



LOCTITE[®] 7227[™]

January 2007

PRODUCT DESCRIPTION

LOCTITE[®] 7227[™] provides the following product characteristics:

Technology	Epoxy
Chemical Type	Epoxy
Appearance (Resin)	Gray ^{LMS}
Appearance (Hardener)	Amber ^{LMS}
Appearance (Mixed)	Gray flowable liquid
Components	Two component - requires mixing
Mix Ratio, by volume - Resin : Hardener	2.75 : 1
Mix Ratio, by weight - Resin : Hardener	4.8 : 1
Cure	Room temperature cure
Application	Coating
Specific Benefit	• Ceramic and silicon carbide filled - to provide maximum protection • Ultra-smooth brushable consistency • Easy to mix and use • Reduces downtime • Superior adhesion - forms a solid bond

LOCTITE[®] 7227[™] is an ultra smooth, ceramic reinforced epoxy that provides a high gloss, low friction coating designed to protect against turbulence, abrasion and cavitation under typical dry service temperatures of -29 °C to +93 °C. Used by itself, LOCTITE[®] 7227[™] is recommended for sealing and protecting equipment from corrosion and wear. It also works as a top coat over Loctite[®] Nordbak[®] Wearing Compounds for applications requiring surface rebuilding and lasting protection. Typical applications include providing a smooth, protective abrasion resistant coating, repairing heat exchangers and condensers, lining tanks and chutes, resurfacing and repairing rudders and pintel housings, and repairing cooling pump impellers, butterfly valves and cavitated pumps.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Resin:

Viscosity, Brookfield - RV, 25 °C, mPa·s (cP):
 Spindle, speed r/min 200,000 to 260,000^{LMS}
 Weight Per Gallon, lbs/gal 14.35 to 14.85^{LMS}

Hardener:

Viscosity, Brookfield - RV, 25 °C, mPa·s (cP):
 Spindle, speed r/min 500 to 900^{LMS}
 Weight Per Gallon, lbs/gal 8.6 to 8.9^{LMS}

Mixed:

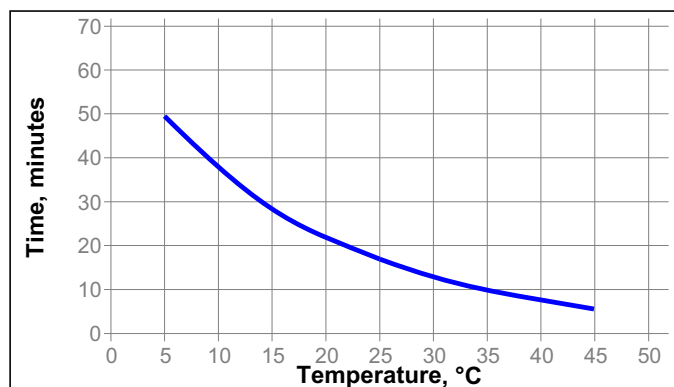
Viscosity, Cone & Plate, 25 °C, mPa·s (cP):
 Shear rate 10 s⁻¹ 20,000
 Coverage 1.1 m² @ 0.5 mm thick/0.9 kg

TYPICAL CURING PERFORMANCE

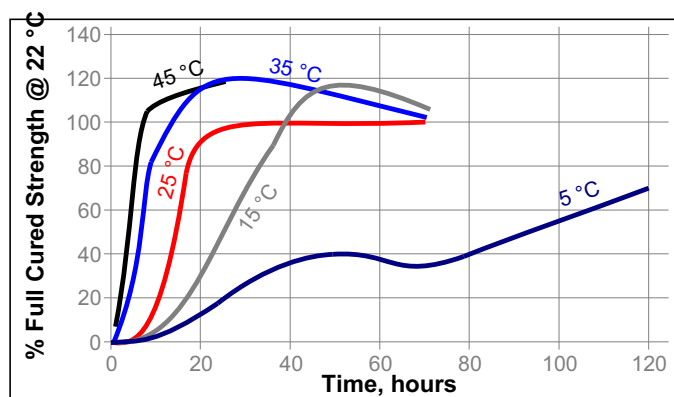
Curing Properties

Gel Time @ 25 °C, minutes:
 400 g mass 34 to 48^{LMS}
 Recoat Time @ 25 °C, hours 1 to 3
 Wet Temperature Resistance, °C >93

Working Life



Cure Time



TYPICAL PROPERTIES OF CURED MATERIAL

Cured @ 25 °C

Physical Properties:

Compressive Strength, ISO 604	N/mm ²	86.2
	(psi)	(12,500)
Shore Hardness, ISO 868, Durometer D		85

TYPICAL PERFORMANCE OF CURED MATERIAL**Adhesive Properties**

Cured for 24 hours @ 25 °C

Lap Shear Strength, ISO 4587:

Steel (grit blasted)	N/mm ²	24.2
	(psi)	(3,500)

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**Surface Preparation**

Proper surface preparation is critical to the long-term performance of this product. The exact requirements vary with the severity of the application, expected service life, and initial substrate conditions.

1. Clean, dry and abrade application surface. The more thorough the degree of surface preparation the better the performance of the application. If possible, it is recommended that the surface be grit blasted to a Near White Metal (SSPC-SP10/NACE No. 2) Standard. For less severe applications roughening the surface with hand tools is suitable.
2. Solvent cleaning with a residue-free solvent is recommended as the final step to aid in adhesion.

Mixing:

1. Material temperature should be between 20 °C to 30 °C.
2. Add hardener contents to resin. Mix material vigorously until uniform in color. Be sure to mix along the bottom and sides of mixing container. Mix three to five minutes.

Application Method:

1. Apply fully mixed material to the prepared surface.

Caution: Use an approved, positive-pressure, supplied air respirator when welding or torch cutting near cured compound. **Do Not** use open flame on compound.

Loctite Material Specification^{LMS}

LMS dated May 22, 2001 (Resin) and LMS dated May 22, 2001 (Hardener). 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 Loctite Quality.

Storage

Store product in the unopened container in a dry location. Material removed from containers may be contaminated during use. Do not return liquid to original container. 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.

Henkel cannot assume responsibility for product which has been contaminated or stored under conditions other than those recommended. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\mu\text{m} / 25.4 = \text{mil}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} \times 145 = \text{psi}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

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

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 2.0