TECHNICAL BULLETIN

COROFLAKE 48

Product Description:

COROFLAKE 48 is a two component, C-glass flake filled modified vinyl ester coating system. This coating system consists of one primer and two coats @ 400 - 600 µm WFT per coat to produce a total DFT of 900 µm nominal. The vinyl ester resin provides outstanding temperature and chemical resistance and firmly bonds the multiple layers of overlapping micron-thick C-glass flakes to achieve an extremely low permeation rate which greatly reduces water vapour passage through the coating.

Recommended Uses:

COROFLAKE 48 provides an exceptional resistance against high concentrations of sulphuric acid under high temperature conditions, organic solvents and oxidising agents. The coating was developed specifically for Flue Gas Desulphurization environments. It has proven performance in absorber inlet sections and raw gas ducts as a topcoat for COROFLAKE 23 and COROFLAKE 28.

Temperature Resistance:

+ 90 °C wet (as topcoat) + 200 °C dry + 240 °C for 15 min.

Generic Type:

Modified Vinyl Ester

Filler:

C-Glass Flakes

Solvent:

none

Design:

The steel and concrete construction to be coated must be fabricated according to the EN 14879-1:2005. For concrete structures also refer to DIN 1045. Further information can be taken from our steel or 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 covered 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.

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 2½ 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:

	Thickness Layer	Coverage
COROFLAKE N PRIMER Concrete	1 x 80 – 120 µm	300 g/m²
COROFLAKE S PRIMER Steel	1 x 40 – 60 µm	150 g/m²
COROFLAKE 48 Resin	2 x 400 – 600 µm	2 x 1.000 g/m²

Mixing Ratio:	100:2 COROFLAKE Primer or Resin to HARDENER No. 1 by weight. Mix hardener into resin-based component, using a low speed mechanical agitator.
Pot Life:	1 ½ hrs. (+ 10 °C) 1 hrs. (+ 20 °C) ½ hrs. (+ 30 °C)
Application Equipment:	Conventional Air or Airless Spray
Application:	Primer is normally applied by brush or roller. Spray application can be used, but requires extra clean surface. ***COROFLAKE 48*** shall be applied in two coats utilizing an airless or conventional air spray system. For small areas, poll or brush application is possible. The substrate and air temperature shall be @ + 10 °C to + 36 °C (3 K above dew point). Primer may be recoated after initial curing, which will occur normally after 4 hours, first coat must be applied within seven days. The following topcoats should be applied no longer than three days later. During application observe pot life limitations. The given values are applicable for + 20 °C. Note: During application the coated surface must be shaded from direct or indirect sunlight. Intercoat disbondment may otherwise occur.
Cleaning:	Solvent T-100
Shelf Life:	The shelf life is 3 months when stored @ + 20°C. ***COROFLAKE 48*** resin, Primer and HARDENER No. 1 should be stored at a cool and dry place.
Density:	1.2 kg/l (mixed)
Viscosity:	2,100 mPas ± 300
Flash Point:	***COROFLAKE 48*** + 97 °C and HARDENER No. 1 + 70 °C
Modulus of Elasticity:	4,000 – 5,500 MPa (DIN EN ISO 178) flexural
Tensile Strength:	25 MPa (DIN EN ISO 527)
Elongation at Tear:	0.3 % (DIN EN ISO 527)
Coefficient of Expansion:	25 - 30 x 10^{-6} 1/°C (ASTM D 696-90) linear
Abrasion:	90 mg (ASTM – D 4060)
Permeation:	0.0008 perm-inch (ASTM – E 96 - 90 Procedure E)
Adhesion:	7.0 N/mm² (EN ISO 4624) to C-Steel; 1.5 N/mm² (EN ISO 4624) to concrete
Hardness:	35 Barcol (DIN EN 59)

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