

PRODUCT DESCRIPTION

LOCTITE® 472 provides the following product characteristics:

Technology	Cyanoacrylate
Chemical Type	Ethyl cyanoacrylate
Appearance (uncured)	Transparent liquid, Colorless to straw colored liquid
Components	One component – requires no mixing
Viscosity	Low
Cure	Humidity
Application	Bonding
Key Substrates	Metals, Plastics and Elastomers

LOCTITE® 472 is an instant adhesive that provides rapid bonding and high strength on a wide range of materials, including metals plastics and elastomers. When low energy surfaces such as polyolefins are encountered, pairing with LOCTITE® SF 772 primer delivers optimum performance.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 23°C	1.1
Viscosity, Cone & Plate, 25 °C, mPa·s (cP):	40 – 100 ^{LMS}
Shear Rate: 3000 s ⁻¹	

TYPICAL CURING PERFORMANCE

Under normal conditions, the atmospheric moisture initiates the curing process. Although full functional strength is developed in a relatively short time, curing continues for at least 24 hours before full chemical/solvent resistance is developed.

Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The table below shows the fixture time achieved on different materials at 23 °C / 50 % relative humidity. This is defined as the time to develop a shear strength of 0.1 N/mm². For low energy substrates such as polyolefins, LOCTITE® SF 772 primer is recommended.

Fixture Time, seconds

Mild Steel (Grit Blasted)	30 - 40
Stainless Steel	20 - 30
Aluminum	10 - 20
Neoprene	< 10
Rubber, nitrile	10 - 20
ABS	< 10
PVC	< 10
Polycarbonate	20 - 30
Phenolic	10 - 20
Polypropylene / LOCTITE® SF 772	< 10
Polyethylene / LOCTITE® SF 772	< 10

Cure Speed vs. Bond Gap

The rate of cure will depend on the bondline gap. Thin bond lines result in high cure speeds, increasing the bond gap will decrease the rate of cure.

Cure Speed vs. Humidity

The rate of cure will depend on the ambient relative humidity. The best results are achieved when the relative humidity in the working environment is 50% at 23°C. Lower humidity leads to slower cure. Higher humidity accelerates it but may impair the final strength of the bond.

TYPICAL PERFORMANCE OF CURED MATERIAL

Cured for 24 hours @ 23°C / 50% RH

Adhesive Properties

Lap Shear Strength, ISO 4587

Mild Steel (Grit Blasted)	N/mm² (psi)	15.1 – 19.3 (2190 – 2800)
Stainless Steel	N/mm² (psi)	16.0 – 19.2 (2320 – 2785)
Aluminum	N/mm² (psi)	7.5 – 9.7 (1090 – 1410)
PVC	N/mm² (psi)	3.7 – 5.5 (535 – 800)
Polycarbonate	N/mm² (psi)	5.5 – 9.9* (800 – 1435)
ABS	N/mm² (psi)	4.5 – 6.9* (650 – 1000)
Phenolic	N/mm² (psi)	12.0 – 13.2* (1740 – 1910)
Nitrile	N/mm² (psi)	1.3 – 1.5* (190 – 215)
Neoprene	N/mm² (psi)	1.2 – 1.4* (175 – 205)
Polypropylene / LOCTITE SF 772	N/mm² (psi)	10.5 - 10.9* (1520 – 1580)
Polyethylene / LOCTITE SF 772	N/mm² (psi)	3.3 - 7.6 (475 – 1100)

*Substrate Failure: The bond strength is stronger than the substrate material



TYPICAL ENVIRONMENTAL RESISTANCE

Cured for 168 hours @ 23°C / 50% RH
Lap Shear Strength, ISO 4587, Mild Steel (Grit Blasted)

Heat Aging

Aged at temperature indicated and tested @ 23°C

Environment	°C	% Retention of Initial Strength
		500h
GBMS	100	70
	120	60

Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 23°C (% retention)

Environment	°C	% Retention of Initial Strength
		500h
98% RH	40	54
Isopropanol	22	120

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Safety Data Sheet (SDS).

Directions for Use

- Bond areas should be clean and free from grease. Clean all surfaces with a LOCTITE® cleaning solvent and allow to dry.
- To improve bonding on low energy plastic surfaces, LOCTITE® SF 772 Primer may be applied to the bond area. Avoid applying excess Primer. Allow the Primer to dry.
- LOCTITE® Activator may be used if necessary. Apply it to one bond surface (do not apply activator to the primed surface where Primer is also used). Allow the Activator to dry.
- Apply adhesive to one of the bond surfaces (do not apply the adhesive to the activated surface). Do not use items like tissue or a brush to spread the adhesive. Assemble the parts within a few seconds. The parts should be accurately located, as the short fixture time leaves little opportunity for adjustment.
- LOCTITE® Activator can be used to cure fillets of product outside the bond area. Spray or drop the activator on the excess product.
- Bonds should be held fixed or clamped until adhesive has fixtured.
- Product should be allowed to develop full strength before subjecting to any service loads (typically 24 to 72 hours

after assembly, depending on bond gap, materials and ambient conditions).

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling. **Optimal Storage: 2 °C to 8 °C. Storage below 2 °C or greater than 8 °C can adversely affect product properties.** Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Henkel representative.

Product Specification

The laboratory data contained herein are intended as reference only and are not considered specifications for the product. Product specifications are located on the Certificate of Analysis or please contact Henkel representative.

Approval and Certificate

Please contact your local Henkel representative for related approval or certificate of this product.

Data Ranges

The data contained herein may be reported as a typical value. Values are based on actual test data and are verified on a periodic basis.

Temperature/Humidity Ranges: 23 °C / 50% RH = 23±2 °C / 50±5% RH

Conversions

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Disclaimer

The information provided in this Laboratory Data Sheet (LDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this LDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are



This document reflects laboratory test data generated on an experimental product; final TDS values may vary slightly but will remain within a comparable performance range.

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