

## Features & Benefits

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

## Description

**PERMABOND® ET5144** is a two component epoxy adhesive. It has excellent resistance to impact and vibration and is ideal for structural bonding of metal, wood, composites and certain plastics. ET5144 is high strength and has excellent environmental durability. It is suitable for applications where cured product is to come into contact with food or beverage as it is formulated with FDA approved raw materials.

## Physical Properties of Uncured Adhesive

	ET5144A	ET5144B
Chemical composition	Epoxy Resin	Polyamine Hardener
Appearance	White	Black
Viscosity @ 25°C	20,000-35,000 mPa s	30,000-50,000 mPa s
Specific Gravity	1.32	1.00

## Typical Curing Properties

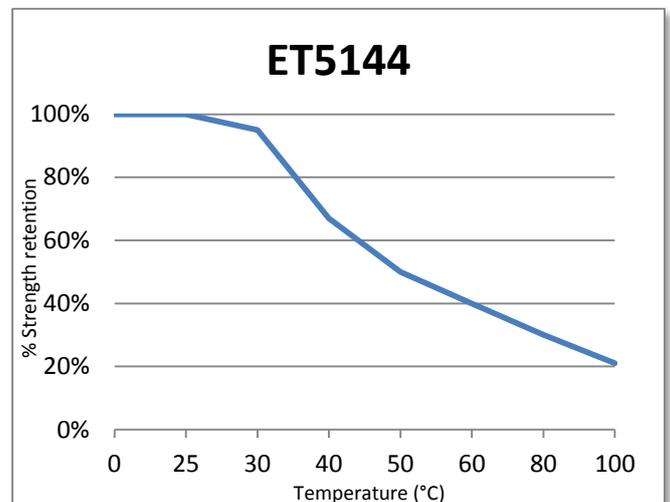
Mix ratio	100:80 By volume 100:60 By weight
Maximum gap fill	1 mm <b>0.04 in</b>
Usable / pot life @20°C 20g total mass	20-40 mins
Working Strength	@23°C: 16 hours @60°C: 30 minutes
Full cure	@23°C: 72 hours @60°C: 1 hour

## Typical Performance of Cured Adhesive

Shear strength (mild steel) (ISO4587)*	19-21 N/mm <sup>2</sup> <b>(2800-3000 psi)</b>
Peel strength (ISO 4578)*	30-40 N/25mm <b>(7-9 PIW)</b>
Hardness (ISO 868)	75-85 Shore D
Glass transition temperature Tg	+45°C <b>(113°F)</b>

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

## Temperature Resistance



ET5144 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.

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## 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. Measure A and B components as per recommended mix ratio on page one. Mix thoroughly taking care not to entrap air.
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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