

REC COAT 678 SE

COAL TAR EXTENDED EPOXY RESIN COATING FOR STEEL AND CONCRETE SURFACES (SPECIALLY DESIGNED)

DESCRIPTION

REC COAT 678 SE is based on solvent-free epoxy resins, modified with coal tar. It is supplied as a two-pack material in pre weighed quantities ready for on-site mixing and use. **REC COAT 678 SE** is applied as a two-coat application. It is generally applied at a wet film thickness of 200 micron per coat, but can be applied at greater thicknesses to suit exposure conditions. **REC COAT 678 SE** is available in marine grade for applications necessitating biocidal and micro-biostatic effect.

PRIMARY APPLICATION

Provides chemical and abrasion resistance to prevent corrosion of concrete surfaces for applications such as:

- Seawater tanks, channels and intakes.
- Manhole linings.
- Sewage works and effluent plants.
- Chemical processing.
- Foundation waterproofing
- Jetties, piers and docks.

FEATURES/BENEFITS

- Low-cost service life - excellent chemical and abrasion resistance, does not support bacterial growth.
- Cost saving - primer less system.
- Added value system - acts as an impermeable waterproof coating.
- Versatile usage - can be applied to green concrete by brush, roller or spray.

TECHNICAL INFORMATION

Specification:

The corrosion resistant coating shall be of **REC COAT 678 SE**, a coal tar extended, 100% solids, epoxy resin coating. The coating shall possess a high-build capability, to facilitate varying application thicknesses. It shall further possess excellent bond and chemical resistance properties and shall comply to BS 7542 & ASTM C309 curing efficiency standards.

Properties:

Color	Black/Brown		
Form	Liquid		
Chemical base	Epoxy and Coal Tar		
Solids by weight @ 25°C	100%		
Specific gravity	1.54 at 27°C		
Pot life	°C	25	40
	Minutes	75	40
Tensile strength	16 N/M m ² (7 Days)		
Adhesion to Concrete	>2.5 N/M m ² (7 Days)		
Tack free time	2 to 3 hours at 35°C		
No of coats	2		
Wet film thickness per coat	200 microns		
Dry film thickness per coat	200 microns		
Over coating time	6 hours at 35°C 3 hours at 45°C		
Full cure	4 days at 35°C		

Foot traffic	36 Hours at 35°C
Curing Efficiency (BS 7542)	93%
Water Absorption (ASTM D570)	<0.01%
Impact Resistance (BS 3900 Pt E3)	Passed
Water Permeability (Long Term)	Nil @ 2 bar pressure over 3 months
Salt Spray Test	Nil @ 200 microns tested over 1000 hours
Chemical resistance	Tests were carried out in accordance with ASTM D543. Test was conducted at room temperature of 23°C and specimens were soaked in the solution for a period of 7 days.
Organic Acids: - Lactic Acid 10% - Oleic Acid- sol. - Citric Acid 25% - Vinegar sol.	- Excellent - Excellent - Excellent - Excellent
Inorganic Bases: - Sodium Hydroxide 25% - Ammonia 18% - Potassium Hydroxide 50%	- Good - Excellent - Good
Salt Solution: Sodium Chloride Sat.	Excellent
Water Types: - Water - Sea water - Raw sewage	- Excellent - Excellent - Very good
Inorganic Acids: - Hydrochloric acid 36% - Sulphuric acid 25% - Nitric acid 10% - Phosphoric acid 20%	- Excellent - Very good - Very good - Very good

DIRECTIONS FOR USE

a. INSTRUCTIONS FOR USE PREPARATION

All surfaces to be treated with **REC COAT 678 SE** must be clean and free from dust or loose material. All laitance of the concrete surface must be removed by grit blasting, or other suitable removal methods. The general standard of surface preparation should be in accordance with ACI 503R-89, Chapter 5, Paragraph 5.4. Following the preparation of a concrete surface, care should be taken to ensure that any surface irregularities are filled with RECKON EPOXY REPAIR MORTAR.

Any metal surfaces should be grit blasted to a bright finishing, meeting the requirements of Swedish Standard SA 2½ or equal.

b. PRIMING

Priming is not required on properly prepared concrete surfaces. All metal surfaces should be coated immediately after preparation. If this is not possible and to eliminate formation of rust, prime the metal surfaces using REC PRIMER.

c. MIXING

The can of the resin should be thoroughly stirred to disperse any possible settlement. The entire contents of both the hardener and resin cans should be poured into a suitable sized mixing vessel. It is recommended that the two components are mixed together mechanically using a slow speed electric drill fit with a Mixing Paddle. Mixing should be carried out continuously for 3 to 5 minutes, until a uniform consistency is achieved. Although **REC COAT 678 SE** is a solvent free product, it is still recommended that mixing should take place in an open, well-ventilated area.

APPLICATION

A minimum 2 coat application is generally recommended to ensure a full, unbroken coating is achieved. For application, brush and spray both can be used according to the site area.

a. Brush application

Once mixed, the material should be immediately applied, ensuring that a continuous coating is obtained. The first coat is applied to achieve a uniform coating with a wet film thickness not less than 200 microns, and should be allowed to dry for at least 6 hours at 35°C before the application of the second coat.

The second coat should be applied between 6 hours and 4 days (at 35°C) after the application of the first coat, at 45°C this will be reduced to 3 hours. The second coat should be applied as above again achieving a wet film thickness not less than 200 microns.

b. Spray application

Where large areas are to be coated, it is advisable to consider spray application. Consult the Technical department of the RECKON CHEMICALS PVT LTD, Lahore.

CLEANING OF TOOLS

Tools and equipment should be cleaned with REC CLEANER immediately after use.

HOT WEATHER WORKING PRACTICES

While the performance properties of **REC COAT 678 SE** at elevated temperatures are assured, application under such conditions can sometimes be difficult. The following measures shall be implemented to ensure safe and effective handling, mixing, and application of the material under hot- weather conditions:

- Store unmixed materials in a cool, preferably temperature- controlled environment, and protect them from direct sunlight and excessive heat.
- Keep all mixing and application equipment as cool as practicable, providing suitable shade protection where necessary. Particular attention shall be given to surfaces that will come into direct contact with the material.
- Avoid application during the hottest part of the day and, where practicable, schedule application during cooler periods. Direct exposure to sunlight shall be avoided.
- For hand application, ensure that sufficient operatives are available to complete the application within the specified pot life of the material.
- Maintain an adequate supply of REC CLEANER on site to enable immediate cleaning of tools and equipment after use.

REPAIRING AND OVERCOATING

Any applications of **REC COAT 678 SE** which have become damaged can be readily over coated. The existing surface should well abraded, using a stiff wire brush, or similar, to ensure that a good mechanical bond will be achieved between the two layers. Over coating works can then proceed as for new work, always ensuring that the prepared substrate is free from any moisture.

LIMITATIONS

REC COAT 678 SE should not be applied over other existing coatings, but can be applied on top of itself.

- For cold weather working (down to 5°C), it is recommended that materials are stored in a heated building and only removed immediately before use.
- Accelerated heating methods are not to be utilized under any circumstances.
- In contact with moisture/high humidity during cure, the color of the coatings will change.

COVERAGE

REC COAT 678 SE: 5.0 m²/liter @ 200 microns WFT (per coat)

PACKAGING

REC COAT 678 SE is sold in the form of a kit. The quantity of **REC COAT 678 SE** can be supplied on demand.

STORAGE

REC COAT 678 SE has a shelf life of 12 months when stored in the original, unopened packaging in a dry place at 23°C and 50% relative humidity.

HEALTH & SAFETY

REC COAT 678 SE should not come in contact with skin or eyes, nor should it be swallowed. Avoid inhalation of vapors and ensure adequate ventilation. Some people are sensitive to resins, hardeners and solvents. Always wear suitable protective gears while working. In case of any incidence, seek medical assistance immediately.

QUALITY STATEMENT

All our products are manufactured to comply with our internal QA/QC program and quality management system to ensure consistency and quality.

DISCLAIMER

While the company guarantees its products against defective materials, the use and application of these products are made without guarantee since the conditions of their application are beyond its control. It is recommended to verify with the company that the product is suitable for the intended use. This Data Sheet version is the latest one. The company may modify it without any prior notice. Technical characteristics are listed for guidance only. For more information, please contact the company's head office located in Lahore.

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