



Class I

PREPARATION & APPLICATION OF S1125 ADHESIVES

ELE-3COP-604

TE Raychem S1125 Adhesives

ELECTRONIC APPROVAL, NO SIGNATURES WILL APPEAR.

IF PRINTED THIS DOCUMENT BECOMES UNCONTROLLED

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



1. PURPOSE AND SCOPE

This Code of Practice describes the procedure to be used when preparing and applying TE Connectivity's Raychem S1125 adhesives. The instructions stated 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.



Table of Contents

1. **PURPOSE AND SCOPE** 2
2. **PERFORMANCE OBJECTIVE**..... 4
3. **MATERIALS AND EQUIPMENT** 5
4. **HEALTH AND SAFETY** 6
5. **PROCEDURE - PREPARATION**..... 7
6. **INSPECTION REQUIREMENTS** 12
7. **VISUAL STANDARDS** 13
8. **REVISION HISTORY** 14

Table of Tables

Table 1 - Revision History..... 14

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 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 Customer Drawings, expressed as a percentage of the fully shrunk diameter. For example, a moulded part fully shrunk with a diameter of 10 mm and an installed diameter of 11 mm has a 10% unresolved recovery.

3. MATERIALS AND EQUIPMENT

Appropriate Moulded Part

Appropriate Moulded Part Adaptor

S1125 Adhesive, supplied in various kits

- S1125-KIT-1
Five 10 gm sachets (supplied with 5 mixing sticks, 5 mixing cups, 5 abrasives and 1 installation leaflet)
- S1125-KIT-2
Two 10 gm sachets
- S1125-KIT-4
Five 10 gm sachets
- S1125-KIT-5
One 10 gm sachet
- S1125-KIT-8
One 50 ml dual syringe (supplied with 5 mixing sticks, 5 mixing cups, 5 abrasives, 3 mixing nozzles and 1 installation leaflet)

P100 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.

Reflector PR 26 or equivalent

Bend Test Fixture 500Z1270 (TE Connectivity)

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 UK 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 thoroughly after using solvents.

Care should be taken to wear safety glasses when using and handling chemical solvents. If eyes become contaminated, flush with water and obtain medical assistance immediately.

S1125 Material Safety Data



Irritant and dangerous for the environment while in its uncured state.

Part A contains Polyamine 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.

Causes skin irritation.

May cause an allergic skin reaction. May cause sensitisation 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 or 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 (approx.30 mm).

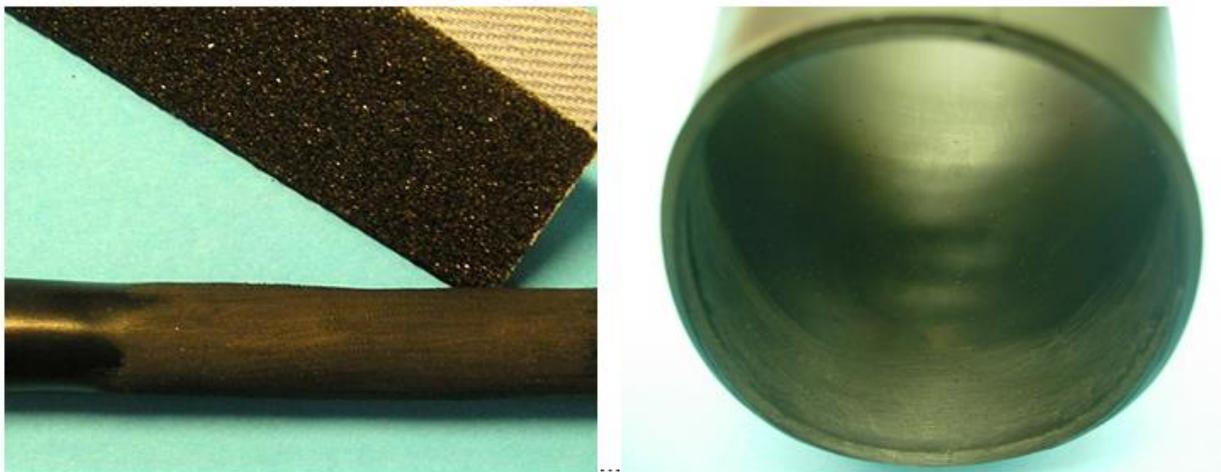
Abrade the cable jacket thoroughly in the same area with P100 grit emery cloth. The whole surface of the cable jacket should be abraded removing any print on the cable jacket.

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.

Degrease the inner area of the moulded part at each end thoroughly (approx. 30 mm) using Isopropyl alcohol. Abrade the inner area of the moulded part at each end thoroughly (approx. 30 mm) with P100 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 (if there is one) on the rear of the hot air gun is open and that it is dust free. Always allow the hot air gun to stabilise 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 adhesives 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 Connectivity cannot be held responsible for damage caused during the preheating of connectors.

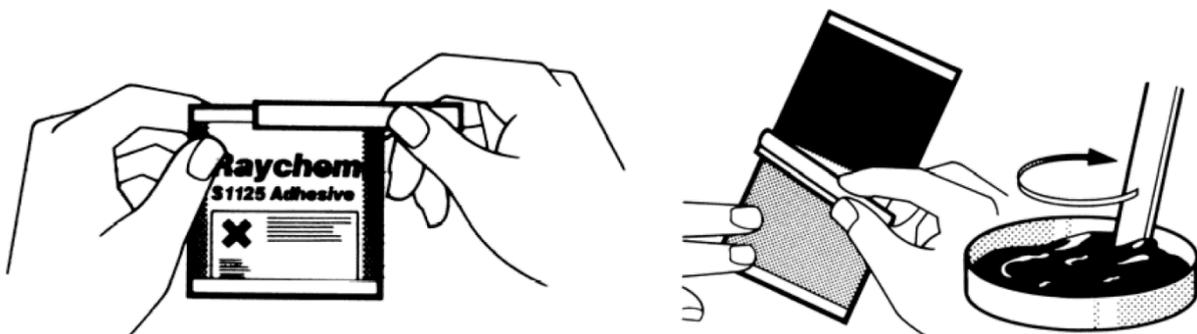
S1125 Sachet

To achieve good flow and mixing of S1125 it is recommended that the temperature of the product during use should not be less than 20°C. The product may be mixed at lower temperature but the viscosity will be higher, the product less flowable and mixing will be more difficult.

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.

Squeeze all of the adhesive into a mixing tray and stir until thoroughly mixed. Once mixed the adhesive has a pot life of approximately 1.5 hours at room temperature.



S1125 Single Dual Syringe with Applicator Gun

To achieve good flow and mixing of S1125 it is recommended that the temperature of the product during use should not be less than 20°C. The product may be mixed at lower temperature but the viscosity will be higher, the product less flowable and mixing will be more difficult.

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 the Single Dual 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 Single Dual 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.



Figure 1

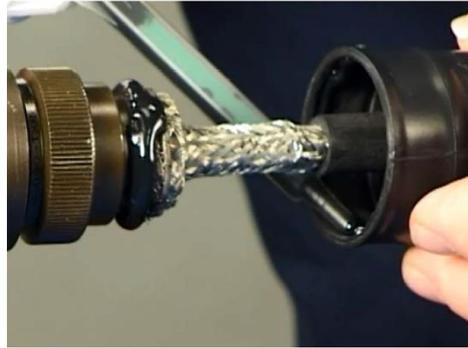


Figure 2

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 about 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

Installation (cont.)

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.

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 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 with one of the following curing cycles:

12 hours at 25°C

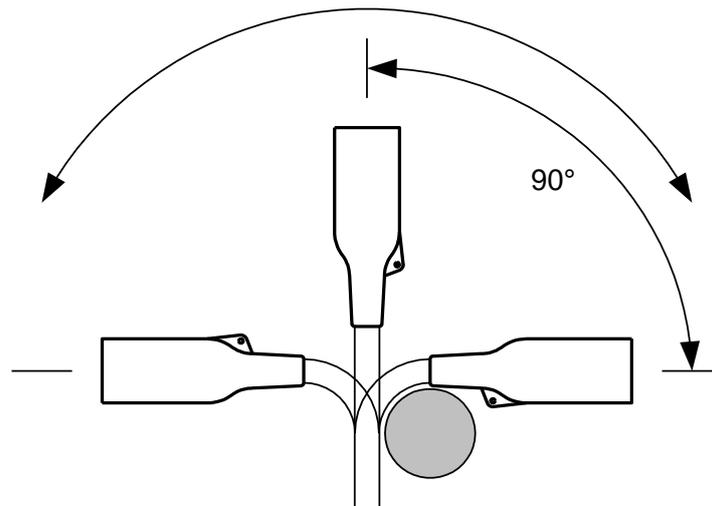
1 hour at 85°C

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 times the cable diameter.

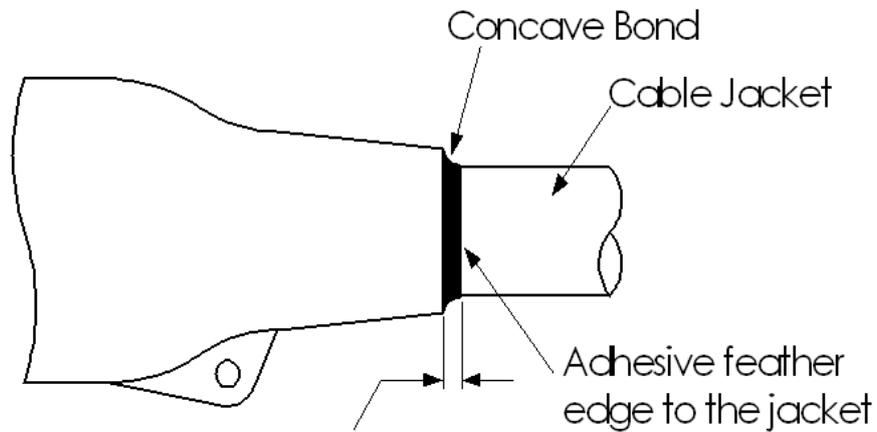


There should be no separation between the moulded part J end and cable jacket at the adhesive bond line.

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

8. REVISION HISTORY

Author	Approved	Date	Rev	Comments
J. Cronin	K. Wallington	18APR2006	4	CR06-DM-071
P. Newman	N. Dorricott	18FEB2009	5	CR09-DM-018
P. Newman	N. Dorricott	07JUN2011	6	Visual Identity
P. Newman	N. Dorricott	09AUG2011	7	Visual Identity
J. Cronin	F. Morel	04DEC2013	8	Visual Identity
P. Vu	M. Pope	08SEP2017	9	Minor updates on pictograms, kit information and formatting (RTS-1341985)
P.Hammond		12DEC2019	10	Addition of recommended update of use temperature.

Table 1 - Revision History

All of the above information is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their application. TE Connectivity makes no warranties as to the accuracy or completeness of the information and disclaims any liability regarding its use. TE Connectivity's only obligations are those in the Standard Terms and Conditions of Sale for these products and in no case will TE Connectivity be liable for any incidental / indirect or consequential damages arising from the sale, resale, use or misuse of the product. TE's specifications are subject to change without notice. In addition, TE Connectivity reserves the right to make changes in materials or processing, without notification to the Buyer, which do not affect compliance with any applicable specification.