INSTRUCTION SHEET

Fibrofor® HIGH GRADE

CE

Basic materials

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

Concrete formula

When adding High Grade there is no need to adjust grading curve, cement content, water addition or water/cement ratio. Normally the flow diameter will be reduced by the fibers and has to be adjusted by adding a plasticiser. High Grade fibers won't react with additives and they are alcali-resistant. For the recipes, the respective regional standards have to be taken into account.

Dosage / Fiber type

The recommended addition rate for structural concrete is normally 1 kg fiber / m^3 concrete. Fiber length and fiber type are used depending on the purpose. For pumped concrete and for applications in combination with steel reinforcement High Grade 190 has to be used. Modifications of the addition rate can be found in the structural calculation.

Fiber addition in the concrete plant

The fibers can be put into the mixer directly or can be added by means of a dosage machine when the sand-gravel-mixture is put into the mixer. The bags are not water-soluble and must be removed.

If necessary the fibers can also be added to the concrete in the ready-mixed concrete lorry without the bag and have to be mixed in with the drum rotating at maximum speed.

Mixing time

At the **concrete factory**: Mix as long as you would mix without fibers. The fibers have to be distributed homogenously at the end of the mixing process. Longer mixing times may therefore be required for special concrete recipes.

Before discharging fresh concrete on site, let the drum of the concrete lorry rotate again at maximum speed for 1 to 2 minutes.

For mixing in the concrete lorry: 1 minute additional mixing time at maximum rotation speed per m^3 concrete (for example: 6 m^3 content = at least 6 minutes additional mixing time).

Adding fibers can reduce the flow diameter of the concrete. By adding a plasticiser or optimizing the W/C-ratio the necessary consistency class can be reached.

Before pouring

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

Pouring

- Abide by the standards of pouring/pumping concrete.

Possible surface finishing

- Level with a lath or machine.
- Manual rubbing of the surface.
- Finishing (smoothing) of the surface with a machine (helicopter).
- Finishing (smooting) with hard grain with a machine
- Concrete finishing with a broom
- Coating and waterproofing.

Remarks for surface finishing

- **Leveling:** no particular measures are necessary.
- **Manual rubbing:** start earlier, because fiber concrete will harden quicker. (depending on concrete quality and temperature).
- **Helicoptering:** start earlier, because fiber concrete will harden quicker. (depending on concrete quality and temperature).
- **Finishing of the surface with hard grain:** start earlier, because fiber concrete will harden quicker (depending on concrete quality and temperature).
- **Finishing with a broom:** use a broom with synthetic bristles and begin working when the surface is fresh.
- **Coatings and impregnations**: Prepare the mature surface by sandblasting or shot peening – apply primer and top coat as recommended by the supplier.
- **Cutting joints**: Begin with cutting 24 - 30 hours after surface finishing at the latest.

Stripping time

As per EN 206-1. Since fiber concrete has an increased early strength, formwork can be stripped earlier, if the minimum compressive strength has been reached.

Curing

Begin with curing immediately after having finalized the surface finishing.
Applying a protection against evaporation is recommended.

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