

PERMABOND[®] UV7141

Dual Cure UV Adhesive

Technical Data Sheet

Ref. #: 041509PBUV7141

FEATURES & BENEFITS

- ◆ Cure on demand
- ◆ High tensile strength
- ◆ Fast curing with low power lamps
- ◆ Dual cure, UV and Anaerobic curing
- ◆ 100% Solids, no solvents

DESCRIPTION

Permabond UV7141 is a UV curable adhesive with a secondary curing mechanism. It is ideal for bonding materials such as ceramic-coated glass and mirror applications where UV light can not 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 clamping. The secondary curing mechanism will then cure the rest of the adhesive.

TYPICAL PROPERTIES OF THE UNCURED ADHESIVE

Chemical composition	Methacrylate Ester
Color	Colorless
Viscosity @ 25°C, cP	1500
Specific gravity at 25°C	1.05
Shelf life, months	12
Storage Temperature, °C (°F)	5 to 25 (41 to 76)

Non-Warranty: The information given and the recommendations made herein are based on our research and are believed to be accurate but no guarantee of their accuracy is made. In every case we urge and recommend that purchasers before using any product in full-scale production make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purpose under their own operating conditions. THE PRODUCTS DISCLOSED HEREIN ARE SOLD WITHOUT ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED.

No representative of ours has any authority to waive or change the foregoing provisions but, subject to such provisions, our engineers are available to assist purchasers in adapting our products to their needs and to the circumstances prevailing in their business. Nothing contained herein shall be construed to imply the non-existence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of this patent. We also expect purchasers to use our products in accordance with the guiding principles of the Chemical Manufacturers Association's Responsible Care[®] program.

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TYPICAL CURING PROPERTIES

Cure wavelength, nm	365-420
Light intensity, mW/cm ²	4
Cure time, sec	15
Maximum gap fill, in	0.012
Anaerobic cure speed, min.	40 – 60
Working strength, hours	3 – 6

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 PROPERTIES OF THE CURED ADHESIVE

Shear Strength, N/mm ² (psi)	14-17 (2,000-2,500)
Tensile Strength, N/mm ² (psi)	20 (3,000)
Refractive Index	1.49
Light transmittance, %	>98
Coefficient of thermal expansion, mm/mm°C	85 x 10 ⁻⁶
Dielectric constant, 25°C 1000Hz	4
Dielectric strength, KV/mm	10 – 12
Temperature Range*, °C (°F)	-54 to 150 (-65 to 300)

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

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).

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 to clean the glass. Metals such as aluminum, copper and its alloys will benefit from light abrasion with emery cloth or similar abrasion material, to remove the oxide layer.

ADHESIVE APPLICATION

Adhesive can either be applied directly from the bottle or dispensed using automated dispensing equipment.

For assemblies where neither component is metallic, and where UV light cannot reach the adhesive, apply ASC10 to one of the substrates. Apply the adhesive to the other surface and assemble. Avoid entrapping air.

Cure edges of the adhesive with UV light. This will secure the parts in seconds and save having to clamp the components

Components can be handled immediately after UV-cure but it is recommended that the joint should not be subjected to heavy loading for several hours while the anaerobic cure takes place.

STORAGE & HANDLING

Permabond UV7141 should be stored in a cool, dry place in the unopened container at a temperature between 5°C and 25°C (41°F and 77°F). Under these conditions the product has a shelf life of 12 months. Protect the adhesive from light, especially UV light.

Please refer to the MSDS for more information on the handling of this material.

FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN