

LOCTITE[®] PC 7255[™]

Known as LOCTITE[®] Nordbak[®] Sprayable Ceramic 7255[™]
October 2016

PRODUCT DESCRIPTION

LOCTITE[®] PC 7255[™] provides the following product characteristics:

| | |
|--|--|
| Technology | Epoxy |
| Chemical Type | Epoxy |
| Appearance (Resin) | Green liquid ^{LMS} |
| Appearance (Hardener) | Blue liquid ^{LMS} |
| Appearance (Mixture) | Brilliant green liquid |
| Components | Two part - Resin & Hardener |
| Mix Ratio, by volume - Resin : Hardener | 100 : 50 |
| Mix Ratio, by weight - Resin : Hardener | 100 : 50 |
| Cure | Room temperature cure after mixing |
| Application | Coating |
| Product Benefits | <ul style="list-style-type: none"> Smooth sprayable consistency Gloss finish to reduce friction and turbulence Excellent adhesion |
| Specific Application | <ul style="list-style-type: none"> Resurfacing and repairing of worn or corroded metal parts Protecting metal surfaces against abrasive and corrosive agents |

LOCTITE[®] PC 7255[™] sprayable ceramic is a solvent-free ceramic filled two part epoxy coating. It is designed to protect metal surfaces against abrasive and corrosive agents. It can be used as smooth, protective coating on metal surfaces or as a low friction top coat over Loctite[®] Nordbak[®] wear resistant compounds. Typical applications are repairing and protecting of heat exchangers, condensers, lining tanks, chutes, valve bodies or pump impellers and housings.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Resin

| | |
|---|----------------------------------|
| Specific Gravity @ 25 °C | 1.5 |
| Viscosity, Brookfield - DVT, 25 °C, mPa·s (cP): | |
| Spindle 7,, speed 100 rpm | 12,000 |
| Viscosity, Plate to Plate, mPa·s (cP): | |
| Temperature: 25 °C, Shear Rate: 0.3 s ⁻¹ | 70,000 to 120,000 ^{LMS} |
| Temperature: 25 °C, Shear Rate: 40 s ⁻¹ | 3,500 to 6,500 ^{LMS} |

Hardener

| | |
|---|---------------------------------|
| Specific Gravity @ 25 °C | 1.5 |
| Viscosity, Brookfield - DVT, 25 °C, mPa·s (cP): | |
| Spindle 7,, speed 100 rpm | 2,700 |
| Viscosity, Plate to Plate, mPa·s (cP): | |
| Temperature: 25 °C, Shear Rate: 0.3 s ⁻¹ | 12,000 to 31,000 ^{LMS} |
| Temperature: 25 °C, Shear Rate: 40 s ⁻¹ | 700 to 2,000 ^{LMS} |

Mixed

| | |
|---|-------|
| Specific Gravity @ 25 °C | 1.5 |
| Viscosity, Brookfield - DVT, 25 °C, mPa·s (cP): | |
| Spindle 7,, speed 100 rpm | 5,000 |
| Vertical Sag Resistance, 25 °C, ISO 16862, µm: | 700 |
| Flash Point - See SDS | |

TYPICAL CURING PERFORMANCE

| | |
|---|-------------------------|
| Pot life (200 g mass), ISO 9514, minutes: | 40 to 70 ^{LMS} |
| Recoat time, @ 25 °C, hours: | 1 to 3 |

Surface Drying Time - ISO 1517

| | |
|------------------|----|
| @ 15 °C, hours | 7 |
| @ 22 °C, hours | 4 |
| @ 35 °C, minutes | 90 |
| @ 45 °C, minutes | 70 |

TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 7 days @ 22 °C

Physical Properties:

| | |
|--------------------------------------|--|
| Glass Transition Temperature, °C: | |
| (Tg) by TMA ISO 11359-2 | 63 |
| Elongation, at break, ISO 527-2, % | 1.4 |
| Shore Hardness, ISO 868, Durometer D | 86 |
| Tensile Strength, ISO 527-2 | N/mm ² 47 (psi) (6,815) |
| Tensile Modulus, ISO 527-2 | N/mm ² 5,841 (psi) (846,945) |
| Compressive Strength, ISO 604 | N/mm ² 106 (psi) (15,400) |
| Compressive Modulus, ISO 604 | N/mm ² 3,260 (psi) (472,700) |

Electrical Properties:

| | |
|---|----|
| Dielectric Strength, IEC 60243-1, kV/mm | 13 |
|---|----|

TYPICAL PERFORMANCE OF CURED MATERIAL

Cured for 7 days @ 22 °C

Lap Shear Strength, ISO 4587:

| | | |
|---------------------------|----------------------------|---------------|
| Mild Steel (grit blasted) | N/mm ² (psi) | 31 (4,500) |
|---------------------------|----------------------------|---------------|

Taber Wear Resistance, Weight Lost, mg:

| | |
|--------------------------------------|----|
| Wheels H 18, 1 Kg load, 1,000 cycles | 45 |
|--------------------------------------|----|

Cathodic Disbondment, Penetration, mm:
(ASTM G 95, 90 day test)

0

Dry Service Temperature Resistance, °C
(CSA-Z245.20-06/CSA-Z245.21-06 Rating 1)

110

Wet Service Temperature Resistance, °C
(CSA-Z245.20-06/CSA-Z245.21-06 Rating 1)

90

Note to CSA standard: After storage in hot air or water for 28 days at the temperature indicated the coating applied on a metal panel, Rating 1, cannot be removed cleanly.

TYPICAL ENVIRONMENTAL RESISTANCE

Cured for 7 days @ 22 °C

Chemical Resistance

Tables below show chemical resistance @ 22°C. Tested on product specimens, immersed up to 5,000 hours @ 22°C in fluids indicated.

Acids

| | |
|-------------------|--------------------------------------|
| 10 % hydrochloric | Continuous long term immersion |
| 36 % hydrochloric | Continuous long term immersion |
| 10 % sulphuric | Continuous long term immersion |
| 10 % nitric | Short term or intermittent immersion |
| 5 % phosphoric | Continuous long term immersion |

Alkalis

| | |
|-------------------------|--------------------------------------|
| 40 % sodium hydroxide | Continuous long term immersion |
| 25 % ammonium hydroxide | Continuous long term immersion |
| 36 % ammonium sulphate | Continuous long term immersion |
| 30 % hydrogen peroxide | Spill, splash with immediate cleanup |

Solvents

| | |
|-------------------------|--------------------------------------|
| Deionized Water | Continuous long term immersion |
| 10% Salt Water | Continuous long term immersion |
| Methanol | Spill, splash with immediate cleanup |
| Methylethylketone (MEK) | Spill, splash with immediate cleanup |
| Xylene | Spill, splash with immediate cleanup |

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.

- Remove dirt, oil, grease etc with a suitable cleaner, e.g. high pressure water cleaning system using Loctite® 7840™ or Loctite® Natural Blue® cleaner/degreaser.
- All skip welds, weld splatter, buckshot, and other surface roughness must be ground down and smoothed; undercuts and pinholes must be ground smooth and filled. All projections, sharp edges, high points and fillets must be ground smooth to a radius of at least 3mm and all corners must be likewise rounded to maximize product performance.
- Blast all surfaces to be coated with a sharp edged angular grit to a depth of profile of 75 to 100 microns, and a degree of cleanliness of Near White Metal (SIS SA 2½ /SSPC-SP 10). For immersion service, a degree of cleanliness of White Metal (SIS SA 3/SSPC-SP 5) is required.
- After blasting, the metal surface should be cleaned with a residue-free cleaner or solvent to remove dust and contaminants. Clean, dry compressed air may also be used to remove dust and contaminants. The surface should be coated before any new oxidation occurs.
- Metal that has been in contact with salt solutions, e.g. seawater, should be grit blasted and high-pressure water blasted, left for 24 hours to allow any salts in the metal to sweat to the surface. A test for chloride contamination should be performed. The procedure should be repeated until chloride concentration on the surface is below 40 ppm.

Application:

- Film thickness per coat: 250 to 500 microns (8 to 12 mils). Minimum of 2 coats is recommended to avoid any pin holes. Layering of two different colors may be used as a wear indicator for re-application. In this case Loctite PC 7255 green should be applied as a first layer
- Multiple coat application may be carried out within the recoat time. If this time has elapsed, light abrasive blasting is required, followed by a solvent was to remove any abrasive residues
- Apply material to prepared surface by first forcing a thing layer deep into the texture of the substrate
- Then Immediately build up to the desired finished thickness
- For Cartridge system:
 - Pre-heat cartridges to 50°C and maintain this temperature until spraying.
 - Set product pressure to approximately 2 bar (30 psi) and air pressure to approximately 5 bar (70 psi)
 - Place nozzle in a perpendicular position to the substrate with a distance from nozzle to substrate about 30 cm.

Coverage rate

To achieve a 250 micron (8 mils) thickness, the coverage rate will be 2.7 m² (ft²) for 1 kg (lb), excluding overthicknesses, repairs, etc

Inspection

- Visually inspect for pinholes and misses just after application.
- Once the coating has cured, repeat visual inspection to confirm freedom from pinholes, misses and mechanical damages.
- Control thickness of the coating, especially in the critical points.
- Perform a test with a holiday detector to confirm coating continuity.

Repairs

Any misses, pinholes, low thickness areas found in the coating should be repaired by lightly abrading, cleaning and applying further product.

Clean-up

Immediately after use clean tools with suitable cleaner, e.g. Loctite® 7063™ or a solvent such as acetone or isopropyl alcohol. Once cured, the material can only be removed mechanically

Color

Color variation is possible between the batches and will not affect the performance of the product

LOCTITE® PC 7255™ is available in different colors

Loctite Material Specification^{LMS}

LMS dated February 19, 2009 (Resin) and LMS dated December 13, 2008 (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 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 0.7