

### Features & Benefits

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

### Description

**PERMABOND® 4UV80** 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	100-200 mPa.s (cP)
Density	1.1
Flashpoint	100°C
Cytotoxicity approval	Pass

### Typical Curing Properties

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

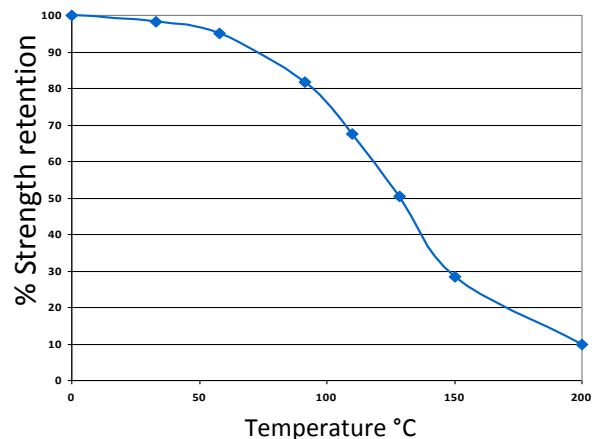
\*The cure time depends on the power of the UV lamp, its spectral output, the distance between the lamp and the components, and the transmission characteristics of the substrates. The cure time quoted here was determined using a low power, hand held lamp. Most industrial UV lamps would give faster cure 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 <sup>2</sup> (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



4UV80 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, 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.

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:

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