Technical Data Sheet

LOCTITE® 7228™

July 2013

PRODUCT DESCRIPTION

LOCTITE® 7228™ provides the following product characteristics:

Technology	Epoxy
Chemical Type	Epoxy
Appearance (Resin)	white[LMS]
Appearance (Hardener)	Amber[LMS]
Appearance (Mixture)	White liquid
Components	Two component - requires mixing
Mix Ratio, by volume - Resin : Hardener	2.8 : 1
Mix Ratio, by weight - Resin : Hardener	4.5 : 1
Cure	Room temperature cure
Application	Coating
Specific Benefit	• Ceramic reinforced • Easy to mix and use • Reduces downtime • Ultra-smooth brushable consistency • High gloss finish • Superior adhesion

LOCTITE® 7228™ is an ultra smooth, ceramic reinforced epoxy that provides a high gloss, low friction coating designed to protect against turbulence and abrasion under typical dry service temperatures of -29 °C to 93 °C. Used by itself, LOCTITE® 7228™ 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 and butterfly valves.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Resin:

Viscosity, Brookfield - RV, 25 °C, mPa·s (cP):		
Spindle 7, speed 20 rpm,		120,000 to 180,000[LMS]
Weight per volume	kg/L	1.8 to 1.9
	(lbs/gal)	(14.8 to 15.6[LMS])

Hardener:

Viscosity, Brookfield - RV, 25 °C, mPa·s (cP):		
Spindle 2, speed 20 rpm,		500 to 900[LMS]
Weight per volume	kg/L	1.0 to 1.1
	(lbs/gal)	(8.6 to 8.6[LMS])

Mixed:

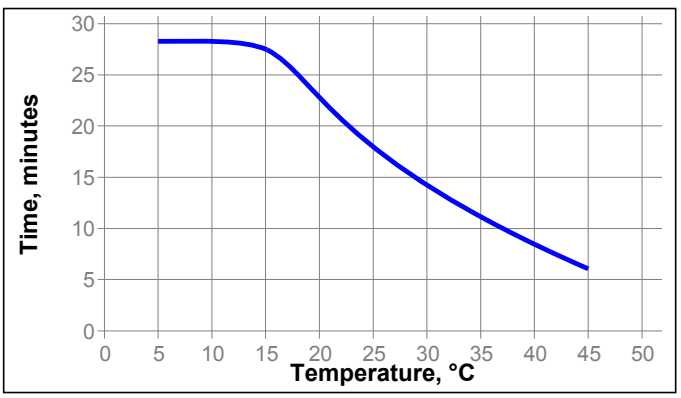
Viscosity, Cone & Plate, 25 °C, mPa·s (cP):	
Shear rate 10 s^{-1}	17,000
Coverage	1.1 m² @ 0.5 mm thick/1 kg

TYPICAL CURING PERFORMANCE

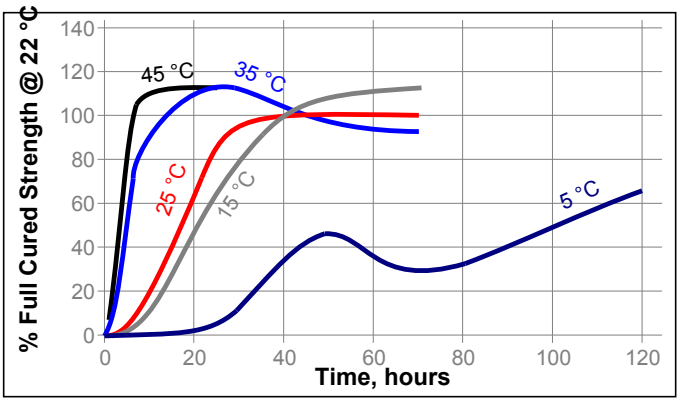
Curing Properties

Gel Time @ 25 °C, minutes:	
400 g mass	34 to 48[LMS]
Cure Time @ 25 °C, hours	5
Recoat Time @ 25 °C, hours	1 to 3

Working Life



Cure Time



TYPICAL PROPERTIES OF CURED MATERIAL

Cured @ 25 °C

Physical Properties:

Compressive Strength, ISO 604	N/mm²	86
	(psi)	(13,000)
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/mm²	24
	(psi)	(3,500)

Dry Service Temperature Resistance, °C (CSA-Z245.20-06/CSA-Z245.21-06 Rating 2)	110
Wet Service Temperature Resistance, °C (CSA-Z245.20-06/CSA-Z245.21-06 Rating 2)	70

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 July 3, 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

(°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

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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Reference 1.2