

MAXTREAT[®] FIBRECRETE

Ultra High Performance Fiber Reinforced Cementitious Mortar



Maxtreat[®] Fibrecrete is a ready to use ultra-high performance cement based mortar which imparts outstanding mechanical properties to the structure. It is a three component microconcrete (powder, liquid, fibers) with a self-levelling rheology, reduced water requirement ensuring early high strength and long term durability.

For exceptional large repairs, the local Thermax office should be consulted.

Uses

- Strengthening and precision anchoring of heavy and highly stressed machineries i.e. wind turbines, heavy base plates and other giant machineries.
- Structural strengthening through jacketing of beams, columns and slabs.
- Especially designed engineering structures, construction and retrofitting where high durability and sustainability is required.
- Repair of structural members subjected to repetitive loading.
- Repair of floors with need of resistance to high static and dynamic stresses together with exceptional values of resilience and shock resistance.

Benefits

- Exceptionally high compressive strength of 57MPa after 24 hours.
- Excellent durability and resistance assistance to frost and thawing.
- Exceptionally high tensile strength and value of sheared bond strength for strengthening jacketing to reinforced concrete substrates.
- Thickness of application could range from 15 to 200mm ensuring more adequate strengthening condition compared to other traditional reinforced concrete, having anti-carbonation barrier and anti-corrosion barrier properties.
- Provides very high resistance to fire.

Properties

Temperature of Application	+5°C to +55°C
Workability Time	≥1 hour
Foot Traffic	12 hour at 20°C
Hardness No. Moh's Scale	5
Resistance to Wear (mm)	2.35

Accepting Light Traffic	24 hours at 20°C
Trafficable with Full Load	3 days at 20°C
Density	2450 kg/m ³
Compressive Strength after 1 day**	57 MPa
Compressive Strength after 3 days**	63 MPa
Compressive Strength after 7 days**	70 MPa
Compressive Strength after 28 days**	75 MPa
Tensile Strength after 7 days***	5 MPa
Tensile Strength after 28 days***	6.5 MPa
Flexural Strength after 7 days**	10 MPa
Flexural Strength after 28 days***	13.5 MPa
Shear Strength	12 MPa
Modulus of elasticity	60.638 GPa
Depth of carbonation	0
Water Permeability EN 12390-8 5 bar x 3 days	<2mm
Permeability to chlorides- Coulomb : <100 Coulomb FHWA/RD/81 (100÷1000 Coulomb= very low) According to Suisse Standard SIA 162 (Weight loss after 28 Cycle's ≤ 600gr/m ² Corresponding to optimal resistance For applications on motorways)	<100 Coulomb
Resistance to frost/thaw Cycling in presence of salts, (T=20° R.H.=50%)	0
Free Shrinkage/Expansion	+10µ/m at 90days

Method of Use

Surface Preparation

Correct substrate preparation is critical for optimum performance. The substrate must be sound, clean, and sufficiently rough, without loose parts, washed with water under pressure and saturated with water before application.

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In the structural strengthening, jacketing of beams, columns, nodes etc. strong pressure is exerted by the product on the formwork. Use efficient vertical axis mixer (or efficient drill with mixing device for mixer of one bag in a bucket).

Note: It is recommended that the decision on replacement of rebars is taken based on the advice of the structural engineer responsible for the works.

Packing

The packaging of Maxtreat[®] Fibrecrete for big volume jobs comprises of three components:

Component A (Powder)	25.2 kg
Component B (Liquid)	3.645 kg
Component C** (Metal Fibre)	1.15 kg
Total	30 kg

Mixing

The components of Maxtreat[®] Fibrecrete are dosed on the job site according to individual mix. Mix for about 9 minutes with a highly efficient vertical axes mixer in following sequence: Add 5 bags powder (Comp. A) in the mixer. Add comp. B liquid during mixing, till a fluid consistency is obtained (about half of the total liquid~ 1314 kg.). Add 5 bags of comp. A, adding 1 bag of powder, mixing with a small amount of liquid B till the paste is homogeneous again, repeating this operation till all powder A and liquid B has been added in the correct amounts. In the end, add comp. C fibers gradually, always during mixing, till a homogeneous paste is obtained.

The total mixing time shall not be less than 8 minutes.

Note- For smaller jobs 30kg bag can be mixed using a mechanical hand mixer, only care to be taken for proper dispersion of steel fiber in the mix.

Fire Resistance

Structural Reinforcement with very high efficiency and low thickness.

Very high fire resistance to 1000°C.

System n°1– Maxtreat[®] Fibrecrete

Thermal shield “insensitive” to direct fire 1000°C:

System n°2– Maxtreat[®] Fibrecrete

Health and Safety Instructions

Maxtreat[®] Fibrecrete does not fall into the hazardous chemicals list. However, it should not be swallowed or allowed to come into contact with skin and eyes. Please note that, the fiber of Maxtreat[®] Fibrecrete must be handled with thick gloves in order to avoid pricks to the skin.

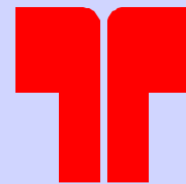
Storage

Shelf Life

Maxtreat[®] Fibrecrete has a shelf life of 12 months in original packing, when unopened, maintained in a dry and protected area and when ambient temperature is within the range of +5°C to +55°C.

In case the temperature of the product fall outside this range, contact Thermax for advice.

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THERMAX

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Chemicals

Absorption Cooling

Air Pollution Control

Boilers & Heaters

Power

Water & Waste Solutions

Solar

Other Segments:

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

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