

TECHNICAL BULLETIN

TIP TOP LINING 74 FOR CONCRETE

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 mm nominal. The fibre glass mat in combination with the permanently flexible resin system gives *TIP TOP LINING 74* crack bridging capability.

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. *TIP TOP LINING 74* is highly suitable for application as a crack bridging lining and can cover cracks bigger than 0.2 mm according to the DIBt Specifications. DIBt Approval No. Z-59.12-298

Temperature Resistance: + 75 °C wet

Generic Type: Novolac Vinylester Resin

Filler: Silica

Solvent: Styrene (reactive)

Design: The concrete construction to be lined must be fabricated according to the EN 14879-1:2005. Cracks should be smaller than 0.2 mm. Further information can be taken from our concrete specifications.

Preparation: Concrete
Contaminants such as oil or grease must be removed prior to the application. The best preparation is abrasive blast to open holes covert with cement and to roughen the surface. The resulting surface should be at least as rough as 40 grit sand paper. Concrete should be thoroughly cured for at least 28 days. Use plastic sheet method (ASTM 4263) to ensure the moisture content is less as 4%. The cured concrete should have a minimum compressive strength of 25 N/mm² and a minimum surface strength of 1.5 N/mm².

Build-up of the system:		Coverage
Primer	Base Coat Resin + HARDENER No. 1	300 g/m ²
Base Coat	Base Coat Resin + HARDENER No. 1 F1 Filler	1,000 g/m ² 2,400 g/m ²
Reinforcement	Base Coat Resin + HARDENER No. 1 1 Glass Mat 450 g/m ² <i>LINING 74</i> Resin + HARDENER No. 1 1 Glass Mat 450 g/m ² 1 C-glass veil	1,000 g/m ² 500 g/m ² 1,000 g/m ² 500 g/m ² 33 g/m ²
Topcoat	<i>LINING 74</i> Resin + HARDENER No. 1 Thin film curing agent	300 g/m ² 10 g/m ²



Mixing Ratio:	100:2, resin to hardener by weight. Mix hardener into liquid using a low speed mechanical agitator. For body coat, stir 2,400 g of the F-1 Filler slowly into the 1,000 g of the mixed Base coat resin until it's a well-dispersed semi-thixotropic mortar. The topcoat resin is mixed at the same ratio. Refer to the application instruction for further hints.		
Pot Life:	1 ½ hrs. (+ 10 °C)	1 hr. (+ 20 °C)	½ 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 trowelled with the mixed mortar as evenly as possible 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.		
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 without filler)		
Viscosity:	550 mPas +/- 150		
Flash Point:	TIP TOP LINING 74 resins	+ 32 °C,	
	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)		
Crack Bridging:	0.2 mm (DIBt – Regulation)		
Coefficient of Expansion:	27 - 30 x 10 ⁻⁶ 1/°C (ASTM D 696-90)		
Abrasion:	90 mg (ASTM – D 4060)		
Adhesion:	1.5 N/m ² (EN ISO 4624) Concrete failure		
Hardness:	35 Barcol (DIN EN 59)		

This Technical Bulletin is for informational purposes only. All data provided herein is based on in-depth research and testing, however no liability whatsoever can be assumed. Since we are constantly endeavouring to up-date and improve our products, we recommend noting the index and issue date indicated on this data sheet and to inquire as to whether any properties have changed in the interim. This Product Information Sheet replaces all prior issues. Please contact our Technical Consultant for detailed information in case of ambiguities.

TIP TOP Oberflächenschutz Elbe GmbH, Heuweg 4, D-06886 Wittenberg
Telefon: (0 34 91) 6 35 – 50, Telefax: (0 34 91) 6 35 – 5 52

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