

LOCTITE[®] DRI 503[™]

Known as LOCTITE[®] 503[™] Vibra-Seal[™]
December 2016

PRODUCT DESCRIPTION

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

Technology	Acrylic
Chemical Type	Acrylic
Appearance (uncured)	Off-white liquid ^{LMS}
Components	One component - requires no mixing
Viscosity	Low
Cure	Convection oven air dry
Application	Thread sealing
Specific Benefit	<ul style="list-style-type: none"> Reusable up to five times Excellent environmental resistance

LOCTITE[®] DRI 503[™] is a low viscosity, non-toxic, thixotropic, preapplied, water-based thread sealant for bulk processing applications (tumble or flow coat). When dried, it becomes a resilient, tight-clinging, non-curing sealant for tapered or straight threads. LOCTITE[®] DRI 503[™] 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 SDS

Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP):
Spindle 7., speed 20 rpm 4,000 to 7,000^{LMS}

Solids/Non-Volatile Content, % 34.5 to 45.6^{LMS}

TYPICAL CURING INSTRUCTIONS

Production Drying Requirements for North American Customers

Thin film coating requires 15 to 20 minutes at 85°C (185F) with an airflow of not less than 17,000 liter/min (600 cubic feet/min).

NOTE: For smaller, non-production applications and other regions, contact Henkel for assistance.

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 Safety Data Sheet (SDS).

Directions for use:

1. LOCTITE® DRI 503™ 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:

The information provided in this Technical Data Sheet (TDS) 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 TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any

liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:

The information provided in this Technical Data Sheet (TDS) 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 TDS. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation, Resin Technology Group, Inc., or Henkel Canada Corporation, the following disclaimer is applicable:

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 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 Corporation's products. Henkel 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 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.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 1.2