

TECHNICAL BULLETIN

TIP TOP LINING 74 FOR STEEL

Product Description: *TIP TOP LINING 74* is a three component, powder filled, mat reinforced vinyl ester lining system. This system consists of one trowel applied body coat, two 450 g/m₂ fibreglass mats as reinforcement and a surface veil and two resin rich topcoats to produce a total DFT of 3.0 to 4.0 mm nominal.

Recommended Uses: This high performance lining system possesses outstanding resistance to a wide range of aggressive environments such as strong inorganic acids, alkalis, most salts and many organic chemicals. This heavy duty lining has successfully provided protection for plating, pickling, storage, and acid waste disposal tanks.

Temperature Resistance: + 80 °C wet + 160°C dry

Generic Type: Novolac Vinyl Ester Resin

Filler: Silica

Solvent: Styrene (reactive)

Design: The steel construction to be coated must be fabricated according to the DIN EN 14879-1:2005. Further information can be taken from our steel specification documents.

Preparation: **Steel**
 Steel substrates, which were under service conditions already, require a chemical check for the presence of invisible traces of iron sulphate and or iron chloride. If the check is positive, the total surface area needs to be washed down thoroughly with de-ionised water. In each case, steel substrate shall be prepared by abrasive blasting to obtain a Sa 2" surface, as defined in DIN EN ISO 12 944-4 and a minimum surface profile @ 60 µm "Coarse (G)" as defined in DIN EN ISO 8503-2.

Build-up of the system:	Coverage		
COROFLAKE N PRIMER	Resin + HARDENER No. 1		150 g/m ₂
TIP TOP LINING 74	Resin + HARDENER No.1		1,000 g/m ₂
Body Coat	F-1 Filler	2,400 g/m ₂	
TIP TOP LINING 74	Resin + HARDENER No.1		2,000 g/m ₂
Reinforcement	2 E-Glass Mats 450 g/m ₂		1,000 g/m ₂
	C-glass veil 30 g/m ₂	33 g/m ₂	
TIP TOP LINING 74	Resin + HARDENER No.1		400 g/m ₂
Topcoat	Thin Film curing Agent	10 g/m ₂	

Mixing Ratio:	100:2, resin to hardener by weight for primer, body coat and top coat. Mix hardener into liquid using a low speed mechanical agitator. For body coat, stir 2,400 g of the F-1 filler slowly into 1,000 g of the mixed resin until it's a well-dispersed semi-thixotropic mortar.		
Pot Life:	1 ~ hrs. (+ 10 °C)	1 hr. (+ 20 °C)	~ hr. (+ 30 °C)
Application Method:	By Trowel and Roller		
Application:	<i>Note:</i> During application the lined surface must be shaded from direct or indirect sunlight. Otherwise intercoat disbondment may occur. The minimum substrate and air temperature shall be 3 K above dew point. All relevant surfaces should be primed and trowelled with the mortar to achieve a uniform thickness at 1.0 mm. Press the first glass mat into the body coat, then saturate and roll with the mixed BC resin until the mat has lost its white colour. Repeat this step for the second glass mat, surface veil and TC resin. Allow to cure. Roll first mixed topcoat, and after curing final topcoat. Refer to the application instruction for further hints.		
Cleaning:	Solvent T-100		
Shelf Life:	The shelf life is 6 months when stored below + 20 °C. The lining liquid, primer and hardener should be stored in cool and dry places.		
Density:	1.1 kg/l (mixed)		
Viscosity:	550 mPas ± 150		
Flash Point:	TIP TOP LINING 74 Resin	+ 32 °C and	
	HARDENER No. 1	+ 70 °C	
Modulus of Elasticity:	6,000 – 8,000 MPa (DIN EN ISO 178) flexural		
Tensile Strength:	50 MPa (DIN EN ISO 527)		
Compressive Strength:	65 MPa (DIN EN ISO 604)		
Coefficient of Expansion:	27 - 30 x 10 ⁻⁶ 1/°C (ASTM D 696-90)		
Permeation:	0.006 perm inch (ASTM-E 96 – 90) Procedure E		
Adhesion:	7.0 N/mm ₂ (EN ISO 4624) on grit blasted steel		
Hardness:	35 Barcol (DIN EN 59)		

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