LOCTITE®

Product 498

July 2003

PRODUCT DESCRIPTION

LOCTITE® 498 Instant Adhesive provides the following product characteristics:

Technology	Cyanoacrylate
Chemical Type	Ethyl Cyanoacrylate
Appearance (uncured)	Transparent colorless to pale yellow liquid[LMS]
Components	One part - requires no mixing
Viscosity	Medium
Cure	Humidity
Application	Bonding
Key Substrates	Rubbers, Plastics and Metals

Product 498 is a general purpose adhesive suitable for applications where heat resistance is required. Product 498 is formulated to resist thermal cycling and also exhibits superior resistance to humidity.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25°C	1.10
Viscosity @ 25°C, mPa·s:	
Brookfield LVF:	
Spindle 2 @ 30 rpm	400 to 600[LMS]
Flash Point (TCC), °C	>80

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 22°C, 50% relative humidity. This is defined as the time to develop a shear strength of 0.1N/mm²

Fixture Time, ASTM D 1002/ EN 1465, seconds:

Steel (degreased)	20 to 30
Aluminum	2 to 10
ABS	5 to 10
Phenolic Materials	10 to 20

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. Activator

Where cure speed is unacceptably long due to large gaps, applying activator to the surface will improve cure speed. However, this can reduce ultimate strength of the bond and therefore testing is recommended to confirm effect.

TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 24 hours @ 22°C.

Physical Properties:

Coefficient of Thermal Expansion, ASTM D 696, K^{-1}	80×10^{-6}
Coefficient of Thermal Conductivity, ASTM C177, $W.m^{-1}\ K^{-1}$	0.10
Glass Transition Temperature, (Tg), ASTM E 228, °C	120

Electrical Properties:

Dielectric Constant / Loss, ASTM D 150:	
50 Hz	2.30 / <0.02
1kHz	2.30 / <0.02
1mHz	2.30 / <0.02
Volume Resistivity, ASTM D 257, Ωcm	1×10^{16}
Dielectric Strength, ASTM D 149, kV/mm	25

PERFORMANCE OF CURED MATERIAL

Cured for 24 hours @ 22°C.

Adhesive Properties:

Typical Shear Strengths, ASTM D 1002/ EN 1465, N/mm² :

Steel (grit blasted)	19
Polycarbonate	10
Phenolic Materials	10

Cured for 2 minutes @ 22°C.

Adhesive Properties:

Shear Strength, ASTM D 1002/ EN 1465, N/mm² :

Steel (sandblasted)	≥4.80[LMS]

Cured for 24 hours @ 22°C, 24 hours @ 121°C, tested @ 121°C.

Adhesive Properties:

Shear Strength, ASTM D 1002/ EN 1465, N/mm² :

Steel (sandblasted)	≥6.90[LMS]

TYPICAL ENVIRONMENTAL RESISTANCE

Cured 1 week @ 22°C.

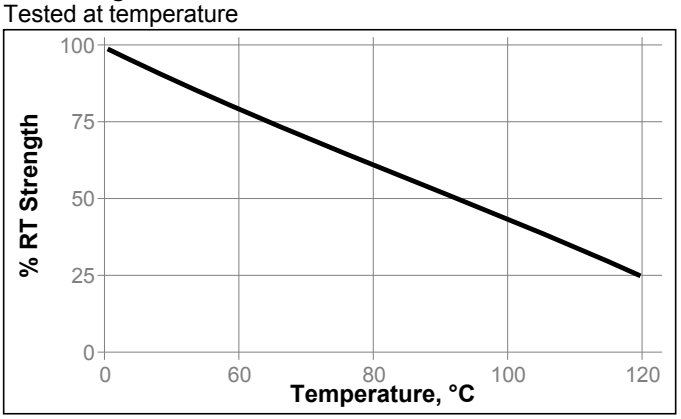
Adhesive Properties:

Shear Strength, ASTM D 1002/ EN 1465:

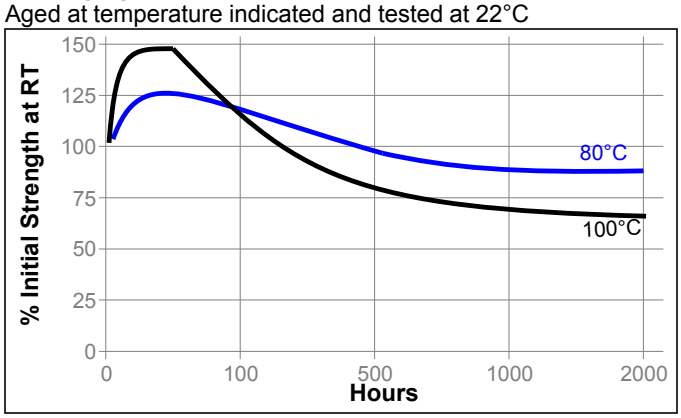
Grit Blasted Mild Steel (GBMS)

Hot Strength

Tested at temperature



Heat Aging
Aged at temperature indicated and tested at 22°C



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 Material Safety Data Sheet (MSDS).

Directions for use

1. For best performance bond surfaces should be clean and free from grease.
2. This product performs best in thin bond gaps (0.05 mm).
3. Excess adhesive can be dissolved with Loctite cleanup solvents, nitromethane or acetone.

Storage
Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.
Products shall be maintained, optimally, at temperatures between 2°C to 8°C unless otherwise labeled, or, specified. Storage, at temperatures below 2°C, or, greater than 8°C, is not recommended. Temperatures below 2°C and above 8°C can adversely affect product properties.
Material removed from containers may be contaminated during use. Do not return product to the original container. Loctite 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 Technical Service Center or Customer Service Representative.

Loctite Material Specification[LMS]
LMS dated October 02, 1995. Test reports for each batch are available for the indicated properties. LMS test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency. Special customer specification requirements may be coordinated through Henkel Loctite Quality.

Conversions
(°C x 1.8) +32 = °F
kV/mm x 25.4 = V/mil
mm x 0.039 = inches
mPas = cP
N/mm² x 145 = psi
N x 0.225 = lbs

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, **Henkel 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 Henkel Loctite Corporation's products. Henkel 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 Henkel Loctite Corporation patents that 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.

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Reference 0.0