PERMABOND® ET5365

Two-Part Epoxy

Provisional Technical Datasheet

Features & Benefits

- Adhesion to a wide variety of substrates
- Easy to apply
- High shear strength
- Good impact strength
- Very smooth surface finish
- Reliable cure at low temperatures
- WRAS Drinking water approval
- Good resistance to high temperatures

Description

PERMABOND® ET5365 is a two-part, 2:1 mixable epoxy adhesive with good adhesion to a variety of substrates such as wood, metal, ceramics and some plastics and composites. Permabond ET5365 forms tough bonds with excellent shear strength. Due to the nature of the curing agent, ET5365 will cure at lower temperatures than standard epoxy grades.

Physical Properties of Uncured Adhesive

	ET5365A	ET5365B
Chemical composition	Epoxy Resin	Phenalkamine
Appearance	Cream	Black
Viscosity @ 25°C	2rpm: 500,000-600,000 mPa.s *(cP)* 20rpm: 120,000-160,000 mPa.s *(cP)*	2rpm: 120,000-160,000 mPa.s *(cP)* 20rpm: 25,000-50,000 mPa.s *(cP)*
Specific gravity	1.4	1.1

Typical Curing Properties

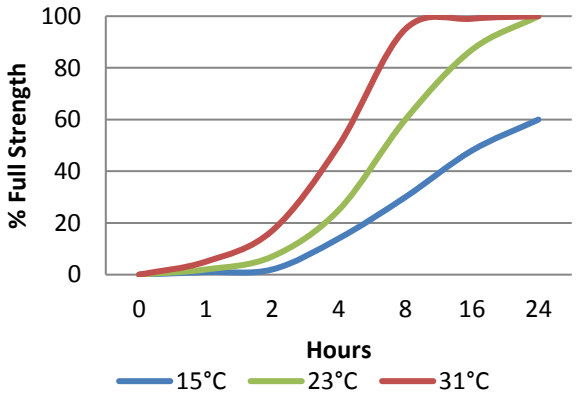
Mix ratio	2:1 by volume 100:43 by weight
Maximum gap fill	2 mm *0.08 in*
Usable / pot life 10g mixed @23°C	20 minutes
Handling time @23°C	2-4 hours
Working strength	@23°C : 6 hours @60°C: 30 mins
Full cure	@23°C: 24 hours @60°C: 1 hour

Typical Performance of Cured Adhesive

Shear strength* (ISO4587) cured 24 hrs @ 23°C	Steel: 10-14 N/mm² *(1450-2000 psi)* Aluminium: 8-10 N/mm² *(1200-1450 psi)*
Shear strength* (ISO4587)Adhesive cured 1 hour@60°C	Steel: 14-16 N/mm² *(2000-2300 psi)* Aluminium: 14-16 N/mm² *(2000-2300 psi)*

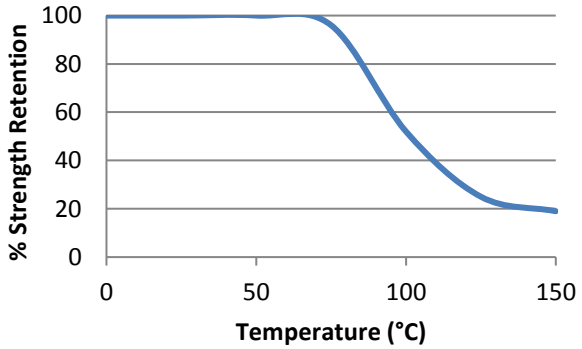
**Strength results will vary depending on the level of surface preparation and gap.*

Strength Development



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.

Hot Strength



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

ET5365 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.

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.

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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.

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. Ensure product is fully mixed (grey with no streaks).
2. Apply material to one of the substrates.
3. Join the parts. Parts must be joined within 20 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 4 hours or until handling strength is obtained.
6. Full cure will be obtained after 24 hours at 23°C (73°F).

Storage & Handling

Storage Temperature	5 to 25°C *(41 to 77°F)*

Other Products Available

Anaerobics

- Thread lockers
- Thread sealants
- Gasket makers
- Sealants / retainers

Cyanoacrylates

- Instant adhesives
- For rapid bonding of metals, plastics, rubber and many other materials

Epoxies

- Two-part room temperature cure adhesives
- Single-part heat cure adhesives
- Modified Technology (MT) flexible grades available

MS-Polymers

- Single-part, moisture-curing, flexible sealants

Polyurethanes

- Two-part room temperature curing adhesives

Toughened Acrylics

- Rapid curing, high strength structural adhesives

UV Light Cured Adhesives

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

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

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