



LOCTITE® 593

September 2004

PRODUCT DESCRIPTION

LOCTITE® 593 provides the following product characteristics:

| | |
|-----------------------------|--|
| Technology | Silicone |
| Chemical Type | Acetoxy silicone |
| Appearance (uncured) | Black thixotropic paste ^{LMS} |
| Components | One component - requires no mixing |
| Viscosity | Medium, thixotropic |
| Cure | Room temperature vulcanizing (RTV) |
| Application | Potting, Coating or Sealing |

LOCTITE® 593 is designed for superior bonding and sealing properties to most surfaces (not recommended for concrete). This product resists aging, weathering and thermal cycling without hardening, shrinking or cracking. It is formulated to withstand extreme temperature cycling, UV light and ozone. The thixotropic nature of LOCTITE® 593 reduces the migration of liquid product after application to the substrate.

TYPICAL PROPERTIES OF UNCURED MATERIAL

| | |
|--|---------------------|
| Specific Gravity @ 25 °C | 1.01 |
| Extrusion Rate, g/min: | |
| Pressure 0.63 MPa, time 15 seconds, temperature 25 °C: | |
| Semco Cartridge | ≥100 ^{LMS} |
| Flash Point - See MSDS | |

TYPICAL CURING PERFORMANCE

LOCTITE® 593 cures on exposure to moisture in the air. The product dries tack free in two hours and fully cures in 24 hours. Cure times will vary with temperature, humidity and gap.

TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 1 week @ RT

Physical Properties:

| | | |
|--|----------------------------|-------------------------------|
| Tensile Strength, ASTM D 412 | N/mm ² (psi) | ≥1.5 ^{LMS} (≥220) |
| Elongation, ASTM D 412, % | | ≥350 ^{LMS} |
| Shore Hardness, ASTM D 2240, Durometer A | | ≥20 ^{LMS} |

TYPICAL ENVIRONMENTAL RESISTANCE

Silicones provide excellent environmental resistance due to their unique chemical structure and the inherent properties of the materials.

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. Full performance properties will develop over 72 hours.
3. Moisture curing begins immediately after the product is exposed to the atmosphere, therefore parts to be assembled should be mated within a few minutes after the product is dispensed.
4. Excess material can be easily wiped away with non-polar solvents.

Loctite Material Specification^{LMS}

LMS dated September 1, 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 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

(°C x 1.8) + 32 = °F
 kV/mm x 25.4 = V/mil
 mm / 25.4 = inches
 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·mm x 0.142 = oz·in
 mPa·s = cP

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 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

LOCTITE is a trademark of Henkel Corporation

Reference 1.1