PERMABOND ET5143

Two-Part Epoxy

Provisional Technical Datasheet

Features & Benefits

- Adhesion to a wide variety of substrates
- Rapid cure at room temperature
- FDA Compliant formulation
- High shear and peel strength
- Good impact strength

Description

PERMABOND ET5143 is a fast setting, thixotropic two part adhesive with good resistance to impact and vibration. The controlled flow properties as well as its ease of mixing and application, enables the adhesive to be used where gap filling is required.

Permabond ET5143 has been specifically formulated for use in applications requiring compliance with FDA regulations.

Physical Properties of Uncured Adhesive

	ET5143A	**ET5143B**
Chemical composition	Epoxy Resin	Polyamine Hardener
Appearance	White	Black
Viscosity @ 25°C	27,000-33,000mPa.s	125,000-140,000mPa.s
Specific Gravity	1.3	1.28

Typical Curing Properties

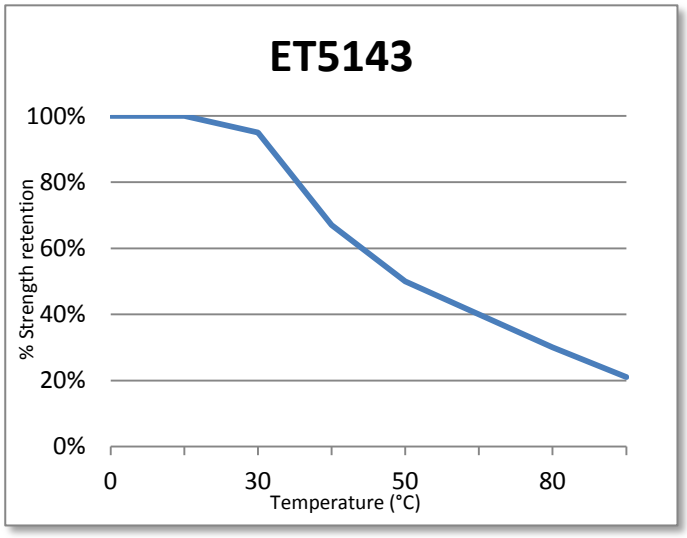
Mix ratio by volume	1:1
Maximum gap fill	2 mm ***0.08 in***
Usable / pot life @23°C	20-40 mins
Working strength	@23°C: 16 hours @60°C: 30 minutes
Full cure	@23°C: 72 hours @60°C: 1 hour

Typical Performance of Cured Adhesive

Shear strength (mild steel)*	18-22 N/mm² ***(2600-3200 psi)***

**Strength results will vary depending on the level of surface preparation and gap.*

Temperature Resistance



ET5143 can withstand higher temperatures for brief periods (such as for paint baking and wave soldering processes) providing the joint is not unduly stressed. The minimum temperature the cured adhesive can be exposed to is -40°C (-40°F) depending on the materials being bonded.

Additional Information

This product is not recommended for use in contact with strong oxidizing materials.
Information regarding the safe handling of this material may be obtained from the material safety data sheet (MSDS).
Users are reminded that all materials, whether innocuous or not, should be handled in accordance with the principles of good industrial hygiene.

Surface Preparation

Surfaces should be clean, dry and grease-free before applying the adhesive. Use a suitable solvent (such as acetone or isopropanol) for the degreasing of surfaces. Some metals such as aluminium, copper and its alloys will benefit from light abrasion with emery cloth (or similar), to remove the oxide layer.

Directions for Use

1. Dual cartridges:
   a) Insert the cartridge into the application gun and guide the plunger into the cartridge.
   b) Remove the cartridge cap and dispense material until both sides are flowing.
   c) Attach the static mixer to the end of the cartridge and begin dispensing the material.
2. Apply material to one of the substrates.
3. Join the parts. Parts must be joined within 20-40 minutes of mixing the two epoxy components.
4. Large quantities and/or higher temperature will decrease the usable life or pot life.
5. Apply pressure to the assembly by clamping for until handling strength is obtained.
6. Full cure will be obtained after 72 hours at 25°C (77°F). Heat can be used to accelerate the curing process.

NB. Exercise caution when mixing large quantities due to exothermic reaction.

Storage & Handling

Storage Temperature	5 to 25°C ***(41 to 77°F)***
Shelf Life Stored in original unopened containers	12 months

Other Products Available

Anaerobics

- Toughened
- Gas & water approved
- High temperature resistance
- Flexible

Cyanoacrylates

- Low bloom / low odour
- Flexible
- High temperature resistance

Epoxies

- Fast cure
- Toughened
- Flexible grades

Toughened Acrylics

- Rapid cure
- Low odour
- Pre-mixed
- Gap filling

UV Light Cured

- Glass / plastic bonding
- Optically clear
- Non-yellowing

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