine amide.
Part B contains Bisphenol epoxy resin.
Avoid contact with skin. In case of contact, wash immediately with plenty of water and soap.
Risk of serious damage to eyes. In case of contact, flush immediately with plenty of water and seek medical advice.
May cause sensitization by skin contact.
Avoid release to the environment. Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.
Wear suitable protective clothing, gloves and eye/face protection.

5 Procedure - Preparation

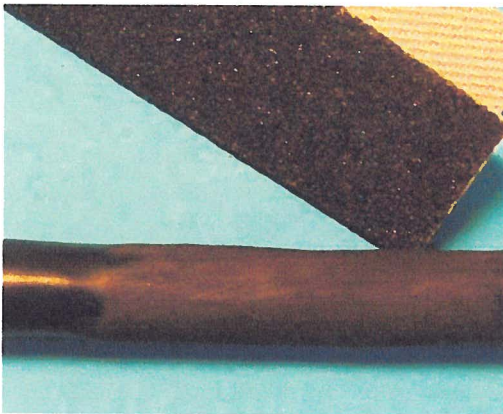
To ensure the best possible bond between the moulded part and the adaptor, degrease the adaptor end where the H end of the moulded part will recover onto the adaptor with isopropyl alcohol or isopropanol (IPA) impregnated tissue wipe.
As adaptors are normally plated NEVER abrade the adaptor.

To ensure the best possible bond between the moulded part and the cable jacket:-
Degrease the cable jacket in the area where the J end will recover onto the cable using Isopropyl alcohol. (Approximately 30mm).
Abrade the cable jacket thoroughly in the same area with 100 grit emery cloth. The whole surface of the cable jacket should be abraded removing any print on the cable jacket.
Remove loose particles from the abraded area using a dry tissue. **DO NOT** use a solvent wipe.
Ensure sufficient cable jacket has been abraded to incorporate the strip length requirement.

ELE-3COP-604

Title – Application of S1125 Adhesive

Degrease the inner area of the moulded part at each end thoroughly (Approximately 30mm) using Isopropyl alcohol. Abrade the inner area of the moulded part at each end thoroughly (Approximately 30mm) with 100 grit emery cloth. Remove loose particles from the abraded area using a dry tissue. **DO NOT** use a solvent wipe.



This part of the cable preparation is very important in ensuring a strong bond to the moulded part.

Heat Gun Requirements

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.

Setting of the gun should be carried out on a regular basis using the following temperatures. Frequency will depend on usage. It is recommended that the Heat gun is set daily using a Calibrated thermocouple 25 mm from the end of the reflector within the temperature range stated below. Please refer to the Manufacturers guide for Hot Air Gun Calibration and maintenance.

For S1125 adhesive the recommended recovery temperature range using a CV1981 Heat gun and PR26 reflector is 230°C to 250°C.

Where connector / adaptor preheating is judged to be necessary for large and high heat sink terminations, care must be taken to ensure the connector insulation and primary wire insulation are not damaged: Ensure heat is directed to the metal area of the adaptor and all other areas are avoided. TE cannot be held responsible for damage caused during the preheating of connectors.

S1125 Sachet

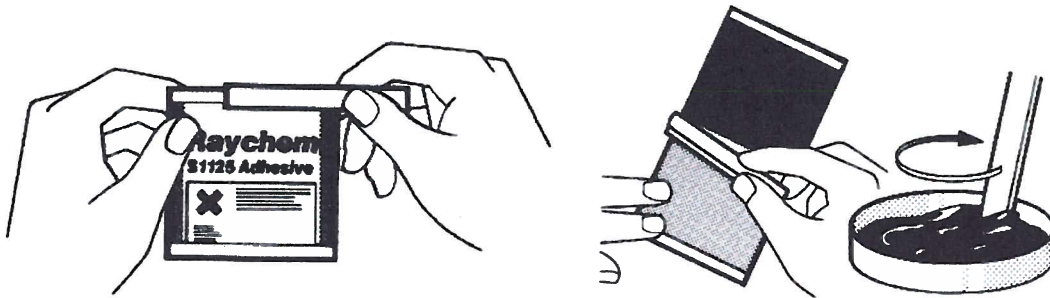
Slide clip off dual pack.

Mix the grey and black parts together, first by using the clip to push part A and B together in the sachet then knead the mix in the sachet until no grey remains visible.

ELE-3COP-604

Title – Application of S1125 Adhesive

Squeeze all of the adhesive into a mixing tray and stir until thoroughly mixed. Once mixed the adhesive has a pot life of approximately 1-1/2 hours at room temperature.



S1125 Syringe with Applicator Gun

Push up lever, slide in double-barrelled piston with ratchet side downwards.
Pull cartridge fixing bracket forward, slide cartridge into hole in fixing bracket. Push bracket back and clip onto gun.
Remove cartridge sealing cap, twisting anti-clockwise.
Attach nozzle supplied with S1125 Kit 8 to syringe.
Gently squeeze trigger to dispense. Release trigger to stop dispensing. Leave nozzle on cartridge and replace with new nozzle when ready to use again. Push up lever. Withdraw piston fully and remove cartridge for storage.



Installation

The following procedure is for S1125 adhesive applied either by wooden spatula from a mixing cup or applied using the syringe and nozzle.
Apply the adhesive onto the flange at the rear of a Tinel™ adaptor (the knurl of the adaptor for Spin Coupling). See Figure 1, and at the adaptor end of the moulded part ensuring an even coating of sufficient length. See Figure 2 (The end of the nozzle may be used to spread the mixed adhesive.)

ELE-3COP-604

Title – Application of S1125 Adhesive



Figure 1



Figure 2

Position the Moulded Part so that the lipped H end will recover into the groove on the adaptor. When recovering, the heat must be applied evenly around the moulded part at the H / adaptor end to enable the part to recover evenly and prevent scorching. See Figure 3.

Ensure the part is fully recovered onto the adaptor. This should take approximately 30 seconds for mid-range part.

Look for evidence that adhesive is present. Remove excess adhesive using degreasing agent isopropyl alcohol or isopropanol (IPA) impregnated tissue wipe. Take care not to scorch the moulded part.

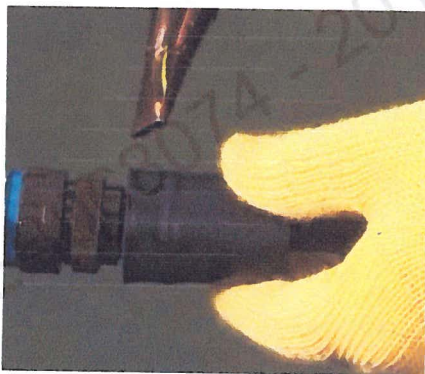


Figure 3

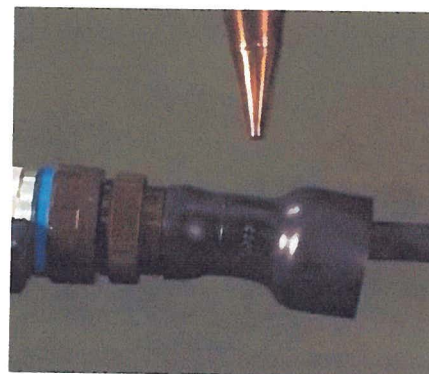


Figure 4

Continue heating along the moulded part recovering the centre body. See Figure 4.

Apply S1125 adhesive to both the cable jacket and the inner of the moulded part at the J end for a minimum distance of 20mm. See Figure 5.

ELE-3COP-604

Title – Application of S1125 Adhesive

Continue heating evenly around the moulded part at the J end to enable the part to recover evenly and prevent scorching. Ensure the part is fully recovered onto the cable. This should take approximately 30 seconds. Remove excess adhesive using degreasing agent isopropyl alcohol or isopropanol (IPA) impregnated tissue wipe.

After the part has been fully recovered onto the cable a flow of adhesive should be evident around the J / cable end.

Take care not to scorch the moulded part.



Figure 5



Figure 6

Post heating of S1125 adhesive is not required but it is advantageous to oven cure wherever possible. Pre inspection curing cycles:

12 hours at 25°C

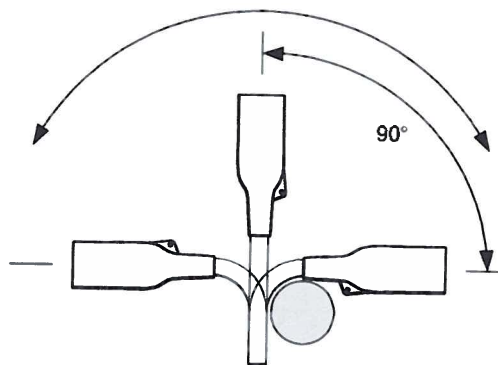
1 hour at 85°C

15 mins at 150°C

For normal handling purposes, the adhesive will be sufficiently cured after 24 hours at room temperature. If left to cure at room temperature avoid aggressive handling for 7 days.

6 Inspection Requirements

The termination should be rotated so it is subjected to a flex test of 90° in each of four planes around a mandrel with a diameter equal to 6 x the cable diameter.



ELE-3COP-604

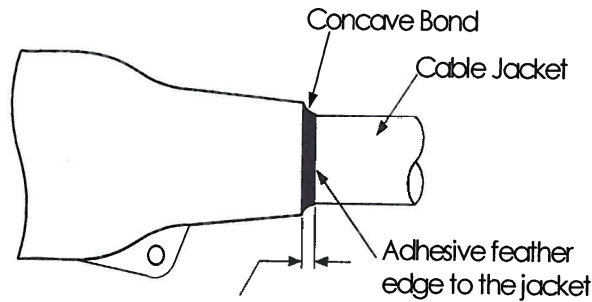
Title – Application of S1125 Adhesive

There should be no separation between the moulded part J end and cable jacket at the adhesive bond line.

There should be no separation between the moulded part H end and adaptor at the adhesive bond.

The Moulded Part must be free from fingerprints, excess adhesive and scorch marks.

7 Visual Standards



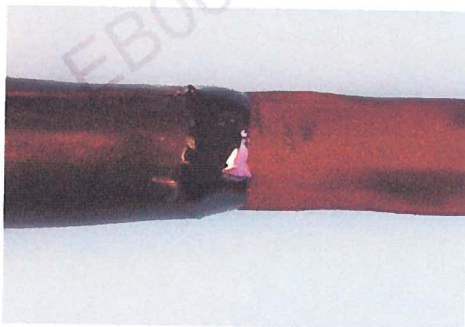
This dimension approximately equivalent to the boot or tubing wall thickness



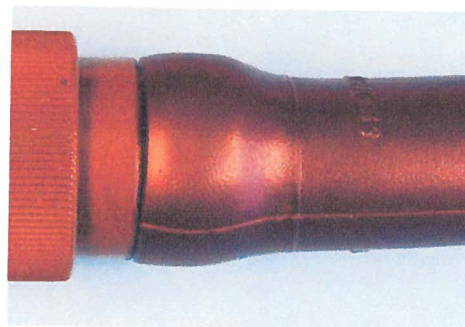
Acceptable



Insufficient adhesive



Excess adhesive



Adaptor body shall be free of excess adhesive



ELE-3COP-604

Title – Application of S1125 Adhesive

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