

Nano-Seal HLE

Revised: 11.09.2017

General description:

Colorless liquid ready-for-use impregnant which penetrates into micropores by capillary forces. Seals leaks reliably due to its permanently elastic character. Contents solvents.

For optimal resistance Nano-Seal HLE should be annealed at 220°C (ideally at 250°C) for 2 h.

Specific properties:

- Very high thermal resistance (up to 350°C).
- Very high chemical resistance (after annealing).
- Even without annealing (curing for 24 h at room temperature) Nano-Seal HLE showed excellent results in the salt spray test.
- Basically, the polymers incorporated are approved for contact with food (after annealing at 250°C/2h).
- Nano-Seal HLE has antistick properties.
- Nano-Seal HLE is very hydrophobic.

Application areas:

Nano-Seal HLE is used as impregnant for thermally sprayed coatings. In particular if thermal and chemical resistance are mandatory.

Technical data at 20°C:

Thermal resistance:

Thermal decomposition of the polymers above 350°C.

Chemical resistance at 20°C:

Acetone	2	Methylene chloride	2
Ketones(gen.)	1-2	Chlorin. hydrocarbons (gen.)	2
Gasoline	1-2	Motor oil	1
Cooling liquids	1-2	Dil. Sodium hydroxide	1-2
Esters (gen.)	1-2	Dil. Hydrochloric acid	1
Ethyl acetate	1-2	Dil. Sulphuric acid	1-2

1: fully resistant
2: short immersion possible
3: resistant when immediately wiped off
4: not resistant

Data obtained after annealing at 220°C/2h.

The list is not exhaustive. Please contact us for your specific requirements. We will advise you or will carry out testings in our laboratory.

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Viscosity:

Brookfield: 60 – 70 mPas at 25°C

Curing time:

Ca. 12 h at room temperature, Afterwards – if the base material is thermally sufficiently stable – heat slowly to 220°C for 2 h (ideally 250°C/30 min).
The data serve as a rough guide as the curing depends strongly on the properties of the coating (porosity and size of the pores).

Delivery form:

Colorless low viscous liquid
Size of the cans: 1, 5 and 200 L

Shelf life:

2 years (storage below 30°C and ideally without exposure to light). Make sure that the can is always tightly closed.

Processing:

The product is ready for use.
Typical application modes are brushing, spraying or dipping of the model.
Vacuum or pressure is not necessary.

- Make sure that the surface is free of oil, grease and staining.
- If necessary clean with acetone and dry thoroughly.
- Repeated application wet-in-wet for 15 min. Temperature of the surface at least 3°C above dew point. Avoid surfaces temperatures higher than 45°C.
- Ca. 12 h at room temperature, Afterwards – if the base material is thermally sufficiently stable – heat slowly to 220°C for 2 h (ideally 250°C/30 min).

Safety:

Make sure that there is good ventilation and avoid any source of ignition.
Read safety data sheet prior to use.

The technical data mentioned in this technical data sheet have to be regarded as rough guidelines. They have been obtained in our laboratory under optimal conditions. For the suitability of the product for specific applications we do not take the responsibility and we deny any liability. We recommend to do trials under conditions which reflect the individual practical application prior to the use of the material for the real application.