LOCTITE® Nordbak® Chemical Resistant Coating

March 2006

PRODUCT DESCRIPTION

LOCTITE® Nordbak® Chemical Resistant Coating provides the following product characteristics:

Technology	Epoxy
Chemical Type	Epoxy
Appearance (Resin)	Gray[LMS]
Appearance (Hardener)	Amber[LMS]
Appearance (Mixed)	Gray liquid
Components	Two component - requires mixing
Mix Ratio, by volume - Resin : Hardener	2.3 : 1
Mix Ratio, by weight - Resin : Hardener	3.4 : 1
Cure	Room temperature cure
Application	Chemical resistance
Specific Benefit	• Protects surfaces from extreme chemical attack • Easy to mix and use • Brush applied • Smooth finish protects against friction, turbulence and cavitation • Superior adhesion - bonds well to all metal substrates

LOCTITE® Nordbak® Chemical Resistant Coating is designed to protect equipment against extreme corrosion caused by chemical exposure. LOCTITE® Nordbak® Chemical Resistant Coating forms a glossy, low friction surface that protects against turbulence and cavitation under typical service temperatures of -29 °C to +65 °C. Typical applications include resurface tube sheets, condensers, cooling pump impellers, butterfly valves and cavitated pumps, line tanks and chutes, resurface and repair rudders and pintle housings, line chemical containment areas.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Resin:

Weight Per Gallon, lbs/gal	12.9 to 13.5[LMS]
Viscosity, Brookfield - RV, 25 °C, mPa·s (cP):	
Spindle 7, speed 20 rpm	40,000 to 60,000[LMS]

Hardener:

Weight Per Gallon, lbs/gal	8.6 to 9.1[LMS]
Viscosity, Brookfield - RV, 25 °C, mPa·s (cP):	
Spindle 2, speed 20 rpm	400 to 850[LMS]

Mixed:

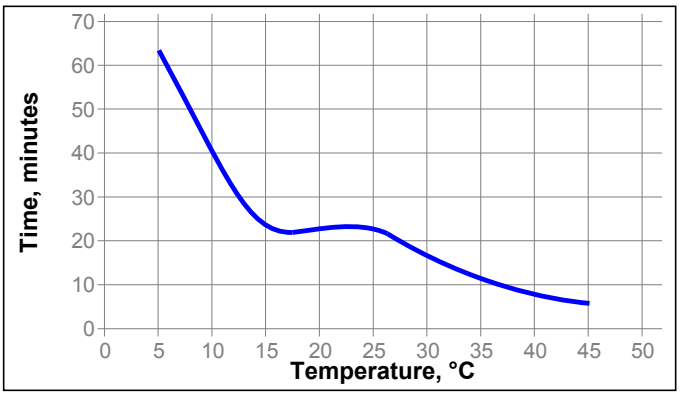
Coverage	6.8 m² @ 0.5 mm thick/5.5 kg (74 ft² @ 20 mils thick/12 lb)
Viscosity, Cone & Plate, 25 °C, mPa·s (cP):	
Shear rate 10 s^{-1}	5,000

TYPICAL CURING PERFORMANCE

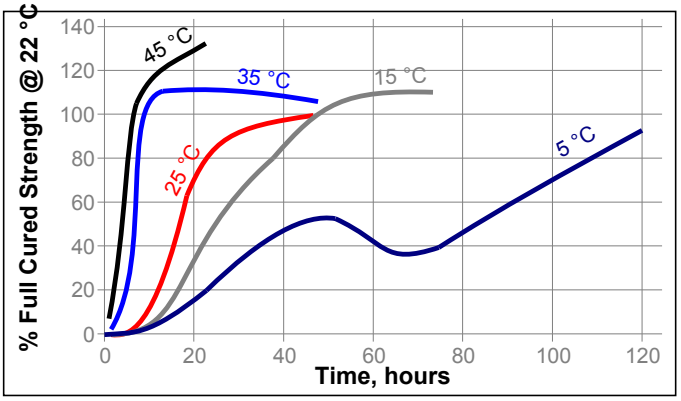
Curing Properties

Gel Time @ 25 °C, minutes:	
400 g mass	28 to 40[LMS]
Recoat Time @ 25 °C, hours	1 to 4
Wet Temperature Resistance, °C	>93

Working Life



Cure Time



TYPICAL PROPERTIES OF CURED MATERIAL

Cured @ 25 °C

Physical Properties:

Shore Hardness, ISO 868, Durometer D		83
Compressive Strength, ISO 604	N/mm²	69.0
	(psi)	(10,000)

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 48 hours @ 25 °C

Lap Shear Strength, ISO 4587:

Steel (grit blasted)	N/mm²	17.2
	(psi)	(2,500)

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 18 °C to 27 °C.
2. Mix the entire contents of resin and hardener. If smaller amounts are required, mix 2.3 parts resin to 1 part hardener by volume, or 3.4 parts resin to 1 Part hardener by weight.
3. Mix vigorously, 3 to 5 minutes, until a uniform color is obtained.

Application Method:

1. Apply fully mixed material to the prepared surface.
2. Immediately clean any contaminated skin or clothing with soap and water.
3. Material can be applied with a 3/8 nap roller with a good core. Once applied, back roller with 3/8 nap roller to smooth out the product and provide a smoother finish.

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

Technical Tips for Working With Epoxies

Working time and cure depends on temperature and mass:

- The higher the temperature, the faster the cure.
- The larger the mass of material, the faster the cure.

To speed the cure of epoxies at low temperatures:

- Store epoxy at room temperature.
- Pre-heat repair surface until warm to the touch.

To slow the cure of epoxies at high temperatures:

- Mix epoxy in small masses to prevent rapid curing.
- Cool resin/hardener component(s).

Loctite Material Specification[LMS]

LMS dated June 13, 2001 (Resin) and LMS dated June 13, 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

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 1.1