

### Features & Benefits

- 💧 Cures in shadow areas
- 💧 High shear strength
- 💧 Excellent environmental resistance
- 💧 Thixotropic for controlled flow
- 💧 Excellent adhesion to metal and glass

### Description

**PERMABOND UV7146** is a UV-curable adhesive with a secondary anaerobic cure mechanism. This makes it ideal for bonding materials such as ceramic-coated glass, mirrors etc. where UV-light cannot penetrate to provide full cure in shadow areas. This dual cure mechanism helps speed up production rates. The UV cure tacks the components in place in seconds, reducing the need for jiggling. The bulk of the adhesive then cures more slowly to produce optimum performance.

### Physical Properties of Uncured Adhesive

Chemical composition	Methacrylate ester
Appearance	Colourless
Viscosity @ 25°C	20 rpm: 15,000-25,000 mPa.s 2.5 rpm: 65,000-85,000 mPa.
Density	1.05

### Typical Curing Properties

Fixture time (low power 4mW lamp)*	<15 seconds
Anaerobic cure speed	30-60 minutes
Anaerobic working strength	3-6 hours
Maximum gap fill	0.5 mm <b>0.02 in</b>
Cure wavelength	365 - 420 nm

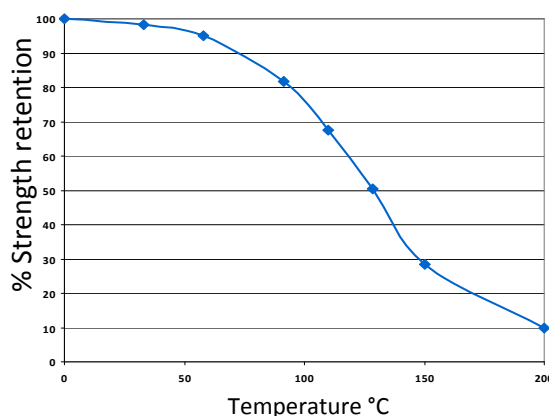
*\*The cure time depends on the power of the UV lamp, its spectral output, the distance between the lamp and the components, and the transmission characteristics of the substrates. The cure time quoted here was determined using a low power, hand held lamp. Most industrial UV lamps would give faster cure rate.*

### Typical Performance of Cured Adhesive

Shear strength glass/steel*	15 - 17 N/mm <sup>2</sup> <b>(2000 psi – 2500 psi)</b>
Tensile strength ASTM D-2095	20 N/mm <sup>2</sup> <b>(2900 psi)</b>
Refractive index	1.49
Light transmittance	>98%
Coefficient of thermal expansion	85 x 10 <sup>-6</sup> mm/mm/°C
Elongation	20 – 50 %
Shore D hardness	60 – 70 Shore D

*\*Strength results will vary depending on the level of surface preparation and gap.*

### Temperature Resistance



UV7146 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 (-67°F) depending on the materials being bonded.

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## Additional Information

This product is not recommended for use in contact with strong oxidizing materials.

Information regarding the safe handling of this material may be obtained from the material safety data sheet (MSDS).

Users are reminded that all materials, whether innocuous or not, should be handled in accordance with the principles of good industrial hygiene.

## Surface Preparation

Surfaces should be clean, dry and grease-free before applying the adhesive. Particular care should be taken to remove silicone based cleaning agents which may have been used previously to clean glass. Some metals such as aluminium, copper and its alloys, will benefit from light abrasion with emery cloth (or similar) to remove the oxide layer. Isopropanol can be used to degrease most surfaces. Where thermoplastic surfaces are involved we recommend tests are done to ensure compatibility, mold release agents may affect bond strength.

## Directions for Use

1. Adhesive can either be applied directly from the bottle or dispensed via automated dispensing equipment for more accurate dosing.
2. For assemblies where neither component is metallic and where UV-light cannot reach the adhesive, apply Permabond A905 to one component.
3. Apply the adhesive to the other surface and assemble. Avoid entrapping air.
4. Cure edges of adhesive with UV light. This will secure parts in seconds and save having to clamp components.
5. 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.

## Storage & Handling

Storage Temperature	5 to 25°C (41 to 77°F)
Shelf Life Stored in original unopened containers	12 months

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