

Talrakfibplate EA

Thixotropic epoxy adhesive for carbon fibre laminates



The Construction Alchemists

Description

Talrakfibplate EA is a two component, solvent free thixotropic epoxy resin adhesive consisting of light coloured base and dark hardener in pre-weighed quantities that gives visual evidence of proper mixing.

Features & Benefits

- Thixotropic consistency, suitable for horizontal, vertical and overhead applications
- High adhesive strength
- Fast cure
- Can be applied on reasonably dry surfaces
- Wide range of temperature applications

Primary Application

Talrakfibplate EA is used to bond precured FRP laminate Talrakfibplate CF and Near Surface Mounted (NSM) Carbon fiber reinforcing bars to the concrete substrate. The adhesive provides a shear load path between the concrete substrate and the FRP reinforcing system. It is also used to bond together multiple layers of pre-cured FRP laminates Talrakfibplate CF. The typical application is to bond Talrakfibplate CF to concrete substrates such as beams, columns, slabs etc for flexural and shear strengthening.

Technical Properties

Appearance	Base: White Hardener: Black Mixed material: Grey
Specific gravity of mixed material	1.60 - 1.65 @30°C
Pot life of mixed material	30 minutes at 30°C
Min. Compressive strength @ 24hours @ 7 days	30 MPa 60 MPa
Slant shear bond strength @ 7 days	12 MPa
Adhesive bond strength	>2 MPa
Glass transition temperature(Tg)	>50°C

Specification Clause

The thixotropic adhesive to bond substrate with carbon fiber laminate is essentially a two part epoxy resin based adhesive Talrakfibplate EA which shall be applied as per manufacturer's specification.

Application Instructions

Surface Preparation

The behaviour of concrete members to be strengthened or retrofitted with FRP systems is highly dependent on a sound concrete substrate and proper preparation and profiling of the concrete surface. An improperly prepared surface can result in de-lamination of Talrakfibplate CF before achieving the design load transfer. Concrete should be mechanically sound and free from contamination, such as free water, mould oil, or grease, laitance, curing compound and dust. Grit blasting is recommended. Sections to be bonded should be checked for good alignment. A 'dry run' before the first application of the adhesive is recommended to ensure correct timing.

All pinholes, honeycombs, or surface irregularities on the concrete surface shall be treated and evened out using Talrakresimix EP epoxy mortar (refer separate datasheet).

Mixing

The base and hardener shall be emptied into a suitable container and mixed with a paddle and slow speed heavy duty drill, ensuring the sides are scraped down. A uniform grey colour should be obtained after mixing thoroughly. The mixing will generally takes 3 minutes.

Application

The mixed adhesive is applied to both surfaces i.e concrete and grinded face of carbon fibre plate Talrakfibplate CF and pressed to hold in position by using adhesive tapes or any suitable method for few hours. Typical application thickness is about 0.5 to 3 mm.

Use a small roller to roll the plate till the excess adhesive is pushed out from the sides of the plate and remove the excess adhesive with a spatula or a straight edge.

When Talrakfibplate CF are intersecting, the bottom plate should be allowed to cure, and then the surface of the other plate crossing above at the intersecting zone should be thoroughly cleaned prior to the application of the top layer. The adhesive shall be allowed to cure for 7 days prior to installing further renders or coatings.

Cleaning

All tools and equipment should be cleaned immediately after use with Talrasol GP. Hardened material can be removed mechanically.

Estimating Packaging

Talrakfibplate EA is supplied in 6kg combo packs.

Coverage

Theoretically 3.3 kg of mixed material is required per sqm area at 2mm thickness. However, the coverage will depend upon the substrate condition and thickness of the material used.

Storage

Talrakfibplate EA has a shelf life of 12 months if kept in dry store in original, unopened containers below 35°C. If stored at high temperature and/or high humidity conditions the shelf life may be reduced.

Precautions

Health & Safety Instructions

Talrakfibplate EA should not come into contact with skin and eyes or be swallowed. Some people are sensitive to epoxy resins, hardeners and solvents. Gloves, goggles and barrier creams should therefore be used while handling the product. Adequate ventilation should be ensured and if working in enclosed areas, suitable breathing apparatus must be used. If the resin comes in contact with skin, it must be removed before it hardens with a resin removing cream, followed by washing with soap and water - solvent should not be used. Talrasol GP should be washed from skin immediately with soap and water. If accidental eye contamination occur with any of the above products, it should be washed well with plenty of water and medical advice should be sought. If swallowed medical attention should be sought immediately. Vomiting should not be induced.

Fire

Talrakfibplate EA is non-flammable. Talrasol GP is flammable. Do not use near naked flames. No smoking.

Flash Points

Talrakfibplate EA Base : 100°C
Talrakfibplate EA Hardener : 100°C
Talrasol GP : 33°C



Talrak Construction Chemicals Pvt. Ltd.

An ISO 9001:2015 Certified Company

Works:

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