

Features & Benefits

- 💧 Excellent chemical resistance
- 💧 Vibration resistant
- 💧 Lubricates threads for easier assembly
- 💧 Provides corrosion protection
- 💧 WRAS listed for contact with wholesome (potable) water

Description

Designed for the locking and sealing of metal parts, **Permabond® A113** is ideally suited for use on components that need to be dismantled for maintenance. Giving outstanding vibration resistance it can be used to replace a wide range of mechanical locking devices. Its excellent chemical resistance makes it suitable for sealing small hydraulic and pneumatic fittings and can dramatically reduce the effects of corrosion.

Physical Properties of Uncured Adhesive

| | |
|----------------------|----------------|
| Chemical composition | Acrylic |
| Appearance | Blue |
| Viscosity @ 25°C | 500 mPa.s (cP) |
| Specific Gravity | 1.1 |
| UV fluorescence | Yes |

Typical Curing Properties

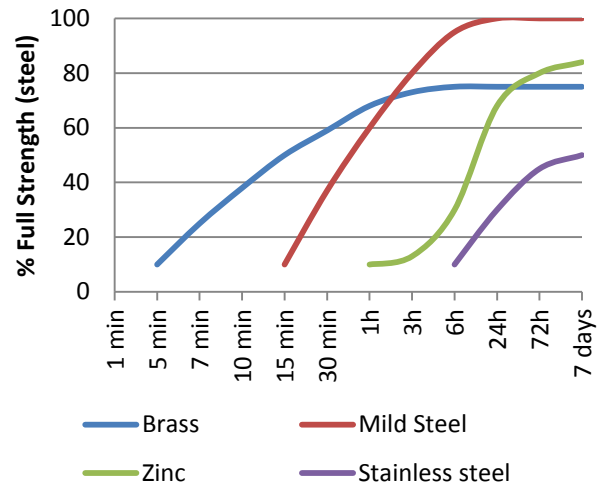
| | |
|---|-------------------------|
| Maximum gap fill | 0.12 mm 0.005 in |
| Maximum thread size | M20 ¾" |
| Time taken to reach handling strength (M10 steel) @23°C | 15 minutes* |
| Time taken to reach working strength (M10 steel) @23°C | 1 hour |
| Full strength (M10 steel) @23°C | 24 hours |

*Handling time at 23°C / 73°F. Copper and its alloys will make the adhesive cure more quickly, while oxidised or passivated surfaces (like stainless steel) will reduce cure speed. To reduce curing time, use Permabond activator A905 or ASC10 alternatively, increasing the curing temperature will reduce curing time.

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Strength Development

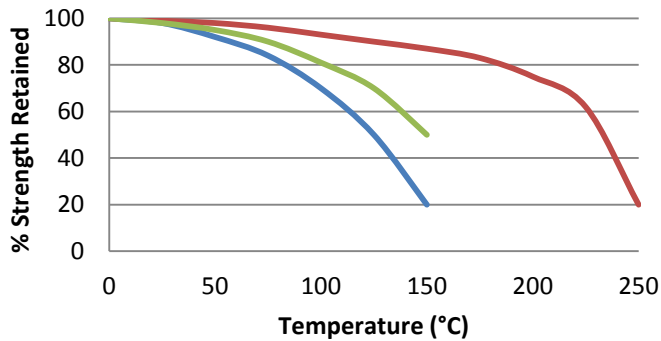


*Cure times are typical at 23°C. Copper and its alloys will follow the faster cure while oxidised or passivated surfaces like stainless steel will tend towards the slower curve. Lower temperatures or large gaps will tend to extend the cure time. To reduce the cure time the use of Permabond A905, ASC10, or heat can be considered.

Typical Performance of Cured Adhesive

| | |
|--|--|
| Torque strength (M10 steel ISO10964) | Break 12 N·m 105 in.lb Prevail 7 N·m 60 in.lb |
| Shear strength (steel collar & pin ISO10123) | 12 MPa 1700 psi |
| Coefficient of thermal expansion | 90 x 10 ⁻⁶ mm/mm/°C |
| Dielectric strength | 11 kV/mm |

Hot Strength



- A113
- High Temperature Grades
- High Strength Grades

“Hot strength” Breakaway strength on M10 Zinc plated bolts according to ISO 10964. Cured at 23°C for 24 hours then conditioned for 30 minutes at testing temperature.

A113 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.

Surface Preparation

Though the anaerobic adhesives will tolerate a slight degree of surface contamination, best results are obtained on clean, dry and grease free surfaces. The use of a suitable solvent-based cleaner (such as acetone or isopropanol) is recommended.

In general, roughened surfaces (~25µm) give higher bond strengths than polished or ground surfaces.

To reduce the curing time, especially on inactive surfaces (such as zinc, aluminium and stainless steel), the use of Permabond A905 or ASC10 can be considered.

Directions for Use

- 1) Prevent the tip from touching metal surfaces during application.
- 2) When working with through holes, dispense a bead of material across the contact length of the threads.
- 3) When working with blind holes, apply several drops down the threads to the bottom of the hole.
- 4) Assemble and torque the parts as necessary.
- 5) Replace lid to bottle to avoid contamination of remaining liquid adhesive.

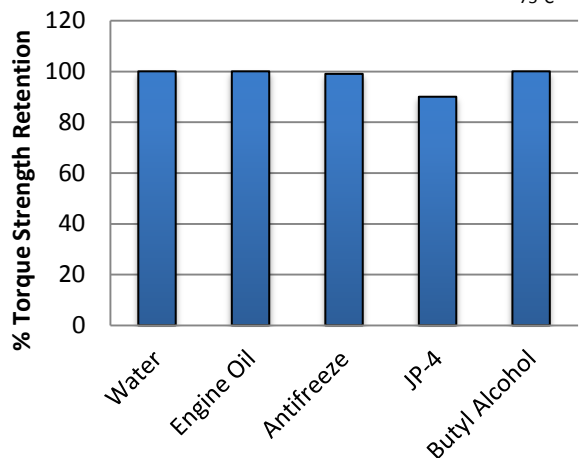
Storage & Handling

Storage Temperature

5 to 25°C (41 to 77°F)

Users are reminded that all materials, whether innocuous or not, should be handled in accordance with the principles of good industrial hygiene. Full information can be obtained from the Safety Data Sheet.

Chemical Resistance



This product is not recommended for use in contact with oxygen, oxygen rich systems and other strong oxidizing materials. This product may adversely affect some thermoplastics and users must check compatibility of the product with such substrates before using.

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