Permabond®

ISO 9001 Certified
"Our Science ... Your Success"

UV643: UV-Light(ning quick) Adhesive

Permabond UV643 is an ultra-fast UV-curing adhesive that bonds rigid plastic, metal, and glass with a tack free finish.

One of the key features of UV643 is its incredibly fast cure speed - glass to glass bonding takes a fraction of a second using a high intensity UV lamp. Even with a lower-powered lamp, or when curing through thick, UV-stabilized plastic, the adhesive cures very quickly.

UV643 is ideally suited for fast production lines due to its cure speed, versatility, and aesthetically pleasing finish. UV643 is thixotropic, offering excellent controlled flow properties, allowing easier and more accurate dispensing.

Once cured, UV643 is completely tack-free and actively resists yellowing. This ensures a clean, professional finish long after bonding. In addition, the adhesive passes 85/85 testing (85% relative humidity at 85°C), making it highly suitable for automotive and outdoor applications.

Ideal for bonding:

- ***ABS***
- ***Acrylic***
- ***Aluminum***
- ***Composites***
- ***Glass***
- ***Mild Steel***
- ***PC***
- ***PET/PETG***
- ***Rigid PVC***

+ many more materials

Permabond® UV643 Features & Benefits

- Very fast cure (less than a second)
- Great on rigid plastics and thermoplastics
- Cures through thick and/or UV-stabilized plastics
- Cures through coloured plastics and glass
- Passes 85/85 testing
- Thixotropic, has controlled flow properties
- Tack-free cure
- Great outdoor and environmental resistance
- Actively resists yellowing
- Excellent resistance to thermal cycling

Permabond® Engineering Adhesives

UV643 Product data

The following technical data for Permabond UV643 is a guideline and does not constitute a specification. Please refer to the technical data sheet (www.permabond.com) for complete technical information. Our experienced worldwide trained distributor network means no matter where in the world you are located, Permabond representatives can assist you with your project.

Permabond UV643	
Description	Ultra fast-curing, tack free, weather resistant UV adhesive
Appearance	Pale yellow (uncured), clear (cured)
Features	Great on rigid plastics and thermoplastics. Cures through thick and/or UV-stabilized plastics as well as colored plastics and glass.
Viscosity @ 25°C	20rpm: 2000 mPa.s (cP) / 2rpm: 17,600 mPa.s (cP)
Specific Gravity	1.0
Hardness (ISO868)	65 Shore D
Typical fixture time	UV LED 400nm 150 mW/cm²: <1 second on acrylic
Cure wavelength	365 - 420 nm - see below for more information
Shear strength	■ Polycarbonate: 1885 psi *(13 N/mm²)** ■ Acrylic: 1015 psi *(7 N/mm²)* ■ PETG: 870 psi *(6 N/mm²)** ■ Rigid PVC: 1150 psi *(8 N/mm²)** ■ Aluminum to PC: 1450 psi *(10 N/mm²)* ■ Mild steel to PC: 1450 psi *(10 N/mm²)*
Storage temperature	Between +5 and +25°C (+40 and +75°F)

*Substrate failure was observed

Thermal aging at 85°C/85% RH

Substrate	Initial Strength	After Aging: 4 Weeks
PC to PC	1885 psi *(13 N/mm2)**	1885 psi *(13 N/mm2)**
AL to PC	1450 psi *(10 N/mm2)*	1885 psi *(13 N/mm2)**

*Substrate failure was observed

Thermal Aging

The table to the left shows the shear strength retained after thermal aging. Lap shear specimens were prepared and cured at 23°C, aged at the indicated temperature, and tested at 23°C. Data on Thermal Cycling is also available- please see TDS.

www.permabond.com

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