

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) |
|---------------------|------------------------|

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 |

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

- Surfaces should be clean, dry and grease-free prior to primer application.
- Permabond[®] POP should be applied only to the low energy surfaces by wiping (using a clean cloth or brush), dipping or spraying.
- The components must be allowed to dry at ambient temperature prior to bonding.
- 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.
- 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.)
- 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.

Contact Permabond:

- Americas +1 732 868 1372
- US 800-640-7599
- Asia + 86 21 5773 4913
- Europe +44 (0) 1962 711661
- UK 0800 975 9800
- Deutschland 0800 111 388
- France 0805 111 388

info.americas@permabond.com

info.europe@permabond.com

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.