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Technical Data Sheet

Product 5999

Worldwide Version, September 1996

PRODUCT DESCRIPTION

LOCTITE® Product 5999 is a heavy-bodied, blow-out resistant, low odor, non-corrosive one-part (RTV) silicone adhesive/sealant.

TYPICAL APPLICATIONS

This product is intended for design, service, manufacture and rebuild applications, especially in automotive powertrain applications.

PROPERTIES OF UNCURED MATERIAL

	Value	Typical Range
Chemical Type	Oxime silicone	
Appearance	Metallic grey paste	
Specific Gravity @ 25°C	1.45	
Viscosity @ 25°C	Thixotropic Paste	
Extrusion Rate gm/min: (3mm nozzle, 5 bar, 25°C)	105	50 to 160
Flash Point (TCC), °C	>93	

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

Shear strength, ASTM D412, N/mm ² : (psi)	2.1 (300)
Hardness, ASTM D2240, Shore A:	60
Skin over time, min	7
Tack-free time, min	14
Non-volatile content, +%	94

PERFORMANCE OF CURED MATERIAL

(After 14 days @ 23±2°C, 60±5% RH at 0.5mm gap)

	Typical Value
Tensile strength, ASTM D412, N/mm ² : (psi)	3.4 (500)
% Elongation to break, ASTM D412:	175

TYPICAL FLUID IMMERSION PROPERTIES

(Loctite procedure PRM 6034)

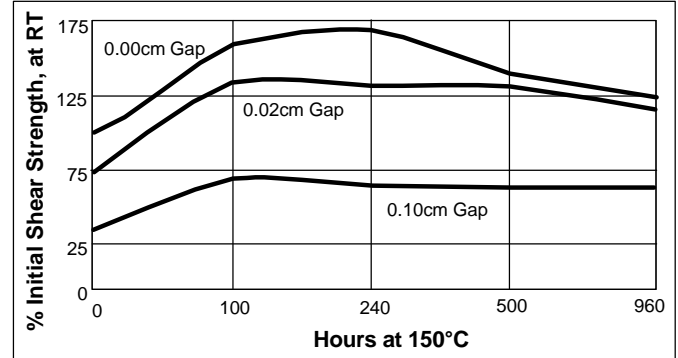
	Typical Value
ASTM 3, oil immersion, 100 hrs @ 150°C	
Hardness, ASTM D2240, shore A	43
Tensile strength, N/mm ² : (psi)	3.1 (450)
Elongation, %	160
Gear oil immersion, 100 hrs @ 150°C	
Hardness, ASTM D2240, shore A	47
Tensile strength, N/mm ² : (psi)	2.6 (375)
% Elongation to break, ASTM D412:	120
Coolant immersion, 100 hrs @ 110°C	
Hardness, ASTM D2240, shore A	40
Tensile strength, N/mm ² : (psi)	2.1 (300)
% Elongation to break, ASTM D412:	330

TYPICAL ENVIRONMENTAL RESISTANCE

Heat Aging

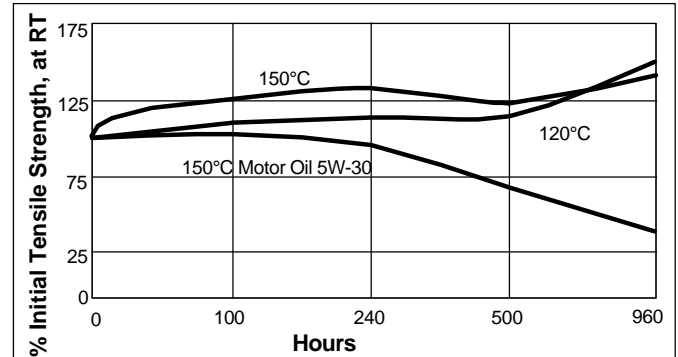
% Shear Strength vs. Bond Gap.

Aged at temperature indicated and tested at 22°C on aluminum.



% Tensile Strength - ASTM D412.

Aged at temperature indicated and tested at 22°C on aluminum.



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

Product 5999 should be applied as a bead to clean surface. Assemble parts within 5 minutes. When joint is assembled pressure should be applied to spread the adhesive out and fill the joint completely. The sealant will become tack-free on the exposed surfaces in less than 40 minutes after application. A 6mm diameter bead exposed to atmospheric moisture cures in approximately 24 hours.

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 labeled. 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 Center.

Data Ranges

The data contained herein may be reported as a typical value and/or range (based on the mean value ± 2 standard deviations). Values are based on actual test data and are verified on a periodic basis.

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 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.