

General Description: Nano-Seal B4 is a dark grey or pale grey 2-component composite material reinforced with ceramics. It has been developed for the protection of metals which are subject to extreme wear and corrosion.

Specific Properties:

- Extreme wear protection by combination of high strength ceramics with a tough polymer matrix
- Very good corrosion protection
- High contents of ceramics
- Extreme adhesion even under vibration and stretching of the support
- Good sag resistance
- Contains no solvents
- Contains no tar
- Approved for power stations according to AVS (TÜV Germany)

Fields of Application: Nano-Seal B4 is used for the coating of pumps, rolls, cyclones, chutes, conveyors, screw conveyors, separators, funnels, tanks, propellers, heat exchangers.

Technical Data¹⁾:

Color:	Dark grey and pale grey
Spec. weight:	1,7 g/cm ³
Sag resistance (0,5 mm):	no sagging
Shore-D:	85 - 90
Shrinkage:	< 0,2 %
Tensile strength:	25 N/mm
Compressive strength:	82 N/mm
Thermal resistance dry:	90°C
Thermal resistance wet:	60°C

Chemical Resistance¹⁾:

Mineral oil	1	Ketones (generally)	2-3
Petrol	1	Acetone	3
Hydrochloric acid up to 10 %	1-2	Esters (generally)	2-3
Hydrochloric acid up to 20 %	2	Ethyl acetate	3
Sulphuric acid up to 10 %	2	Chlorinated hydrocarbons (gen.)	2-3
Caustic soda up to 30 %	1-2	Methylene chloride	3
Conc. Potassium hydroxyde	1-2	Toluene	1
Conc. Ammonium hydroxyde	1-2	Refrigerants	1-2
Acetic acid up to 5 %	2	Naphta	1
Salt water	1	Diesel	1

1: Fully resistant

2: Short immersion possible

3: Resistant when immediately wiped off

4: Not resistant

1) Please note: There is a decrease of the chemical resistance, hardness, strength and adhesion at elevated temperature.

Processing

- Remove all soiling (ideal is acetone). In particular oils and grease have to be removed thoroughly. Afterwards dry the surface.
- Roughen the surface up to about 100 µ. Sand blasting is ideal.
- Mix resin (component A) and hardener (component B) in the correct mixing ratio as indicated below. Use an electric stirrer and make sure that all zones of the container are stirred. A homogeneous color indicates that the process can be finished.
- Pour repeatedly in another container in a thin stream thus removing entrapped air
- First apply a thin adhesion layer under pressure. Then add additional material up to the final thickness. A second layer should be applied as long as the first one is still sticky (after 3 – 6 h).

Processing Modes:

B4 is ideally applied by brushing.

Conditions for Processing:

Minimum temperature:	10°C
Max. humidity:	80 %
Temperature of the surface to be coated:	at least 3°C above dew point
Minimum thickness:	0,25 mm (B4 is ideally applied in two thin layers) Minim. thickness for heavy corrosion protection is 800 µ.

Mixing Ratio (by weight):

Resin (component A, putty, grey-black)		5,0	
Hardener (component B, liquid, pale yellow)		1	
Typical quantities:	100 g	250 g	500 g
Resin:	83,3	208	417
Hardener:	16,7	42	83

Pot Life (25°C, 100 g):

Ca. 30 min.

Curing at 25°C:

Light mechanical load:	after 16 h
Full mechanical load:	after 36 h
Chemically fully resistant:	after 48 h

Coverage:

Coverage of one sqm (thickness: 0,5 mm) requires 0,85 kg.

Additional Information:

Storage:	Below 35°C; close container thoroughly.
Shelf life:	The material can be stocked in originally closed containers for at least 24 month.
Safety:	Read material 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.