

Features & Benefits

- Cures in shadow areas
- High shear strength
- Excellent environmental resistance
- 100% solids, no solvents
- Excellent adhesion to metal and glass

Description

PERMABOND UV7141 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	1000-2000 mPa.s (cP)
Density	1.05

Typical Curing Properties

Fixture time (low power 4mW lamp)*	5-20 seconds
Anaerobic cure speed	30-60 minutes
Anaerobic working strength	3-6 hours
Maximum gap fill	0.3 mm 0.012 in
Cure wavelength	365 - 420 nm

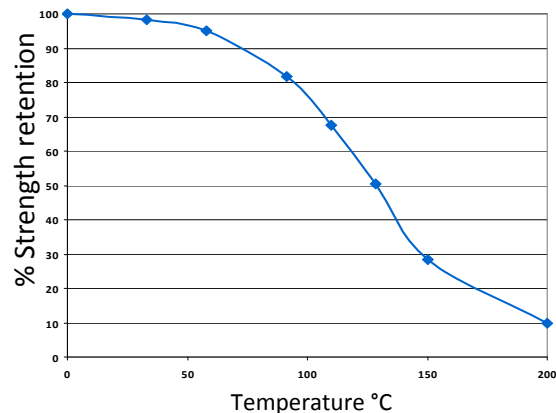
**The cure time depends on the power of the UV lamp, its spectral output, the distance between the lamp and the components, and the transmission characteristics of the substrates. The cure time quoted here was determined using a low power, hand held lamp. Most industrial UV lamps would give faster cure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

Typical Performance of Cured Adhesive

Shear strength glass/steel*	14 - 17 N/mm ² (2000 psi – 2500 psi)
Tensile strength ASTM D-2095	20 N/mm ² (2900 psi)
Refractive index	1.49
Light transmittance	>98%
Coefficient of thermal expansion	85 x 10 ⁻⁶ mm/mm/°C
Dielectric strength	10-12 KV/mm
Dielectric constant 1MHz@25°C	4
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



UV7141 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.

The information given and the recommendations made herein are based on our research and are believed to be accurate but no guarantee of their accuracy is made. In every case we urge and recommend that purchasers before using any product in full-scale production make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purpose under their own operating conditions. THE PRODUCTS DISCLOSED HEREIN ARE SOLD WITHOUT ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED.

No representative of ours has any authority to waive or change the foregoing provisions but, subject to such provisions, our engineers are available to assist purchasers in adapting our products to their needs and to the circumstances prevailing in their business. Nothing contained herein shall be construed to imply the non-existence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of this patent. We also expect purchasers to use our products in accordance with the guiding principles of the Chemical Manufacturers Association's Responsible Care® program.

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

Contact Permabond:

Europe: Tel. +44 (0)1962 711661
UK Helpline: 0800 975 9800
Deutschland: 0800 10 13 177
France: 0805 11 13 88
info.europe@permabond.com

US: Tel. +1 732-868-1372
Helpline: 800-640-7599
info.americas@permabond.com
Asia: Tel. +86 21 5773 4913
info.asia@permabond.com

www.permabond.com

The information given and the recommendations made herein are based on our research and are believed to be accurate but no guarantee of their accuracy is made. In every case we urge and recommend that purchasers before using any product in full-scale production make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purpose under their own operating conditions. THE PRODUCTS DISCLOSED HEREIN ARE SOLD WITHOUT ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED.

No representative of ours has any authority to waive or change the foregoing provisions but, subject to such provisions, our engineers are available to assist purchasers in adapting our products to their needs and to the circumstances prevailing in their business. Nothing contained herein shall be construed to imply the non-existence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of this patent. We also expect purchasers to use our products in accordance with the guiding principles of the Chemical Manufacturers Association's Responsible Care® program.