

ShieldTop ST170

High Solids Epoxy Coating

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Product Description

ShieldTop ST170 is a high solids epoxy coating. Its main properties are:

- ✓ High performance self-priming universal epoxy
- ✓ Excellent adhesion to steel, concrete, aluminium, galvanizing, and ceramic
- ✓ On rusted areas, can be applied over mechanically cleaned steel
- ✓ Compatible and with excellent adhesion to a wide range of paints
- ✓ Can be applied over mechanically cleaned steel and suitable prepared concrete
- ✓ Tolerant to slightly damp surfaces
- ✓ If required ShieldTop ST170 can be overcoated with a wide range of topcoats
- ✓ Applicable on surfaces treated with Water Jetting (Water jet to high pressure) according to Norm NACE n°7/SSPC-VIS-4(I)
- ✓ Excellent application characteristics
- ✓ Colors available on ICS tintometric system (Industrial Coatings Solutions).

Intended Uses

Specially formulated as a high-performance coating on steel and concrete surfaces in industrial facilities, bridges, tank exteriors, containers, oil tanks, piping, roofs, and other areas subject to moisture, high humidity, marine weathering, and other exposure.

ShieldTop ST170 can be used as a topcoat (the color can change under exposure to sunlight).

Contact with Customer Service for specific recommendations.

Properties

Finish	Satin			
Color	RAL and BS colors			
Components	2			
Mixing Ratio (volume)	Resin 7N-171	1 part		
	Cure 7N-172	1 part		
	Cure FD 7N-176	1 part		
Pot Life		10°C	20°C	30°C
	Normal drying – 7N170	4h	2h	1h
	Fast drying FD – 7N175	3h	1.5h	45min
Volume Solids	92 % (ISO 3233) Slight variations (±3 %) may occur due to color and testing variances.			
Specific Weight	1.44 g/mL			
Dry Film Thickness	100 - 500 µm per coat			
Number of Coats	1 – 2			
	Uniform appearance may require two coats of ShieldTop ST170 in a light colour on tanks and other large structures over contrasting primers or intermediate coats. Use only a light-colored primer or intermediate coat when one finish coat of ShieldTop ST170 in a light colour is specified.			
Application Method	Airless or conventional spray, brush, and roller. Touch up of small areas can be made by brush or roller.			

Recommended theoretical coverage	1.84 m ² /L at 500µm Allow for application losses, surface irregularities, etc.
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Temperature resistance (dry heat)	Temperature (dry heat)	
	Continuous exposition	120 °C
	Intermittent exposition	175 °C

At 125 µm:			
Normal drying – 7N170	30°C	20°C	10°C
To Touch	2h	4h	18h
Dry through	4h	15h	35h
Curing time	3 days	5 days	16 days
Recoat (min)	3h	15h	35h
Recoat (max)	Extended*		

Drying Times

Fast drying FD – 7N175	30°C	20°C	10°C
To Touch	30 min	3h	8h
Dry through	3h	7h	20h
Curing time	1 days	4 days	7 days
Recoat (min)	2h	9h	18h
Recoat (max)	Extended*		

Drying times are dependent on temperature, ventilation and film thickness.

* The maximum recoating intervals would be lower depending on the environmental conditions in which the painted surface was or will be exposed, and the nature of the coat to apply, so, it may be necessary to give roughness to the substrate before the recoating.

Chemical Resistance	It has good resistance to splash, spillages, acid fumes, alkalis, solvents, salt, and fresh water.
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Paint Systems

Intermediate and finish coats: Epoxy coatings, modified epoxy, and polyurethanes. Can be used acrylic and chlorinated rubber topcoats, too.

Surface Preparation

Coatings performance in general, is proportional to the degree of surface preparation.

Steel:

Abrasive blasting is usually the most effective and economical method. It is possible to apply on surfaces treated with water jet to high pressure:

- Water Jetting according to Norm NACE n°7/SSPC-VIS-4(I).
- Abrasive wet blasting according to SSPC VIS 5 /NACE VIS 9 to minimum degree CWAB-6 DWAB-6 (equivalent to Sa 2), advisable CWAB-10 DWB-10 (equivalent to Sa 2 1/2).

For circumstances where this is impossible or impractical, ShieldTop ST170 has been developed.

ShieldTop ST170 can be applied over mechanically cleaned surfaces. Remove all loose rust, dirt, oil and grease or other contaminants from the surface. Power tool clean in accordance with St3 or hand tool clean in accordance with St2. Water blasting is also acceptable. If possible, abrasive blasting is preferred. ShieldTop ST170 can be applied over damp substrates.

Concrete:

Surfaces must be cured, clean, dry, and free of non-adherent coatings and disintegrated or chalky materials.

Existing Coatings:

ShieldTop ST170 may be used over most types of properly cleaned tightly adhering coatings. In case existing coating system is unknown or based on conventional binders a test patch is recommended.

Galvanizing and Aluminum Surfaces:

Remove any oil soap film with the cleaner. Treat surface in accordance with a lightly blast with fine abrasive.

Ceramic:

Remove any oil soap with the cleaner.

Application

To prepare ShieldTop ST170, add Cure to Resin solution and stir material for 5 minutes. In order to prepare ShieldTop ST170, add Cure FD to Resin solution and stir material for 5 minutes. In confined areas ventilate with clean air during application and drying until solvents are removed.

Room conditions:

- Air Temperature : 5 - 50°C
- Relative humidity : < 85%
- Minimum surface temp. : 3°C above dew point

Application equipment:

- Conventional spray : Recommended
Fluid tip orifice size : 0.086 – 0.125 inches (2.18 – 3.17 mm)
Air pressure : 5.3 – 7.0 kg/cm²
Fluid pressure : 1.7 – 3.5 kg/cm²
Thinning : 5 – 10 %
- Airless spray : Recommended
Fluid tip orifice size : 0.021 – 0.025 inches (0.53 – 0.63 mm)
Fluid pump : 30:1 – 45:1
Fluid pressure : 160 – 180 kg/cm²
Thinning : 0
- Brushing/Roller : Recommended
Thinning : 0 – 5 %
- Thinner : 7Q-100 (C-Pox Thinner); 7S-902 (Dil. CP-40)
- Cleaner : 7Q-100 (C-Pox Thinner); 7S-902 (Dil. CP-40)

Homologations and Certificates

ShieldTop ST170 is certified by PEMEX according to standard NRF 053 RA- 26 Modified. SANS D 241 approval for food contact and potable water.

Additional Information

Curing Mechanism – By solvent release and reaction between components

Volatile Organic Compounds (VOC)

EU limit for this product (cat. A/I): 500 g/L

This product contains max. 288 g/L COV. (TVOCC: 22 % *)

This product contains max. (with cure FD) 308 g/L COV (TVOCC: 22 %)

Supplying form: < 230 g/L (TVOC: < 17 %)

Supplying form (with cure FD): < 252 g/L (TVOC: < 17 %)

VOC Resin: 41 g/L (TVOC: 3 %)

VOC Cure: 299 g/L (TVOC: 22 %)

VOC Cure FD: 407 g/L (TVOC: 29 %)

VOC Thinner 7Q-100: 839 g/L (TVOC: 100 %)

VOC Thinner 7S-902: 863 g/L (TVOC: 100 %)

VOC Cleaner 7Q-100: 839 g/L (TVOC: 100 %)

VOC Cleaner 7S-902: 863 g/L (TVOC: 100 %)

*) The VOC value shown above refers to a ready for use product, as tinted, thinned, etc in accordance with our recommendations. We are not responsible for products obtained by mixing products with are different from those we have recommended, and we must draw attention to the responsibility of anyone involved within the supply chain not to infringe Directive 2004/12/CE.

Flashpoint (Closed Container)

- Resin : 80 °C
- Cure : 16 °C
- Cure FD : 16 °C
- Thinner 7Q-100 : 25 °C
- Thinner 7S-902 : 16 °C
- Cleaner 7Q-100 : 25 °C
- Cleaner 7S-902 : 16 °C

Packaging

- Resin : 10L and 2L
- Cure : 10L and 2L
- Cure FD : 10L

Storage

Stored indoors in original containers at 5 to 40 °C.

- Resin : 2 years
- Cure : 2 years
- Cure FD : 1 year

Health, Safety, and the Environment

Protect the eyes and skin from contact, gloves, goggles, and appropriate clothing should be worn. Keep out of the reach of children. Use only in well ventilated areas. Do not empty into drains. Keep the container properly sealed and stored in the correct place. Take correct measures when transporting the product to avoid any accidents that could rupture the can or cause damage to the packaging.

Ensure that the container is correctly stacked in a safe area. Do not store or use the product in extreme temperature conditions. Always take account of the appropriate legislation relating to the environmental and Health and Safety at Work.

For more information it is essential to read the label on the container and the product MATERIAL SAFETY DATA SHEET of this product, its components and all complementary products referred on Technical Data Sheet.

DISCLAIMER

The information provided herein, especially recommendations for the usage and the application of our products, is based upon our knowledge and experience. Due to different materials and equipment used, as well as varying working conditions and environments beyond our control we strictly recommend carrying out intensive trials to test the suitability of our products regarding the required processes and applications. This data sheet is provided free of charge, and we do not accept any liability regarding the above information or regarding any verbal recommendation, except for cases where we are liable of gross negligence or false intention.