



## **DELTA<sup>®</sup> D320 QUICK STEEL EPOXY ADHESIVE**

### **PRODUCT DESCRIPTION**

**D320 QUICK STEEL EPOXY ADHESIVE** is a 1:1 two component adhesive which cures rapidly at room temperature after mixing. It is a metal bonding adhesive which develops high mechanical strength in a short period of time. The product hardens in 5 minutes with high bond strength and good chemical resistance.

### **AREAS OF USE**

Permanently bonding on a wide variety of metallic substrates such as :- all steels, aluminium, copper, brass, alloys, titanium etc. D320 Quick Steel will also bond metals to other dissimilar substrates such as wood, stone, glass, plastics and ceramics. It can be used externally and in extreme environments due to its excellent chemical and environmental resistance.

### **PROPERTIES**

Supplied in a newly developed 1:1 mixing ratio cartridge which is used with a static mixer nozzle (D313) and cartridge gun (D312) or manual plunger applicator (D360). Once extruded the product has a working life of 5 minutes with an adhesive set time of approximately 1 hour. Giving a fast and secure bond or repair, the product cures to give a bond which will withstand vibrations and exhibits excellent load bearing properties.

### **DIRECTIONS FOR USE**

Surfaces must be clean, dry and free from all traces of grease, oil, wax and dust. The bond faces are best treated with a cleaning agent such as D406 Surface Preparation Cleaner or D513 Cleaning Wipes.

D320 should be applied directly onto the surface to be bonded. Once the two surfaces have been brought together slightly rotate the items to ensure that all the air is eliminated and that both surfaces are fully wetted out. Load bearing bonds should be supported until full cure is achieved. An adhesive thickness of 0.005inches or 0.15mm provides the maximum bond strength.

**2 PART STRUCTURAL**



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TECHNICAL DATA	UNCURED ADHESIVE	
	MIXED VISCOSITY @ 25°C	25,000 - 35,000 Pa.S
	MIXING RATIO	1:1 vol/vol or wt/wt
	RESIN COLOUR	Black
	HARDENER COLOUR	White
	MIX COLOUR	Grey
	WORKING LIFE	4-6 minutes
	SPECIFIC GRAVITY	1.11
	PERCENTAGE SOLID	100%
	ADHESIVE SET-UP TIME	60 minutes (temperature dependent)
SHELF LIFE	12 months when stored in unopened packaging @ +5 to +25°C	

TECHNICAL DATA	CURED PROPERTIES		
	SHORE HARDNESS D (ASTM D 2240)	78-80	
	SHEAR STRENGTH (N/mm <sup>2</sup> ) (DIN 53283)	14-18	
	<b>LAP SHEAR STRENGTH ISO 4587</b>	Steel (Grit Blasted)	25 N/mm <sup>2</sup> 3,600 psi
		Aluminium (Grit Blasted)	15 N/mm <sup>2</sup> 2,200 psi
		Wood	5 N/mm <sup>2</sup> 730 psi
	PEEL STRENGTH (ISO 4578)	3-5	
	ELECTRICAL PROPERTIES		
	THERMAL CONDUCTIVITY (W/mK)	0.1	
	COEFFICIENT OF THERMAL EXPANSION (1/K)	60 - 120 x 10 E <sup>-6</sup>	
	DIELECTRIC STRENGTH (Kv/mm)	50-90	
	VOLUME RESISTIVITY (OHM/cm)	3 - 5 x 10 E <sup>12</sup>	
	SERVICE TEMPERATURE RANGE	-40°C to +90°C	



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CHEMICAL RESISTANCE DATA	The chemical resistance of D320 was studied by bonding aluminium/aluminium as per specification and cured for 7 days @ 25°C then kept immersed in the media listed here and tested for lap shear strength. Effect of immersion in different media. (Immersion for 7 days in various media.)	
	MEDIA	LAP SHEAR (ASTM D 1002) STRENGTH IN PSI
	PETROL	2750
	ACETIC ACID (10%)	2685
	XYLENE	2045
	LUBRICATING OIL-HD30	2175
	PARAFFIN	2200
	WATER@23°C	2150
	WATER@90°C	2100

**HEALTH AND SAFETY** • Refer to the relevant Material Safety Data Sheet (MSDS).

**PACKAGING** • Available in 50ml 1:1 ratio cartridge. Other packs available on request.

**LEGAL NOTICE**

The data contained within this Technical Data Sheet is furnished for information only and is believed to be reliable at the time of issue. We cannot assume responsibility for results obtained by others over whose methods we have no control. It is the responsibility of the customer to determine the products suitability for use. Delta Adhesives Limited accepts no liability arising out of the use of this information or the product described herein.

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