

Features & Benefits

- Adhesion to a wide variety of substrates
- Full cure at room temperature
- Easy to apply
- Good gap fill ability
- Excellent thermal conductivity
- Designed to meet the requirements of UL94

Description

PERMABOND[®] MT3836 two-part, modified hybrid silane polymer adhesive designed for sealing and bonding applications. It has excellent adhesion to polycarbonate, ABS, Nylon and other plastics as well as a variety of different metals. The cured adhesive has been designed to meet the fire retardancy requirements of UL94 V-0.

Typical Physical Properties of Uncured Adhesive

| | MT3836A | MT3836B |
|----------------------|--------------------|--------------------|
| Chemical Composition | MS resin | Polyol/water |
| Colour | White | Yellow |
| Mixed Appearance | Creme | |
| Viscosity @ 25°C | 350,000 mPa.s (cP) | 300,000 mPa.s (cP) |
| Specific Gravity | 1.5 | 1.2 |

Typical Curing Properties

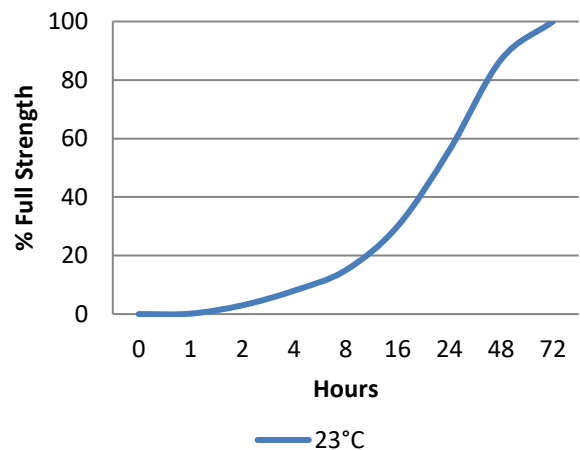
| | |
|-------------------------|---------------|
| Mix ratio | 2:1 by volume |
| Maximum gap fill | 5 mm (0.2") |
| Usable / pot life @23°C | 5-30 mins |
| Handling time | 2-3 hours |
| Full cure | >72 hours |

Typical Performance of Cured Adhesive

| | |
|--|---|
| Shear strength after 72 hours (ISO4587) | Stainless Steel: 2-2.5 N/mm ² (290 - 360psi) ABS: 1.5 N/mm ² (220psi) Nylon: 1 N/mm ² (145psi) |
| Tensile strength after 72 hours (ASTM D 2095) | 2 N/mm ² (290psi) |
| Peel strength (ISO4578) | 50-70 N/25mm (11-16 PIW) |
| Hardness (ISO 868) after 72 hours | 60 Shore A |
| Elongation at break (DIN 53504) after 72 hours | >100% |
| Shrinkage after 72 hours | 0.5% |
| Thermal conductivity | 1.05 W/(m.K) |
| Coefficient of thermal expansion | 110 x 10 ⁻⁶ mm/mm/°C |
| Dielectric strength | 18-20 kV/mm |

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

Strength Development

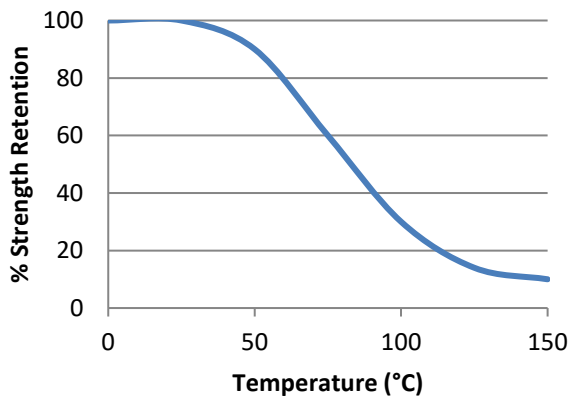


Graph shows typical strength development of bonded components at 23°C. Curing at higher or lower temperatures may affect cure speed.

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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.

MT3836 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 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.

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 volumetrically 2 parts resin to 1 part hardener. Mix thoroughly taking care not to entrap air. Adhesive can be applied and mixed by automated dispensing equipment. If using cartridges, put cartridge in dispensing gun and affix static mixing nozzle.
2. Apply material to one of the substrates.
3. Join the parts. Parts must be joined within the usable pot life.
4. Large quantities and/or higher temperature will decrease the usable life or pot life.
5. Apply pressure to the assembly by clamping for 2-3 hours or until handling strength is obtained.
6. Full cure will be obtained after a **minimum of 72 hours** at 23°C (73°F).

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

Video Links

Surface preparation:

<https://youtu.be/8CMOMP7hXjU>



Two-part directions for use:

<https://youtu.be/GRX1RyknYqc>



Storage & Handling

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

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