

Features & Benefits

- Cures in shadow areas
- Good adhesion to metals and plastics
- Tack-free in seconds using UV torch
- Reduced odour, reduced bloom
- Good open time for accurate alignment
- Transparent in a thin layer
- Excellent environmental resistance
- Low hazard SDS

Biocompatibility

ISO 10993-5 Cytotoxicity

Description

PERMABOND® 135UV is a medium-viscosity, solvent-free, light cure cyanoacrylate adhesive that fluoresces under UV light. It is developed for applications where fast bonding between opaque substrates and tack-free fillets are needed. The UV light cure facilitates the curing, minimising the blooming effect, and allowing rapid bonding through transparent parts. When used as a UV-curable adhesive or coating, the moisture cure provides polymerisation in small shadow areas.

Physical Properties of Uncured Adhesive

Chemical composition	Ethyl cyanoacrylate
Appearance	Yellow before cure Clear in a thin bondline
Viscosity @ 25°C	800 mPa.s (cP)
Specific gravity	1.1

Typical Curing Properties

Open time (moisture cure only [22°C/50% RH])	NBR 3s	Nylon 6 20s
	EPDM 20s	ABS 10s
	Stainless steel 30s	PC 40s
	Mild steel 30s	PMMA 80s
	Aluminum 30s	PETG 55s
Tack free time (UV cure)*	≤1s (spot LED, 150 mW/cm², 405nm)	
	≤5s (spot LED, 25mW/cm², 405nm)	

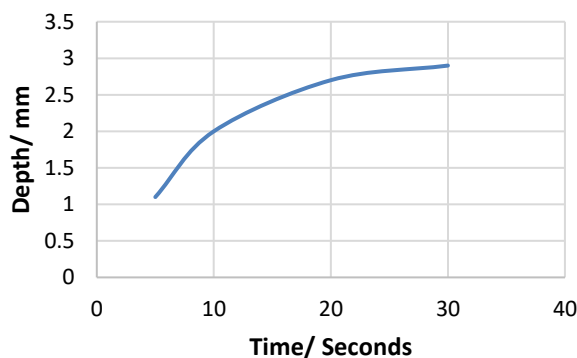
*The time depends on the power of the UV lamp, its spectral output, the distance between the lamp and the components.

Typical Performance of Cured Adhesive

Shear strength*	Abraded mild steel 12-17 N/mm ² <i>(1740 psi – 2465 psi)</i>
	Stainless steel 14-19 N/mm ² <i>(2030 psi – 2755 psi)</i>
	Aluminium 5-9 N/mm ² <i>(725 psi – 1305 psi)</i>
	Polycarbonate 6-10 N/mm ² <i>(870 psi – 1450 psi)</i>
	PMMA 7-11 N/mm ² <i>(1015 psi – 1595 psi)</i>
	PA6 7-11 N/mm ² <i>(1015 psi – 1595 psi)</i>
	PVC 8-12 N/mm ² <i>(1160 psi – 1740 psi)</i>
	ABS 6-10 N/mm ² <i>(870 psi – 1450 psi)</i>
Hardness (ISO868)	70-80 Shore D

* 24 hour moisture cure only. Higher strengths can be obtained on clear substrates using UV light secondary cure. Strength results will vary depending on the level of surface preparation and gap.

Depth of Cure



Graph shows the depth of cure at 25 mW/cm² and 405nm. The depth of cure will depend on the power of the UV lamp, its spectral output, the distance between the lamp and the adhesive.

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.

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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 Safety Data Sheet.

Users are reminded that all materials, whether innocuous or not, should be handled in accordance with the principles of good industrial hygiene.

This Technical Datasheet (TDS) offers guideline information and does not constitute a specification.

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. Apply the adhesive sparingly to one surface. Minimise exposure of product to ambient light.
- 2) Bring the components together quickly and correctly aligned. It is important to try to prevent air entrapment within the joint as this could be detrimental to the finished appearance of the adhesive.
- 3) Apply sufficient pressure to ensure the adhesive spreads into a thin film. Parts should be firmly held and not disturbed during cure. Expose the joint to ultra-violet light for the appropriate time to ensure full cure. 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.
- 4) For help selecting a suitable lamp and/or dispensing equipment, please contact the Permabond technical helpline.

Other Products Available

Anaerobics

- Thread lockers
- Thread sealants
- Gasket makers
- Sealants / retainers

Cyanoacrylates

- Instant adhesives
- For rapid bonding of metals, plastics, rubber and many other materials

Epoxies

- Two-part room temperature cure adhesives
 - Single-part heat cure adhesives
- Modified Technology (MT) flexible grades available

MS-Polymers

- Single-part, moisture-curing, flexible sealants

Polyurethanes

- Two-part room temperature curing adhesives

Toughened Acrylics

- Rapid curing, high strength structural adhesives

UV Light Cured Adhesives

- Glass / plastic bonding
 - Optically clear
 - Non-yellowing

Storage & Handling

Storage Temperature	2 to 7°C (35 to 45°F)
Protect liquid adhesive from room lighting.	

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