STEEL FIBRES FOR CONCRETE REINFORCEMENT

DESCRIPTION

BAUMIX steel fibres are added to the concrete during mixing as an additional aggregate. Steel fibre concrete is mixed with existing plant and used in many applications like:

- monolithic industrial floor slabs on ground in:
  - factories,
  - warehouses,
  - hangars, etc.
- pavements
- parking areas
- roads and motorways
- runways, aprons and taxiways
- bridge decks, etc.

BAUMIX steel fibres are made of prime quality harddrawn steelwire to ensure high tensile strength and close tolerances and have hooked ends which offer strong mechanical anchorage in the concrete. This leads to high crack resistance resulting in a high degree of toughness and fatigue resistance. Steel fibre concrete is more durable than plain concrete made from the same mix design. The fibres within the alkaline environment of the concrete are protected from corrosion.

FOR PROFESSIONAL USE ONLY

SUPER PERFORMANCE

The inclusion of steel fibres in the concrete, greatly enhances its resistance to shocks, dynamic loading, impact and fatigue and at the same time extends its useful working life. The performance of fibres depends on both: the dosage (kg/m³) and the fibre parameters (tensile strength, length, diameter, anchorage).

A key factor for quality fibre concrete is the relationship between the length and the diameter of the fibres – the higher the l/d ratio, the better the performance.

SPECIAL PROPERTIES

- assures a homogeneously reinforced product
- high fatigue resistance
- high impact resistance against static and dynamic loading
- efficient crack control
- elimination of traditional mesh reinforcement, labour in fixing, cutting and spacers
- reduction in slab thickness
- quick and easy application

METHOD OF USE

DOSAGE

BAUMIX steel fibres are dosing at the rate of 20 – 40 kg per cubic meter of concrete. The most frequent dosage for industrial floors and pavements applications is 20 kg/m³. When dosage of steel fibres is lower than 20 kg/m³ then BAUCON polypropylene fibres should also be used at the rate of 0,6 kg per cubic meter of concrete.

MIXING

- never add fibres as first component in the mixer
- fibres should be introduced after sand and aggregates, but before cement, water and (super)plasticizer

IN TRUCKMIXER

- adjust slump to a min.12 cm /preferably with (super) plasticizer
- put mixer on maximum drum speed: 12-18 rpm
- after adding the fibres, continue mixing at highest speed for 4-5 min.

TECHNICAL DATA

Conforms to: EN 14889-1

<table>
<thead>
<tr>
<th>Group</th>
<th>Lenght</th>
<th>Diameter</th>
<th>Tensile strenth</th>
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<tr>
<td>I</td>
<td>50 mm</td>
<td>1,0 mm</td>
<td>min. 900 N/mm²</td>
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