

LOCTITE[®] 6300™

May 2012

PRODUCT DESCRIPTION

LOCTITE[®] 6300™ provides the following product characteristics:

Acrylic		
Dimethacrylate ester		
Green liquid ^{™s}		
Positive under UV light ^{LMS}		
One component - requires no mixing		
Low		
Anaerobic		
Activator		
Retaining		
High		

LOCTITE[®] 6300™ is designed for the bonding of cylindrical fitting parts. The product cures when confined in the absence of air between close fitting metal surfaces and prevents loosening and leakage from shock and vibration. Typical applications include holding gears and sprockets onto gearbox shafts and rotors on electric motor shafts.

LOCTITE[®] 6300™ is part of the Health and Safety anaerobic range. The product is label free. There are no risk or safety phrases associated with either the formulation or its ingredients

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C 1.1

Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP): Spindle 2, speed 20 rpm, 350

Viscosity, Cone and Plate, after 300 s, 25 °C, mPa·s (cP):

Shear rate 129 s⁻¹

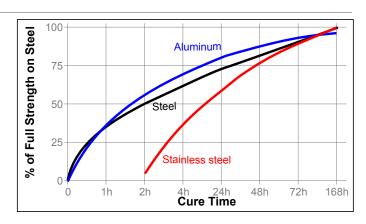
200 to 550^{LMS}

Flash Point - See MSDS:

TYPICAL CURING PERFORMANCE

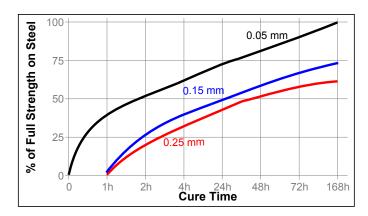
Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The graph below shows the shear strength developed with time on steel pins and collars compared to different materials and tested according to ISO 10123.



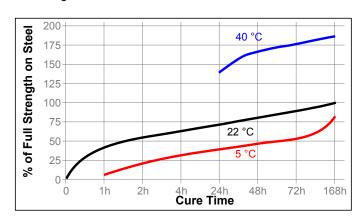
Cure Speed vs. Bond Gap

The rate of cure will depend on the bondline gap. The following graph shows shear strength developed with time on steel pins and collars at different controlled gaps and tested according to ISO 10123.



Cure Speed vs. Temperature

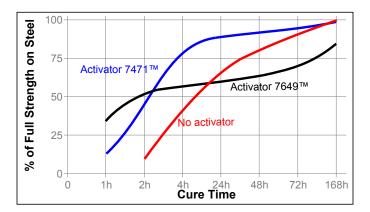
The rate of cure will depend on the temperature. The graph below shows the shear strength developed with time at different temperatures on steel pins and collars and tested according to ISO 10123.





Cure Speed vs. Activator

Where cure speed is unacceptably long, or large gaps are present, applying activator to the surface will improve cure speed. The graph below shows the shear strength developed with time on stainless steel pins and collars using Activator 7471™ or 7649™ and tested according to ISO 10123.



TYPICAL PERFORMANCE OF CURED MATERIAL Adhesive Properties

Cured for 72 hours @ 22 °C

Compressive Shear Strength, ISO 10123:

Steel pins and collars N/mm² ≥15^{LMS}

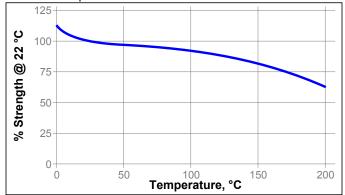
(psi) (≥2,180)

TYPICAL ENVIRONMENTAL RESISTANCE

Cured for 1 week @ 22 °C Compressive Shear Strength, ISO 10123: Steel pins and collars

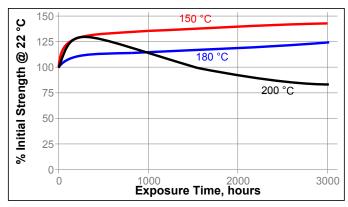
Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested @ 22 °C



Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22 °C.

		% of initial strength			
Environment	°C	100 h	500 h	1000 h	3000 h
Motor oil (5W40)	125	110	120	125	95
Unleaded Petrol	22	90	110	100	85
Brake fluid	22	90	95	85	95
Water/glycol 50/50	87	100	140	115	105
Ethanol	22	95	95	75	80
Acetone	22	85	100	95	90
DEF (Adblue)	22	85	100	80	75

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

- For best results, clean all surfaces (external and internal) with a LOCTITE[®] cleaning solvent and allow to dry.
- If the material is an inactive metal or the cure speed is too slow, spray with Activator 7471™ or 7649™ and allow to dry.
- For Slip Fitted Assemblies, apply adhesive around the leading edge of the pin and the inside of the collar and use a rotating motion during assembly to ensure good coverage.

- For Press Fitted Assemblies, apply adhesive thoroughly to both bond surfaces and assemble at high press on rates.
- For Shrink Fitted Assemblies the adhesive should be coated onto the pin, the collar should then be heated to create sufficient clearance for free assembly.
- Parts should not be disturbed until sufficient handling strength is achieved.

For Disassembly

 Apply localized heat to the assembly to approximately 250 °C. Disassemble while hot.

For Cleanup

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

Loctite Material Specification^{LMS}

LMS dated August 17, 2011. 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

 $(^{\circ}C \times 1.8) + 32 = ^{\circ}F$ $kV/mm \times 25.4 = V/mil$ mm / 25.4 = inches $\mu m / 25.4 = mil$ $N \times 0.225 = lb$ $N/mm \times 5.71 = lb/in$ $N/mm^2 \times 145 = psi$ $MPa \times 145 = psi$ $N \cdot m \times 8.851 = lb \cdot in$ $N \cdot m \times 0.738 = lb \cdot ft$ $N \cdot mm \times 0.742 = oz \cdot in$ $mPa \cdot s = cP$

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.

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Reference 0.0