ShaliPoxy® CTE 303

2K Anti-corrosive / Protective Flexible Coal Tar Epoxy Coating

STP Limited

Description

ShaliPoxy® CTE 303 is a two-component, epoxy resin system modified with coal tar. The combination of epoxy resin with coal tar enables the product to use as a high performance protective coating for steel and concrete surfaces. It can be used direct to metal (DTM) application, without any requirement of primer. The coating is capable of giving 270 - 330 Microns DFT in single coat when applied wet-on-wet basis as per recommended coverage.

Approvals / Standards

AWWA C-210: 2015 and SSPC Paint 16.

Product Information

Form, Colour, Mixing Ratio	Black, two component coal tar epoxy coating with mixing ratio of Component A : Component B = 3 : 1 (v/v) and 78:22 (w/w)
Handling & Storage	Store under cover out of direct sunlight and protect from extremes of temperature. In tropical climates the product must be stored in an air conditioned environment. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.
Packaging	Available in 20 L unit pack comprising 15 L of Comp A & 5 L of Comp B. Also available in 28.4 Kg unit pack comprising 22.2 Kg of Comp A & 6.2 Kg of Comp B.
Shelf Life	12 months from the date of manufacture when maintain in protected storage in original unopened sealed condition at 5 - 38°C.
Handling Precautions	As with all chemical products, care should be taken during use and storage to avoid contact with eyes mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use.

Technical Characteristics at 27°C, 55% RH

Property	Method	Result
Recommended Wet Film Thickness / coat, µ	ASTM D 4414	350 - 420
DFT @ theoretical coverage 2.5 m² / L, µ / coat ** or @ theoretical coverage of 0.56 - 0.60 kg / m² / coat**	IS 101	300 ± 30
Volume Solids, %	ASTM D 2697	75 ± 3
Scratch Resistance	ASTM G 171	Up to 4 kg
Elongation, %	ASTM D 638	> 30
Tensile Strength, MPa	ASTM D 638	> 3.5
Shore A Hardness, after 7 days	ASTM D 2240	75 ± 5
Density, gm / cc of mix	ASTM D 1475	1.44 ± 0.03
Flash Point, °C • Component A • Component B	 ASTM D 93 ASTM D 93	 > 30 > 30
Pot Life, hrs., 100 grams of mix	ASTM D 2471	3 - 4
Adhesion Pull-off, MPa on steel	ASTM D 4541	6 - 8
Resistance to Micro-organisms	ASTM G 21	Passes
Flexibility	ASTM D 522	1/8" Passes
Weather-ability test, 1000 hrs. QUV	ASTM G154	No damage
Immersion test, 30 days DIW • 1% H_2SO_4 • 1% NaOH	AWWA C-210	No blistering / peeling / disbonding
Salt Spray, 500 hrs., @ 300 microns DFT	ASTM B 117	Passes
Water Resistance, Immersion 7 days	ASTM D 870	Passes
Abrasion Resistance 1000 cycles, CS 17, mg loss	ASTM D 4060	115 ±10
Dielectric strength, V / mil	AWWA C 210	>250
Cathodic Disbondment, 30 days, mm	AWWA C 210	<10

**** Depends upon surface condition, ambient condition, loss factor during application**

Application Temperature, °C				Resistance Temperature***, °C		
Condition	**Application**	**Surface**	**Ambient**	**Conditional**	**Continuous**	**Occasional**
Minimum	10	10	10	High	95	120
Maximum	49	50	41	Low	-10	-25

*****Occasional temperature duration is 1 hour maximum and the temperatures listed relate to the retention of protective properties. Aesthetic properties may suffer at these temperatures.**

Curing Schedule				
Temperature	**Touch Dry, hrs.**	**Recoat, hrs.**		**Full Cure, Days**
		Minimum	**Maximum**	
10°C (50 °F)	10	12	48	15
30°C (86 °F)	4	8	30	7
50°C (122 °F)	1	3	24	3

Field of Application

Corrosion resistant coating for concrete and metal structures such as:

- Crude oil storage tanks / underground structures
- Dams, Barrage gates, Penstocks
- Foundation walls and sumps
- sewage treatment plant, underground pipelines
- Splash zones in docks & harbors

ShaliPoxy® CTE 303 is not recommended for surfaces in contact with potable water and other food stuffs.

Advantages

- Application friendly formulation helps in easy application by brush or airless spray.
- Flexible anti-corrosive / preventive coating for structures - MS or concrete - even where the structure is in continuous contact with water.
- Provides excellent resistance to corrosion, impact, thermal shock and abrasion.
- Cures to a hard, smooth and flexible surface with excellent resistance to sea / salt water, oil, acids, alkalis, crude oil and minerals.
- Compatible with cathodic protection.

Application Information

- ✓ **Substrate Temperature** - +10°C Min / +40°C Max
- ✓ **Ambient Temperature** - +10°C Min / +40°C Max
- ✓ **Substrate Moisture Content** - < 5%

Application Methodology

➢ Surface Preparation

- Steel blast cleaned to ISO-Sa 2½ and remove dust, flakes, oil, grease or other loose foreign particles. Application of **ShaliPoxy® CTE 303** should be straight after steel preparation to prevent surface rusting.
- In case of new concrete, ensure the concrete is at least 28 days old and remove any loose foreign particles by compressed air.
- Ensure the ambient temperature is not less than 10°C and not more than 40°C at the time of coating.
- To avoid condensation of moisture onto the coating substrate prior to application, RH should not be above 80% and substrate temperature should be at least more than 3°C above Dew point.

➢ Material Preparation

- Stir drums of each component of **ShaliPoxy® CTE 303** thoroughly to a homogenous and uniform mix with a slow speed stirrer fitted with a suitable mixing paddle.
- Combine Component A and B in a suitably sized container.
- Mix properly for 3 - 5 minutes with a slow speed stirrer until a homogeneous colour is achieved. Keep the paddle below the surface to avoid entrapping air. **Do not mix by hand**.
- The temperature of the mixed base and hardener should preferably be more than 12°C, otherwise extra thinner may be required to obtain application viscosity.
- Thinner addition results in reduced sag resistance, volume solid and DFT.

➢ Application of Material

- Apply **ShaliPoxy® CTE 303** direct to metal immediately after blasting or prime surface with any epoxy primer. For better result, we recommend **ShaliPrime CT** / **ShaliPrime Zn Ph 60**. Allow the primer to touch dry.
- Apply first coat of **ShaliPoxy® CTE 303** on the prepared surface by brush / roller /spray.
- Allow it to touch dry as per our technical data sheet (depending on ambient condition).
- The 2nd coat, if required should be applied only after the first coat has dried (4 - 7 hours) at 30°C. If the application of the 2nd coat is delayed by 16 hours, abrade the previous coat to give an adequate mechanical key and wipe with a suitable solvent before application.
- In case of airless spray, use standard equipment having pump ratio of 70:1 or higher, tip size of 0.99 mm and tip pressure 250 - 290 kg / cm^2.
- We advise to use spray machine of the above specification but for application ease and ultimate DFT, 1 - 5 % STP Thinner can be added.

Precautions

- Multiple coats may be required in order to have high dry film thickness.
- Common to all epoxies, this product will be subjected to chalking on prolonged exposure to sunlight. However, this phenomenon is not malefic to coating performance.
- Exposure to very low temperature, high humidity, rain, water ponding during and after application may lead to incomplete curing and the above mentioned coating properties may not be achieved.
- Additional losses, wastage, surface profile, ambient conditions should also be taken into consideration while correlating paint consumption and achieved DFT in case of field application.

Value base of product data

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control and different test methods.

Health and Safety information

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent **Material Safety Data Sheet**.

- **This product contains coal tar.** Avoid contact with eyes and skin.
- Wear suitable protective clothing such as overalls, goggles, dust mask and gloves. Ensure that there is adequate ventilation in the area where the product is being applied.
- Do not breathe in vapour or spray mist.
- This product is flammable.
- Keep away from sources of ignition.
- Take precautionary measures against static discharge.
- In case of fire, blanket flames with foam, carbon dioxide or dry chemicals.
- Eye protection during application is recommended.
- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- In case of skin contact, wash with soap and plenty of water. Get medical attention if irritation develops or persists.

Cleaning & Maintenance

Clean all tools immediately after use with STP Thinner only. Do not allow the material to harden.

STP Limited

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