

# Polyolefin Primer

**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 (PS) 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.

## Use on Plastics and Rubbers with Permabond Cyanoacrylate Adhesives

- Detectable under UV light (375 nm)
- Easy to use
- Replaces expensive pretreatments such as flame, corona or plasma treatment
- Creates a high-strength bond when used with Permabond Cyanoacrylate adhesive

### PHYSICAL PROPERTIES

<b>Colour</b>	<b>Colourless Liquid</b>
<b>Viscosity @ 25°C</b>	<b>0.6 mPa.s</b>
<b>Specific Gravity @ 25°C</b>	<b>0.68</b>
<b>Flashpoint</b>	<b>-4°C</b>
<b>Boiling Point</b>	<b>98°C</b>
<b>Drying Time @ 23°C</b>	<b>30 seconds</b>
<b>Evaporation Rate (butyl acetate = 1)</b>	<b>2.8</b>

#### Storage:

Permabond Polyolefin Primer should be stored in the original unopened containers, firmly closed and away from direct sunlight and heat at temperatures between 5 and 25°C. Under these conditions the shelf life will be 12 months from the date of despatch from Permabond. Permabond Polyolefin Primer is flammable and should be stored in a cool place away from direct contact with Permabond Cyanoacrylate adhesives.

## CURED PERFORMANCE

Substrate	Untreated (Shear Strength)	Treated with Primer (Shear Strength)
<b>4mm Polypropylene</b> Bonded with Permabond 105	<b>0.5 MPa</b> Adhesive Failure	<b>7.1 MPa</b> Substrate Failure
<b>4mm Polypropylene</b> Bonded with Permabond 2050	<b>0.27 MPa</b> Adhesive Failure	<b>7.0 MPa</b> Substrate Failure
<b>2mm Polypropylene</b> Bonded with Permabond 105	<b>0.11 MPa</b> Adhesive Failure	<b>3.5 MPa</b> Substrate Failure
<b>2mm Polypropylene</b> Bonded with Permabond 2050	<b>0.15 MPa</b> Adhesive Failure	<b>3.4 MPa</b> Substrate Failure
<b>2mm Polyethylene</b> Bonded with Permabond 2050	<b>0 MPa</b> Adhesive Failure	<b>2.7 MPa</b> Substrate Failure
<b>6mm PTFE to Mild Steel</b> PTFE only treated with Primer, Bonded with Permabond 105	<b>0 MPa</b> Adhesive Failure	<b>4.0 MPa</b> Adhesive Failure

## ENVIRONMENTAL PERFORMANCE

<b>After 168 hours</b>	<b>100% Strength retention</b>
<b>After 500 hours</b>	<b>100% Strength retention</b>

Shear strength on polypropylene treated with Permabond Polyolefin Primer after exposure at 60°C

### Handling:

Full information can be obtained from the Material Safety Data Sheet (MSDS). Users are reminded that all materials, whether innocuous or not, should be handled according to the principles of good industrial hygiene.

### Directions for use:

- Surfaces should be clean, dry and grease free prior to primer application.
  - Permabond Polyolefin Primer should be applied only to the low energy surfaces either by wiping (using a clean cloth or brush) or dipping.
  - 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 surface treatment with Permabond Polyolefin Primer. For PTFE, immediate bonding is recommended.
  - Handling time and cure speed will depend on the substrates and adhesive selected. (Handling time is the time from which the joint is assembled to the time when enough strength has developed for the joint to be handled.)
  - For maximum bond strength, allow adhesive to cure for 24 hours at 23°C.
- Permabond Polyolefin Primer 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.

### DO NOT MIX PERMABOND POLYOLEFIN PRIMER DIRECTLY WITH CYANOACRYLATE ADHESIVE

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.

**Permabond**<sup>®</sup>  
Engineering Adhesives

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