

General Description: Nano-Seal B4TF is a pale or dark 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. B4TF shows a higher chemical and thermal resistance than B4. Approved by TÜV/RWE for applications in nuclear power plants.

Specific Properties:

- Extreme wear protection by combination of high strength ceramics with a tough polymer matrix
- Very good chemical protection
- Highest contents of ceramics
- Very good adhesion
- Contains no solvents
- Contains no tar
- Approved according to AVS D 6.1/50 for applications in nuclear power plants (TÜV Nord, Germany)

Fields of Application: Nano-Seal B4TF is used for the coating of pumps, rolls, cyclones, chutes, conveyors, screw conveyors, separators, funnels, tanks, propellers, heat exchangers.

Technical Data¹⁾:

Color:	Dark or pale grey
Spec. weight:	1,9 g/cm ³
Sag resistance (0,3 mm):	no sagging
Shore-D:	> 85
Shrinkage:	< 0,2 %
Tensile strength:	27 N/mm
Compressive strength:	82 N/mm
Thermal resistance dry:	120°C
Thermal resistance wet:	70°C

Chemical Resistance¹⁾:

Mineral oil	1	Ketones (generally)	2
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	Methylene chloride	3
Conc. Potassium hydroxyde	1	Toluene	1
Conc. Ammonium hydroxyde	1	Refrigerants	1-2
Acetic acid up to 5 %	2	Naphta	1
Salt water	1	Diesel	1

1: Fully resistant

3: Resistant when immediately wiped off

2: Short immersion possible

4: Not resistant

1): Please note: At elevated temperature the technical data and chemical resistance will be much inferior to the values above.

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. The second layer should be applied after 2 and 8 h.

Processing Modes:

B4TF is ideally applied by brushing. Rolling is 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:	0,8 mm (B4TF is ideally applied in two thin layers)

Mixing Ratio (by weight):

Resin (component A, putty, grey)		8,0	
Hardener (component B, liquid, pale yellow)		1	
Typical quantities:	100 g	250 g	500 g
Resin:	88,9	222,2	444
Hardener:	11,1	27,8	56

Pot Life (25°C, 100 g):

Ca. 30 min.

Curing at 25°C:

Light mechanical load:	after 16 h
Full mechanical load:	after 48 h
Chemically fully resistant:	after 72 h

Coverage:

Coverage of one sqm (thickness: 0,5 mm) requires 0,95 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.