

### Features & Benefits

- Adhesion to a wide variety of substrates
- Full cure at room temperature
- Easy to apply
- High shear and peel strength
- Good impact strength

### Description

**PERMABOND ET510** is a two-part, 1:1 mixable epoxy adhesive. **ET510** is a semi-flexible toughened epoxy adhesive with good adhesion to a variety of substrates such as wood, metal, ceramics and some plastics and composites. The product cures rapidly at room temperature reaching handling strength in 15 minutes.

Once cured, Permabond **ET510** has good chemical and environmental resistance.

### Physical Properties of Uncured Adhesive

	ET510A	ET510B
Chemical composition	Epoxy Resin	Polyamine Hardener
Appearance	Colourless	Amber
Viscosity @ 25°C	25,000 mPa.s (cP)	17,500 mPa.s (cP)
Density	1.12	1.05

### Typical Curing Properties

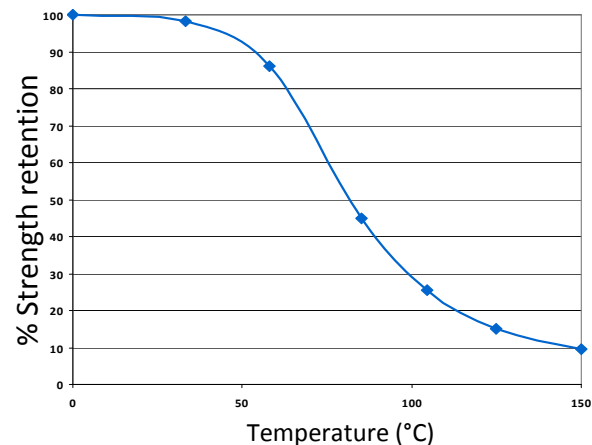
Mix ratio by volume	1:1
Maximum gap fill	2 mm <b>0.08 in</b>
Usable / pot life @20°C	10-15 mins
Handling time	15-25 mins
Full cure	72 hours

### Typical Performance of Cured Adhesive

Shear strength (mild steel)*	8 - 12 N/mm <sup>2</sup> <b>(1200 - 1750 psi)</b>
Peel strength (ISO 4578)*	70-90 N/25mm <b>(16-20 PIW)</b>
Shore D hardness	55
Elongation at break	30%
Glass transition temperature Tg	45°C <b>(113°F)</b>
Dielectric constant	20 mV / mm
Thermal conductivity	0.35 W/(m.K)

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

### Temperature Resistance



ET510 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.

The information given and the recommendations made herein are based on our research and are believed to be accurate but no guarantee of their accuracy is made. In every case we urge and recommend that purchasers before using any product in full-scale production make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purpose under their own operating conditions. THE PRODUCTS DISCLOSED HEREIN ARE SOLD WITHOUT ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED.

No representative of ours has any authority to waive or change the foregoing provisions but, subject to such provisions, our engineers are available to assist purchasers in adapting our products to their needs and to the circumstances prevailing in their business. Nothing contained herein shall be construed to imply the non-existence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of this patent. We also expect purchasers to use our products in accordance with the guiding principles of the Chemical Manufacturers Association's Responsible Care® program.

## 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 10 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 15-25 minutes or 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

## Contact Permabond:

Europe: Tel. +44 (0)1962 711661  
UK Helpline: 0800 975 9800  
Deutschland: 0800 10 13 177  
France: 0805 11 13 88  
info.europe@permabond.com

US: Tel. +1 732-868-1372  
Helpline: 800-640-7599  
info.americas@permabond.com  
Asia: Tel. +86 21 5773 4913  
info.asia@permabond.com

[www.permabond.com](http://www.permabond.com)

The information given and the recommendations made herein are based on our research and are believed to be accurate but no guarantee of their accuracy is made. In every case we urge and recommend that purchasers before using any product in full-scale production make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purpose under their own operating conditions. THE PRODUCTS DISCLOSED HEREIN ARE SOLD WITHOUT ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED.

No representative of ours has any authority to waive or change the foregoing provisions but, subject to such provisions, our engineers are available to assist purchasers in adapting our products to their needs and to the circumstances prevailing in their business. Nothing contained herein shall be construed to imply the non-existence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of this patent. We also expect purchasers to use our products in accordance with the guiding principles of the Chemical Manufacturers Association's Responsible Care® program.