Product Data Sheet

RCC CORROSION CONTROL

COROCAST EN
Epoxy Novolac Polymer Concrete

PRODUCT DESCRIPTION
COROCAST EN is a three component, 100% solids Epoxy Novolac polymer concrete material used for new construction and repair of concrete structures.

POLYMER CONCRETE LAYERS COMPOSITION
The polymer concrete system consists of a primer (**COROFLAKE 67PS PRIMER**) and the mixture of **COROCAST EN Resin** and Hardener, **COROCAST PC Aggregate** and pea gravel. It can be used as a cast-in-place material or trowel applied mortar. When specified, **COROCAST EN** can be over-coated with compatible epoxy novolac coatings and lining systems from RCC Corrosion Control.

FIELDS OF APPLICATION
COROCAST EN has excellent chemical resistance to alkalis, salts, mineral acids including 98% sulfuric, and many other corrosive chemicals. It is designed to construct, rebuild or repair concrete structures including chemical process floors, truck loading pads, trenches, sumps, equipment pads, piers and curbs.

COROCAST EN can also be used to shop fabricate precast shapes to be delivered to site for installation.

FEATURES
- Excellent adhesion to concrete
- High compressive strength
- Versatile applications (cast, trowel, precast)
- Excellent chemical resistance
- Quick turnaround

CHEMICAL RESISTANCE
Information on the chemical resistance properties is available upon request.

SURFACE PRE-TREATMENT
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
- Mix and apply **COROFLAKE 67PS PRIMER** using a roller or brush. Allow the primer to cure.
- **COROCAST EN Resin** and **Hardener** are poured in to a clean container and mixed well for at least 2 minutes using a drill motor and a mixer with cross type blade or paddle whip at a low speed. Be sure to scrape the sides and bottom of container to ensure Hardener is uniformly mixed with the Resin.
- Pour **COROCAST EN Resin/Hardener** mixture into a mortar mixer. Add aggregate gradually. Mix only until aggregate is fully wetted. Mix at low speed, maximum 20 rpm.
- When casting the materials, ensure forms are sealed liquid tight. Forms should have wax or a release agent applied to assure the polymer concrete does not bond to the forms. Alternatively polyethylene or Mylar sheet can be used on forms.
- Pour mixed **COROCAST EN** into the form. Vibrate the material to release entrapped air.
- For flooring applications, wet prime the concrete with catalyzed **COROCAST EN Resin** then immediately screed the **COROCAST EN** mixture into place at the desired thickness. Finish the surface with a steel finishing trowel to achieve the required uniformity and surface texture.

Note: During application, shade the work area from direct or indirect sunlight whenever possible.

MIX RATIO
Mixing ratio of **COROFLAKE 67PS PRIMER Resin** to **Hardener No. 7** is 2:1 by volume. Mixing ratio of **COROCAST EN Resin** to **Hardener No. 14** is 1.43:1 by volume.

CONSUMPTION

Kit Size	1.2 ft³ (34 l)	2.4 ft³ (68 l)
COROCAST EN	166.8 lb (75.82 kg)	333.6 lb (151.64 kg)
COROCAST EN RESIN Hardener No. 14	1.07 gal (10.3 lb) 0.75 gal (6.5 lb)	2.15 gal (20.64 lb) 1.0 gal (8.62 lb) 0.5 gal (4.31 lb)
COROCAST PC Aggregate	2-50 lb bags	4-50 lb bags
Pea Gravel (3/8" x 3/16")	1-50 lb bag	2-50 lb bag

Typical Material Thickness	Theoretical Coverage
0.5 inch (13 mm)	24 sq.ft./ft³
1.0 inch (25 mm)	12 sq.ft./ft³
1.5 inch (38 mm)	8 sq.ft./ft³

WORKING TIME & RECOAT TIME

Temperature	Working Time	Min Recoat	Max Recoat
50°F (10°C)	approx. 80 min	16 hrs	14 days
70°F (21°C)	approx. 40 min	8 hrs	14 days
90°F (32°C)	approx. 20 min	4 hrs	7 days

CURE TIME (to place in service)

Temperature	Initial Set	Minimum Cure time
50°F (10°C)	8 hrs	5 days
70°F (21°C)	4 hrs	3 days
90°F (32°C)	2 hrs	2 days

COROCAST EN 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 67PS PRIMER	.75, 3, 15, 45 gal kits
COROCAST EN	1.2 ft^3, 2.4 ft^3 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 67PS PRIMER Resin 24 months
COROCAST EN Resin 24 months
Hardener No. 7 & Hardener No. 14 24 months
COROCAST PC AGGREGATE 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.

Technical Data	Testing Standard	Unit	Value
Generic Type			Epoxy Novolac
Density	ASTM D1475	lbs/ft^3 kg/m^3	139 2230
Adhesion Strength - Concrete	ASTM D7234	psi N/mm^2	Exceeds concrete strength
Compressive Strength	ASTM C579	psi MPa	12,000-15,000 83-103
Tensile Strength	ASTM D638	psi MPa	2000 13.8
Linear Coefficient of Thermal Expansion	ASTM C531	in/in°F (cm/cm°C)	15-17 x 10^{-6} (27-30 x 10^{-6})
Volatile Organic Compounds	EPA Method 24	g/L (lbs/gal)	62 (0.52)
Maximum Operating Temperature* (Depends on COROCAST design type and use) Constant Flow/Frequent Spill Occasional Splash/Spill		 °F (°C) °F (°C)	Design Type Range (Cast, Trowel, Precast) 140-160 (60-71) 180-220 (82-104)

*** 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.