MAXTREAT® FIBRENET C

High Performance high strength, carbon fibre system for structural strengthening and retrofitting

Maxtreat Fibrenet C is a carbon fibre composite wrapping system where Maxtreat Fibrenet C is used in conjuction with an epoxy sealer cum primer, Maxtreat primer and a high build Maxtreat Saturant.

Uses

Maxtreat Fibrenet C is a carbon fibre composite system for strengthening columns, beams and slabs of load bearing structures particularly where improvement to shear strength and deformation characteristics is required. It is ideal for seismic retrofitting also. Typical applications include piers, columns, beams, slabs, retaining walls, masonry bridges, pipes, chimney, tunnels and other structures.

Benefits

- **Very high strength to thickness or weight ratio -** Appreciable increase in strength and load carrying capacity without significant increase in dead load.
- **Enhanced stiffness, shear & tensile capacities -** Increased load carrying capacity and better resistance to seismic forces and deflection.
- **Chemical resistant -** Excellent resistance to acids and alkalis
- **Flexible -** Can be applied on any shape or contour of substrate
- **Thin sections -** Can be effectively used in space-constrained areas.
- **Creep and Fatigue resistance -** Ideal for conditions of sustained loading and repeated loading.
- **Economical -** Easy to install, time and labor saving.

Properties

Maxtreat Fibrenet C

Fibre Orientation	Maxtreat Fibernet C200 Unidirectional	Maxtreat Fibernet C400 Unidirectional
Weight of fibre	200-230 g/m ^{2}	400 - 430 g/m^2
Density of fibre	1.80 g/cc	1.80 g/cc
Fibre thickness	0.25 mm	0.38 - 0.4 mm
Ultimate elongation	1.6%	1.6%
Primary fibre tensile strength	4000 MPa	4000 MPa
Tensile modulus	240 GPa	240 GPa

Maxtreat Primer

Maxtreat Primer is a two component solvent free epoxy primer for use as a primer/sealer coat for Maxtreat Fibrenet system

Properties

Mix Density	1.12 - 1.14 gm/cc
Volume of solids	100%
Pot Life @ 30^{O}C	30-35 minutes
Touch dry time @ 30^{O}C	8-12 hours
Adhesion bond strength to concrete	> 4N/mm^2
Full cure	7 days

Maxtreat Saturant

Maxtreat Saturant is a two component solvent free epoxy saturant/adhesive for use in conjuction with Maxtreat Fibrenet system.

Properties

Mix Density	1.40 - 1.45 gm/cc
Vol. of solids	100%
Pot life @ 30^{O}C	60 - 90 minutes
Open time @ 30^{O}C	90 -120 minutes
Adhesion bond strength to concrete	> 4N/mm^2
Compressive Strength @ 7 days	> 50 N/mm^2

MAXTREAT® FIBRENET C

Instructions for use

Surface preparation

Concrete surfaces to be treated shall be free from oil residues, demoulding agents, curing compounds, grout holes and protrusions. Incase of distressed structures , the concrete surface to be wrapped shall be structurally repaired prior to treatment. Structural damages shall be repaired by using epoxy grouting/ appropriate mortar from the Thermax range.

All depressions, imperfections etc., shall be repaired by using Maxtreat EPG epoxy putty.

Mixing

Before mixing, the contents of each can should be thoroughly stirred to disperse any settlement, which may have taken place during storage. The base and hardener are emptied into a suitable container and the material is thoroughly mixed for at least 3 minutes. Mechanical mixing using a heavy-duty slow speed (300 - 500 rpm), flameproof drill, fitted with a mixing paddle is recommended.

Primer

The mixed material of Maxtreat Primer is applied over the prepared and cleaned surface. The application shall be carried out using a brush and allowed to dry for about 24 hours before application of saturant. The wet film thickness shall be maintained @ 100-150 microns

Saturant

The mixed material of Maxtreat Saturant is applied over the tack free primer. The wet thickness shall be maintained at 150-225 microns

Maxtreat Fibrenet C

The Maxtreat fabric shall be cut to required size and then pressed first by gloved hand on to the saturant applied area and then with a stiff spatula or a surface roller to remove air bubbles. One more coat of Maxtreat Saturant is applied over the carbon fabric after a minimum lapse of 30 minutes.

The same procedure shall be followed for multiple layer fibre strengthening.

Note : Care shall be taken to ensure that the fibre orientation is not disturbed while applying the second coat of saturant.

Curing

The coatings will become tack free in approximately 4 – 6 hours and be fully cured in 7 days.

Cleaning

Cleaning Tools and equipments should be cleaned with solvent immediately after use. Hands and skin shall be washed with soap, or an industrial hand cleaner.

Limitations

Maxtreat Fibrenet C reinforced system is only recommended for use as described in the uses section of this datasheet. The performance of Maxtreat Fibrenet C system is limited to the specifications and recommendations as described in this datasheet.

For increased fire rating Maxtreat Fibrenet C system can be overlaid with a 1:3 Cement sand / Plaster Gypsum of suitable thickness.

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 clothings, goggles and respirator shall be worn on handling the materials. Sufficient mechanical and/or local exhaust ventillation shall be provided to maintain easy working conditions. If contact with skin or eyes occurs, washing with plenty of water is suggested. Solvent should not be used. If irritation persists, immediate medical advice shall be sought. smoking is prohibited during application/handling of the product.

Storage

Shelf life

All the above products have a shelf life of 12 months if stored in unopened containers below 35 ^{O}C. Maxtreat Fibrenet C can be used even upto 3 years.

Packing

Maxtreat Fibrenet C is supplied as below :

GSM	Width mm	Length m	Area m^2
C-200	500	50	25
C-400	500	50	25

MAXTREAT â FIBRENET C

Packing

Maxtreat Primer	2.7 lit
Maxtreat Saturant	2.7 lit
Maxtreat EPG	0.5 & 1 lit

Coverage

Product	WFT (microns)	DFT (microns)	Coverage per coat/ltr
Maxtreat Primer	100-150	100-150	7.0-10.0 m^2
Maxtreat Saturant	150-225	150-225	3.5-5 m^2

Other segments :

• Concrete Admixtures • Surface Treatments • Grouts & Anchors • Repair & Rehabilitation • Protective Coatings • Industrial Flooring • Waterproofing • Sealants • Adhesives • Cement Grinding Aids

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