PERMABOND® UV686.21

UV-Cure Gasketmaker

Provisional Technical Datasheet

Features & Benefits

- Flexible form-in-place gasket
- Silicone & isocyanate free
- Excellent environmental resistance
- 100% solids, no solvents
- Dual cure mechanism – UV and heat
- UV and Visible light cure

Description

PERMABOND® UV686.21 is a UV-curable adhesive designed for making FIP (form-in-place) gaskets. It can be used to form flexible joints and can be deformed and compressed (it has good internal cohesion and elasticity). It is suitable for use on large panels and will cure in gaps of up to 0.2mm.It can be used as a flexible barrier/sealant in combination with metals, ceramics and plastics in electronic devices. Cure wavelengths are typically 365 – 400 nm)

Physical Properties of Uncured Adhesive

Chemical composition	Urethane acrylate
Appearance	Clear
Viscosity @ 25°C	1000-3000mPa s (cP)
Specific Gravity	1.1

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Fixture time (3 / 5 mW/sqcm)*	10-30 seconds
Fixture time (at +115°C on metal)	10-15 minutes

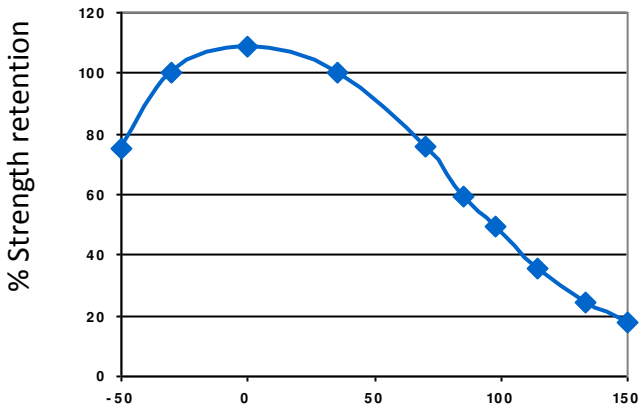
**The cure time depends on the power of the UV lamp, its spectral output, the distance between the lamp and the components, and the transmission characteristics of the substrates. The cure time quoted here was determined using a low power, hand held lamp. Most industrial UV lamps would give faster cure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

Typical Performance of Cured Adhesive

Tensile strength DIN 53504*	3-6 N/mm² ***(450-900 psi)***
Shore Hardness ISO868	15-25 Shore A
Elongation at break DIN 53504	200-400%
Light Transmittance	>99%

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

Temperature Resistance



UV686.21 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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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.

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. Apply the adhesive in a continuous bead taking care to avoid any air entrapment.
3. Adhesive can then be cured with a UV lamp. Parts can be assembled as and when desired, the flexibility of the UV gasket will conform to fit between components when clamped together.

Storage & Handling

Storage Temperature	5 to 25°C ***(41 to 77°F)***
Shelf Life Stored in original unopened containers	6 months

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