Technical Data Sheet

LOCTITE® 540™

December 2013

PRODUCT DESCRIPTION

LOCTITE® 540™ provides the following product characteristics:

Technology	Acrylic
Chemical Type	Methacrylate ester
Appearance (uncured)	Blue liquid[LMS]
Fluorescence	Positive under UV light[LMS]
Components	One component - requires no mixing
Viscosity	Medium, thixotropic
Cure	Anaerobic
Application	Sealing
Strength	High

LOCTITE® 540™ is a thixotropic anaerobic sealant designed for sealing core plugs and many other high strength sealing applications where non-migration is desired. This product is easily applied with LOCTITE® applicators and prevents rusting in the threaded engagement area. Applications include sealing and securing cylindrical metal assemblies, e.g. engine block cup and core plugs, water pump seals, and hub and shaft assemblies. The thixotropic nature of LOCTITE® 540™ reduces the migration of liquid product after application to the substrate. This product is typically used in applications with an operating range of -54 °C to 149 °C.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.08
Flash Point - See SDS	
Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP):	
Spindle 5, speed 2.0 rpm,	25,000 to 45,000[LMS]
Spindle 5, speed 20 rpm	7,000 to 12,000[LMS]

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties:

Coefficient of Thermal Expansion, ISO 11359-2, K^{-1}	0.1
Coefficient of Thermal Conductivity, ISO 8302, W/(m·K)	0.1
Specific Heat, kJ/(kg·K)	0.3

TYPICAL PERFORMANCE OF CURED MATERIAL

Cured for 1 hour @ 22 °C

Compressive Shear Strength, ISO 10123:

Steel pins and collars	N/mm²	≥5.5[LMS]
	(psi)	(≥797)

Cured for 24 hours @ 22 °C

Compressive Shear Strength, ISO 10123:

Steel pins and collars	N/mm²	≥14.0[LMS]
	(psi)	(≥2,030)

Cured for 48 hours @ 22 °C, followed by 2 hours @ 88 °C, tested @ 88 °C

Compressive Shear Strength, ISO 10123:

Steel pins and collars	N/mm²	≥13.8[LMS]
	(psi)	(≥2,001)

Cured for 48 hours @ 22 °C followed by 120 hours @ 121 °C, tested @ 22 °C

Compressive Shear Strength, ISO 10123:

Steel pins and collars	N/mm²	13.8
	(psi)	(2,001)

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).

Where aqueous washing systems are used to clean the surfaces before bonding, it is important to check for compatibility of the washing solution with the adhesive. In some cases these aqueous washes can affect the cure and performance of the adhesive.

This product is not normally recommended for use on plastics (particularly thermoplastic materials where stress cracking of the plastic could result). Users are recommended to confirm compatibility of the product with such substrates.

Directions for use:

For Assembly

1. For best performance bond surfaces should be clean and free from grease.
2. For maximum bond strength apply adhesive evenly to both surfaces to be joined.
3. Parts must be closely-fitted metal surfaces in order to assure effective sealing and bonding of the assembly.
4. Assemble parts in accordance with standard practice.
5. The bond should be allowed to cure 24 hours before subjecting to heavy service loads.
6. To get a fast seal against high pressure and chemicals, treat the parts with Activator 7471™ before assembly..

For Disassembly

1. Where hand tools do not work because of excessive engagement length or large diameters (over 25.4 mm), apply localized heat to approximately 250 °C. Disassemble while hot.

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
µm / 25.4 = mil
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·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = 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.
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Reference 1.1

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