

COROFLAKE 1424 VE Trowel-Spray Flake Filled Vinyl Ester Lining

PRODUCT DESCRIPTION

COROFLAKE 1424 VE is a Vinyl Ester resin based lining incorporating a trowel applied, glass flake filled basecoat and spray applied, inert flake filled topcoat design.

LINING LAYERS COMPOSITION

The lining system consists of **COROFLAKE N PRIMER U**, a basecoat of **COROFLAKE 14 VE** applied by trowel at 30-60 mils (750-1500 µm) DFT, followed by a topcoat of **COROFLAKE 24 VE** spray applied at 15-20 mils (375-500 µm) DFT. The total lining thickness is 45-80 mils (1125-2000 µm) DFT, target of 60 mils (1500 µm) DFT.

FIELDS OF APPLICATION

Due to its excellent chemical resistance to organic and inorganic acids, alkali solutions and many aliphatic solvents, **COROFLAKE 1424 VE** is an ideal corrosion resistant lining for process equipment and tanks in the chemical industry, steel industry, paper industry and in flue gas desulfurization plants.

FEATURES

- Excellent chemical resistance
- Excellent permeation resistance
- Outstanding adhesion to steel
- Meets compliance requirements of **FDA 21 CFR 175.300** for repeated direct food contact
- Can be exposed to process conditions shortly after application

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 or coated before the formation of any rust bloom.

APPLICATION

The primer can be applied using airless or conventional air spray, roller or brush. **COROFLAKE 14 VE** is applied by trowel and **COROFLAKE 24 VE** can be

applied using airless or conventional spray equipment, by roller or brush. Application of **COROFLAKE 24 VE** by brush or roller may require additional coats to achieve the total recommended thickness.

The **COROFLAKE 14 VE** basecoat shall be trowel applied at 30-60 (750-1500 µm) with a target of approximately 40 mils (1000 µm) DFT. The surface of the basecoat must be smoothed immediately after placement using a roller dampened with **Smoothing Liquid F-12**.

The **COROFLAKE 24 VE** topcoat shall be spray applied at 15-20 mils (375-500 µm) DFT with a target of approximately 18 mils (450 µm) DFT. Thickness range for the total lining system is 45-80 mils (1125-2000 µm) with a target of approximately 60 mils (1500 µm) DFT.

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

MIX RATIO

Hardener No. 1 Red is used with **COROFLAKE 14 VE Resin** and **Hardener 1 Clear** is used with **COROFLAKE 24 VE Resin** and the **COROFLAKE N PRIMER U Resin**. The mixing ratio of both hardeners to resin is 1.5-2.5 oz./gal by volume.

The primer and lining components are supplied in pre-measured units 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 ft ² /gal
BASECOAT	40 (1000)	24-30 ft ² /gal
TOPCOAT	15-20 (375-500)	50-70 ft ² /gal

WORKING TIME & RECOAT TIME

Temperature	Working Time	Min Recoat	Max Recoat
50°F (10°C)	approx. 90 min	12 hrs	14 days*
70°F (21°C)	approx. 60 min	6 hrs	14 days*
90°F (32°C)	approx. 30 min	3 hrs	7 days*

* Maximum when area is shaded. If exposed to direct or indirect sunlight, maximum recoat time is 7 days @ 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 1424 VE** can be placed in service after the final cure time intervals have been achieved. Consult RCC Corrosion Control for specific recommendations.

Curing for Direct Food Contact Service

Refer to Technical Topic RCC TT-25 Curing and Cleaning of FDA Compliant Vinyl Ester Coatings and Linings.

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 14 VE	1, 4, 25 gal kits
COROFLAKE 24 VE	1, 4, 25 gal kits
Smoothing Liquid F-12	1, 5 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 N PRIMER U Resin	6 months
COROFLAKE 14 VE Resin	6 months
COROFLAKE 24 VE Resin	6 months
Hardener No. 1 Clear & No. 1 Red	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 – Basecoat	ASTM D1475	lbs/gal kg/l	9.98±0.25 1.2
Density – Topcoat	ASTM D1475	lbs/gal kg/l	9.57±0.25 1.15
Viscosity - mixed	ASTM D2196	cps mPa·s	400,000 (Basecoat) 3250 ± 250 (Topcoat)
Flexural Strength – Basecoat	ASTM D790	Psi MPa	8700 - 9300 60 - 64
Tensile Strength - Basecoat	ASTM D638	Psi MPa	4350 30
Tensile Strength - Topcoat	ASTM D638	Psi MPa	2900 20
Abrasion Resistance - Topcoat	ASTM D 4060	mg	92
Minimum Adhesion Strength – Basecoat (steel)	ASTM D4541	psi N/mm ²	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	0.00028
Volatile Organic Compounds (Basecoat – COROFLAKE 14 VE)	EPA Method 24	g/L (lbs/gal)	125 (1.04)
Volatile Organic Compounds (Topcoat – COROFLAKE 24 VE)	EPA Method 24	g/L (lbs/gal)	152 (1.27)
Maximum Operating Temperature*			
Continuous Immersion Steel		°F °C	170 77
Continuous Dry		°F °C	250 121
Dry Short Term Upset		°F °C	300 149

*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.

RCC Corrosion Control	COROFLAKE 1424 VE	Revision: 05/19/2022
Replaces all previous editions	Product Data Sheet	Page 2 of 2