

ADHESIVES

techniglue® R28

TOUGHENED EPOXY ADHESIVE

Techniglue R28 is a solvent-free Toughened Epoxy Adhesive specifically formulated to cure at room temperature for applications requiring high-strength adhesion. The thixotropic nature of the adhesive provides excellent gap-filling properties and hold-up on vertical surfaces – up to 10mm at 25°C.

The Techniglue R28 cartridge pack eliminates the guess work for achieving the correct mix ratio of 2:1 by volume, saving time and labour. The cartridge pack is lightweight and comfortable to hold, and includes a mixing head.

One cylinder contains resin which is yellow in colour, and the other contains the hardener which is black. When dispensed correctly, the final colour is black which gives a visual indication it is correctly mixed.

When applied to carbon composites, the black blends in with exposed sections to provide a uniform appearance.

A screw top cap at the end of the tubes can be re-capped if not all the R28 is required an once.

New static mixing heads require priming to ensure the resin and hardener is thoroughly mixed together prior to application. To prime, dispense a test bead line on a disposable substrate. When a consistent black colour is achieved, the adhesive can be applied to the part.

MIX RATIO

2:1 Resin to Hardener by weight or volume.

Take care to ensure that the components are thoroughly mixed to a uniform colour before applying.

Note: Care should be taken when dispensing and mixing. Do not attempt to control the cure time by altering the hardener ratio. Contact ATL Composites for specific information.

UNCURED PROPERTIES			
		R28	H28
Physical State		Yellow Thixotropic Paste	Black Thixotropic Paste
Viscosity mPas @ 25°C	ASTM D2196	301,000	320,000
Specific Gravity g/ml @ 25°C	ASTM D1475	1.16	1.01

CURED PROPERTIES		
		R28/H28
Pot Life @ 25°C - 100g (in Air)	ASTM D2471	19 Min
Mix viscosity mPas @ 25°C	ASTM D2196	306,000
Cured to a solid state Clamp Time @ 25°C		4 hours
Sag Resistance (mm)		10
Mixed Density (g/cm³) @ 25°C	ASTM D1475	1.10
Shore D Hardness (Ambient + 16 hr @ 50°C)	ASTM D2240	79°C
Peak Exotherm Temp 10mm	ASTM D2471	114°C
Water Absorption (28 days @ Ambient)	ASTM D570	0.6 wt%
DSC Glass Transition Temperature	ASTM E1356	
	24 hrs @ 25°C	46°C
	+16 hrs @ 40°C	65°C
	+16 hrs @ 50°C	73°C
	+ 8 hrs @ 60°C	79°C
	+ 5 hrs @ 70°C	Ultimate Tg 82°C
	+ 2 hrs @ 100°C	Ultimate Tg 82°C
	+14 days @ 25°C	56°C
DMA Tg Onset	ASTM E1640	
	+ 16 hrs @ 40C	51°C
	+16 hrs @ 50°C	62°C
Peak Tan Delta		
	+ 16 hrs @ 40C	68°C
	+16 hrs @ 50°C	76°C
HDT	ASTM D648	
	+ 16 hrs @ 40C	56°C
	+16 hrs @ 50°C	66°C

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MECHANICAL PROPERTIES

Lap Shear Strength			MPa
Steel	+ 16 hrs @ 50°C	ASTM D3528	
Aluminium	+ 4 hrs @ 25°C	ASTM D1002	4
	+ 6 hrs @ 25°C		11
	+ 8 hrs @ 25°C		13
	+ 16 hrs @ 25°C		19
	+ 24 hrs @ 25°C		20
	+ 16 hrs @ 40°C		22

* All specimens regressed and abraded.

APPLICATION

The surfaces to be bonded should be dry and free from any contaminants such as oil, dust, and/or loose particles.

For best results and high strength bonds to occur, the adhesive must be capable of wetting both surfaces, this is best achieved by a uniformly, finely roughened (matt) finish.

Apply sufficient mixed epoxy to both of the surfaces to assure intimate contact between the bonding surfaces.

Components need only be held firmly to avoid movement during the curing process.

PACK SIZES

Order Code		Order Code		PACK
RESIN		HARDENER		
RA28 Cart	300 ml		150 ml	450 ml

ASSOCIATED EQUIPMENT

KA60MIX Extra Mixing Head
 KA60FGUN Manual Mixing Gun

STORAGE

TECHNIGLUE R28 resin and H28 hardeners will keep for one year if kept in original containers at room temperature (15°C to 32°C) and out of direct sunlight. Containers should be tightly sealed to prevent moisture absorption.

HEALTH AND SAFETY

- TECHNIGLUE R28 resin and H28 hardener have moderate sensitising potential, and should be kept out of the eyes and off the skin.
- Use with good ventilation and adequate safety equipment including impervious gloves and safety glasses.
- If skin contact occurs, remove contaminated clothing immediately, and wash the affected area thoroughly with water, avoiding the use of solvents except in the case of massive contamination.
- If eye contact occurs, immediately flush with running water for at least 15 (fifteen) minutes and seek medical advice.
- If swallowed:

Resins - DO NOT induce vomiting, and contact a doctor or the Poisons Information Centre.

Hardeners - DO NOT induce vomiting, give plenty of milk or water and contact a doctor or the Poisons Information Centre.

NOTE: Our products are intended for sale to industrial and commercial customers. We request that customers inspect and test our products before use and satisfy themselves as to contents and suitability. Nothing herein shall constitute a warranty, express or implied, including any warranty or merchantability or fitness, nor is protection from law or patent to be inferred. All patent rights are reserved. The exclusive remedy for all proven claims is replacement of our materials and in no event shall we be liable for special or consequential damages.