

Features & Benefits

- 💧 UV fluorescent under UV black light
- 💧 Can be applied post-assembly
- 💧 Excellent chemical resistance
- 💧 Ideal for munitions applications
- 💧 Dual cure UV-anaerobic

Description

Permabond® A1062 is a single component anaerobic adhesive. It cures in closely fitting joints in the presence of metal and exclusion of oxygen. It has a secondary cure feature which allows the adhesive fillet on the outside of the joint to be cured via UV irradiation – helping obtain a better seal and improve environmental durability. Its low viscosity also makes this adhesive ideal for post-assembly application. A1062 is UV fluorescent under UV blacklight (such as an inspection lamp) so is ideal for high-speed production lines.

Physical Properties of Uncured Adhesive

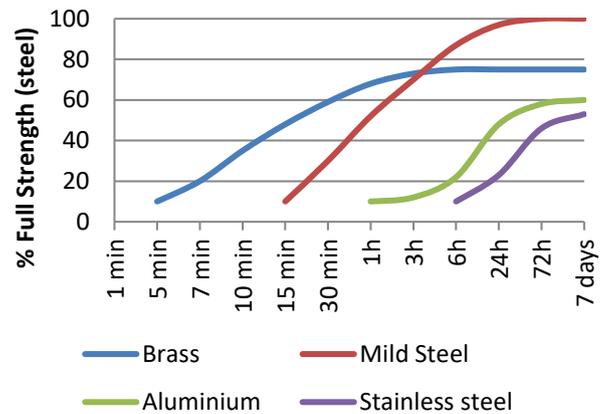
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|----------------------|--------------------|
| Chemical composition | Methacrylate ester |
| Appearance | Green |
| Viscosity @ 25°C | 10-20 mPa.s (cP) |
| Specific Gravity | 1.1 |
| UV fluorescence | Yes |

Typical Curing Properties

| | |
|---|----------------------------|
| Fixture time (low power 4mW lamp)* | 5-20 seconds |
| Time taken to reach handling strength (M10 steel) @23°C | 20 minutes |
| Time taken to reach working strength (M10 steel) @23°C | 1 hour |
| Maximum gap fill | 0.05 mm <i>0.001 in</i> |
| Cure wavelength | 365 - 420 nm |

*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

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.

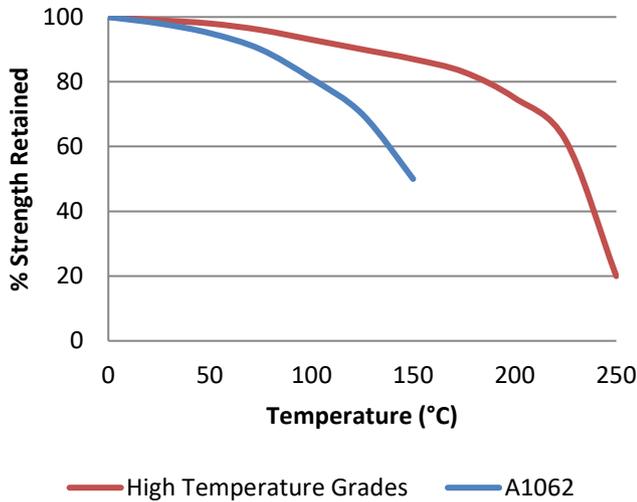
Typical Performance of Cured Adhesive

| | |
|--|--------------------------------|
| Shear strength (steel collar & pin ISO10123) | 7 MPa <i>1000 psi</i> |
| Coefficient of thermal expansion | 90 x 10 ⁻⁶ mm/mm/°C |
| Dielectric strength | 11 kV/mm |
| Thermal conductivity | 0.19 W/(m.K) |

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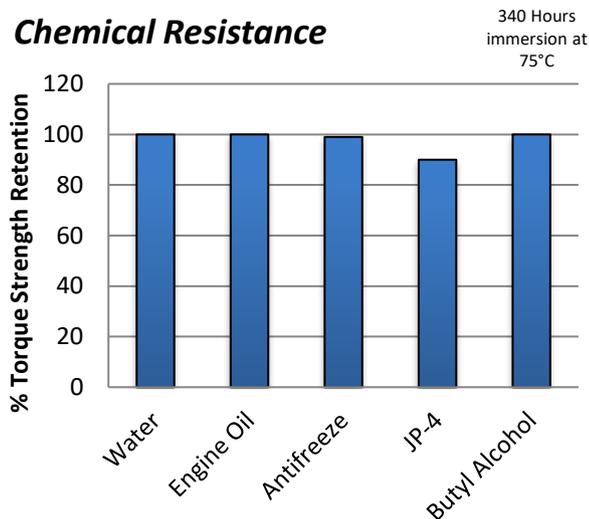
Hot Strength



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

A1062 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.

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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Permabond A1062

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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.

Directions for Use

As retainer:

- Adhesive can either be applied directly from the bottle or dispensed via automated dispensing equipment for more accurate dosing.
- For assemblies where neither component is metallic, and where UV-light cannot reach the adhesive, apply Permabond A905 to one component.
- Apply the adhesive to the other surface and assemble. Avoid entrapping air.
- Cure edges of adhesive with UV light. This will secure parts in seconds and save having to clamp components.
- Components can be handled immediately after UV-cure but it is advisable not to subject the joint to heavy loading for several hours whilst the anaerobic cure takes place.

As ammunition sealant:

- Dispense metered dose of A1062 on edge of casing where the case meets the bullet.
- The capillary action of the adhesive will wick between the bullet and casing, curing anaerobically.
- The "fillet" or meniscus of adhesive around the joint can be cured with UV light. This gives extra protection against moisture ingress, and is detectable under UV blacklight to ensure 100% seal.

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. | |

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

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