

Features & Benefits

- 💧 Vibration resistant
- 💧 Can be dismantled with normal tools
- 💧 Provides corrosion protection
- 💧 WRAS drinking water approval

Description

Permabond A011 is an anaerobic adhesive designed for locking and sealing threaded or coaxially fitting metal parts where subsequent dismantling is required. Its controlled strength ensures fatigue, vibration and corrosion resistance on large or fragile components whilst still allowing assemblies to be stripped down using normal tools.

Physical Properties of Uncured Adhesive

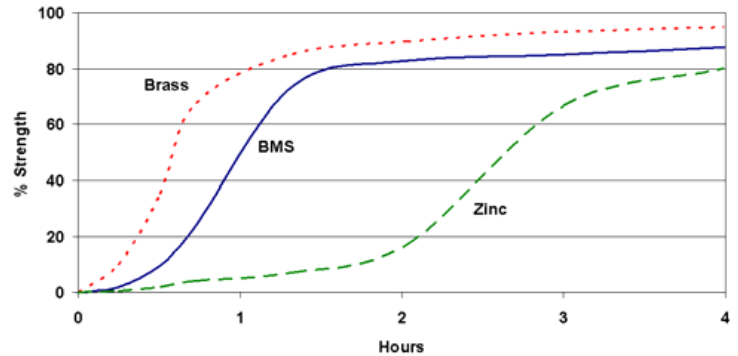
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|----------------------|----------------|
| Chemical composition | Acrylic |
| Appearance | Red |
| Viscosity @ 25°C | 500 mPa.s (cP) |
| Density | 1.06 |
| UV fluorescence | Yes |

Typical Curing Properties

| | |
|---------------------------|-------------------------|
| Maximum gap fill | 0.12 mm 0.005 in |
| Maximum thread size | M20 ¼" |
| Handling strength (steel) | 15 minutes |
| Working strength | 1 hour |
| Full strength | 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.*

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.

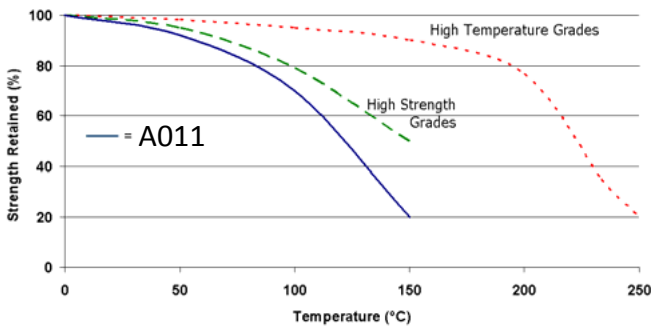
Typical Performance of Cured Adhesive

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| Torque strength (M10 steel ISO10964) | Break 7 Nm 60 in.lb Prevail 3 Nm 25 in.lb |
| Shear strength (steel collar & pin) | 5 MPa 750 psi |
| Coefficient of thermal expansion | 90 x 10 ⁻⁶ mm/mm/°C |
| Dielectric strength | 11 mV/mm |
| Thermal conductivity | 0.19 W/(m.K) |

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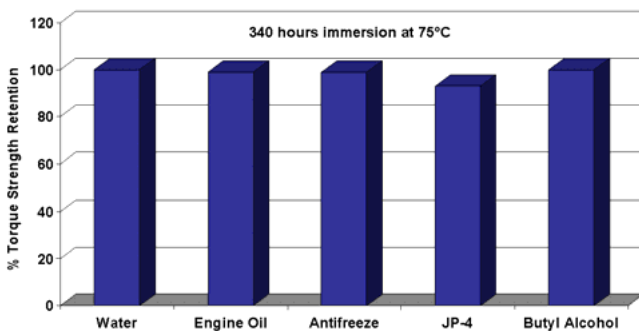
Temperature Resistance



"Hot strength" shear strength tests performed on mild steel. 24hr cure at room temperature and conditioned to pull temperature for 30 minutes before testing.

A011 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 steam, strong oxidizing materials and polar solvents although will withstand a solvent wash without any bond strength deterioration.

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

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| 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 Material Safety Data Sheet. | |

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