nanOseaL

B3TF

General Description:

Nano-Seal B3TF is a liquid grey or black 2-component composite material for the protection of metals from chemical attack and corrosion.

Specific Properties:

- Extreme chemical resistance after annealing
- High thermal resistance
- Very good adhesion
- Nano-Seal B3TF cures at room temperature yielding a shore-D hardness of at least 70. After curing at 80 to 100°C for 1 hour the material has its full hardness and chemical resistance.

Fields of Application:

Nano-Seal B3TF is used for the coating of pumps, conveyors, screw conveyors, tanks, propellers, heat exchangers.
In each specific case we recommend trials under real conditions prior to the application; in particular if the parts to be coated are subject to thermal and mechanical load.

Technical Data (at 20°C)[1)]:

Color:	Grey
Spec. weight:	1,4 g/cm^3
Shore-D:	> 85
Shrinkage:	< 0,2 %
Tensile strength:	23 N/mm
Compressive strength:	55 N/mm
Thermal resistance dry:	155°C
Thermal resistance wet:	90°C

Chemical Resistance after annealing (at 20°C)[1)]:

Mineral oil	1	Ketones (generally)	1-2
Petrol	1	Acetone	2
Hydrochloric acid up to 10 %	1	Esters (generally)	1
Hydrochloric acid up to 20 %	1-2	Ethyl acetate	1
Sulphuric acid up to 10 %	1-2	Chlorinated hydrocarbons (gen.)	2
Conc. Sulphuric acid	1-2[2)]	Ethanol	1
Nitric acid up to 10 %	1-2[2)]	Xylene	1
Caustic soda up to 30 %	1	Methylene chloride	2-3
Conc. Potassium hydroxyde	1	Toluene	1
Conc. Ammonium hydroxyde	1	Refrigerants	1-2
Acetic acid up to 5 %	1-2	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 and hardness at elevated temperature!**

2): In concentrated sulphuric acid and in nitric acid (up to 10 %) there is a colour change to reddish.

Managing Director: Klaus Schülein
Managing Director (Technology): Gerhard Wolff
Industriestraße 1
D-91725 Ehingen
info@rehart.de www.rehart.de

Telefon +49 (0) 0935 9711-0
Telefax +49 (0) 9835 524
Registergericht: Ansbach HRB 2011
Ust.-Id.-Nr. DE 131 919 447

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 colour 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 can be applied only if the first layer is still sticky. Otherwise the first layer has to be roughened.
- After at least 10 h curing at room temperature Nano-Seal B3TF has to be cured at 80 to 100°C for 1-2 h.

Processing Modes:

B3TF is ideally applied by brushing. Rolling is also possible.

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:	0,6 mm Ideally B3TF is applied in two layers yielding a total thickness of 600 – 800 µ.

Mixing Ratio (by weight):

Resin (component A, putty, white or black)	2,0
Hardener (component B, liquid, black-grey)	1

Typical quantities:	100 g	250 g	500 g
Resin:	67	167	333
Hardener:	33	83	167

Pot Life (25°C, 100 g):

Ca. 20 min.

Curing at 25°C:

Light mechanical load:	After 24 h
Full mechanical load:	After 24 h and additional curing at 80 to 100°C for at least one h

Coverage:
Coverage of one sqm (thickness: 0,5 mm) requires 0,7 kg.

Additional Information:

Storage:	Below 35°C; close container thoroughly.
Shelf life:	The material can be stocked in originally closed containers for at least 6 month.
Safety:	Read material safety data sheet prior to use.

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