

	VITAL TECHNICAL SDN. BHD.	  	Issued date : 31/03/08
	Technical Data Sheet		Rev. No. : 4
	VT-142 Vital Steel Epoxy		Revised date : 02/07/14
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Product Description

VT-142 is a general purpose, 1:1 mix ratio epoxy adhesive. It is formulated to provide longer working time for larger assemblies. It exhibits a remarkable combination of properties; fast setting, good resistance towards water, most solvents and automotive oils. VT-142 can be used as an adhesive on various substrates, to fill gaps and surface repairs. It can be sanded, does not shrink upon curing and does not crack if drilled. It can be handled after two hours.

Features

- 100% solid, no solvents
- Non-shrinking
- Good resistance against solvents and common automotive oils

Applications

Suitable for bonding metal, wood, plastic, china, ceramics, tools, and glassware.

Not suitable for bonding of polyethylene, polypropylene, PTFE and other flexible materials.

Directions

Surface preparation

1. Surfaces must be clean and dry.
2. Use solvent to wipe off any dust, dirt, grease, oil or water.
3. Roughen or abrade smooth surfaces to improve the adhesion strength.

Mixing

1. Puncture tube with the cap and squeeze out equal amounts of resin and hardener on any disposable container or surface.
2. Mix thoroughly for one minute with the mixing stick provided.

Application

1. Apply a small amount of the adhesive on both surfaces immediately after mixing thoroughly, before it starts to gel.
2. Press together and wipe off any excess epoxy with acetone.
3. Support the bond for 90 - 120 minutes at room temperature.
4. Handling strength achieved in two hours and full cure strength in 24 hours.

Caution

Contains epoxy resin, polyamine and polymercaptan hardener. May cause severe eyes and skin irritation. Avoid prolonged contact with eyes or skin. In case of contact with eyes, flush with water for 15 minutes and seek medical attention immediately. In case of skin contact, wipe off and wash with soap and water. Use in well ventilated areas.
KEEP OUT OF REACH OF CHILDREN.

Storage

Store in a dry and cool place. Not damaged by freezing. If frozen, warm to room temperature.

Technical Data:

Typical Uncured Properties

Base	Part A :	Epoxy resin
	Part B :	Polyamine hardener
Appearance	Part A :	Black paste
	Part B :	Off-white paste

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Viscosity¹	Part A :	100,000 - 500,000 cPs
	Part B :	500,000 - 800,000 cPs
Density²	Part A :	approximately 1.95 g/mL (16.3 lb/gal)
	Part B :	approximately 1.88 g/mL (15.7 lb/gal)
Mix ratio (R:H) by weight	:	1:1
Mix ratio (R:H) by volume	:	1.04:1
Gel time (10 g)³	:	30 minutes (depending on the adhesive amount and temperature)
Application temperature	:	15 - 35 °C (59 - 95 °F)
Time to handling strength	:	2 hours
Time to full strength	:	24 hours
Exotherm	:	60 - 80 °C (248 - 284 °F)
Shelf life	:	12 months from day of delivery (if stored correctly)

Typical Cured Properties

Colour	:	Dark grey
Shore D hardness (1 day)⁴	:	75 - 85

Single lap shear strength (anodised aluminium, etched)⁵	
- 1 day	: 17.5 ± 0.6 N/mm ² (2538 ± 87 psi)

¹ Tested according to ASTM D2196 (LV4, 0.5 rpm).

² Measured according to modified ASTM D1875.

³ Tested according to DOTD TR 703-85 Method A.

⁴ Tested according to modified ASTM D2240 (Cylindrical sample; diameter = 51mm; thickness = 3mm).

⁵ Aluminium coupon prepared and tested according to ASTM D1002; surface treated according to ASTM D2651.

Order information

Code No.	Packaging size
VT-142	56.8 g/set
VT-1423K	3.0 kg/set

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