

AS1504 (ESP338) 1-Part Adhesive Sealants

Introduction

AS1504 is a ready-to-use adhesive sealant paste that cures on exposure to moist air to a resilient silicone elastomer. Its combination of ease of application, excellent adhesion, durability, versatility and good electrical properties make it a very useful sealant for many industries.

Applications of AS1504 include:

Electrical insulation of motor windings and non-metallic fastening of assemblies

Assembly of marine fittings such as deck fixtures, galley fittings, lighting and electrical installations

Formed-in-place gaskets, spot lamps, assembly and maintenance of vehicles, caravans etc.

Bonding of metal components exposed to high temperatures.

Key Features

- Flexibility from -50°C to +300°C
- Excellent adhesion to many substrates
- Resistance to ageing, corona discharge, weathering and many chemicals and oils
- Good electrical insulation properties

Use and Cure Information

How to Use

AS1504 is ready for use. If supplied in cartridges it can be applied using either manual or pneumatic dispensers.

It can also be applied from bulk containers using conventional drum dispensing equipment

Application and Cure

Curing of AS1504 begins as soon as the sealant is extruded from its original, sealed container and exposed to moist air.

Curing begins with the formation of surface skin and progresses through the material as time elapses.

The rate of cure is dependent on humidity and temperature, but under normal conditions a tack free surface will be obtained in 10 to 20 minutes and will be cured in 24 hours. The maximum thickness to be cured should not exceed 12 mm if only one surface is exposed to a moist atmosphere.

The rate of cure can be increased by heating, but temperatures in excess of 80°C should not be used for sealant thickness in excess of 3mm.

It should be noted that high temperature and low humidity during cure could adversely affect the adhesion and physical properties of cured AS1504.

AS1504 liberates a small amount of acetic acid during the curing cycle. Under normal conditions the acetic acid is rapidly dispersed, but in confined situations it may be necessary to provide supplementary ventilation.

The fully cured sealant is odourless and taint-free.

Property

Test Method

Value

Uncured Product

Colour:	Red
Appearance:	Thixotropic paste
Tack Free Time:	4 minutes *
50g Spread Diameter:	mm *
3mm Cure Through:	7 hours *
Extrusion Rate:	310g / minute
* measured at 23+/-2°C and 65% relative humidity.	

Cured Elastomer

(after 7 days cure at 23+/-2°C and 65% relative humidity)

Tensile Strength:	BS903 Part A2	2.6 MPa
Elongation at Break:	BS903 Part A2	285%
Youngs Modulus:		0.71 MPa
Modulus at 100% Strain:	BS903 Part A2	0.98 MPa
Tear Strength:	BS903 Part A3	6.30 kN/m
Hardness:	ASTM D 2240-95	35° Shore A
Specific Gravity:	BS 903 Part A1	1.08
Linear Shrinkage:		<0.8%
Thermal Conductivity:		0.20 W/mK
Coefficient of Thermal Expansion:		
Volumetric		882ppm / °C
Linear		294ppm / °C
Min. Service Temperature:		-50 °C
Max. Service Temperature:	AFS 1540B	300 °C

Electrical Properties

Volume Resistivity:	ASTM D-257	$3.95 \times 10^{16} \Omega \cdot \text{cm}$
Surface Resistivity:	ASTM D-257	$4.04 \times 10^{14} \Omega$
Dielectric Strength:	ASTM D-149	>18 kV/mm
Dielectric Constant at 1MHz:	ASTM D-150	3.4
Dissipation Factor at 1MHz:	ASTM D-150	3×10^{-3}

Adhesion Testing

Good unprimed adhesion to many substrates including glass stainless steel, aluminium and most plastics. Customers are advised to carry out their own tests on clean, degreased substrates to ensure satisfactory adhesion is achieved.

All values are typical and should not be accepted as a specification.

Health and Safety - Material Safety Data Sheets available on request.

Packages - 310 ml cartridges. Arrangements can be made to supply in bulk containers.

Storage and Shelf Life – Expected to be 24 months in original, unopened containers below 40°C.

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