PERMABOND MH199

Anaerobic Gasketmaker

Technical Datasheet

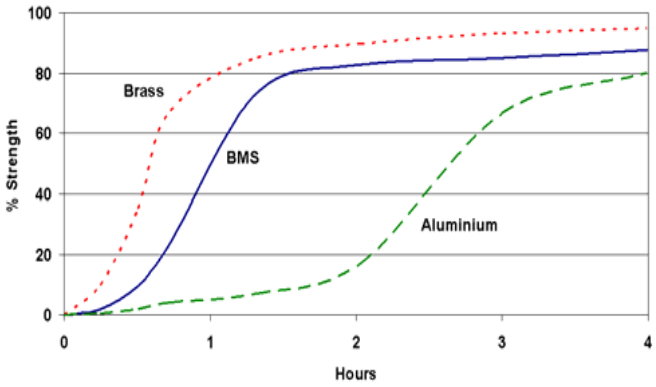
Features & Benefits

- Replaces all sizes of formed gaskets
- Does not creep or shrink
- Good high pressure resistance
- High temperature resistance
- No shimming effect

Description

PERMABOND MH199 is an anaerobic material designed for making "formed in situ" gaskets between metal surfaces. It is capable of replacing a wide range of conventional gaskets, thereby offering potential for reduced stock holdings. By allowing surface to surface contact, load transmission can be improved. As the product does not shrink, creep or relax after curing, no bolt re-tightening is required. It has excellent chemical and high temperature resistance or up to 200°C.

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.

Physical Properties of Uncured Adhesive

Chemical composition	Acrylic
Appearance	Red
Viscosity @ 25°C	185,000 mPa.s (cP) Thixotropic
Density	1.1
UV fluorescence	Yes

Typical Performance of Cured Adhesive

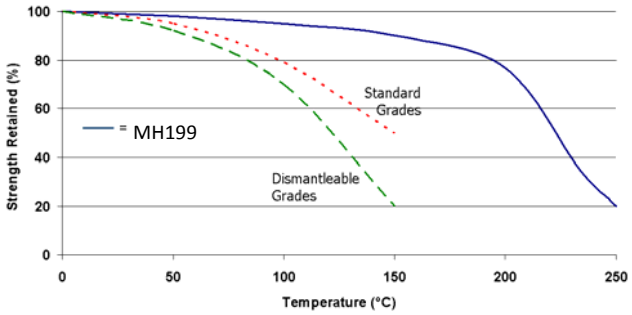
Shear strength (steel collar & pin)	8 MPa ***1100 psi***
Coefficient of thermal expansion	90 x 10^{-6} mm/mm/°C
Dielectric strength	11 mV/mm
Thermal conductivity	0.19 W/(m.K)

Typical Curing Properties

Maximum gap fill Maximum thread size	0.5 mm ***0.02 in***
Handling strength (steel)	20 minutes
Working strength	3-6 hours
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.*

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.

MH199 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

Immersion (1,000 Hours)	Temperature (°C)	Strength Retention (%)
Engine Oil	125	100
Water/Glycol	85	110
Petrol	23	60

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) Apply as a bead, by roller, silkscreen or stencil. Ensure all potential leak paths such as flange bolt holes are encircled.
2) Removal: use normal tools to prise the surfaces apart.
3) Ensure old adhesive is removed before reassembling the parts.

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 Material Safety Data Sheet.	

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