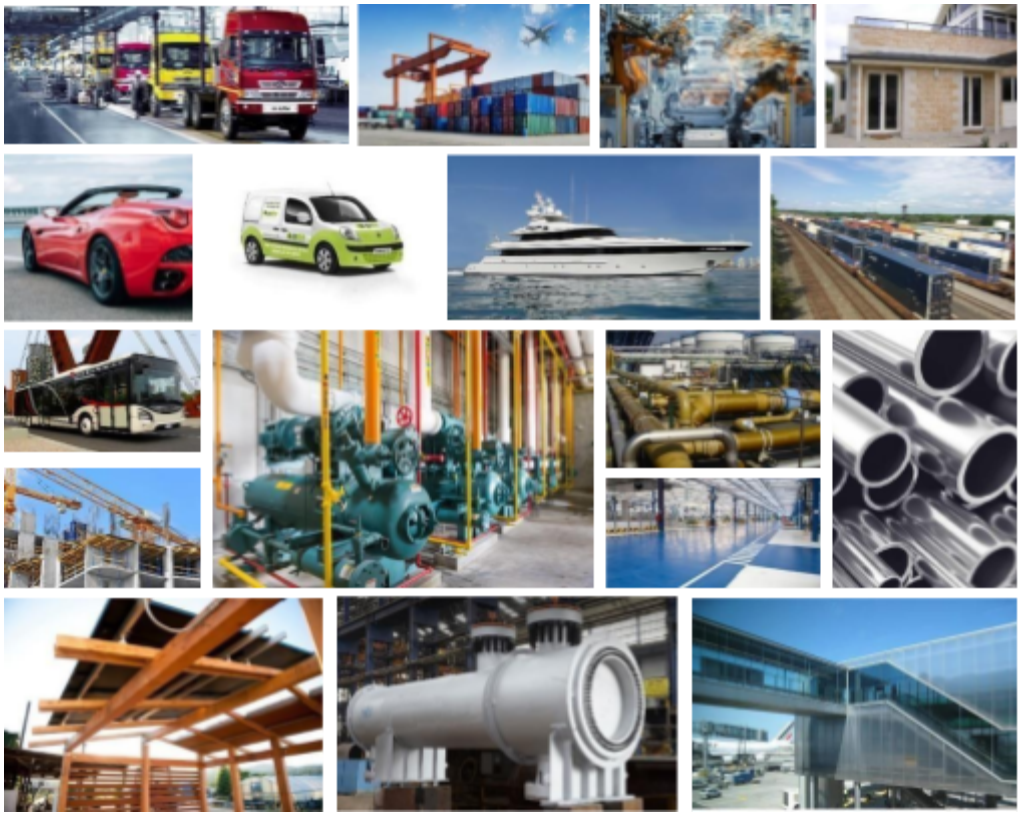
WINONE
Product Technologies

WINONE Corogard

ANTI CORROSION COATING SYSTEM

TECHNICAL DATA SHEET



DESCRIPTION:

● Winone Corogard is a two component Polyurethane based protective coating system with a unique organometallic ingredient. It is specially designed to protect a wide range of substrates from grease, acids, alkalis, coolants and other chemicals.
● Winone Corogard's excellent adhesion and unmatched scratch and corrosion resistance makes it ideally suited for protecting machinery and equipment in chemical, plastic, textile, cement and marine industries. 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. Winone Corogard can effectively guard against such factors and prevent premature collapse of RCC structures such as buildings, flyovers, bridges, water tanks, etc.

COATING SYSTEM

►SALIENT FEATURES:

● **Outstanding Corrosion Resistance**
It is resistant to various substances as illustrated in Table 1.
● **Excellent Adhesion**
Winone Corogard strongly bonds to steel, aluminium, copper, brass, concrete, FRP and wood and will not peel 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**
Winone Corogard is very elastic and withstands expansion and contraction of the substrate without cracking.
● **Excellent Ultraviolet Resistance**
Winone Corogard easily withstands ultraviolet rays when exposed to sunlight.
● **Excellent Antifungal Properties**
Winone Corogard is highly resistant to fungal and microbial attack.
● **Good Temperature Resistance**
Winone 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.

►USES:

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

● **Refineries**
Storage tanks, columns, condensers, vessels, pipelines, tankers, etc.
● **Thermal Power Plants, Concrete Buildings & Bridges**
Protective coatings for reinforcement rods, concrete surfaces and cement plastered facades.
● **Marine Industry**
Off shore oil drilling rigs, marine installations, ships and boats.
● **Machinery Protection**
Plastics, Rubber, Textile and Printing Machinery, heavy machinery, cranes, earth moving equipment, cement mixers, tractors, etc.
● **Paper & Sugar Industry**
Concrete tanks used for storage of paper pulp, molasses tanks and steel structures.
● **Electroplating Plants**
● **Metal Furniture & Equipment**
● **T.V & Microwave Transmission Towers**
● **Under - Carriages of Cars and Railway Coaches**
● **Concrete Industrial Floors**
● **Wooden Furniture and Articles**
Waterproof and scratch resistant decorative coatings.
● **Brass, Bronze And Copper Articles**
Transparent protective coatings to preserve aesthetics.
● **Aluminium Window and Door Sections**
Ideal substitute for power coating.

►APPLICATIONS:

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. Winone Corogard 10 and Winone Corogard 40 are mixed thoroughly and applied evenly by brush or spray. Details of the primer coat are given in Table 3.

TOPCOAT: The primer coat is allowed to dry for 2-3 hours. Two topcoats are then applied over it keeping a gap of 2-3 hours between the coats. Details of the matt, glossy or coal tar modified (for underground structures) 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 Winone Corogard 10 and Winone Corogard 30. Three coats of Winone 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 F.R.P. 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 Winone Corogard 10 and Winone Corogard 30. Smoothen the surface with emery paper. Two or three coats of Winone 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

Note: Use Winone Corogard 10G in place of Winone Corogard 10 for outdoor applications.

TYPE OF COAT	Winone Corogard COMPONENTS TO BE USED	MIXING RATIO BY WEIGHT	COLOUR
Primer Coat	Winone Corogard 10: Winone Corogard 40	1:4	Zinc rich-greenish yellow/grey
Transparent Topcoat	Winone Corogard 10: Winone Corogard 20	1:4	Clear, water like
Coloured Topcoat (matt)	Winone Corogard 10:Winone Corogard 30	1:4	Wide range of colour shades
Coloured Topcoat (glossy)	Winone Corogard 10:Winone Corogard 50	1:4	Wide range of colour shades
Aluminized Top coat (reflective)	Winone Corogard 10:Winone Corogard 30AL	1:4	Silvery
Coat Tar modified Topcoat	Winone Corogard 10:Winone Corogard 30CT	1:4	B lack

►PROPERTIES:

CHEMICAL PROPERTIES

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

Table 2

CHEMICALS	OBSERVATION
Hydrochloric Acid (15%)	No effect was observed
Sulphuric Acid (30%)	No effect was observed
Phosphoric Acid (30%)	No effect was observed
Nitric Acid (5%)	No. effect was observed
Acetic Acid (10%)	No effect was observed
Sodium Hydroxide (30%)	No effect was observed
Xylene	No effect was observed
SeaWater	No effect was observed
Petrol	No effect was observed
Gear Oil	No effect was observed
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
Mixing ratio	1:4 by weight
Pot Life	3-4 hours at 25ºC
Touch Dry Time	10 minutes at 25ºC
Hard Dry Time	3 - 4 hours
Full Curing Period	3 - 4 days
Coverage	100 sq.ft/kg/coat
Dry film Thickness	30 - 40 microns/coat
Scratch Hardness	Above 3000 gm
Temperature Range	-25ºC to 130ºC
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.

m

►STORAGE & PRECAUTIONS:

Winone 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. Winone 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 Winone Corogard should be cleaned with Xylene or Toluene.

Winone Corogard formulations are subject to strict quality control, innovations and improvements to comply with our high standards. The above information is given on the basis of our best knowledge and information and is for your guidance only. Specifications, however, are subject to change and no guarantee is given or implied.