



LOCTITE[®] 503HV[™]

April 2011

PRODUCT DESCRIPTION

LOCTITE[®] 503HV[™] provides the following product characteristics:

Technology	Acrylic
Chemical Type	Acrylic
Appearance (uncured)	Off-white liquid ^{LMS}
Components	One component - requires no mixing
Viscosity	High, thixotropic
Cure	Dries
Application	Thread sealing
Specific Benefit	<ul style="list-style-type: none"> Excellent environmental resistance

LOCTITE[®] 503HV[™] is a high viscosity, non-toxic, thixotropic, preapplied, water-based thread sealant for automatic dispensing applications. When dried, it becomes a resilient, tight clinging, non-curing sealant for tapered or straight threads. LOCTITE[®] 503HV[™] provides positive sealing and resistance to vibrational loosening. The thread-filling ability and prevailing torque characteristics of this product are effective for use on sealing applications, particularly where re-adjustments are required, e.g. rear axle filler plugs, bearing adjuster nuts, pressure gauges and sensors, brake fittings, pipe fittings, and compressor pipe plugs. Other devices that this product is designed for includes; cable connectors, screws for plastic assemblies, adjustment screws, overhead fire sprinklers, shower heads, and door closure hardware. This product is typically used in applications with an operating range of -54 °C to +150 °C.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.1 to 1.4 ^{LMS}
Flash Point - See MSDS	
Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP): Spindle 7, speed 20 rpm	30,000 to 50,000 ^{LMS}
Solids/Non-Volatile Content, %	35.5 to 46.7 ^{LMS}
On Part Life, years	4

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Instant seal 12.7 mm NPT fittings to 830 kPa

Torque Strength

Seating Torque, :

3/8 x 16 nuts and bolts	N-m	40.7
	(lb.in.)	(369)

Breakloose Torque, :

3/8 x 16 nuts and bolts	N-m	19.8
	(lb.in.)	(175)

Prevail Torque, :

3/8 x 16 nuts and bolts	N-m	2.4
	(lb.in.)	(21)

TYPICAL ENVIRONMENTAL RESISTANCE

Chemical/Solvent Resistance

Test performed on 12.7mm NPT tee's and malleable plugs test at 830 kPa air after 30 days immersion in solvents indicated.

Environment	°C	% of initial strength	
		Results	h
Motor oil (10W30)	120	No leakage	
Water/glycol 1:1	100	No leakage	
Diesel fuel	50	No leakage	
Dextron III	120	No leakage	
Hydraulic Steering Fluid	120	No leakage	

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:

- LOCTITE[®] 503HV[™] is applied to threaded parts by authorized process centers who have automatic fastener cleaning, feeding, coating, rust proofing and drying equipment. Quantities can be handled promptly with minimum turnaround time. Sample fittings should be sent to the nearest authorized process center where they will coat your parts and return them to you for evaluation. **SAMPLE TESTS ARE RECOMMENDED TO OBTAIN DESIRED RESULTS ON YOUR PARTS.** Contact the nearest Loctite Sales Representative for the authorized process center nearest to you..

Loctite Material Specification^{LMS}

LMS dated November 09, 2000. 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 Quality.



Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 8 °C to 21 °C. Storage below 8 °C or greater than 28 °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 Technical Service Center or Customer Service Representative.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$

$\text{kV/mm} \times 25.4 = \text{V/mil}$

$\text{mm} / 25.4 = \text{inches}$

$\mu\text{m} / 25.4 = \text{mil}$

$\text{N} \times 0.225 = \text{lb}$

$\text{N/mm} \times 5.71 = \text{lb/in}$

$\text{N/mm}^2 \times 145 = \text{psi}$

$\text{MPa} \times 145 = \text{psi}$

$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$

$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$

$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$

$\text{mPa}\cdot\text{s} = \text{cP}$

Note

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Reference 0.2