INSTRUCTION SHEET

Fibrofor® HIGH GRADE

CE

Basic materials

Abide by the basic principles for a quality concrete according to standards EN 206.

Concrete formula

When adding High Grade there is no need to adjust grading curve, cement content, water addition, water/cement ratio, nor the dosage of other concrete additives. High Grade fibers won't react with other additives and they are alcali-resistant. For the recipes, the respective regional norms are to be taken into account.

Dosage / Fiber type

The recommended addition rate for structural concrete is normally 1 kg fiber / m^3 (1.7 lb/yd3) concrete. Fiber length and fiber type are established depending on purpose. For pumped concrete and for applications in combination with steel reinforcement High Grade 190 is to use. Modifications of the addition rate are in the static calculation.

Fiber addition in the concrete plant

The fiber addition can be added directly to mobile concrete mixers or by proportioning device, in which the fibers will be admitted immediately with the placing of the sand-gravel mixture. The fiber bags are water-soluble and can be merged with the fiber content.

Adding fibers into a mobile concrete mixer

There is also the possibility to merge the fibers including the bag into the mobile concrete mixer.

Mixing time

At the **concrete factory**: Mix as long as you would have without fibers. The scope is to have fibers homogenously distributed. Longer mixing times may be required for special concrete recipes only.

Mobile mixer: Before discharging fresh concrete on site, let the drum rotate again at maximum revolutions for 1 to 2 minutes.

For mixers, larger than 1 m^3 (1 yd^3) let the drum rotate at maximum speed an **additional minute for every additional 1 m^3** (1 yd3), for example: 6 m^3 (6 yd^3) content = at least 6 minutes additional mixing time.

Adding fibers can have an effect on concrete consistency, reducing the diameter in a flow table test, respectively increasing height in a concrete slump test. Consider to add some more fluidifier or apply another slump grade (as per EN 206-1)!

Before pouring

- Check fiber distribution visually.
- Accomplish a flow table test or a slump test.

Pouring

- Abide by the standards of pouring/pumping concrete.

Possible surface finishing

- Screed with a lath or machine.
- Manual surface rubbing.
- Smooth surface finish using a machine.
- Smooth surface hard grain surface finish using a machine.
- Concrete finishing broom
- Coating and waterproofing.

Remarks for surface finishing

- **Screeding**: no particular measures are necessary.
- **Manual rubbing:** start earlier, because fiber concrete will set quicklier. (depending of concrete quality and outdoor temperature).
- **Smooth surface finish using a machine**: start earlier, because fiber concrete will set quicklier. (depending of concrete quality and outdoor temperature).
- **Smooth finish of the surface with hard grain:** start earlier, because fiber concrete will set quicklier. (depending of concrete quality and outdoor temperature).
- **Broom finish:** use a synthetic bristle broom and begin work, when surface is fresh.
- **Coatings and impregnations**: Prepare the mature surface by sandblasting or shot peening – put primer and top coat as recommended by the paint supplier.
- **Cutting joints**: Begin cutting joints 24 - 30 hours after surface finishing at the latest.

Stripping time

As per EN 206. Since fiber concrete has an increased early strength, formwork can be stripped earlier, if the minimum compressive strength has reached.

Curing

Begin with curing immediately after surface finishing has been accomplished!
Applying a protection against evaporation is recommendable.

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