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Technical Data Sheet

LOCTITE® 554 ™

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PRODUCT DESCRIPTION

LOCTITE® 554 ™ provides the following product characteristics:

Technology	Acrylic
Chemical Type	Methacrylate ester
Appearance (uncured)	Red liquid[LMS]
Fluorescence	Negative
Components	One component - requires no mixing
Viscosity	Medium
Cure	Anaerobic
Secondary Cure	Activator
Application	Thread sealing

LOCTITE® 554 ™ provides maximum solvent resistance on threaded fittings and pipe up to 50 mm (2 in.) in diameter. It is recommended for refrigeration systems and service with strong chemicals. The sealant is used in place of specialty non-hardening compounds, litharge, glycerine, and sealing tape. **This product is not for slip fitted tube joints**. This product is typically used in applications up to 149 °C. Typical applications include metal and fiber plants, chemical processing, paper processing plants, waste treatment facilities and textile industries.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.02
Flash Point - See MSDS	
Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP):	
Spindle 3, speed 20 rpm,	1,500 to 3,500[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

Adhesive Properties

Cured for 24 hours @ 22 °C		
Prevail Torque, ISO 10964:		
3/8 x 24 steel nuts (grade 2) and bolts (grade 5)	N·m (lb.in.)	≥10.8[LMS] (≥95.5)
Cured for 72 hours @ 22 °C		
Breakaway Torque, ISO 10964:		
3/8 x 24 steel nuts (grade 2) and bolts (grade 5)	N·m (lb.in.)	27.2 (240)
Prevail Torque, ISO 10964:		
3/8 x 24 steel nuts (grade 2) and bolts (grade 5)	N·m (lb.in.)	23.8 (210)

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).

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 results, clean all surfaces (external and internal) with a LOCTITE® cleaning solvent and allow to dry.
2. If the material is an inactive metal or the cure speed is too slow, spray all threads with Activator 7471™ or 7649™ and allow to dry.
3. Apply a 360° bead of product to the leading threads of the male fitting, leaving the first thread free. Force the material into the threads to thoroughly fill the voids. For bigger threads and voids, adjust product amount accordingly and apply a 360° bead of product on the female threads also.
4. Using compliant practices, assemble and wrench tighten fittings in accordance with manufacturers recommendations.
5. Properly tightened fittings will seal instantly to moderate pressures. For maximum pressure resistance and solvent resistance allow the product to cure a minimum of 24 hours.

For Disassembly

1. Remove with standard hand tools.
2. In rare instances where hand tools do not work because of excessive engagement length, apply localized heat to nut or bolt to approximately 250 °C. Disassemble while hot.

For Cleanup

1. Cured product can be removed with a combination of soaking in a Loctite solvent and mechanical abrasion such as a wire brush.

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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

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Reference 1.2