Technical data sheet



| Product: | ET5392 |
|----------------|---------------------------------|
| Manufacturer: | PERMABOND ENGINEERING ADHESIVES |
| Product group: | KLEBSTOFF |
| Article group: | 2-K KLEBSTOFF |
| Download: | 04.05.2024 |

PERMABOND® ET5392

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Tewipack Uhl GmbH Industriestraße 15 D-75382 Althengstett Telephone: E-Mail: +49(0)7051/9297-0 Website: +49(0)7051/9297-99 www.tewipack.de

Fax

info@tewipack.de

Managing director: Alexander Uhl, Michael Uhl HRB 330424 Calw Amtsgericht Stuttgart 85

Bank details: Sparkasse Pforzheim BLZ 666 500 Konto 17 787

Commerzbank Sindelfingen BLZ 603 400 71 Konto 8 001 166

Vereinigte Volksbank AG Böblingen BLZ 603 900 00 Konto 80 089 003

Postbank Stuttgart BLZ 600 100 70 Konto 146 294 708

PERMABOND® ET5392



Two-Part Epoxy

Provisional Technical Datasheet

Features & Benefits

- Adhesion to a wide variety of substrates
- Full cure at room temperature
- Easy to apply
- Semi-toughened
- Good impact strength

Description

PERMABOND® ET5392 is a 1:1 mixable epoxy adhesive. It is semi-toughened and ideal for structural applications exposed impact and vibration stresses. It is ideal for bonding different materials where differential thermal expansion is anticipated. ET5392 can be used to bond a wide variety of materials including plastics, composites and metals – in particular, stainless steel.

Physical Properties of Uncured Adhesive

| | ET5392A | ЕТ5392В |
|----------------------|---|--|
| Chemical composition | Epoxy Resin | Polyamide |
| Appearance | White | Black |
| Viscosity @ 23°C | 2rpm: 500,000-750,000 20rpm: 140,000- 180,000 mPa.s (<i>cP</i>) | 20rpm: 30,000- 50,000 mPa.s <i>(cP)</i> |
| Specific gravity | 1.1 | 1.3 |

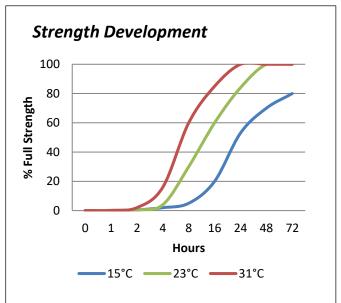
Typical Curing Properties

| Mix ratio | 1:1 by volume 95:100 by weight |
|-----------------------------------|-----------------------------------|
| Maximum gap fill | 4 mm <i>0.08 in</i> |
| Usable / pot life @23°C 10g mixed | 2 hours |
| Handling time @23°C | 8-12 hours |
| Working strength @23°C | 24 hours |
| Full cure | @23°C: 72 hours @60°C: 2 hours |

Typical Performance of Cured Adhesive

| | - |
|--|---|
| Shear strength (mild steel)* (ISO4587) | Cured 72hrs @23°C: 22-24 N/mm ² (3200-3500 psi) Cured 2 hrs @ 60°C: 23-25 N/mm ² (3300-3600 psi) |
| Shear strength (stainless steel)* (ISO4587) | Cured 72 hrs @ 23°C As received: 23-26 N/mm ² (3300-3800 psi) Gritblast/degrease: 26-28 N/mm ² (3800-4000 psi) Cured 2 hrs @ 60°C As received: 23-26 N/mm ² (3300-3800 psi) Gritblast/degrease: 30-33 N/mm ² (4400-4800 psi) |
| Peel strength (aluminium) (ISO4578) | Cured 2hrs @ 60°C: 100-110 N/25mm (22-24 PIW) |
| Hardness (ISO868) | 72-76 Shore D |

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



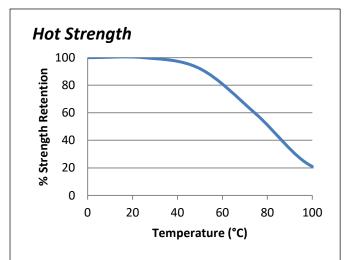
Graph shows typical strength development of bonded components. An increase of 8°C in temperature will halve the cure time. Lower temperatures will result in a slower cure time.

 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.

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"Hot strength" shear strength tests performed on mild steel. Fully cured specimens conditioned to pull temperature for 30 minutes before testing at temperature.

ET5392 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 -55°C (-65°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 safety data sheet.

Users are reminded that all materials, whether innocuous or not, should be handled in accordance with the principles of good industrial hygiene.

This Technical Datasheet (TDS) offers guideline information and does not constitute a specification.

Storage & Handling

Storage Temperature

5 to 25°C (41 to 77°F)

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

- 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 two hours 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 until handling strength is obtained.
- Full cure will be obtained after 72 hours at 23°C (77°F). Heat can be used to accelerate the curing process.

Video Links

Surface preparation: https://youtu.be/8CMOMP7hXjU



Two-part epoxy directions for use: https://youtu.be/GRX1RyknYqc

www.permabond.com

• UK: 0800 975 9800

General Enquiries: +44 (0)1962 711661
 US: 732-868-1372
 Asia: + 86 21 5773 4913
 info.europe@permabond.com

info.americas@permabond.com

info.asia@permabond.com

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