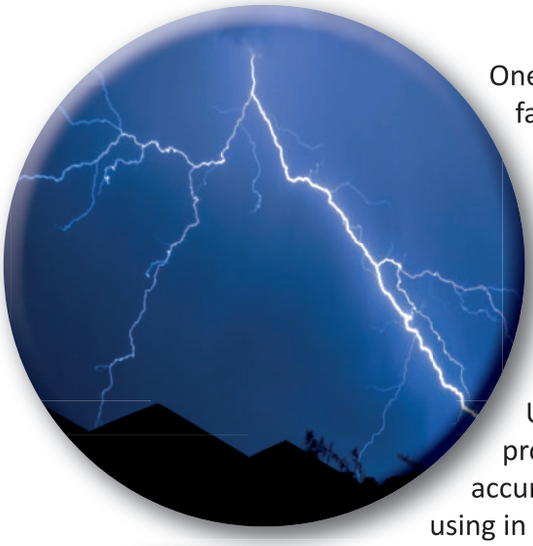
Permabond®

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

UV643: UV-Light(ning quick) Adhesive

Permabond UV643 is an ultra-fast UV-curing adhesive, designed to bond both rigid plastics and a wide variety of thermoplastics. Example materials which can easily be bonded with UV643 include PC, PMMA, PETG, PET, ABS and PVC. UV643 is also ideal for use on dissimilar surfaces – such as plastic to metal, as well as substrates that UV adhesives typically work well on, such as glass.



One of the key features of UV643 is its incredibly fast cure speed - 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-stabilised plastic, the adhesive still cures very quickly. Offering a fully tack-free finish this adhesive looks and feels clean and professional.

UV643 is thixotropic and has controlled-flow properties. This allows for easy dispensing and accurate application, as well as making it suitable for using in difficult joints and as a tack-free fillet. Its outstanding environmental and outdoor durability - it passes 85/85 testing - mean it is highly resistant to heat, moisture and humidity. This also makes it highly suited to automotive applications.



Permabond® UV643 Features & Benefits

- Very fast cure (less than a second)
- Great on rigid plastics and thermoplastics
- Cures through thick and/or UV-stabilised 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





Ideal for bonding:

- ***ABS***
- ***Acrylic***
- ***Aluminium***
- ***Composites***
- ***Ceramics***
- ***Glass***
- ***Mild Steel***
- ***PC***
- ***PET/PET-G***
- ***PMMA***
- ***Rigid PVC***
- ***Steel***

+ many more materials

Permabond® Engineering Adhesives

UV643 Product data

The following technical data for Permabond UV643 is a guideline and does not constitute a specification. For full technical information, please refer to the technical data sheet, available at www.permabond.com. Our experienced worldwide trained distributor network means no matter where in the world you are located, Permabond representatives can be called upon to assist you with your bespoke applications.

	UV643
Description	Ultra fast-curing, tack free, weather resistant UV adhesive
Appearance	Pale yellow (uncured), clear (cured)
Features	Great on rigid plastics and thermoplastics as well as curing through thick and/or UV-stabilised plastics as well as coloured 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 secs on acrylic
Cure wavelength	365 - 420 nm - see below for more information
Shear strength	Polycarbonate: 13 N/mm²* ■ Acrylic: 7 N/mm² ■ PETG: 6 N/mm²* ■PVC: 8 N/mm²* Aluminium to PC: 10 N/mm² ■ Mild steel to PC: 10 N/mm²
Packaging	50 & 250ml tubes
Storage temperature	Between +5 & +25°C

Thermal aging at 85°C/85% RH

Substrate	Initial Strength	After Aging: 4 Weeks
PC to PC	13 N/mm2*	13 N/mm2*
AL to PC	10 N/mm2	13 N/mm2*

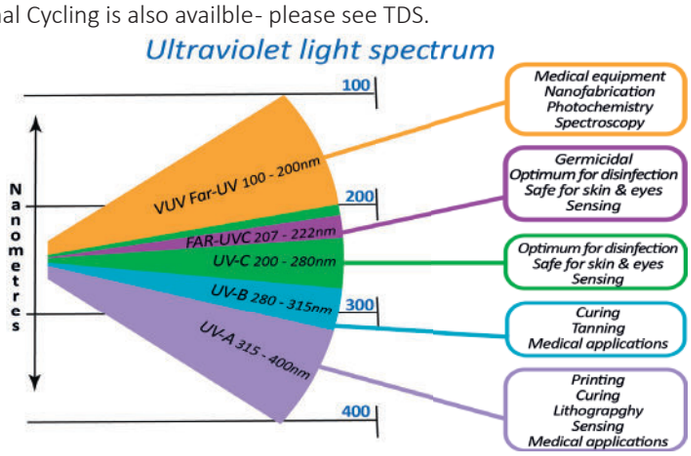
*Substrate failure was observed

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 availble- please see TDS.

A word on UV lamps:

The time taken to cure a UV adhesive depends on the UV lamp being used, and includes factors such as the power of the lamp, its spectral output, and the distance between the lamp and the components being bonded. 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.



Authorised distributor stamp:

www.permabond.co.uk
www.permabond.com
- ***US Helpline - 800-640-7599***
- ***UK - 0800 975 9800***
- ***Asia + 86 21 5773 4913***
- ***General Enquiries +44(0)1962 711661***
- ***Deutschland 0800 101 3177***
- ***France 0805 111 388***

info.europe@permabond.com
info.americas@permabond.com
info.asia@permabond.com



Wessex Business Park
Wessex Way
Colden Common
Winchester
Hampshire
SO21 1WP
United Kingdom

The information given and the recommendations made herein are based on our experience and are believed to be accurate. No guarantee as to, or responsibility for, their accuracy can be given or accepted, however, and no statement herein is to be treated as a representation or warranty. In every case we urge and recommend that purchasers, before using any product, make their own tests to determine, to their own satisfaction, its suitability for their particular purposes under their own operating conditions. Always refer to current product technical datasheet for most recent and accurate technical information.

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