



Class I

PREPARATION & APPLICATION OF S1005/S1006 ADHESIVES

ELE-3COP-605

Raychem brand S1005 / S1006 Adhesives

ELECTRONIC APPROVAL, NO SIGNATURES WILL APPEAR.

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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 preparing and applying TE Connectivity's Raychem S1005 and S1006 adhesives. 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.

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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 S1005 from a bottle and S1006 from a sachet, 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 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.

S1005 Adhesive: Kit 1 contains 2 bottles (89 ml Part A pale yellow, 178 ml Part B amber).

S1006 Adhesive: Kit 1 contains 2 sachets 15g each, Kit 2 contains 4 sachets 7.5 g each.

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.

Reflector PR 26 or equivalent.

Bend Test Fixture 500Z1270 (TE Connectivity).

Heat Resistant Gloves.

Safety Glasses.

Small Mixing Container.

Wooden Spatula.



S1005 and S1006 two part epoxy adhesives

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.

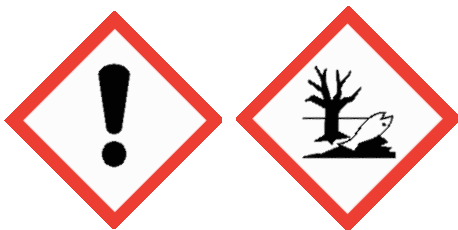
The installation should be carried out in a well ventilated area.

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.

Material Safety Data S1005 and S1006



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

Part B contains Triethylenetetramine.

Irritating to eyes and skin.

Risk of serious damage to eyes.

May cause sensitisation by skin contact. Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

In case of contact with eyes, flush immediately with plenty of water and seek medical advice.

After contact with skin, wash immediately with plenty of water and soap.

Wear suitable protective clothing, gloves and eye/face protection.

Avoid release to the environment.

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 30 mm).

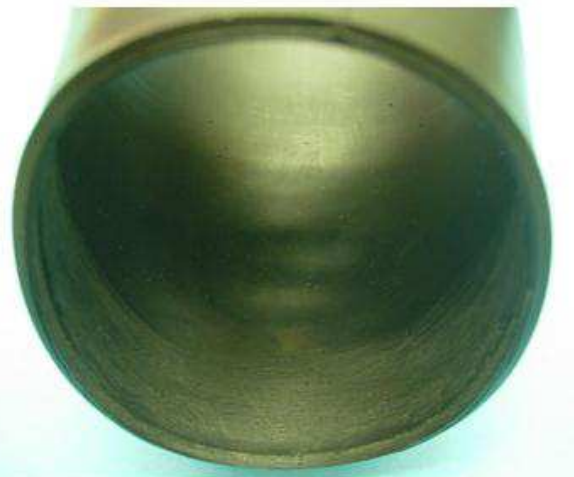
Abrade the cable jacket thoroughly in the same area with 100 grit emery cloth. The whole surface of the cable jacket should be abraded removing any print on the cable jacket.

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.

Degrease the inner area of the moulded part at each end thoroughly (Approximately 30 mm) using Isopropyl alcohol. Abrade the inner area of the moulded part at each end thoroughly (Approximately 30 mm) 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 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, 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 S1005 and S1006 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 cable jacket 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.

Mixing S1005

S1005 adhesive is supplied in two parts, A and B, Part A the epoxy, is the pale yellow and Part B, the polyamide hardener, is amber in colour. Care should be taken not to interchange the bottle caps. Measure out one Part A and two Parts B by volume, or two Parts A and three Parts B by weight, taking care that only clean containers are used. Mix the components thoroughly, any air stirred into the mixture will be eliminated during the shrinking process. After mixing, apply a thin uniform layer of adhesive to the substrates.

Mixing S1006

S1006 is supplied with the epoxy resin and the hardener pre-weighed in two sachets separated by a dividing rail. To mix, slide off the dividing rail and knead the contents until a homogenous translucent pale yellow colour is obtained. After mixing, carefully cut open one corner of the sachet. For best results adhesive mixed in dual packs should be squeezed into separate disposable dish and mixed with a spatula before application to substrates, taking care that only clean containers are used. After mixing, apply a thin uniform layer of adhesive to the substrates.

Once mixed S1005/S1006 has a pot life of up to 2 hours at room temperature (23°C).

Heat Gun Requirements (cont.)

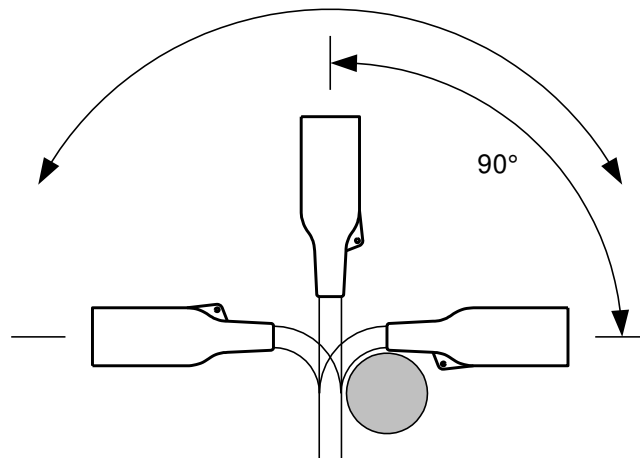
Post heating of S1005/S1006 adhesive is not required, however cure cycles above 60°C are recommended as these result in greater bond strengths and the joint should not be severely flexed until one of the following cycles has been completed.

- 4 hours at 60°C
- 1 hour at 95°C
- 24 mins at 120°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.

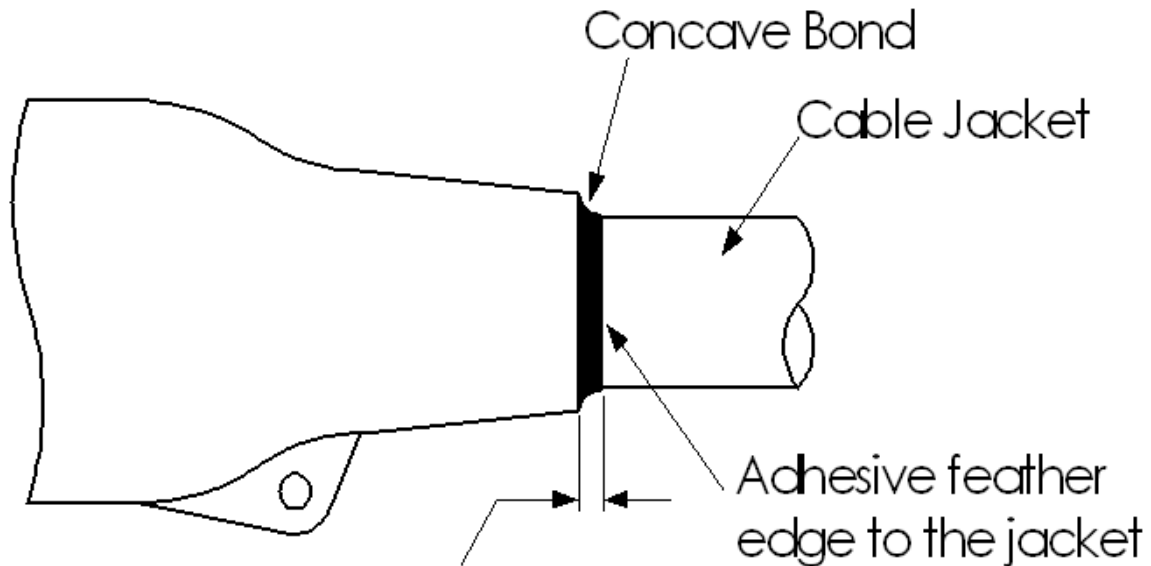


There should be no separation between the moulded part J end and cable jacket at the adhesive bond line.

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

8. REVISION HISTORY

Author	Date	Revision	Comments
Keith Carter	04 Jun 1987	1	Initial
Paul Newman	12 Apr 2010	2	CR09-DM-018
Paul Newman	07 Jun 2011	3	Visual Identity
Pedro Vu	15 Feb 2017	4	RTS-1299332.1

Table 1 - Revision History

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