

TECHNICAL BULLETIN

TIP TOP LINING 65 FOR STEEL

Product Description: *TIP TOP LINING 65* 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 fiberglass mats as reinforcement, one surface veil and two resin rich topcoats to produce a total DFT of 3.0 mm to 4.0 mm.

Recommended Uses: This lining system provides excellent crack bridging capabilities along with good general corrosion resistance for most conditions in chemical processes, like organic acids, bleaching lyes, sodium hydroxide and sodium hypochlorite. The lining is designed for steel structures. For the use in sodium hydroxide environment the application of two layers of synthetic surface veil is recommended. The *TIP TOP LINING 65* is used in the chemical and the Pulp and Paper industry.

Temperature Resistance: + 75 °C Immersion, Constant Flow

Generic Type: Bisphenol-A Vinyl Ester

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 have previously been used in service, 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 Part 4 and a minimum surface profile @ 60 µm "Medium (G)" as defined in DIN EN ISO 8503-2.

Build-up of the system:

Coverage

COROFLAKE N PRIMER for steel	Liquid + HARDENER No. 1	150 g/m ₂
TIP TOP LINING 65 Body coat	Liquid + HARDENER No. 1 F1 Filler	1,000 g/m ₂ 2,500 g/m ₂
TIP TOP LINING 65 Reinforcement	Liquid + HARDENER No. 1 2 Glass Mats 450 g/m ₂ 1 C-glass veil 30 g/m ₂	2,000 g/m ₂ 1,000 g/m ₂ 33g m ₂
TIP TOP LINING 65 Topcoat	Liquid + 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 2,500 g of the silica filler slowly into the 1000 g of the mixed resin until its a well-dispersed semi-thixotropic mortar.		
Pot Life:	1 ~ hrs. (+ 10 °C)	1 hrs. (+ 20 °C)	~ hrs. (+ 30 °C)
Application method:	By Trowel and Roller		
Application:	During application observe pot life limitations. The substrate and air temperature shall be at + 8 °C to + 32 °C (3 K above dew point). All relevant surfaces should be primed. Allow to cure. Trowel on an even coat of the mixed mortar to achieve a uniform thickness at 1.5 mm. Press the first glass mat into the body coat, then saturate and roll with the mixed resin until the mat has lost white colour. Repeat this step for the second glass mat and for the surface veil. 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 @ + 20 °C. The lining liquid, primer and hardener should be stored in cool and dry places.		
Density:	1.01 kg/l (mixed)		
Viscosity:	450 mPas ± 50		
Flash Point:	TIP TOP LINING 65 resin	+ 32 °C and	
	HARDENER No. 1	+ 70 °C	
Modulus of Elasticity:	6,000 – 8,000 Mpa (DIN EN ISO 178) flexural		
Coefficient of Expansion:	27 - 30 x 10 ⁻⁶ 1/°C (ASTM D 696-90)		
Tensile Strength:	50 Mpa (DIN EN ISO 527)		
Compressive Strength:	65 Mpa (DIN EN ISO 604)		
Adhesion:	7 N/mm ₂ (EN ISO 4624) to grit blasted C-Steel		
Hardness:	35 Barcol (DIN EN 59)		

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