

Technical data sheet



Product: A1042

Manufacturer: PERMABOND ENGINEERING ADHESIVES

Product group: KLEBSTOFF

Article group: ANAEROB

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PERMABOND® A1042

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Features & Benefits

- Rapid cure
- Vibration resistant
- Lubricates threads for easier assembly
- Provides corrosion protection
- WRAS listed for contact with wholesome (potable) water

Description

Permabond® A1042 is a rapid curing adhesive designed to lock and seal metal parts that subsequently may need to be dismantled for maintenance. The high vibration resistance makes Permabond A1042 particularly suited to replacing lock washers, split pins and other mechanical locking devices. The well proven chemical resistance of Permabond A1042 will reduce the effects of corrosion and make it suitable for sealing small hydraulic and pneumatic fittings.

Physical Properties of Uncured Adhesive

Chemical composition	Acrylic
Appearance	Blue
Viscosity @ 25°C	2 rpm: 8,000 mPa.s (cP) 20 rpm: 1,700 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	5 minutes*
Time taken to reach working strength (M10 steel) @23°C	30 minutes
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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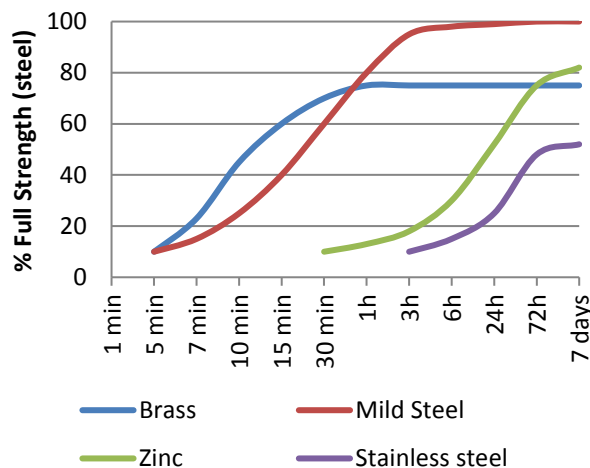
Permabond A1042

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Strength Development

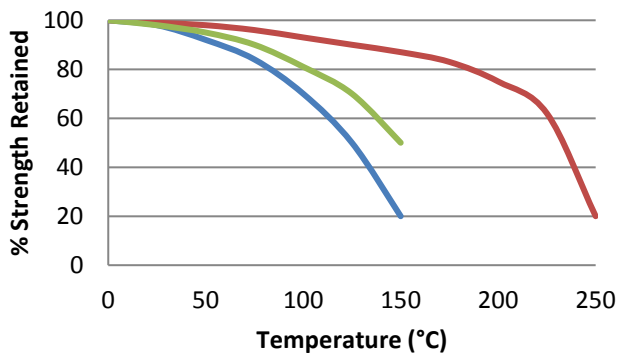


*Cure times are typical at 23°C. Copper and its alloys will follow the faster cure while oxidised or passivated surfaces like stainless steel will tend towards the slower curve. Lower temperatures or large gaps will tend to extend the cure time. To reduce the cure time the use of Permabond A905, ASC10,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

Typical Performance of Cured Adhesive

Torque strength (M10 steel ISO10964)	Break 16 N·m 140 in.lb Prevail 8 N·m 70 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
Thermal conductivity	0.19 W/(m.K)

Hot Strength



— A1042
— 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.

A1042 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

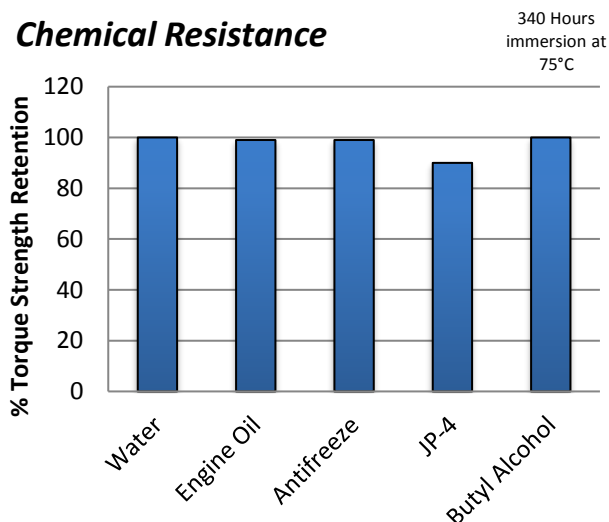
- 1) Prevent the tip from touching metal surfaces during application.
- 2) When working with through holes, dispense a bead of material across the contact length of the threads.
- 3) When working with blind holes, apply several drops down the threads to the bottom of the hole.
- 4) Assemble and torque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

Video Link

Threadlocker directions for use:
<https://youtu.be/7144nHEDYI8>



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.

Storage & Handling

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

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

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