Product Data Sheet

RCC CORROSION CONTROL

COROFLAKE 23HB NVE
High Build Flake Filled Novolac Vinyl Ester Coating

PRODUCT DESCRIPTION

COROFLAKE 23HB NVE is a two-component inert flake filled, **high build** coating/lining based on Novolac Vinyl Ester resin.

COROFLAKE 23HB NVE is a versatile material that can be used as a one or two coat system and as a topcoat or undercoat for other novolac vinyl ester coating and lining systems from RCC Corrosion Control.

COATING LAYERS COMPOSITION

The coating system generally consists of a primer (**COROFLAKE N PRIMER U or S PRIMER U**) and a minimum of one coat of **COROFLAKE 23HB NVE**. It can be spray applied up to 50 mils (1250 µm) DFT in a single coat. A typical applied range is 30-40 mils (750-1000 µm) DFT per coat, with a target of 36 mils (900 µm) DFT. Primer may be optional when coating metal surfaces. Standard coating colors are beige and grey.

FIELDS OF APPLICATION

COROFLAKE 23HB NVE has excellent resistance to acids and organic chemicals. It is ideal for the protection of steel and concrete structures in chemical process and storage areas. Applications include protection in tanks, vessels, flue gas ducts, trenches, pits, and secondary containment at chemical plants, power plants and other industries where chemical processes are present.

FEATURES

- Dry temperature resistance to 350°F (177°C)
- Excellent chemical resistance
- Excellent permeation resistance
- Outstanding adhesion to steel and concrete
- Can be applied direct to metal without primer
- Single coat application for rapid return to service

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 µm) is required. Refer to specification, RCC TT-14. After blast cleaning the steel surface shall be primed or coated before the formation of any rust bloom. For direct to metal coating options consult RCC Corrosion Control.

Concrete

The concrete shall have a minimum compressive strength of 3500 psi (25 N/mm²) and a minimum surface strength of 200 psi (1.4 N/mm²) for coatings and 300 psi (2.1 N/mm²) for linings. The concrete must be thoroughly cured and dry at the time of application. The residual moisture content should not exceed 4%. ASTM D 4263 plastic sheet test method is recommended to ensure concrete is moisture free. If moisture is detected, repeat test until dry.

Abrasive blast or mechanically abrade surface to remove the weak laitance and surface contaminants. Refer to specification, RCC TT-3 for further detail.

APPLICATION

The Primer is applied by airless or conventional air spray, roller or brush.

In order to achieve the high build characteristics of **COROFLAKE 23HB NVE** it must be spray applied. Airless or conventional spray equipment can be used. The typical dry film thickness per coat should be 30-40 mils (750-1000 µm), target 36 mils (900 µm).

Application of **COROFLAKE 23HB NVE** by brush or roller should be limited to touch up and small areas only. Additional coats may be required to achieve the total recommended thickness.

Note: During application, the lined surface should be shaded from sunlight whenever possible.

MIX RATIO

Hardener No. 1 Clear is used for the primer as well as for the **COROFLAKE 23HB NVE**. The mixing ratio of hardener to primer and coating resin is 1.5-2.5 oz. per gallon by volume. The primer and coating components are supplied in premeasured kits so that weighing or measuring of the components is kept to a minimum.

CONSUMPTION

Layer	Thickness mils (µm)	Coverage
Primer on steel	2-5 (50-125)	250-300 ft²/gal
Primer on concrete	2-5 (50-125)	160-200 ft²/gal
Coating	30-40 (750-1000)	25-35 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 23HB 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 N PRIMER U	1, 4, 50 gal kits
COROFLAKE S PRIMER U	1, 4, 50 gal kits
COROFLAKE 23HB NVE	1, 4, 25 gal kits

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 N & S PRIMER U Resin 6 months
COROFLAKE 23HB NVE Resin 6 months
Hardener No. 1 Clear 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)	9.89 ± 0.25 (1.19)
Viscosity (Brookfield)	ASTM D2196	Cps (mPa·s)	3500 ± 250
Modulus of Elasticity (Bend Test)	ASTM D790	psi MPa	435K – 580K 3,000 – 4,000
Tensile Strength	ASTM D638	Psi (MPa)	2700 (19)
Abrasion Resistance	ASTM D 4060	mg	90
Adhesion Strength - Concrete	ASTM D7234	psi N/mm²	Exceeds concrete strength
Minimum Adhesion Strength - Steel	ASTM D4541	psi N/mm²	1000 7
Linear Coefficient of Thermal Expansion	ASTM C531	in/in°F cm/cm°C	15-17 x 10^{-6} 27-30 x 10^{-6}
Water Vapor Permeability	ASTM E-96, Procedure E	perm-inch	0.0016
Volatile Organic Compounds	EPA Method 24	g/L (lbs/gal)	212 (1.77)
Maximum Operating Temperature* at 30-40 mils (750-1000 µm) Immersion-Steel Immersion-Concrete Splash/Spill-Concrete Continuous Dry		 °F °C °F °C °F °C °F °C	 130 54 140 60 200 93 350 177

***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.