

Description

Permabond® Polyolefin Primer has been developed for surface treatment of polyolefins, PTFE and silicones prior to bonding with Permabond® Cyanoacrylate adhesives. Due to their low surface energy, plastics such as PTFE, Polypropylene (PP), Polyethylene (PE) and Silicones are difficult to bond without special surface treatment. However, after treatment with Permabond® Polyolefin Primer, durable bonds stronger than the substrate material can be achieved.

Physical Properties

Appearance	Colourless Liquid
Viscosity @ 25°C	0.6 mPa.s (cP)
Specific Gravity	0.7
Boiling Point	98°C
Flash Point	-4°C
Evaporation Rate	2.8 (butyl acetate = 1)
Drying Time @23°C	30 Seconds
UV-fluorescence	Yes

Storage & Handling

Storage Temperature	5 to 25°C (41 to 77°F)
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Do not mix Permabond® POP directly with cyanoacrylate adhesives

Users are reminded that all materials, whether innocuous or not, should be handled in accordance with the principles of good industrial hygiene. Full information can be obtained from the Safety Data Sheet.

Performance Properties

Substrate	Untreated	Treated with Primer
4mm Polypropylene bonded with 105	0.5 MPa Adhesive Failure	7.1 MPa Substrate Failure
4mm Polypropylene bonded with 2050	0.27 MPa Adhesive Failure	7.0 MPa Substrate Failure
2mm Polypropylene bonded with 105	0.11 MPa Adhesive Failure	3.5 MPa Substrate Failure
2mm Polypropylene bonded with 2050	0.15 MPa Adhesive Failure	3.4 MPa Substrate Failure
2mm Polyethylene bonded with 2050	0 MPa Adhesive Failure	2.7 MPa Substrate Failure
6mm PTFE to Mild Steel Bonded with 105	0 MPa Adhesive Failure	4.0 MPa Adhesive Failure

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

Performance Properties

Polyolefin (PE, PP)	Significant improvement in bond strength
Silicone	Significant improvement in bond strength
Fluoropolymers (PTFE, FEP, PFA, ETFE)	Bond strength increasing
PBT, PMP, PPS, Polystyrene, Polyurethane	Significant improvement in bond strength
ABS	No improvement in bond strength
DAP, Polyamide	Strength may decrease

Directions for Use

- 1) Surfaces should be clean, dry and grease-free prior to primer application.
- 2) Permabond® POP should be applied only to the low energy surfaces by wiping (using a clean cloth or brush), dipping or spraying.
- 3) The components must be allowed to dry at ambient temperature prior to bonding.
- 4) For polyolefins, bonding with Permabond® cyanoacrylate adhesive can be performed up to 2 hours after POP treatment (this may be less depending on the particular blend of polyolefin). Immediate bonding is recommended for PTFE.
- 5) Handling time and cure speed will depend on the substrates and adhesive selected. (Handling time is the time from when the joint is assembled to the time when adequate strength has developed for the joint to be handled.)
- 6) For maximum bond strength, allow adhesive to cure for 24 hours at 23°C.

Permabond® POP is formulated to minimise attack and maximise performance on certain plastics. However, it is recommended that the product is tested for compatibility prior to use in production.

Video Links

Surface preparation:

<https://youtu.be/8CMOMP7hXJU>

POP Primer directions for use:

<https://youtu.be/G9yz8OqThJk>



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