Technical Data Sheet

LOCTITE® PC 9599™

Known as LOCTITE® Nordbak® Fast Cure Wearing Compound™
November 2015

PRODUCT DESCRIPTION

LOCTITE® PC 9599™ provides the following product characteristics:

Technology	Epoxy
Chemical Type	Epoxy
Appearance (uncured)	Thixotropic blue paste
Components	Two component - requires mixing
Mix Ratio, by weight - Resin : Hardener	2 : 1
Mix Ratio, by volume - Resin : Hardener	2 : 1
Cure	Room temperature cure
Application	Abrasion resistance
Specific Benefit	• Fast cure -renews worn surfaces fast, reduces downtime to put equipment back in service quickly • Easy to mix and use • Non-sag paste - allows application versatility for overhead and vertical surfaces • Non-shrinking • Extends wear life - resists sliding abrasive wear and eliminates costly wear part inventory • Can be re-applied to itself

LOCTITE® PC 9599™ works in less than half the time of conventional curing epoxies to rebuild, repair, and protect processing equipment from hard sliding abrasion. Like standard Nordbak® Wearing Compound™, this fast curing version is a two-component, ceramic-bead filled repair material for rebuilding and protecting chutes, pumps, elbows, cyclones and other material handling equipment against wear and abrasion under typical dry service temperatures of -30 °C to +105 °C. Other typical applications include the repair and protection of fan blades and housings, scrubbers, dust collectors and exhausters.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Coverage	0.2 m² @ 6 mm thick/2.5 kg (2.3 ft² @ 0.25 inch thick/6 lb)

TYPICAL CURING PERFORMANCE

Curing Properties

Gel Time @ 25 °C, minutes	10 to 15
Cure Time @ 25 °C, hours	3

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties:

Coefficient of Thermal Conductivity ASTM F 433, W/(m·K)		1.1
Glass Transition Temperature ISO 11359-2, °C		58
Coefficient of Thermal Expansion, ISO 11359-2, K^{-1}:		
Below Tg		23
Above Tg		100
Compressive Strength, ISO 604	N/mm²	84
	(psi)	(12,150)
Compressive Modulus, ISO 604	N/mm²	7,035
	(psi)	(1,020,300)
Flexural strength , ASTM D790	N/mm²	49
	(psi)	(7,150)
Flexural modulus , ASTM D790	N/mm²	4,875
	(psi)	(706,550)

Electrical Properties:

Volume Resistivity, IEC 60093, ohm-cm	47×10^{12}
Surface Resistivity, IEC 60093, ohms	11.6×10^{12}

TYPICAL PERFORMANCE OF CURED MATERIAL

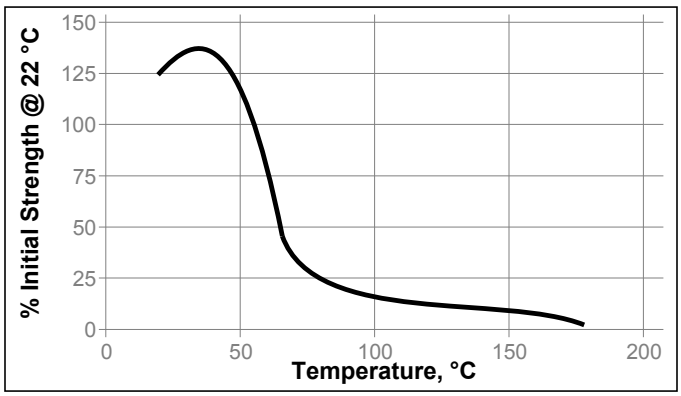
Lap Shear Strength, ISO 4587:

Grit Blasted Mild Steel (GBMS)	N/mm²	4.0
	(psi)	(580)

TYPICAL ENVIRONMENTAL RESISTANCE

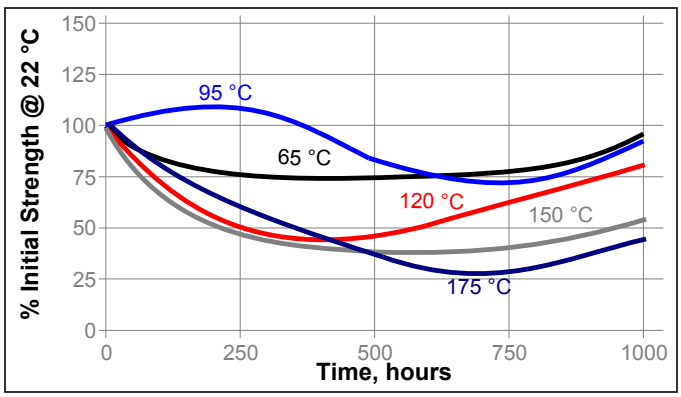
Lap Shear Strength, ISO 4587:
Grit Blasted Mild Steel (GBMS)

Hot Strength



Heat Aging

Aged at temperature indicated and tested @ 22 °C



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 Safety Data Sheet (SDS).

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. On vertical or overhead areas, it is recommended to tack expanded metal mesh to substrate before application of LOCTITE® PC 9599™.
2. 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.
3. Solvent cleaning with a residue-free solvent is recommended as the final step to aid in adhesion.

Mixing:

1. Measure 2 parts resin to 1 parts hardener by volume or weight.
2. Transfer measured quantities or entire kit onto a clean and dry mixing surface and mix together with a trowel until uniform in color.
3. If mixing larger quantities, a spiral mixing blade attached to a high torque electric or pneumatic drill can be used.
4. If resin and hardener temperatures are 15 °C or below, preheat resin only to about 32 °C but not to exceed 38 °C.

Application Method:

1. Apply fully mixed material to the prepared surface .
2. With gloved hand, take a 25mm (1in) ball of mixed material and rub the surface to apply a scratch coat. By wetting out the surface, it ensures the best possible surface contact and avoids air entrapment.
3. Build up to desired thickness (minimum 6 mm), avoid air entrapment.
4. At 25 °C the working time is 10 minutes. Working and cure time depend on temperature and mass - the higher the temperature and the larger the mass, the faster the cure.
5. If a smooth surface is desired, apply a small amount of acetone or isopropyl alcohol to the compound and smooth using either a gloved hand or trowel, as the solvent prevents sticking. Do not use water as it produces a white film on the finished surface.

Caution: Use approved, positive-pressure, supplied-air respirator when welding or torch cutting near cured compound. Use approved self-contained breathing apparatus when burning, welding, or torch cutting indoors near cured compound. Use approved respirator for dusts and mists when grinding or machining cured compound. **DO NOT** use open flame on compound. See other cautions on Material Safety Data Sheet.

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).

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

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 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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