

Features & Benefits

- 💧 Cures in shadow areas
- 💧 High shear strength
- 💧 Excellent environmental resistance
- 💧 100% solids, no solvents
- 💧 Excellent adhesion to metal and glass

Description

PERMABOND[®] UV7141 is a UV-curable adhesive with a secondary anaerobic cure mechanism. This makes it ideal for bonding materials such as ceramic-coated glass, mirrors etc. where UV-light cannot penetrate to provide full cure in shadow areas. This dual cure mechanism helps speed up production rates. The UV cure tacks the components in place in seconds, reducing the need for jiggling. The bulk of the adhesive then cures more slowly to produce optimum performance.

Physical Properties of Uncured Adhesive

Chemical composition	Methacrylate ester
Appearance	Colourless
Viscosity @ 25°C	20rpm: 1200-1700 mPa.s (cP)
Specific gravity	1.1

Typical Curing Properties

Typical fixture time*	Low power 4mW/cm ² battery lamp: 5-20 secs LED 100mW/cm ² lamp: 2-5 secs UV light guide 30W/cm ² : 1-3 secs
Cure wavelength	365-420nm**
Anaerobic handling time	30-60 minutes
Anaerobic working strength	3-6 hours

*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.

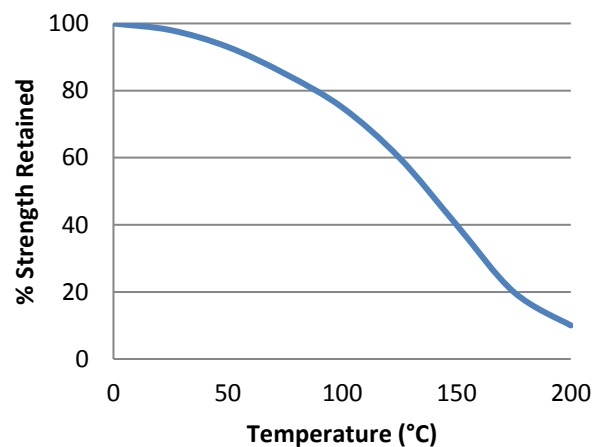
**LED UV lamps have a narrow range of spectral output. It is important to check suitability with Permabond in order to match the LED lamp's peak wavelength with that of the adhesive's photoinitiator to ensure optimal adhesive cure.

Typical Performance of Cured Adhesive

Tensile strength (ASTM D-2095-69) steel to glass*	14-17 N/mm ² (2000 psi – 2500 psi)
Tensile strength (ISO37)	20 N/mm ² (2900 psi)
Refractive index (cured)	1.490
Light transmittance	>98%
Elongation (ISO37)	20-50%
Hardness (ISO868)	60-70 Shore D
Dielectric strength	10-12 KV/mm
Dielectric constant 1MHz@25°C	4
Coefficient of thermal expansion	85 x 10 ⁻⁶ mm/mm/°C

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

Hot Strength



"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.

UV7141 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.

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