

TOPLINE 640 C

Trowel Applied Reinforced Carbon Filled Chlorendic Polyester Lining

PRODUCT DESCRIPTION

TOPLINE 640 C is a trowel applied, mat or synthetic fabric reinforced, carbon filled lining based on Chlorendic Polyester resin.

LINING LAYERS COMPOSITION

The lining system consists of a primer, one trowel applied basecoat, 1.5 oz. fiberglass mat or synthetic fabric as reinforcement and a trowel applied topcoat. The total thickness of the lining system is 120-160 mils (3.0-4.0 mm) DFT.

FIELDS OF APPLICATION

TOPLINE 640 C is ideal for use where special chemical resistance and/or conductive properties are required. It is used to protect concrete and steel structures in process and storage areas including tanks, vessels, trenches, pits, vaults, dikes, process floors and secondary containment.

FEATURES

- Electrically conductive, non-sparking
- Excellent adhesion to concrete and steel
- Excellent chemical resistance to chromic and nitric acid, hot chlorine and oxidizing solutions
- Very good mechanical properties

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 μ m) is required. Refer to specification, RCC TT-14. After blast cleaning the steel surface shall be primed before the formation of any rust bloom.

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 details.

APPLICATION

- Prime the substrate with **COROFLAKE N PRIMER U** and allow the primer to cure.
- Trowel apply the Basecoat mixture of **TOPLINE 640 CP Resin, Hardener No. 2 Clear** and **C-1 Filler** in one uniform layer at approximately 60 mils (1500 μ m) WFT.
- Immediately upon placement of the Basecoat (while it is still wet), the 1.5 oz. fiberglass mat or **K Cloth** synthetic fabric is pressed onto the surface, then saturated and rolled with the mixed **TOPLINE 640 CP Resin** and **Hardener No. 2 Clear**. A ribbed roller is used to remove any entrapped air. Allow the mat layer to cure.
- Trowel apply the Topcoat mixture of **TOPLINE 640 CP Resin, Hardener No. 2 Clear** and **C-1 Filler** in one uniform layer at approximately 60 mils (1500 μ m) WFT.
- Immediately upon placement of the Topcoat use a brush and/or roller dampened in **Smoothing Liquid F-12** to remove trowel marks and smooth the surface.

Note: During application the lined surface should be shaded from direct or indirect sunlight whenever possible.

MIX RATIO

Hardener No. 1 Clear is used for **COROFLAKE N PRIMER U Resin** with a mix ratio of 1.5-2.5 oz. of hardener per gallon of resin. **Hardener No. 2 Clear** is used for **TOPLINE 640 CP Resin** with a mix ratio of 2.5-3.0 oz. of hardener per gal of resin.

The primer and lining components are supplied in kits including resin and hardener. Filler, reinforcement mat/fabric and smoothing liquid are supplied separately.

CONSUMPTION

Layer	Thickness mils (μ m)	Coverage
PRIMER on steel	2-5 (50-125)	250-300 ft ² /gal
PRIMER on concrete	2-5 (50-125)	160-200 ft ² /gal

CONSUMPTION

Layer	Thickness mils (µm)	Coverage (mix ratio)
BASECOAT TOPLINE 640 CP Resin & Hardener No.2 Clear C-1 Filler	60 (1500)	45-50 ft ² /gal (2.5-3.0 oz/gal of resin) 120 ft ² /50 lb bag (13-18 lb/gal of mixed resin)
REINFORCEMENT TOPLINE 640 CP Resin & Hardener No.2 Clear 1.5 oz. Mat or K Cloth	35 (875)	34-38 ft ² /gal (2.5-3.0 /gal of resin) 1.1 x surface area
TOPCOAT TOPLINE 640 CP Resin & Hardener No.2 Clear C-1 Filler	60 (1500)	45-50 ft ² /gal (2.5-3.0 oz/gal of resin) 120 ft ² /50 lb bag (13-18 lb/gal of mixed resin)

WORKING TIME & RECOAT TIME

Temperature	Working Time	Min Recoat	Max Recoat
50°F (10°C)	approx. 120 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 **TOPLINE 640 C** 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.

Technical Data	Testing Standard	Unit	Value
Density (unfilled)	ASTM D1475	lbs/gal (kg/l)	9.58 ±0.25 (1.15)
Compressive Strength	ASTM C579	psi (MPa)	11,000-13,000 (76-90)
Tensile Strength	ASTM D638	psi (MPa)	2500 – 3000 (17 – 20)
Adhesion Strength - Concrete	ASTM D7234	psi (N/mm ²)	Exceeds concrete strength
Minimum Adhesion Strength - Steel	ASTM D4541	psi (N/mm ²)	1000 (7)
Linear Coefficient of Thermal Expansion	ASTM C531	in/in°F (cm/cm°C)	14-17 x 10 ⁻⁶ (25-30 x 10 ⁻⁶)
Electrical Properties	ASTM F150	ohms	5,000 – 100,000
Water Vapor Permeability	ASTM E-96, Procedure E	perm-inch	0.002
Maximum Operating Temperature* Immersion Steel		°F °C	160 71
Immersion Concrete		°F °C	180 82
Splash/Spill Concrete		°F °C	220 104

*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.

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
TOPLINE 640 CP	1, 4, 50 gal kits
1.5 oz. Fiberglass Mat, K Cloth	Per sq.ft.
C-1 Filler	50 lb Bag
Soothing Liquid F-12	1, 5 gal

STORAGE

The materials must be stored in a cool and dry place. Shelf life at 70°F (21°C) is as follows:

COROFLAKE N PRIMER U Resin 6 months
TOPLINE 640 CP Resin 6 months
Hardener No. 1 & Hardener No. 2 Clear 12 months
C-1 Filler, 1.5 oz. Mat, K Cloth Indefinite, if kept dry

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.

RCC Corrosion Control	TOPLINE 640 C	Revision: 05/31/2022
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