

## EPOXY PLUS

### PRODUCT DATA SHEET

A rubber-toughened, high viscosity non corrosive structural adhesive/potting compound, that's 1:1 by volume, resin/hardener. It has been formulated for superior peel, impact, and fatigue resistance and is suitable for applications on metals, thermoset plastics and structural parts. The final bond is designed to be load bearing and resistant to weathering.

#### FEATURES/BENEFITS

- Excellent durability and flexibility
- Non-shrinking
- High viscosity for increased gap filling to ( 2 mm )
- High dielectric strength
- Room temperature curing
- Resistant to solvents

#### RECOMMENDED APPLICATIONS

- Bonding similar and dissimilar metal substrates
- Potting and encapsulating
- Bonding of thermoset plastics and various thermoplastics including PVC, plexiglass and polycarbonate.
- Suitable for substrates such as phenolics, hard urethanes, aluminium, steel plated metals, SMC, composites, laminates and ceramics.
- Applications requiring high peel strength and impact resistance.

#### PRODUCT DATA:

##### Physical Properties - (uncured)

Colour.....	<u>Resin</u>	<u>Hardener</u>
Mix Ratio by Volume.....	Grey	White
Mix Ratio by Weight.....	1 part	1 part
Weight per litre.....	57 parts	43 parts
Mixed Viscosity @ 25°C (10rpm)...	40.5L	31L
Working time (20 grams).....		50,000 cps
Tack-free time (2 grams).....		25 minutes
Time to Handling Strength @ 24°C.		3.5 hours
Functional Cure @ 24°C.....		4-5 hours
Coverage (in <sup>2</sup> @ .010" thickness)..		24 hours
% solids by volume.....		216
Mixed density.....		100
		0.95 kg/dm <sup>3</sup>

#### Performance Characteristics - (7 days cured at 24°C)

Adhesive tensile shear, ASTM D1002.....	17.24N/mm <sup>2</sup>
Operating temperature, dry.....	-40°C to +93°C
Cured density ASTM D792.....	1.20 gm/cm <sup>3</sup>
Cured Hardness, ASTM D2240.....	74D
Dielectric strength ASTM D149 (volts/mil)..	550
T-Peel Strength Test ASTM (D1876)*.....	5.27KN/M
Impact resistance.....	0.93 N/M

T-peel on 25.4mm wide abraded cold rolled 20 mil steel using 20 mils adhesive and pulled at 254mm / minute.



Certificate No. FM 11623

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**CHEMICAL RESISTANCE :** 7 days room temperature cure (30 days immersion @ 24°C)

Kerosene	VERY GOOD	Methanol	FAIR
Hydrochloric Acid	VERY GOOD	Toluene	VERY GOOD
Chlorinated Solvent	FAIR	Ammonia	VERY GOOD
10% Sulfuric Acid	VERY GOOD	10% Sodium Hydroxide	VERY GOOD

Epoxies are very good in water, saturated salt solution, leaded gasoline, mineral spirits, ASTM # 3 oil and propylene glycol. Epoxies are generally not recommended for long-term exposure to concentrated acids and organic solvents.

**APPLICATION INFORMATION****Surface Preparation:**

Epoxy Plus works best on clean surfaces. Surfaces should be solvent-wiped, free of heavy deposits of grease, oil, dirt or other contaminants, or cleaned with industrial cleaning equipment such as vapor degreasers or hot aqueous baths. Abrading or roughing the surfaces of metals will increase the microscopic bond area significantly and optimize the bond strength.

**MIXING:**

Proper Homogenous mixing of the two epoxy components of resin and hardener are essential for the curing and development of stated strengths. Always mix the two components with clean tools, preferably of a disposable design.

For small amounts, use Devcon's 28g Dev-Tube<sup>TM</sup> packaging or the 57g Dev-Pak with Mark 5 Applicator. If used with a static mix nozzle the epoxy can be dispensed, metered and directly applied to the surfaces to be bonded.

**APPLICATION:**

Apply mixed epoxy directly to one surface in an even film or as a lead base. Assemble with the mating part within the recommended working time. Obtain firm contact between the parts to minimize any gap and ensure good contact of the epoxy with the mating part. A small fillet of epoxy should flow out the edges to show there is adequate gap filling. For very large gaps, apply epoxy to both surfaces and spread to cover the entire area, or make a bead pattern which will allow flow throughout the joint.

Let bonded assemblies stand for the recommended fixture times before handling. They are capable of withstanding forces at this point, but should not be dropped, shock loaded, or heavily loaded. After the functional strength period is reached, the assemblies can withstand up to 80% of their rated strength and be put into normal service.

**CURE:**

Full Cure 24 - 48 hours (depending on gap)

**STORAGE AND SHELF LIFE:**

Devcon Epoxy Adhesives should be stored in a cool dry place when not used for a long period of time. A shelf life of 3 years or more can be expected when stored at room temperature (22°C) in their original containers.

**PRECAUTION:**

For complete safety and handling information, please refer to the appropriate Materials Safety Data Sheets prior to using this product.

For technical assistance please call 01933 675299

**ORDERING INFORMATION: \*\***

Stock No	Unit size	Stock No	Unit size
14266	200ml cartridge	20020	400ml manual applicator
14265	50ml Cartridge	14281	200ml manual applicator
20015	Mark 5 Applicator	29999	400ml mixer nozzle
29991	Mark 5 Mix Nozzle	20019	200ml mixer nozzle
14267	400ml 1:1 ratio twin cartridge		

**\*\*Consult Customer Service for special packaging at 01933 675299**

Warranty: Devcon will replace any material found to be defective. Because the storage, handling and application of this material is beyond our control, we can accept no liability for the results obtained.

Disclaimer: All information on this data sheet is based on laboratory testing and is not intended for design purposes. ITW Devcon makes no representation or warranties of any kind concerning this data.



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