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Technical Data Sheet
HPR 25

HPR 25 Toughened Epoxy Adhesive

Introduction

Adhesive Technologies HPR 25A is a high viscosity, solvent free, toughened epoxy resin specifically formulated for the use with HPR 25B range of hardeners to cure at room temperature and produce a high strength bond with exceptional peel properties.

HPR 25 system was developed specifically for the bonding of aluminium sheets onto low density cores. Additionally HPR 25 system exceeds the requirements pertaining to ASTM D1002; which are called for in certain military applications.

Typical Applications

- Structural metal bonding. Steel and Aluminium.
- Bonding Aluminium sail track to carbon masts
- Bonding prefabricated components in to pre-preg structures

Mix Ratio

See Hardener Labels and/or table below

Note: Care should be taken to when dispensing and mixing.
Optimum results are achieved when recommended ratios are used.

Application

All surfaces should be clean and free from grease 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, fine roughened (matt) finish.

Apply sufficient mixed epoxy to one or both of the surfaces to assure intimate contact between the bonding surfaces. Excessive clamping pressures should be avoided. Components need only be held firmly to avoid movement during the curing process.

Uncured Properties

	HPR 25A	HPR 25B	HPR 25BLV
Physical state	Light Yellow highly viscous liquid	Black or White paste	Pale Yellow liquid
Specific Gravity (g/ml)	1.4	1.25	0.95
Mix Ratio (pph)		25pph	17pph

Note: Typical properties and not to be construed as actual specifications
pph = parts per hundred parts of resin

Cured Characteristics

	HPR 25B	HPR 25BLV
Pot Life 100g @ 20°C	35min	35min
Thin Film 20°C	3hrs	3hrs
Typical Cure Cycle	7 days @ 25°C	7 days @ 25°C
Ultimate HDT	75°C	75°C

Note: Typical properties and not to be construed as actual specifications

Post Cure

Post cures will be effective in achieving a fast cure, but longer cure times at moderate temperatures are recommended. Low temperature cures are especially important then materials with different coefficient of linear expansion are being bonded.

Tensile Lap Shear

ASTM D1002
8 samples 25.0mm wide; overlap 12.2mm

Failure Stress	15.9MPa (σ = 0.3)
Mode of Failure	80% Adhesion 20% Cohesion (σ = 8.6)

Storage

HPR 25A and HPR 25B range of hardeners will keep for 2 years if kept in original containers at room temperature (15°C – 32°C) and out of direct sunlight. Containers should be tightly sealed to prevent moisture absorption

Health & Safety

Adhesive Technologies NZ ltd provides its customers with a product specific Material Safety Data Sheet (MSDS) to cover potential health effects, safe handling, storage, use and disposal information.

Direct skin contact should be avoided, all amines they have a moderate sensitizing potential and should be considered to be mild skin corrosives. HPR 25 system should not be ingested; in an unlikely event HPR 25 is ingested see your nearest physician immediately.

- Use with good ventilation and adequate safety equipment including gloves.
- If skin contact occurs, wash with lanolin based hand-cleaner and water.
- If eye contact occurs, immediately wash for 15 minutes with running water.
- 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 Poisons Information Centre.