

ShaliEnamel

Coal Tar Enamel For Pipe Coating



STP Limited

Description

ShaliEnamel (formerly known as Coal-tar Enamel Type 1 Plasticised Pitch) is hot pour coal tar enamel coating prepared by digesting bituminous coal in a solution of pitch and high boiling coal tar distillate modified by inert mineral filler.

It conforms to BS 4164, Grade 105/8, BS 120/5 and AWWA C-203, Type 1.

Characteristics

Please see Annexure 1 attached herewith.

Application

Corrosion protection of pipes for carrying crude, liquid or gases by coating pipes.

Advantages

- Excellent adhesion to metal, high electrical resistivity, good flexibility, temperature susceptibility and chemical stability.
- Resistant to bacteria / marine organisms, root growth, back fill damage, petroleum products and water.
- Cathodic disbonding resistivity.

Application Methodology

- Depending upon the size of the melting kettle, cut **ShaliEnamel** into small pieces of approximately 1 to 5 kg each.
- Fill the kettle up to 40% of its capacity.
- Begin heating till the application temperature is attained. During heating, slowly add balance material upon reaching fluidity.
- Stir occasionally to avoid carbonisation at the bottom of the kettle. This will prevent coking of the material and save considerably on fuel.
- Consume the heated **ShaliEnamel** within 3 hrs once the application temperature is reached. Reject enamel held at the application temperature for more than 3 hrs, if it is found off specification.
- Ensure enamel remaining in the kettle on reheating does not exceed 10% of fresh charge.
- Resist the maximum temperature of the kettle to 260 °C. Reject enamel above this temperature.
- In the event of Plant breakdown, or any other reason, put off burner and bring down the enamel temperature to 180°C or lower keeping agitator on for a period not exceeding 8 hrs.
- Apply **ShaliEnamel** on cleaned and primed external pipe surface when metal temperature is above 7 °C to ensure that the pipe is free from dust, dirt, oil and moisture.

Health & Safety

- Use goggles, mask, nose cover and hand gloves during application
- Clean hands with warm soap water after application

Packing

Available in 250 kg drum.

Storage

Keep in cool and dry place, under shed, away from heat.

Annexure - A

	Gr BS 105/8	Gr BS 120/5	Gr AWWA Ty-1
Filler content by ignition, % by mass	25 – 35	25 – 35	25 – 35
Density at 25 °C, g/cm ³	1.40 – 1.60	1.40 – 1.60	1.40 – 1.60
Softening Point (ring and ball, °C	105 – 116	120 - 130	104 – 116
Penetration (total moving mass), 10 ⁻¹ mm • 25 °C, 100 g • 45 °C, 50 g	5 – 12 8 – 30	1 – 9 3 – 16	5 – 10 12 – 30
Flow time, seconds • 230 °C • 240 °C	9 – 16 -	- 9 – 24	- -
Sag, Max, 24 hrs, Max, mm • 70 °C • 80 °C	1.50 -	- 1.50	1.6 @ 70 °C -
Low temperature cracking and disbanding • -25 °C • -20 °C	None -	- None	- None @ -23.3 °C
Bend at 0 °C First crack, min, mm • Initial • After heating Disbonded area, max, mm ² • Initial • After heating	15 10 3000 5000	- - - -	- - - -
Impact, 25 °C, max, mm ² disbanding area • Direct • Indirect	10000 -	- -	10323 3871
Peel, Initial & Delayed, max, mm • 40 °C • 50 °C • 60 °C • 70 °C	3.0 3.0 3.0 -	- - 3.0 3.0	No peeling @ 27 °C, 38 °C 49 °C, 60 °C & 71 °C
Cathodic disbanding in 28 days, max, mm	5	5	-
Electrical resistance, 10000 volts / mm	No breakdown	No breakdown	No breakdown
Recommended application temperature, °C	235 – 250	235 – 255	235 – 250
Recommended pipe surface profile, microns	65 – 100	65 – 100	65 – 100
Recommended DFT of synthetic primer, microns	15 – 30	15 – 30	15 – 30
Recommended pipe pre-heating temperature, °C	40 – 50	40 – 50	40 – 50
Recommended in service temperature, °C	-25 - +65	-5 - +80	-25 - +65

Note : BS 120/5 is produced in two sub-grades with penetration 1-9 or 7-9.



Advisory Cell
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