Talrakrescreed EP

Chemical and abrasion resistant epoxy screed for industrial floors

The Construction Alchemists

Description

Talrakrescreed EP, is a three component solvent-free epoxy resin system with specially graded fillers to provide high crushing strength, chemical resistance.

It is laid by trowel at approximately 3-6 mm thickness depending on the requirement. It is highly chemical and abrasion resistant. The system includes Talrakepoprime LV a two pack epoxy resin primer . Talrakrescreed EP and Talrakepoprime LV supplied in pre-weighed units ready for on site mixing and application. The finished, cured floor has a slightly granular texture of uniform self colour.

However, as the natural grade takes its colour from the aggregate which is subject to variation, colour matching is not practicable with this grade. A three part epoxy sealing coat of Talrakflorkote EP-S is recommended as a topcoat for Talrakrescreed EP epoxy screed. Talrakflorkote EP-S is available in a range of attractive colours.

Features & Benefits

- Abrasion resistance - Exceptional resistance to abrasion and to a wide range of chemicals
- Non-slip -Good gripping surface to both vehicular and pedestrian traffic
- Easily laid - Designed for easy laying to a fair finish
- Seamless - Eliminates potential sources of failure
- Proven performance - Successfully used for a wide variety of aggressive applications.

Primary Application

Talrakrescreed EP provides an epoxy top screed on Industrial concrete floors protecting them from mechanical wear and chemical attack.

Ideally suited for heavy engineering plants, chemical handling and process areas, dairies, breweries, oil refineries, paint workshops, battery rooms, elctro-plating factories and food processing plants.

In areas where high degrees of cleanliness are required the surface of Talrakrescreed EP can be sealed with Talrakflorkote EP-S epoxy resin floor coating.

Technical properties

Curing characteristics at 30°C

Talrakrescreed EP

Pot life	30 min
Initial hardness	16 hrs
Full cure	7 days

Mechanical Properties

Compressive strength	60 MPa
Flexural strength	10 MPa
Tensile strength	6.0 MPa
Abrasion resistance	3.0 mg/cycle
Bond strength to concrete	3.0 MPa
Tensile strength	3500 MPa
Tensile modulus	285 x103 MPa

Primer - Talrakepoprime LV

Maximum overlay time	30 min @ 30°C
Pot Life	30 min. @ 30°C

Chemical resistance

Fully cured blocks of Talrakrescreed EP have been tested in a wide range of aggressive chemicals commonly found in industrial environments. Tests were performed by constant immersion at 30°C.

Hydrochloride Acid 10%	Excellent
Sulphuric acid 10%	Excellent
Phosphoric acid 30%	Excellent
Nitric acid 10%	Good
Lactic 10%	Excellent
Citric 10%	Excellent

Alkalis

Sodium Hydroxide 30%	Excellent
Ammonia	Excellent

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Solvents

Butanol	Good
White spirit	Excellent
Oil/Grease/Petrol	Excellent
Xylene	Good
Acetone	Not resistant
Skydrol	Good

Aqueous Solutions

Conc. Bleach	Excellent
Sat Urea	Excellent
Sat. Sugar	Excellent

Those materials marked 'Good' are suitable for areas for occasional spillage where good house keeping is in force.

All the above properties have been determined by laboratory controlled testes and are typical of those expected in practice.

Specification clauses

Abrasion resistant epoxy resin floor screed. The epoxy resin screed shall be Talrakrescreed EP which shall be applied on epoxy primer whilst it is still tacky. It shall offer a minimum compressive strength of 50MPa. Flexural strength not less than 10MPa and a minimum tensile strength of 4.5MPa, when tested as per BS6319.
It shall not register a loss of more than 3.0 mg/cycle of the abrader wheels, as per ASTM D 1044, for abrasion resistance. When tested as per ASTM D256 for impact resistance, it shall give a minimum result of 1.3 kg.cm/ cm^2
When tested for flame retardation as per UL-94 HB, it shall be self extinguishing. It shall also give a minimum hardness of 98 as per ASTM D785 Rockwell hardness test. It shall have a minimum bond strength of 3MPa to concrete.

Application Instructions

Surface preparation

It is essential that Talrakrescreed EP is applied to sound, clean and dry surfaces in order that maximum bond strength is achieved between the substrate and the flooring system.

New Concrete Floors

Should be at least 28 days old (moisture content should be less than 5%). Laitence deposits on new concrete floors are best removed by light grit-blasting, mechanical scabbling or grinding. On smaller areas through acid etching may be considered. After etching the floor should be thoroughly washed with clean water and then allowed to dry.

Old Concrete Floors

Again mechanical cleaning methods are strongly recommended on old concrete floors particularly where heavy contaminations by oil and grease has occurred or existing coatings are present. This may well have been absorbed several mm. into the concrete. To ensure adhesion, all contamination should be removed. All dust and debris should be removed prior to laying Talrakrescreed EP . Moisture content should be less than 5%.

Priming

All concrete surfaces to be treated with Talrakrescreed EP should be primed with Talrakepoprime LV, a designed for maximum adhesion to the substrates. Add the entire contents of the hardener tin to the base and mix thoroughly. Once mixed, immediately apply the primer in a thin continuous film to the clean prepared surfaces. Work the primer into the surface using stiff brushes, avoid over application and puddling. On porous floors Talrakepoprime LV will be absorbed very quickly leaving characteristic light coloured dry patches. It is recommended that a second priming coat be applied. This not only helps to ensure adhesion but prevents air release from the porous substrate which may cause bubbles in the final applied screed. Allow the solvent in the Talrakepoprime LV to evaporate, to become tacky. This time is dependent on climatic conditions.

Mixing

It is important that Talrakrescreed EP is mixed correctly.
A suitable forced action mixer such as a paddle fitted into a heavy duty, slow speed, electric hand drill or a similar equipment, is recommended for mixing.
The entire contents of hardener tin should be poured into the base container and mixed thoroughly until homogeneous.
It is recommended that the aggregates in the bag be blended well manually before adding to the mixed resin and hardener. Add the aggregate slowly to the mixed resin and hardener, continue mechanical mixing for a further 2-3 minutes, until all the components are thoroughly blended. Once mixed, the materials must be used within the specified pot life (see under 'Properties'). After this time, unused materials would have stiffened and should be discarded.

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Application Instruction

The mixed Talrakrescreed EP should be spread to uniform thickness on the primed surface using a steel trowel. The material should be tamped with a wooden float to ensure complete compaction and finally finished to a closed even texture using a steel trowel. Screeding rods are useful to maintain a minimum compacted thickness during application.

Expansion joints

Expansion joints in the existing substrate should be continued through the Talrakrescreed EP topping.

Fillet

Talrakrescreed EP can be used to form the perimeter edge fillets upto a height of 225mm. Sealing Although Talrakrescreed EP impervious at 5mm thickness, in constantly wet operation areas, or where a high degree of cleanliness is required, Talrakrescreed EP may be sealed with Talrakflorkote EP-S. Talrakrescreed EP must be atleast 1 day old and high spots such as trowel marks rubbed down.

Cleaning

All tools and equipment should be cleaned immediately after use with Talrasol GP or xylene.

Limitations

- For applications below 15°C, the mixed material will be difficult to apply. The cured Talrakrescreed EP will become brittle at subzero temperatures and hence not recommended.
- It can withstand a maximum temperature of 65°C

Estimating
Packaging

Application thickness	Pack size	Approximate coverage rate
Talrakepoprime LV	1 and 4L	5.5 - 6.5m^2/L
Talrakrescreed EP	12 L	4.0m^2 /pack at 3mm thickness

The coverage rates are given for guidance only as actual quantities used will vary with nature of substrate and conditions on site.

Storage

All the above products has a shelf life of 12 months if kept in dry store in original, unopened containers. If stored at high temperature and/or high humidity conditions the shelf life may be reduced.

Precautions
Health & Safety Instructions

Some people are sensitive to epoxy resin systems and may develop dermatitis on skin contact. Rubber gloves and/or barrier creams, protective clothing, goggles and respirator shall be worn while handling the materials. Sufficient mechanical and/or local exhaust ventilation shall be provided to maintain easy working conditions. If contact with skin or eyes occurs, washing with plenty of water is suggested. SOLVENT SHALL NOT BE USED. If irritation persists, seek immediate medical advice shall be sought. Smoking and naked flame should be avoided while using the materials

Fire

Talrakepoprime LV and Talrasol GP are flammable. Ensure adequate ventilation. Do not smoke or use near a naked flame.

Flash Point

Talrakepoprime LV : 25°C
Talrakrsol GP : 33°C

Talrak Construction Chemicals Pvt. Ltd.
An ISO 9001:2015 Certified Company

Works:
Plot No. 115-A, 1st Phase. Harohalli Industrial Area,
Kanakapura Taluka - 562 112. Ramanagar Dist.
www.talrak.in