



StorCem Macro-420 Concrete Fibre Technology

Description

StorCem Macro-420 are concrete reinforced macro fibre made of special blend of polyolefin with excellent mechanical and chemical properties. The special production technique combined with high quality resins give the fibre following properties:

- **User friendly and safer to use**
- **Homogenous distribution**
- **High adhesion to cement**

Benefits

Storsack takes concrete reinforcement to a new level, **StorCem Macro-420** delivers to the concrete, both plastic and hardened states, a range of benefits:

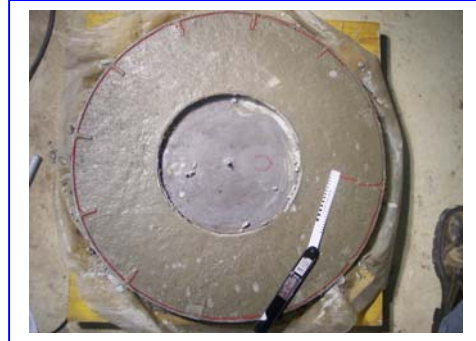
- The fibres function as micro-reinforcement in the concrete. This results in better mechanical anchoring to the concrete.
- The fibres act as crack arresters. This is due to their high tensile strength and pull-out strength. The fibres stop the propagating of cracks by holding the cement matrix together or bridge the cracks. Hence, the cracks cannot grow longer and wider and propagate gradually.
- The high ultimate strain of fibres enables the concrete having an ability to restrain large deformations without crushing
- The fibres reduce the early plastic shrinkage cracking, so that the number of cracks under loading due to propagating of these existing cracks is decreased.
- The fibres avoid the formation of single shear band which is typical for the fracture of plain high-strength concrete, by ramifying the microcracking that spread over the entire concrete mesh.
- Cost saving, comparing to Crack Control Wire Mesh
- Chemically inert, NO RUST

Application

Excellent finishing characteristics make it ideal for use in wide range of applications:

- Industrial Floor
- Precast Elements
- Concrete Wall Constructions
- Bike Paths and Footpaths

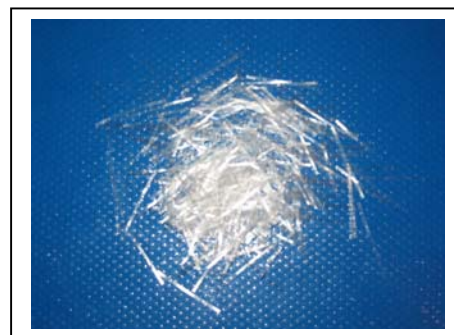
- Swimming Pools
- Shotcrete



The fibres reduce the early shrinkage cracking

Technical Specification

Resin	Polyolefin
Specific Density	Ca. 0,90 kg/m ³
Morphology	Mono Filament
Tensile Strenght	> 550 MPa
E-Modulus	> 6 GPa
Melting Point	160 °C
Length	42 mm
Bonding with Cement	good
Chemical Stability	high



StorCem Macro-420: best and reliable quality

Testing

The behaviour of FRC (Fibre Reinforced Concrete) can be understood by following graph. The plain concrete structure cracks into two pieces when the structure is subjected to the peak tensile load and cannot withstand further load or deformation. The fibre reinforced concrete structure cracks at the same peak tensile load, but does not separate and can maintain a load to very large deformations. The area under the curve shows the energy absorbed by FRC when subjected to tensile load. This can be termed as the post cracking response of the FRC.



Bending tensile strength of concrete, an important parameter for evaluation

Dosage and Processing

Qualification tests are to be accomplished before applying of the **StorCem Micro-420**, the following information are to be regarded only as recommendations.

StorCem Macro-420 are supplied in fully degradable concrete friendly 2,5 kg bags and can be added directly into the concrete at any stage of batching process.

StorCem Macro-420 should be dispersed into the concrete in a agitator and mixed for about 5 minutes in order to get a uniform mixture.

Depends on specification the dosage can be varied between 1–3 Packages/m³, typical dosage are:

2 Bags/m³: for minimal load application like Concrete Floor, Bike Paths etc.

3 Bags/m³: for Precast application and higher load application like Driveways, Parking Areas, etc.



Foundation work

Compatibility

StorCem Macro-420 are compatible to all standard concrete additives.

Packaging

- 2,5 kg bag
- Bulk bags are available on request



Superior quality by using the modern production technology

Storage

Store protected from the weather

Safety

The product is according to our knowledge and existing database a non-hazard product in terms of Chemical Act

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