

Permabond TA440 is a two-component, no-mix, toughened acrylic adhesive. Fixing time approximately 1 minute. Suitable for bonding metals, ceramics, glass, wood and rigid plastics. Highly resistant to impact, peel and shear stresses.

### Physical Properties

	TA440A	TA440B
<b>Chemical type</b>	Urethane methacrylate	Urethane methacrylate
<b>Colour</b>	Amber	Green
<b>Viscosity</b>	10,000 mPa.s	10,000 mPa.s
<b>Flashpoint</b>	93°C	93°C
<b>Density</b>	1.1	1.1
<b>Ratio of use</b>	1:1 by weight or volume	

### Typical Performance

<b>Gap fill</b>		Up to 0.5mm
<b>Fixture time</b>		30-60 seconds
<b>Working strength</b>		30-60 minutes
<b>Full strength</b>	DIN 53283	24 hours
<b>Shear strength</b>	ASTM D-1002	25 MPa (steel)
<b>Peel strength</b>	ISO4578	65 N/25mm
<b>Tensile strength</b>	DIN 53288	25 MPa
<b>Impact strength</b>	ASTM D-950	25 Nmm/mm <sup>2</sup>
<b>Coefficient of thermal expansion</b>	ASTM D-696	80 x 10 <sup>-6</sup> 1/K
<b>Thermal conductivity</b>	ASTM C-177	0.1 W/m <sup>2</sup> K
<b>Dielectric constant</b>	ASTM D-150	4.6 Mhz
<b>Dielectric strength</b>	ASTM D-149	30-50 KVmm
<b>Volume resistivity</b>	ASTM D-257	2 x 10 <sup>13</sup> Ohm.cm
<b>Service temperature*</b>		-50 to +120°C

\*Higher temperatures may be endured for short periods providing the parts are not unduly stressed.

### Surface Preparation

Surfaces should be clean, dry and grease-free before applying the adhesive. Permabond Cleaner A is recommended for the degreasing of most surfaces. Some metals such as aluminium, copper and its alloys will benefit from light abrasion with emery cloth (or similar), to remove the oxide layer.

### Adhesive Application

- Surfaces must be clean, dry and grease-free prior to bonding.
- Apply TA440A to one surface and TA440B to the other.
- Alternatively, dispense 'bead-on-bead' (one bead on top of the other) and then assemble parts.
- Applying adhesive side by side is not advisable as this may not achieve adequate mixing.
- Maintain pressure until handling strength is achieved. The time required will vary according to the joint design and surfaces being bonded.
- Allow 24 hours for adhesive to fully cure. Accelerated cure times may be achieved by heating.

### Storage and Handling

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

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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