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ČSN EN ISO 9001:2016
ČSN EN ISO 14001:2016

LUKOPREN S 3782

silicone one-component pouring sealant

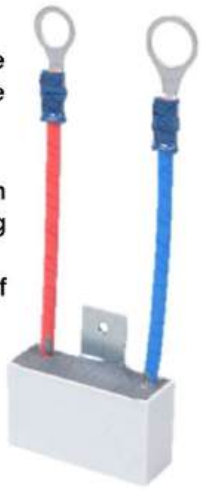
LUKOPREN S 3782 is a one-component silicone sealant with a neutral crosslinking system in the form of a translucent viscous liquid without solvents with excellent flowability.

After being squeezed out of the package, it vulcanizes at normal temperature and humidity (30–80%) to form solid silicone rubber with high heat resistance. Vulcanization occurs from the surface into the mass and its speed depends on the relative humidity of the air (1-component condensation RTV system).

Basic properties

- excellent electrical insulation properties
- resistance to permanent exposure to water, UV and other weather conditions
- resistance to aggressive corrosive environments (weak to medium acids, bases, salts)
- thermal resistance in a wide range of temperatures without loss of flexibility to 250 °C

Benefits



- simple and fast application - use directly from the package without prior treatment
- self-leveling ability
- neutral non-corrosive system without heat release during vulcanization
- adhesion to a wide range of materials

Use

- both indoors and outdoors
- potting technology in electrical engineering
- as a flexible electrical insulating and protective layer against external influences (water, humidity, UV radiation, aggressive environment) causing corrosion of electrical components
- sealing of radiator outlets, cable outlets and for repairs of other silicone layers
- as a flexible sealing and adhesive liquid sealant in mechanical engineering, where for technical reasons non-dripping sealant cannot be used or the possibility of welding, riveting and screwing is limited - sealing of joints and seams with a small gap in the production of containers, machines, air conditioning units, connecting thin-walled parts of light structures
- the hardened sealant prevents the penetration of condensing water and subsequent corrosion, acts as an electrical and thermal insulator, positively affects the overall dynamic strength of entire structures (distribution of the applied force over the entire connected surface, not just at points) in a wide temperature range ρ flexible protective coating in various industrial applications resistant to aggressive environments and temperature loads

Technical parameters of the sealant

appearance	viscous liquid
color	grey 41, black 38
crossslinking system	neutral, oxime
viscosity at 20 °C [Pa.s] (ČSN 640349)	5 - 8
density	1.25 g/cm^3
working temperature	+5 to +30 °C

Properties of the vulcanizate

vulcanization 7 days under standard conditions (23 ± 2 °C, 50 ±5 % RH)
after 24 – 72 hours min. 90% of the properties are achieved

appearance	solid rubber
tensile strength [MPa] (ČSN ISO 37)	1,0
elongation [%] (ČSN ISO 37)	170
hardness [°ShA] (ČSN ISO 48-4)	29
heat resistence of the vulcanizate [°C]	-50 až +250
elektrical strength [kV/mm]	min. 13
resistivity *[Ω . cm]	min. 10^{12}
Complies with the directive 2011/65/EU (RoHS 2)	

** at a frequency of 1 kHz*

Vulcanization characteristics

(23 ± 2 °C, 50 ± 5 % RH)

surface layer formation time [min]		120
curing [mm]	1 day	4-5
	3 days	8
	7 days	11

Adhesion

- **LUKOPREN S 3782** has very good adhesion to a wide range of metal materials such as stainless steel, steel and their coatings, as well as to glass, glazed ceramics, enamel, varnished wood, silicone rubber, some plastics, laminates and resins. To improve adhesion to some problematic non-absorbent surfaces or for applications with high loads, it is recommended to use **Lukopren Primer N** or **A.** Porous silicate substrates (concrete, plaster) must be pre-treated with the bonding agent **Lukopren Primer B 733.**
  Some special pre-treatments of the substrate surface also increase adhesion (blasting, chemical etching, plasma).
- The product has no adhesion to PE, PP, Teflon, bitumen.

ⓘ Due to the wide range of possible substrates, it is necessary to test the adhesion of the sealant on a specific substrate in advance.

Method of application

- Surfaces for application must be dry, clean, thoroughly free of flux residues, and degreased. Depending on the resistance of the substrate or the type of flux to be removed, isopropanol, acetone, technical gasoline, toluene, **Lukopren Degreaser** can be used, for industrial washing, e.g. methoxy or ethoxypropanol.
- A manual or air application gun is used to squeeze the sealant out of the cartridge with a screwed and possibly cut application tip.
- The same type of sealant can be used for repairs to the damaged sealant.

Potting of electrical components

- The ideal layer of sealant is 4-5 mm. When using a smaller thickness, but at least 2 mm, sufficient coverage of all components to be protected by the material must be ensured. A layer of 2 mm will be vulcanized within 12 hours and a layer of 5 mm within 72 hours (temperature 23 ± 2 °C, 50 ± 5% relative humidity). After this time, the elctrical component can be manipulated.
- Premature handling may cause subsequent defects in its functionality. Permanent loading is recommended only after 7 days of vulcanization.

ⓘ Electrical insulation properties are achieved only after full vulcanization of the applied silicone layer.

Application by painting

- The liquid consistency of the sealant allows for application by painting using flat brushes or a roller, or a notched trowel on a horizontal surface in a thickness of at least 1 mm (at least 2 coats). Thanks to its good flowability, the hardened protective coating is continuous without signs of movement.

Application by dipping

- With this type of application (by dipping and smooth pulling out) in a vertical position, a layer of approx. 0.4 mm thickness is created on the surface of the object.

Cleaning

- Unvulcanized sealant is wiped off as soon as possible, the residues are cleaned with **Lukopren Degreaser**, or technical gasoline, thinners containing toluene, xylene. Cured sealant can only be removed mechanically.

Limitations

- Due to the mechanism of curing by air moisture from the surface into the mass, **LUKOPREN S 3782** is not used for casting deep parts (max. up to 10 mm) or in completely closed spaces.
- In the case of lower temperatures and especially relative humidity, the time required for full vulcanization of the material layer is extended.
- If the temperature during vulcanization approaches or exceeds 60 °C, the crosslinking system of the sealant may decompose, which subsequently has a negative effect on its further functionality.

- The sealant cannot be overcoated with any coating system.

Packaging and Storage

Standard packaging in 310 ml cartridges and 70 ml tubes; 10 l can on request. Storage in cartridges 8 months, in tubes 12 months, in cans 6 months from the date of production in original packaging at temperatures up to +30 °C.

Disposal of residues and packaging

Packaging and vulcanized residues can be disposed of together with municipal waste. The sealant is allowed to vulcanize before disposal. Empty packages without residues can be recycled.

Health protection

When working, follow the instructions on the label, in the technical and safety data sheets. Ventilation is recommended when working with sealant. If the sealant gets on your skin, wipe it off and then wash the skin with soap and water.