

LOCTITE[®] PC 7277[™]

Known as LOCTITE[®] 7277[™]
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PRODUCT DESCRIPTION

LOCTITE[®] PC 7277[™] provides the following product characteristics:

Technology	Epoxy
Chemical Type	Epoxy
Appearance (Resin)	Light blue
Appearance (Hardener)	Transparent liquid
Appearance (Mixture)	Light blue liquid
Components	Two part - Resin & Hardener
Mix Ratio, by volume - Resin : Hardener	100 : 36
Mix Ratio, by weight - Resin : Hardener	100 : 28
Cure	Room temperature cure after mixing
Application	Coating
Product Benefits	<ul style="list-style-type: none"> Gloss finish to reduce friction and turbulence Excellent adhesion
Specific Application	<ul style="list-style-type: none"> Protecting concrete surfaces against corrosion and corrosive agents

LOCTITE[®] PC 7277[™] is a solvent-free two part epoxy coating. It is designed for the protection of concrete surfaces subjected to corrosive environments. It has high chemical resistance, so it can be exposed to solvents and a wide variety of weak and concentrated acids and bases.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Resin

Specific Gravity @ 25 °C	1.32 to 1.34
Viscosity, Cone & Plate, mPa·s (cP):	
Temperature: 25 °C, Shear Rate: 0.3 s ⁻¹	17,000
Temperature: 25 °C, Shear Rate: 40 s ⁻¹	6,000

Hardener

Specific Gravity @ 25 °C	1.03 to 1.05
Viscosity, Cone & Plate, mPa·s (cP):	
Temperature: 25 °C, Shear Rate: 40 s ⁻¹	150

Mixed

Specific Gravity @ 25 °C	1.2
Viscosity, Cone & Plate, mPa·s (cP):	
Temperature: 25 °C, Shear Rate: 0.3 s ⁻¹	4,300
Temperature: 25 °C, Shear Rate: 40 s ⁻¹	2,700
Vertical Sag Resistance, 25 °C, ISO 16862, µm:	<300
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Pot life (400 g mass), ISO 9514, minutes:	20 to 40
Recoat time, @ 25 °C ISO 4587, hours:	24
Working Time, minutes	20

Surface Drying Time - ISO 1517

@ 5 °C, hours	50
@ 15 °C, hours	3
@ 22 °C, hours	2.8
@ 35 °C, hours	1.8
@ 45 °C, hours	1.2

TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 7 days @ 22 °C

Physical Properties:

Glass Transition Temperature, °C: (T _g) by TMA ISO 11359-2	35
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Shore Hardness, ISO 868, Durometer D	81
Compressive Strength, ISO 604	N/mm ² 46 (psi) (6,670)
Compressive Modulus, ISO 604	N/mm ² 1,800 (psi) (261,000)

TYPICAL PERFORMANCE OF CURED MATERIAL

Cured for 7 days @ 22 °C

Lap Shear Strength, ISO 4587:	
Mild Steel (grit blasted)	N/mm ² 19 (psi) (2,760)

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 3,000 hours @ 22°C in fluids indicated.

Acids

10 % hydrochloric	Continuous long term immersion
36 % hydrochloric	Spill, splash with immediate cleanup
10 % sulphuric	Continuous long term immersion
10 % nitric	Spill, splash with immediate cleanup
5 % phosphoric	Continuous long term immersion

Alkalis

40 % sodium hydroxide	Continuous long term immersion
25 % ammonium hydroxide	Short term or intermittent 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.

- Concrete must be cured for at least 30 days.
- Remove all grease, oil and dirt by washing thoroughly.
- Surface contaminants such as old coating, loose concrete and dust should be removed by dry abrasive blasting, water blasting, scarifying or by acid etching and thoroughly rinsing.
- Prepared surface must be rough with no excess water. Surface profile CSP3 to CSP5 (ICRI - standard guideline 03732).
- All surface irregularities, joints, holes, pores, and cracks must be filled.

Application:

- Best results will be obtained when coating area is protected from direct sunlight and sudden temperature changes
- Ambient and substrate temperature range: 15 to 40 °C.
- Relative humidity: <85 %; substrate temperature must always be 3 °C higher than the dew point.
- Concrete may outgas due to its surface porosity. In order to minimize this effect, the coating should be applied when the temperature of the concrete is going down, i.e, in the evening
- Add contents of container B into container A. Mix thoroughly until color is consistent. Ensure material temperature is between 15 and 30°C
- Brush or roll a coating layer thickness of 200 to 300 microns

Multiple coat application may be carried out, once the film has gelled, but not cured beyond the maximum recoat time. If this time has elapsed, light abrasive blasting is required, followed by a solvent wash to remove any abrasive residues.

After use and before adhesive hardens mixing and dispensing equipment should be cleaned with Terostat 8550

Coverage rate

To achieve a 100 micron (4 mil) thickness, the coverage rate will be 8.3 m² / l (340 ft² /gal), excluding overthicknesses, 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.

Repairs

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

Clean-up

1. Immediately after use clean tools with suitable cleaner, e.g. Teroson PU® 8550 or an alcohol-based cleaner. Once cured, the material can only be removed mechanically.

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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Reference 0.2