Product Data Sheet

RCC CORROSION CONTROL

COROFLAKE 18 NVE

Trowel Applied Glass Flake Novolac Vinyl Ester Lining

PRODUCT DESCRIPTION

COROFLAKE 18 NVE is a two component glass flake reinforced, trowel applied Novolac Vinyl Ester resin based lining system. Due to the multiple layers of overlapping glass flakes, an extremely low water vapor permeation rate is achieved. Excellent permeation resistance is a particular feature of this lining, ensuring a long service life.

COATING LAYERS COMPOSITION

This lining system consists of **COROFLAKE S PRIMER U** and two coats of **COROFLAKE 18 NVE** applied by trowel at a target thickness of 40 mils (1000 µm) DFT per coat with a range of 30-60 mils (750-1500 µm) DFT. The target DFT for a two coat application is 80 mils (2.0 mm) with a range of 60-120 mils (1.5 to 3.0 mm). Higher lining thickness designs may be recommended for specific operating services as deemed necessary by RCC Corrosion Control.

FIELDS OF APPLICATION

COROFLAKE 18 NVE has excellent chemical resistance against most organic and inorganic acids, aliphatic and aromatic solvents as well as against diluted alkalis and acids. It is an excellent corrosion resistant lining for steel vessels and tanks in chemical process related industry applications.

FEATURES

- High temperature stability
- Very low water vapor permeability
- Excellent chemical resistance
- Outstanding adhesion to steel
- Good abrasion resistance
- Easy to apply

CHEMICAL RESISTANCE

Information on the chemical resistance properties is available upon request.

SURFACE PRE-TREATMENT

Carbon steel

For immersion or frequent spillage conditions, abrasive blast to “White Metal” in accordance with SSPC SP-5, NACE Specification #1 or SA 3. For fumes or occasional spill exposure and dry environments, abrasive blast to “Near White” in accordance with SP-10, NACE #2 or SA 2 1/2. A minimum surface profile of 3 mils (75 microns) is required. Refer to specification, RCC TT-14. After blast cleaning the steel surface shall be primed before the formation of any rust bloom.

APPLICATION

The primer is applied using an airless or conventional air spray system or by rolling. **COROFLAKE 18 NVE** Basecoat and Topcoat are applied by trowel.

The surface of the lining Basecoat and Topcoat must be smoothed immediately after placement using a roller dampened with Smoothing Liquid F-12. The time period between the different coats shall not exceed one week when shaded from sunlight and four hours if exposed to direct or indirect sunlight.

The standard dry film thickness (DFT) per coat should be approximately 40 mils (1000 µm) with a range of 30-60 mils (750-1500 µm). The total applied lining target DFT should be approximately 80 mils (2.0 mm) with a range of 60-120 mils (1.5 to 3.0 mm).

Note: During application the coated surface must be shaded from direct or indirect sunlight.

MIX RATIO

Hardener No. 1 Clear is added to the **COROFLAKE S PRIMER U Resin** at a mix ratio of 1.5-2.5 oz/gal hardener to resin. **Hardener No 1 Red** is added to the **COROFLAKE 18 NVE** Basecoat and Topcoat resin at a mix ratio of 1.5-2.5 oz/gal hardener to resin. Additionally 2 oz/gal of **Pigment Solution P1** is added to either the basecoat or topcoat resin, not both. This will provide alternating color layers, which assures complete coverage.

The primer and lining components are supplied in pre-measured units including resin and hardener, to minimize weighing or measuring of the components.

CONSUMPTION

Layer	Thickness mils (µm)	Coverage
PRIMER on steel	2-5 (50-125)	250-300 ft²/gal
BASECOAT	40 (1000)	24-30 ft²/gal
TOPCOAT	40 (1000)	24-30 ft²/gal

WORKING TIME & RECOAT TIME

Temperature	Working Time	Min Recoat	Max Recoat
50°F (10°C)	approx. 90 min	12 hrs	7 days*
70°F (21°C)	approx. 60 min	6 hrs	7 days*
90°F (32°C)	approx. 30 min	3 hrs	3 days*

* Maximum when area is shaded. If exposed to direct or indirect sunlight, maximum recoat time is 4 hrs @ 70°F (21°C).

CURE TIME (to place in service)

Temperature	Minimum Cure time
50°F (10°C)	72 hrs
70°F (21°C)	48 hrs
90°F (32°C)	24 hrs

Generally **COROFLAKE 18 NVE** can be placed in service after the final cure time intervals have been achieved. Shorter or longer intervals may apply depending on service conditions. Consult RCC Corrosion Control for specific recommendations.

CLEANING: Cleaning Agent T-100

SAFETY MEASURES

The material safety data sheets of the individual components as well as the legal requirements for handling hazardous materials must be observed.

PACKING UNITS

The products are supplied in the following standard package sizes:

Description	Package Size
COROFLAKE S PRIMER U	1, 4, 50 gal kits
COROFLAKE 18 NVE	1, 4, 25 gal kits
Smoothing Liquid F-12	1, 5 gal
Pigment Solution P1	1 quart, 1 gal

STORAGE

The materials must be stored in a cool and dry place. At storage temperature of 70°F (21°C) the shelf life is as follows:

COROFLAKE S PRIMER U Resin	6 months
COROFLAKE 18 NVE Resin	6 months
Hardener No. 1 Clear & No. 1 Red	12 months
Pigment Solution P1	12 months
Smoothing Liquid F-12	12 months

If the storage time is exceeded, the materials must be tested before use. Higher storage and transport temperatures will reduce the shelf life. The containers must be kept tightly closed. Liquid products must be stored frost-proof.

Technical Data	Testing Standard	Unit	Value
Density	ASTM D1475	lbs/gal kg/l	10 ± 0.25 1.2
Viscosity	ASTM D2196	cps mPa·s	400,000 (paste-like)
Modulus of Elasticity (Bend Test)	ASTM D790	Psi MPa	726K–1.16 mil 5,000-8,000
Tensile Strength	ASTM D638	Psi MPa	4350 30
Minimum Adhesion Strength – Steel	ASTM D4541	Psi N/mm²	600 4
Linear Coefficient of Thermal Expansion	ASTM C531	in/in°F cm/cm°C	14-17 x 10^{-6} 25-30 x 10^{-6}
Water Vapor Permeability	ASTM E-96, Procedure E	perm-inch	0.0001
Volatile Organic Compounds	EPA Method 24	g/L (lbs/gal)	103 (.86)
Maximum Operating Temperature* Immersion Continuous Dry Dry (short term upset)		°F °C °F °C °F °C	 200 93 300 149 350 177

***Maximum operating temperature limits may vary depending on actual service conditions**

We warrant that our goods will conform to the description contained in the order and that we have good title to all goods sold. This Product Data Sheet is considered accurate and reliable to the best of our knowledge at the date of its publication, but are used as guides only. The user assumes all risks and liabilities in connection therewith regardless of any suggestion, we may give. We assume no liability for performance of the product or for any loss or damage resulting from its use. Our liability, in law and equity, shall be expressly limited to the replacement of non-conforming goods at our factory, or at our sole discretion, to repayment of the purchase price of the non-conforming goods.