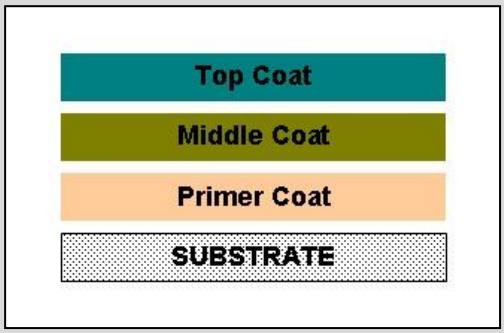
Protecto-Corogard

Anti Corrosion Coating System



DATASHEET

Protecto-Corogard System

Anti Corrosion Coating System

Specially developed for chemical, pharmaceutical, plastic, textile, cement & allied industries

► Description:

● Protecto-Corogard System (a proven anti-corrosion coating system) consists of hi-performance Polyurethane and Epoxy based protective coatings containing unique organo metallic ingredient. It is specially designed to protect a wide range of substrates from corrosive solids, liquids and gases.

● Protecto-Corogard System provides excellent adhesion and unmatched scratch & corrosion resistance, which makes it ideally suited for protecting plant, machinery and equipment. It also protects steel reinforcement rods, metal pipes and tubes and aluminium extrusions.

● Environmental pollution due to nitrates and sulphates from vehicular emission has a highly corrosive effect on steel and concrete structures. This is further compounded by sodium chloride in the air especially in coastal regions. Protecto-Corogard can effectively guard against such factors responsible for premature collapse of RCC structures such as buildings, flyovers, bridges, water tanks, etc.

► Salient Features:

- **Outstanding Corrosion Resistance**
  It is resistant to various substances as illustrated in Table 1.
- **Excellent Adhesion**
  Protecto-Corogard strongly bonds to steel, aluminium, copper, brass, concrete, FRP and wood. Resists peeling off from the substrate even in severe environment.
- **Excellent Scratch and Abrasion Resistance**
  It withstands a high level of physical wear and tear as shown in Table 2.
- **Good Elasticity**
  Protecto-Corogard is elastic and withstands expansion and contraction of the substrate without cracking.
- **Excellent Ultraviolet Resistance**
  Protecto-Corogard easily withstands ultraviolet rays when exposed to sunlight.
- **Excellent Antifungal Properties**
  Protecto-Corogard is highly resistant to fungal and microbial attack.
- **Good Temperature Resistance**
  Protecto-Corogard can withstand variations in temperature from - 25°C to 130°C.
- **Good Aesthetics**
  It comes in a wide range of colours and with a choice of glossy or matt finish. It can also be provided with an aluminized (silver) or Coal Tar (black) topcoat.

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► Uses:

- **Chemical & Fertilizer Plants, Refineries**
  Protective coatings for vessels, tanks, pumps, pipelines, process equipment, prilling towers and drainage lines.

- **Pharmaceutical Plants**
  Protective coatings for steel structures, pipelines, tanks, vessels, concrete and cement plastered surfaces.

- **Thermal Power Plants, Concrete Buildings & Bridges**
  Protective coatings for reinforcement rods, concrete surfaces and cement plastered facades.

- **Paper & Sugar Industry**
  Concrete tanks used for storage of paper pulp, molasses tanks and steel structures.

- **Plastic & textile Industry**
  Plant and equipment

- **T.V & Microwave Transmission Towers**

- **Under-Carriages of Cars, Trucks and Railway Coaches**

► Applications:

Basic Guideline

√ Protecto-Corogard System consists of a series of two component coatings, each having a Component A and a Component B
√ Component A in Polyurethane based coatings are identified as Protecto-Corogard 10 (for indoor) and Protecto-Corogard 10G (for outdoor)
√ Component B in Polyurethane coatings are identified as Protecto-Corogard 20, 30, 30AL, 30CT, 40 and 50
√ Component A in Epoxy based coating is identified as Protecto-Corogard IC-20A
√ Component B in Epoxy based coating is identified as Protecto-Corogard IC-20B

APPLICATION ON METALS

Surface Preparation: The surface is cleaned of oil, dirt and grease by means of solvents or emulsifiers. Rust and scales are removed by mechanical means like scrapping, wire brushing and rubbing with emery paper. Sand or grit blasting is used wherever possible to obtain a completely clean surface. Chemical methods using phosphating chemicals, rust convertors, etc. may also be used. Immediately after cleaning the surface a primer coat is applied.

Primer Coat: The primer coat, which protects the substrate, is available in a choice of anticorrosive pigments such as zinc phosphate, zinc chromate and red oxide. For highly corrosive environment, a zinc rich primer is recommended. Protecto-Corogard 10 and Protecto-Corogard 40 are mixed thoroughly and applied evenly by brush or spray. Details of the primer coat are given in Table 3.

Intermediate Coat: The primer coat is allowed to dry for 2-3 hours before applying the next coat comprising special high build Protecto-Corogard IC 20A+20B coatings. This layer has high barrier properties against corrosive gases and liquids. Two intermediate coats are recommended for highly corrosive areas.

Top Coat: The intermediate coat is allowed to dry for 4-5 hours. A UV resistant topcoat is then applied over it. Details of the matt and glossy topcoat finishes are given in Table 3.

APPLICATION ON CONCRETE

Dirt and grease deposits are removed from the concrete surface by wire brushing and solvent/detergent cleaning. An acid wash using 5-10% hydrochloric acid is then given followed by thorough washing with large quantities of water. The surface is allowed to dry thoroughly. Small cracks and depressions in the concrete surface are filled up with a paste made by adding silica or talc to a mixture of Protecto-Corogard 10 and Protecto-Corogard 30. Three coats of Protecto-Corogard mixture (glossy or matt) are applied by brush or spray, keeping a gap of 2-3 hours in between coats. Details of these coats are given in Table 3.

APPLICATION ON FRP AND WOOD

The surface is thoroughly cleaned and leveled with compatible leveling compound or with a putty made by adding silica or talc to a mixture of Protecto-Corogard 10 and Protecto-Corogard 30. Smoothen the surface with emery paper. Two or three coats of Protecto-Corogard mixture (glossy or matt) are applied by brush or spray keeping a gap of 2-3 hours in between coats. Details of these coats are given in Table 1.

Table 1

TYPE OF COAT	Component A	Component B	Mixing Ratio by wt.	Colour
Primer Coat	Protecto-Corogard 10	Protecto-Corogard 40	1:4	White
Intermediate Coat	Protecto-Corogard IC20A	Protecto-Corogard IC20B		Brown
Transparent Topcoat	Protecto-Corogard 10	Protecto-Corogard 20	1:4	Clear
Coloured Topcoat (matt)	Protecto-Corogard 10	Protecto-Corogard 30	1:4	Range of Colour shades
Coloured Topcoat (glossy)	Protecto-Corogard 10	Protecto-Corogard 50	1:4	Range of colour shades
Aluminized Top coat (reflective)	Protecto-Corogard 10	Protecto-Corogard 30AL	1:4	Silvery shade
Coal Tar modified Topcoat	Protecto-Corogard 10	Protecto-Corogard 30CT	1:4	Black

Note: Protecto-Corogard 10G to be used in place of Protecto-Corogard 10 for outdoor applications

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► Storage & Precautions:

Protecto-Corogard should be stored in a cool and dry area. It can be stored for 6 months in its original, unopened container. Material from tin cans should be completely used up immediately after opening the can. Metal drums should be re-closed immediately after use. Protecto-Corogard may cause irritation to eyes, skin and mucous membrane, and is harmful if swallowed. While handling, all contact with eyes, skin and clothes should be avoided. Implements used for application of Protecto-Corogard should be cleaned with xylene or toluene

► Properties:

CHEMICAL PROPERTIES

Test results obtained by immersing steel panels coated with Protecto-Corogard in chemical for 7/14 days (Test carried out by Dept. of Chemical Technology, University of Bombay).

Table 2

CHEMICALS	OBSERVATION	CHEMICALS	OBSERVATION
Hydrochloric Acid (15%)	No effect was observed	Sodium Hydroxide -30%	No effect was observed
Sulphuric Acid (30%)	No effect was observed	Xylene	No effect was observed
Phosphoric Acid (30%)	No effect was observed	Sea Water	No effect was observed
Nitric Acid (5%)	No effect was observed	Petrol	No effect was observed
Acetic Acid (10%)	No effect was observed	Gear Oil, Lubricating Oil	No effect was observed
Urea (15% Solution)	No effect was observed	Kerosene	No effect was observed

PHYSICAL PROPERTIES

Table 3

Colour	Wide range of colours
Typical mixing ratio	1:4 by weight
Pot Life	2-3 hours at 25ºC
Touch Dry Time	10 minutes at 25ºC
Hard Dry Time	3 - 4 hours
Full Curing Period	3 - 4 days
Scratch Hardness	Above 3000 gm
Temperature Range	-20ºC to 120ºC
Adhesion	Excellent on mild steel, concrete, wood and FRP
Abrasion Resistance	0.08gm/1000 cycles at 1 kg load
Shelf Life	6 months
Packing Size	1/4 kg, 1/2 kg, 1 kg, 4 kg, and 20 kg.