

# LOCTITE TC 4

June 2014

## PRODUCT DESCRIPTION

LOCTITE TC 4 provides the following product characteristics:

<b>Technology</b>	Silicone grease
<b>Appearance</b>	white
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>• High thermal conductivity</li> <li>• High insulation resistance</li> <li>• High dielectric strength</li> </ul>
<b>Application</b>	Thermal management
<b>Typical Applications</b>	<ul style="list-style-type: none"> <li>• Heat sinks in semiconductor devices</li> <li>• Thermoelectric devices in radiators</li> <li>• Thermostats in mounting surfaces</li> <li>• Power resistors on chassis</li> </ul>
<b>Operating Temperature</b>	-40 to +200 °C

LOCTITE TC 4 is recommended for high temperature heat transfer in normal applications. It is used to provide a conductive heat path between heat generating electronic components and heat dissipating structures. This material retains its paste-like consistency, and will not harden, after long exposure to elevated temperatures.

## TYPICAL PROPERTIES

Density , g/cm <sup>3</sup>	2.35
Shelf Life @ 18 to 25°C, days	365

## TYPICAL PROPERTIES AFTER APPLICATION

### Physical Properties :

Hardness, Shore A	20 to 25
Thermal Conductivity , W/(m-K)	0.6

### Electrical Properties:

Dielectric Strength, kV/mm	19.7
Volume Resistivity, ohms-cm	1×10 <sup>13</sup>

## GENERAL INFORMATION

**For safe handling information on this product, consult the Material Safety Data Sheet, (MSDS).**

## DIRECTIONS FOR USE

1. For best results parts to be covered should be clean and free of oil and debris.
2. LOCTITE TC 4 may be dispensed from syringes, cartridges, automatic dispensing equipment or other similar devices.
3. Application of LOCTITE TC 4 is made with a small, stiff brush.
4. Squeeze out excess material when surfaces are mated. Keep film thickness to a minimum. Mating surfaces are lubricated and also protected from corrosion by the compound.
5. Storage for long periods of time at elevated temperatures may result in slight separation of the conductive fillers from the silicone oil. If this condition is seen to exist, the fillers may be easily redispersed by hand or mechanical mixing.

6. In order to obtain the optimal thermal conductivity of LOCTITE TC 4, any entrained air should be removed in a vacuum chamber. In thin films, this is generally unnecessary.

## Storage

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

## Optimal Storage : 18 to 25 °C

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.

## Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

## 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/mm<sup>2</sup> x 145 = psi  
 MPa = N/mm<sup>2</sup>  
 MPa x 145 = psi  
 N·m x 8.851 = lb·in  
 N·m x 0.738 = lb·ft  
 N·mm x 0.142 = oz·in  
 mPa·s = cP

## Disclaimer

### 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.

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