

MAXTREAT® FIBRENET G

High Performance High Strength, Glass Fibre System for Structural Strengthening



Maxtreat® Fibrenet G is a glass fibre composite wrapping system where Maxtreat® Fibrenet G is used in conjunction with an epoxy sealer cum primer, Maxtreat® Primer and a high building Maxtreat® Saturant. The system is protected by a polyurethane top coat of Maxtreat® PU top in case of atmospherically exposed structures.

Uses

Maxtreat® Fibrenet G is a glass 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.
- **Economical-** Easy to install, time and labor saving.

Properties

Maxtreat® Fibrenet G

Weight of Fibre	900 gm/m ²
Density of Fibre	2.62 gm/cc
Fibre Thickness	0.141 mm
Fibre Orientation	Unidirectional
Nominal Thickness per Layer	1.0 mm
Tensile Strength	2700 MPa
Tensile Modulus	80 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	1.09-1.14 gm/cc
Mixed Viscosity at 25°C (Spindle 360 rpm)	180-400 cps
Volume of Solids	88-92%
Pot Life at 30°C	20-30 minutes
Touch Dry Time at 30°C	8-12 hours
Adhesion Bond Strength to Concrete	>4 N/mm ²
Full Cure	7 days

Maxtreat® Saturant

Maxtreat® Saturant is a two component solvent free epoxy saturant/adhesive for use in conjunction with Maxtreat® Fibrenet System.

Properties

Mix Density	1.35-1.45 gm/cc
Volume of Solids	96-98%
Pot Life at 30°C	60-90 minutes
Open Time at 30°C	90-120 minutes
Adhesion Bond Strength to Concrete	>4 N/mm ²
Compressive Strength at 7 days	>50 N/mm ²

Maxtreat® PU Top

Maxtreat® PU Top is a two component aliphatic polyurethane based coating for use in conjunction with Maxtreat® Fibrenet Systems.

Properties

Mixed Density	1.25-1.30 gm/cc
Pot Life at 30°C	40-60 minutes
Touch Dry	After 2-3 hours depending on ambient temperature
Full Cure	7 days
Adhesion Bond Strength to Concrete	>4 N/mm ²

Instructions for Use

Surface Preparation

Concrete surfaces to be treated shall be free from oil residues, demoulding agents, curing compounds, grout holes and protrusions. The concrete surface to be wrapped shall be structurally repaired prior to treatment, for corrosion induced damage/ structural damage, by epoxy grouting and epoxy/polymer modified Renderoc repair mortar systems.

Maxtreat[®] EFC/Maxtreat[®] EPG epoxy putty to even out undulations.

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 G

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.

Top Protective Coating

If UV resistance is required then two additional coats of two component polyurethane coating Maxtreat[®] PU Top shall be applied as topcoat. The WFT shall be 100-150 microns per coat.

Curing

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

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

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 on 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 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°C. Maxtreat[®] Fibrenet G can be used even up to 3 years.

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Packing

Maxtreat® Fibrenet G is supplied in rolls of length 50 and width 0.5 m (25 m²)

- Maxtreat® Primer:** 2.7 ltr.
- Maxtreat® Saturant:** 2.7 ltr.
- Maxtreat® PU Top:** 10 ltr.
- Maxtreat® EPG:** 0.5 & 1 ltr.
- Maxtreat® EFC:** 4 ltr.

Coverage

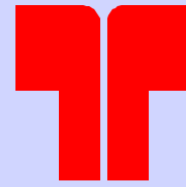
Product	WFT (microns)	DFT (microns)	Coverage per coat/ltr
Maxtreat® Primer	100-150	100-150	7.0-10.0 m ²
Maxtreat® Saturant	150-225	150-225	3.5-5 m ²
Maxtreat® PU Top	100-150	45-60	7.0-10.0 m ²

Other Segments:

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

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