Technical Data Sheet

LOCTITE® PC 9462

August 2021

PRODUCT DESCRIPTION

LOCTITE® PC 9462 provides the following product characteristics:

Technology	Epoxy
Chemical Type	Epoxy
Appearance (Resin)	Light beige
Appearance (Hardener)	Dark blue
Appearance (Mixed)	Blue-green
Components	Two part - Resin & Hardener
Mix ratio, by weight - Resin : Hardener	100:7.01
Mix ratio, by volume - Resin : Hardener	100:12.64
Cure	Room temperature cure after mixing
Application	Crusher repair products
Application Temperature	15 to 65°C (59 to 149°F)
Service Temperature (Dry)	-30 to 105°C (-20 to 220°F)
Service Temperature (Wet)	90°C (194°F)
Specific Benefits	• Easy and safe to use • High compression strength • Low odor • Minimal shrinkage • Excellent impact resistance

LOCTITE® PC 9462 is an epoxy system for backing wear metal in gyratory and cone crushers. LOCTITE® PC 9462 is designed to eliminate the need for traditional melting or special equipment, and it has high hydrolytic stability (low water absorption). Its high volumetric stability eliminates the formation of gaps between backing and liners or support structures, allowing for fast return to service.

Resin:

Specific Gravity @ 23°C	1.75
Viscosity, Brookfield- RV, 25°C, mPa·s (cP) Spindle 6, Speed 20 rpm	28,000
Viscosity, Cone & Plate, 25 °C, mPa·s (cP): Cone: CP50-1, Shear Rate: 0.3 s^{-1}	170,000

Hardener:

Specific Gravity @ 23°C	0.97
Viscosity, Cone & Plate, 25 °C, mPa·s (cP): Cone: CP50-1, Shear Rate: 0.3 s^{-1}	44

Mixed:

Specific Gravity @ 23°C	1.7
Viscosity, Brookfield- RV, 25°C, mPa·s (cP) Spindle 6, Speed 20 rpm	6,300

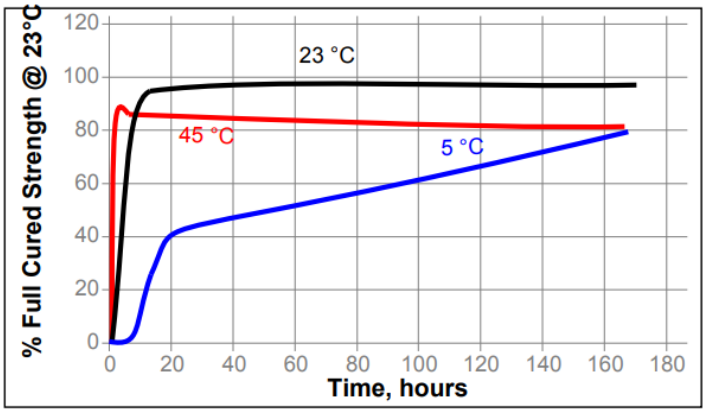
TYPICAL CURING PERFORMANCE

Curing @ 23°C, 50%RH

Gel time, 400g mass, ASTM D2471, minutes	40

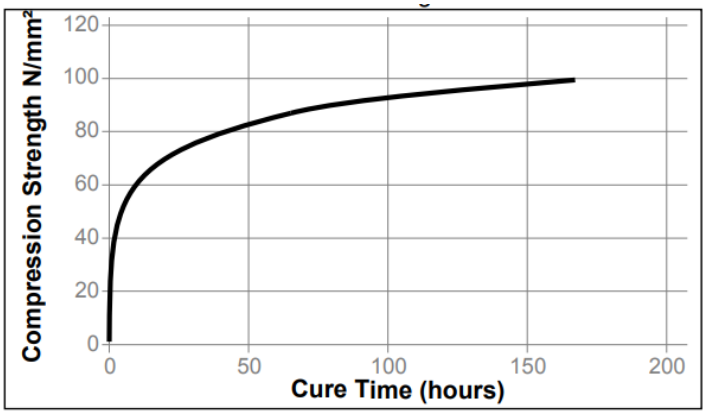
Cure Speed vs. Temperature

The graph below shows the shear strength developed with time @ 23°C on grit blasted mild steel lap shears at different temperatures and tested according to ISO 4587.



Compression Strength Build vs Time

The graph below shows the compression strength developed over time at 23°C and tested according to ASTM D695.



TYPICAL PERFORMANCE OF CURED MATERIAL

Cured for 1 week @ 23 °C

Physical Properties:

Glass transition temperature (Tg), TMA, ISO 11359-2, °C		57
Shore Hardness, ISO 868, Durometer D:		90
Elongation, ISO 527-2, %		0.8
Tensile Strength, ISO 527-2	N/mm^2 (psi)	25 (3,700)
Tensile Modulus, ISO 527-2	N/mm^2 (psi)	5,300 (770,000)
Compressive Strength, ISO 604	N/mm^2 (psi)	88 (13,000)
Compressive Modulus, ISO 604	N/mm^2 (psi)	8,900 (1,300,000)
Flexural Strength, ASTM D790	N/mm^2 (psi)	50 (7,200)
Flexural Modulus, ASTM D790	N/mm^2 (psi)	8,700 (1,300,000)
Coefficient of Thermal Expansion, K^{-1} ISO 11359-2		
Below Tg		$35x10^{10}$
Above Tg		$125x10^{6}$
Volume Shrinkage, ISO 1675, %		3.6
Linear Shrinkage, ISO 1675, %		1.2
Water Absorption, ISO 62, %		0.3

Abrasion Properties

Taber Abrasion Resistance, ASTM D4060, mg 1 kg load, H-17 wheels, 1,000 cycles Weight of material lost (Dry)	3.6

Electrical Properties

Surface Resistivity, IEC 60093, ohms	$7x10^{17}$
Volume Resistivity, IEC 60093, ohm-cm	$3x10^{15}$

Adhesive Properties

Lap Shear Strength, ISO 4587

Aluminum	N/mm^2 (psi)	12 (1,700)
Grit Blasted Mild Steel (GBMS)	N/mm^2 (psi)	22 (3,100)
Stainless Steel	N/mm^2 (psi)	13 (1,900)

TYPICAL ENVIRONMENTAL RESISTANCE

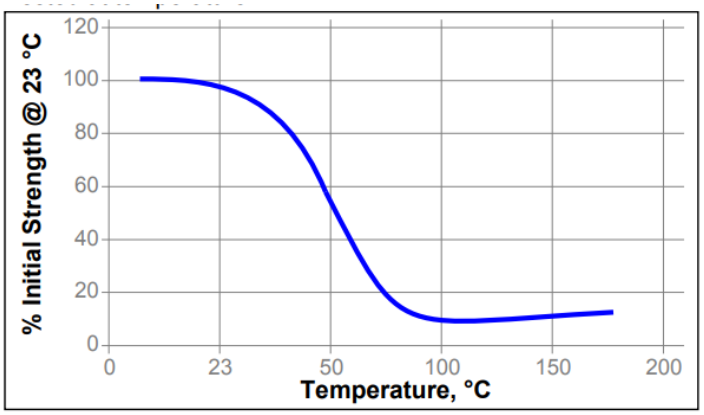
Cured for 1 week @ 23°C

Lap Shear Strength, ISO 4587

Grit Blasted Mild Steel (GBMS)

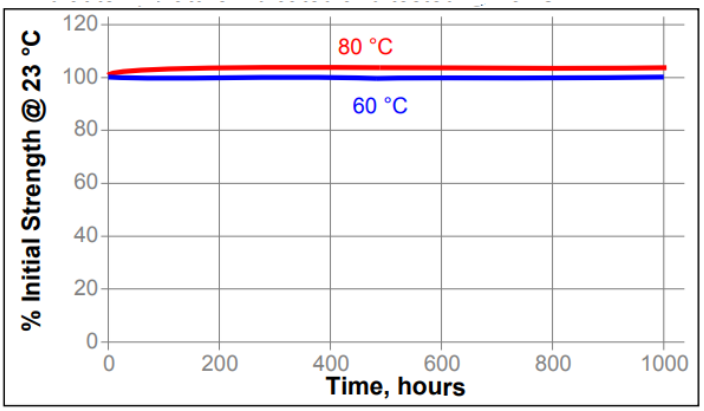
Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested @ 23 °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).

Direction 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. If a bond to the substrate is desired, remove dirt, oil, grease etc. with a suitable cleaner, e.g. high-pressure water cleaning system using LOCTITE® cleaner/degreaser, from all metallic parts that come in contact with LOCTITE® PC 9462.
2. If easier removal of worn liners is desired, coat the appropriate surfaces with a release agent such as grease or light oil.
3. Seal all gaps, hook holds, bottom joints, and protected threaded parts of shafts where necessary.

Preparation of Backing Material

1. LOCTITE® PC 9462 and substrate must be between 15 to 65°C (60 to 150°F) before application:

    a. Lower temperatures increase the working time, but the increase in viscosity makes the material harder to pour.

    b. Higher temperatures reduce the working time, but the product is easier to pour into the crusher.

Mixing:

1. Pre-mix resin approximately 1 minute.
2. Shake hardener thoroughly mixing its contents.
3. LOCTITE® PC 9462 is formulated for a color change indication when the hardener component is added to the resin, changing from yellowish-green to dark blue. As the product is mixed, dark blue streaks will appear in the product.
4. Continue mixing until the entire contents of the pail are dark blue, making sure to scrape the sides and bottom of the pail thoroughly until there are no signs of yellowish-green material.

Application

1. Pour mixture immediately after mixing. Pour at one place and allow LOCTITE® PC 9462 to fill the cavity and push out the air in front of it. Use dam (tin, cardboard, clay, etc.) to direct the flow when necessary. Unmixed resin (different color clinging to the sides and bottom) should not be drained into the crusher.
2. Succeeding kits may be mixed and poured individually as needed. LOCTITE® PC 9462 adheres to itself.

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
Environmental Conditions

- Relative humidity: <85%
- Ambient temperature: >15°C (60°F) and rising
- Substrate temperature must always be 3°C (37°F) higher than the dew point to avoid condensing moisture on parts.

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).

Coverage
13,900 cm^3 per 19-liter kit (850 in^3 per 5-gallon kit)
5,576 cm^3 per 7.5-liter kit (340 in^3 per 2-gallon kit)

Clean-up
Immediately after use, clean tools with LOCTITE® solvent based cleaner. Once cured, the material can only be removed mechanically.

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 Henkel representative.

Product Specification
The technical data contained herein are intended as reference only and are not considered specifications for the product.
Product specifications are located on the Certificate of Analysis or please contact Henkel representative.

Approval and Certificate
Please contact Henkel representative for related approval or certificate of this product.

Data Ranges
The data contained herein may be reported as a typical value. Values are based on actual test data and are verified on a periodic basis.

Temperature/Humidity Ranges: 23°C / 50% RH = 23±2°C / 50±5% RH

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/mm^2 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
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