PERMABOND UV632

UV-Curable Adhesive

Technical Datasheet

Features & Benefits

- Cure on demand
- High shear strength
- Fast curing with low-power lamps
- 100% solids, no solvents
- Excellent adhesion to plastics

Description

PERMABOND UV632 is a UV-curing adhesive developed for use on plastics. It has superb adhesion to acrylic and contains a long-wavelength photo initiator to allow it to cure through UV-stabilised plastics. This adhesive can also be used to bond glass, metals and other materials. UV632 cures to give a colourless bond so is ideal for applications where aesthetic appearance is vitally important.

Physical Properties of Uncured Adhesive

Chemical composition	Urethane methacrylate
Appearance	Clear, colourless
Viscosity @ 25°C	200-300 mPa.s (cP)
Density	1.1

Typical Curing Properties

Fixture time (low power 4mW lamp)*	<60 seconds (polycarbonate) <10 seconds (Plexiglass) <10 seconds (PET)
Maximum gap fill	0.2 mm ***0.008 in***
Cure wavelength	365 - 420 nm

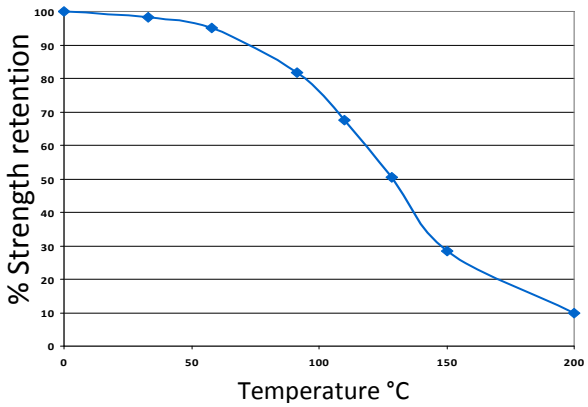
**The cure time depends on the power of the UV lamp, its spectral output, the distance between the lamp and the components, and the transmission characteristics of the substrates. The cure time quoted here was determined using a low power, hand held lamp. Most industrial UV lamps would give faster cure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

Typical Performance of Cured Adhesive

Shear strength	Polycarbonate >5 N/mm² ***(>700 psi)**** Plexiglass >3 N/mm² ***(>400 psi)*** PET >4 N/mm² ***(>600 psi)****
Tensile strength ASTM D-2095	13 N/mm² ***(1900 psi)***
Refractive index	1.48
Elongation	170%
Shore D hardness	60
Dielectric strength	12 KV/mm
Dielectric constant 1MHz@25°C	4

**Substrate failure was observed*

Temperature Resistance



UV632 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).

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

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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.
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.
4) For help selecting a suitable lamp and/or dispensing equipment, please contact the Permabond technical helpline.

Storage & Handling

Storage Temperature	5 to 25°C ***(41 to 77°F)***
Shelf Life Stored in original unopened containers	12 months
Protect liquid adhesive from room lighting.	

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

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