

Permabond UV-curable adhesives cure rapidly during exposure to ultra violet light. They are an excellent high strength alternative to other joining methods such as solvent welding and ultrasonic welding. They are ideal for bonding medical plastics and are ideal for use on high-speed production lines. 4UV80 HH is a gel.

### Physical Properties

<b>Chemical Type</b>	Methacrylate Ester
<b>Appearance</b>	Opaque, translucent
<b>Viscosity</b>	8000 - 12,000 mPa.s
<b>Density</b>	1.1
<b>Flashpoint</b>	100°C
<b>Cytotoxicity Approval</b>	As 4UV80 with bio-inert filler

### Cured Properties

<b>Appearance</b>	Colourless, clear
<b>Shore D Hardness</b>	60
<b>Dielectric Strength</b>	12 KV/mm
<b>Service Temperature</b>	-55 to +120°C
<b>Tensile Strength</b>	12 N/mm <sup>2</sup>
<b>Elongation</b>	110%

### Typical Performance

<b>Fixture Time</b> <small>(low-powered 4mW/cm<sup>2</sup> lamp)</small>	Polycarbonate	55 seconds
	Acrylic	6 seconds
	PVC (rigid)	6 seconds
	PVC (flexible)	5 seconds
	PC to ABS	55 seconds
<b>Shear Strength</b>	Polycarbonate	>9 N/mm <sup>2</sup> SF
	PVC (rigid)	>5 N/mm <sup>2</sup> SF
	PVC (flexible)	>2.5 N/mm <sup>2</sup> SF
	PC to ABS	>9 N/mm <sup>2</sup> SF
<b>Impact Strength</b>		4 - 9.5 J

SF = Substrate Failure

### Directions for use

- The surfaces should be clean, dry and grease free.
- The adhesive can be dispensed via automated dispensing equipment for accurate dosing.
- 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 and Handling

<b>Storage Temperature</b>	5 to 25°C
<b>Shelf Life</b>	12 months
Stored in original unopened containers	

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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