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Technical Data Sheet
Product 770

Worldwide Version, October 1995

PRODUCT DESCRIPTION

LOCTITE® 770 Polyolefin Primer is a single component material which dries rapidly at room temperature. It makes polyolefin and other low energy surfaces suitable for bonding with LOCTITE cyanoacrylate adhesives. On such treated surfaces the cured performance of LOCTITE cyanoacrylate adhesives is the same as described in the TDS for the appropriate adhesive, except for some specific points described herein.

TYPICAL APPLICATIONS

Polypropylene, polyethylene, PTFE and thermoplastic rubber materials are normally difficult to bond. However, when treated with LOCTITE 770 Polyolefin Primer adhesion can be achieved with LOCTITE cyanoacrylate adhesives.

LOCTITE 770 Polyolefin Primer is only recommended for difficult to bond surfaces.

LIQUID PROPERTIES	Typical Value
Chemical type	Solution of aliphatic amine in solvent
Appearance	Colourless
Specific Gravity @ 25°C	0.68
Viscosity @ 20°C, mPa.s	1.25
Flash point (COC), °C	-1
Solvent	Heptane*
Drying time @ 20°C, seconds	30
On part life, hours	8
Fluorescent with UV lights (Low intensity 365nm)	Yes

* Heptane is an environmentally friendly solvent. Heptane has zero Ozone Depletion Potential. Conforms to German WGK, category 1.

TYPICAL PERFORMANCE.

Fixture time and cure speed achieved as a result of using ACTIVATOR 770 depend on the adhesive used and the substrate bonded.

Effect on Cure Speed of CA's.

This Primer behaves as an activator and accelerates the cure speed of cyanoacrylate adhesives. Fixturing time on most primed substrates is less than five seconds but 24 hours at room temperature (22° C) should be allowed for adhesive to develop maximum bond strength.

Effect on Cured Properties of CA's.

Products 406, 496 and 460 are based on ethyl, methyl and B Methoxyethyl esters respectively. Other LOCTITE liquid products based on these esters will behave in a similar fashion to these examples. It is not recommended for use with gel products.

Shear strength, ASTM D1002, DIN 53283, N/mm^2:

	Typical Range
Polypropylene treated with Primer 770 Tested after 24 hours at 22°C 55% RH	
Through gap of 0.05mm:	Product 406 3 to 10 Product 496 2 to 7 Product 460 1 to 4
Through gap of 0.125mm:	Product 406 3 to 10 Product 496 0 Product 460 1 to 4
Through gap of 0.5mm	Product 406 3 to 10
HDPE treated with Primer 770 Grit blasted mild steel (no Primer) to polypropylene treated with Primer 770 Through gap of 0.05mm	Product 406 4 to 10 Product 496 5 to 15
Thermoplastic rubber (Santoprene*) treated with Primer 770 Through gap of 0.05mm	Product 406 2 to 6
Polytetrafluorethylene (PTFE & Fluon†) treated with Primer 770 Through gap of 0.05mm	Product 406 1 to 6

* *Monsanto trademark*
† *ICI trademark*

Peel Strength

LOCTITE 770 Polyolefin Primer is not recommended in assemblies where high peel strength is required.

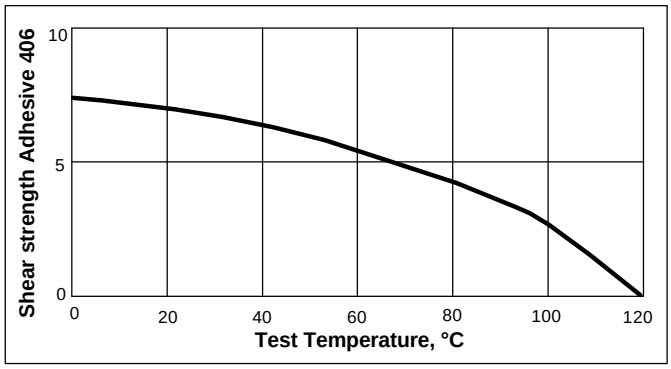
TYPICAL ENVIRONMENTAL RESISTANCE

Environmental Resistance of Cyanoacrylate bonds on substrates treated with LOCTITE 770 Polyolefin Primer

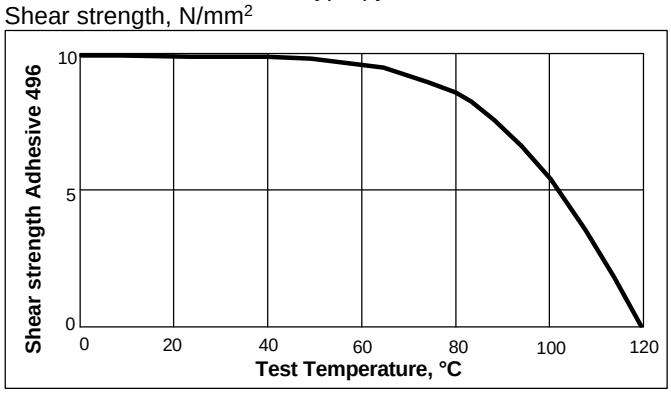
Test Procedure Shear strength, ASTM D1002
Cure: 24hrs

Hot Strength

Polypropylene to Polypropylene
Shear strength measured at elevated temperature, N/mm^2

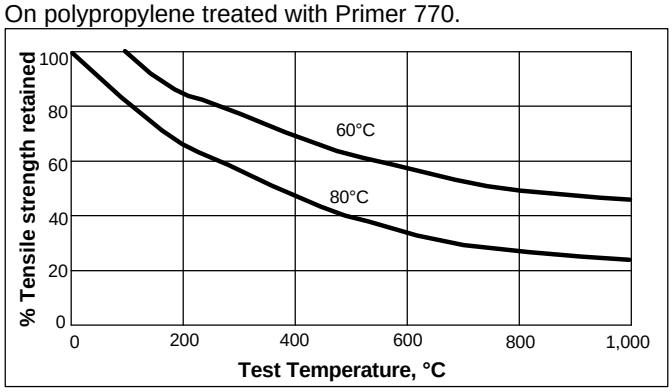


Grit Blasted Mild Steel to Polypropylene
Shear strength, N/mm^2



Heat Ageing

On polypropylene treated with Primer 770.



Chemical/Solvent Resistance

On Isopropyl alcohol wiped Polypropylene, treated with Primer 770.

	100 hrs	500hrs	1000hrs
% Tensile shear strength retained after ageing at 40°C 95% RH	100	100	100

For effect of other solvents see TDS for relevant adhesive.

HANDLING PRECAUTIONS

Activator must be handled in a manner applicable to highly flammable materials and in compliance with relevant local regulations.

The carrying solvent can affect certain plastics or coatings. It is recommended to check all surfaces for compatibility before use.

GENERAL INFORMATION

For safe handling information on this product, consult the Material Safety Data Sheets, (MSDS).

Directions for use

Primer may be applied by spraying, brushing or dipping, followed by spraying at ambient temperature. Excess Primer should be avoided. Presence of Primer may be detected by use of a weak UV lamp (365nm). Where polyolefin substrates are bonded to other substrates only the polyolefin should be primed.

Use in well ventilated areas. Avoid use of naked flames or other sources of ignition.

Storage

Product shall be ideally stored in a cool, dry location in unopened containers at a temperature between 8°C to 28°C (46°F to 82°F) unless otherwise labelled. Optimal storage is at the lower half of this temperature range. To prevent contamination of unused product, do not return any material to its original container. For further specific shelf life information, contact your local Technical Service Centre.

Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, Loctite Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Loctite Corporation's products. Loctite Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits. The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Loctite Corporation patents which may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.