

INTRODUCTION

A-EP is a clear two component epoxy having optical clarity when used in small quantities. It is easy to mix and has a long pot life.

Recommended substrates : - Glass, Metals, Circuit boards, fibre optics and many plastics

FEATURES

Clear colour, room temperature or heat cure , bonds to many materials, easy to mix, 100% solids, thixotropic paste

Typical uncured properties	Part A	Part B	Mixed
Pot life @ 25°C, 100 grams, minutes	-	-	60
Colour	Milky white	Amber	Clear
Viscosity, cP	40,000 - 100,000	20,000-100,000	-
Specific Gravity	1.03	0.98	-
Mix Ratio			
By weight	100	33	
By volume	2.7	1	

Typical properties	Typical value
Tensile strength, psi, ASTM D 638	-
Elongation, %, ASTM D 638	2.4
Tg, °C	57.7°C
CTE, ASTM D 696, in/in/°C	47x10 ⁻⁶
Thermal conductivity, cal x cm/cm ² x secs x °C	5.6x10 ⁻⁴
Shrinkage, %	<0.3
Hardness, shore D	85

Electrical properties	Typical value
Dielectric strength, ASTM D149, V/mil	1080
Dielectric constant, MIL 1-16923. K 1kHz	3.88
Dissipation factor, ASTM D 150 1kHz	5.3x10 ⁻⁴
Volume resistivity, ASTM D 257 ohm/cm	1.26x10 ¹⁵
Surface resistivity, ASTM D 257	-

Shear Strength, psi ASTM D 1002 Etched aluminium		
Cure schedule	Test temp °C	Typical value
3 days @ 25°C	-55	1600
	25	1850
	82	400
2 hours @ 60°C	-55	2700
	25	3000
	82	600
1 hour @ 82°C	-55	2700
	25	3000
	82	500

Outgassing performance	NASA1124
Total Mass Loss, %	1.51
Collected volatile condensable material	0.01



HANDLING - Mixing: This product requires mixing two components together just prior to application. Complete mixing is necessary. The temperature of the separate components prior to mixing is not critical, but they should be close to room temperature.

APPLICATION

Mixing: Combine part A (resin) and part B (hardener in the correct ratio and mix thoroughly until the colour and consistency are uniform. Mixing the adhesive just prior to use is recommended. Heat build-up during or after mixing is normal. Do not mix quantities greater than 2 pounds as dangerous heat build-up can occur causing uncontrolled decomposition of the mixed adhesive. Mixing small quantities will minimise heat build-up.

Application: Bonding surfaces should be clean and dry. Once the adhesive is applied, the bonded parts should be held in contact until the part has developed handling strength. It is not necessary to clamp the parts unless movement during cure is likely.

Cure: Complete cure is obtained after three days at room temperature. After 24 hours approximately 90% of full cure properties are attained. A-EP will achieve handling strength in 6-8 hours at 25°C (this can vary with different bond configurations). A-EP can also be completely cured with heat such as 2 hours at 60°C; 1 hour at 82°C or 30 minutes at 121°C. Heat cures can be modified to achieve a desired degree of cure from handling strength to full cure.

Clean up: It is important to remove excess adhesive from the work area and application equipment before it hardens. Many common solvents and citrus cleaners are suitable for removing uncured adhesive.

Packaging: supplied in 79gram tube (2.8oz)

General information: This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine and other strong oxidising materials. For safe handling information consult the Material Safety Data Sheet (MSDS).

Storage: Store product in unopened container in a cool dry location, Ideal conditions are within the range 8-21°C and are recommended for long term storage. Exposure to higher temperature (over 28°C) for prolonged periods should be avoided as extended exposure to warm conditions can adversely affect product properties.