

Features & Benefits

- High viscosity non-drip rheology
- High shear strength
- Fast curing with low power lamps
- 100% solids, no solvents
- Excellent adhesion to medical plastics
- ISO10993 cytotoxicity approval

Description

PERMABOND 4UV80HH is a single part, fast setting, UV curable adhesive designed specifically for bonding medical devices. It has excellent adhesion to a wide variety of plastics and metals commonly found in the medical industry.

Physical Properties of Uncured Adhesive

Chemical composition	Methacrylate ester
Appearance	Opaque / translucent Clear when cured
Viscosity @ 25°C	8000-12000 mPa.s (cP)
Density	1.1
Flashpoint	100°C
Cytotoxicity approval	As 4UV80 with bio-inert filler

Typical Curing Properties

Fixture time (low power 4mW lamp)*	Polycarbonate: 55 seconds
	Acrylic: 6 seconds
	PVC (rigid): 6 seconds
	PVC (flexible): 5 seconds
	PC to ABS: 55 seconds
Cure wavelength	365 - 400 nm

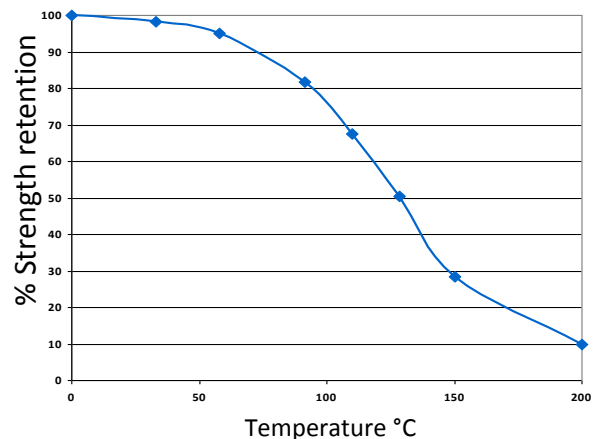
*The cure time depends on the power of the UV lamp, its spectral output, the distance between the lamp and the components, and the transmission characteristics of the substrates. The cure time quoted here was determined using a low power, hand held lamp. Most industrial UV lamps would give faster cure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

Typical Performance of Cured Adhesive

Shear strength	Polycarbonate: >9MPa (>1300 psi) SF PVC (rigid): >5MPa (>700psi) SF PVC (flexible): >2.5MPa (>400 psi) SF PC to ABS: >9MPa (>1300 psi) SF
Tensile strength ASTM D-2095	12 N/mm ² (1700 psi)
Impact strength	4-9.5 J
Elongation	110%
Shore D hardness	60
Dielectric strength	12 KV/mm
Dielectric constant 1MHz@25°C	4

*Strength results will vary depending on the level of surface preparation and gap.
SF = Substrate failure

Temperature Resistance



4UV80HH 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.

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).

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.

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

Directions for Use

- 1) The surfaces should be clean, dry and grease free.
- 2) The adhesive can be dispensed via automated dispensing equipment for accurate dosing.
- 3) Expose adhesive to ultra-violet light for the appropriate time to ensure full cure. Actual cure times will depend 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 handling time quoted on this datasheet was determined using a low power, hand held lamp. Most industrial UV light sources would give a faster rate of cure.

NB:

Hard-to-bond surfaces such as polypropylene and polyethylene should be surface treated before bonding, for further advice, please contact the Permabond technical team.

This product is UV-fluorescent for easy in-line QC inspection. If desired, the product can be supplied without UV-fluorescence. This adhesive is highly reactive to allow cure through difficult plastics, should a less-active product be required due to strong factory lighting, Permabond can produce a light insensitive version of this product.

Storage & Handling

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

Other Products Available

Anaerobics

- Toughened
- Gas & water approved
- High temperature resistance
- Flexible

Cyanoacrylates

- Low bloom / low odour
- Flexible
- High temperature resistance

Epoxies

- Fast cure
- Toughened
- Flexible grades

Toughened Acrylics

- Rapid cure
- Low odour
- Pre-mixed
- Gap filling

UV Light Cured

- Glass / plastic bonding
- Optically clear
- Non-yellowing

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

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