**Features & Benefits**

- Cure on demand
- Optically clear
- Resistant to yellowing
- Fast curing with low-power lamps
- 100% solids, no solvents
- Excellent adhesion to metal and glass

**Description**

**PERMABOND® UV620** is a single part, fast curing, UV curable adhesive. Its excellent optical clarity and resistance to yellowing make it ideal for bonding glass and crystal for a high quality finish. It is well suited for a variety of applications including glass furniture, decorative ornaments and other glass objects where high strength and appearance are required.

**Physical Properties of Uncured Adhesive**

<table>
<thead>
<tr>
<th>Chemical composition</th>
<th>Methacrylate ester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colourless, clear</td>
</tr>
<tr>
<td>Viscosity @ 25°C</td>
<td>20 rpm: 2,200-2,900 mPa.s (cP)</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**Typical Curing Properties**

<table>
<thead>
<tr>
<th>Typical fixture time*</th>
<th>Low power 4mW/cm² battery lamp: 5 secs LED 100mW/cm² lamp: 2 secs UV light guide 30W/cm²: 1 sec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cure wavelength</td>
<td>365 - 400 nm**</td>
</tr>
</tbody>
</table>

*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.

**Typical Performance of Cured Adhesive**

<table>
<thead>
<tr>
<th></th>
<th>Tensile strength (ASTM D-2095-69) steel to glass*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9-10 N/mm² (1300 psi – 1450 psi)</td>
</tr>
<tr>
<td></td>
<td>Tensile strength (ISO37)</td>
</tr>
<tr>
<td></td>
<td>16 N/mm² (2300 psi)</td>
</tr>
<tr>
<td></td>
<td>Refractive index (cured)</td>
</tr>
<tr>
<td></td>
<td>&gt;1.490</td>
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<tr>
<td></td>
<td>Elongation (ISO37)</td>
</tr>
<tr>
<td></td>
<td>&gt;80%</td>
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<tr>
<td></td>
<td>Hardness (ISO868)</td>
</tr>
<tr>
<td></td>
<td>60-75 Shore D</td>
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<tr>
<td></td>
<td>Dielectric strength</td>
</tr>
<tr>
<td></td>
<td>12 KV/mm</td>
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<tr>
<td></td>
<td>Dielectric constant 1MHz@25°C</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Water absorption (ISO62)</td>
</tr>
<tr>
<td></td>
<td>2 hours in boiling water &lt;4%</td>
</tr>
</tbody>
</table>

*Strength results will vary depending on the level of surface preparation and gap.*

**Hot Strength**

![Hot Strength Graph]

*Hot strength* shear strength tests performed on glass to mild steel. Fully cured specimens conditioned to pull temperature for 30 minutes before testing at temperature.

UV620 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 Safety Data Sheet.
Users are reminded that all materials, whether innocuous or not, should be handled in accordance with the principles of good industrial hygiene.

This Technical Datasheet (TDS) offers guideline information and does not constitute a specification.

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. Minimise exposure of product to ambient light.
2) It is important to try to prevent air entrapment within the joint as this could be detrimental to the finished appearance of the adhesive.
3) Parts should be firmly held and not disturbed during cure. Expose the joint to ultra-violet light for the appropriate time to ensure full cure. 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.
4) For help selecting a suitable lamp and/or dispensing equipment, please contact the Permabond technical helpline.

Video Link
UV adhesive directions for use: https://youtu.be/hPUoSOcmEW4

Other Products Available

**Anaerobics**
- Thread lockers
- Thread sealants
- Gasket makers
- Sealants / retainers

**Cyanacrylates**
- Instant adhesives
- For rapid bonding of metals, plastics, rubber and many other materials

**Epoxies**
- Two-part room temperature cure adhesives
- Single-part heat cure adhesives
- Modified Technology (MT) flexible grades available

**MS-Polymers**
- Single-part, moisture-curing, flexible sealants

**Polyurethanes**
- Two-part room temperature curing adhesives

**Toughened Acrylics**
- Rapid curing, high strength structural adhesives

**UV Light Cured Adhesives**
- Glass / plastic bonding
- Optically clear
- Non-yellowing

Storage & Handling

Storage Temperature
5 to 25°C (41 to 77°F)

Protect liquid adhesive from room lighting.

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