



DEVELOPMENT RESINS ADMIXTURES CONCRETE

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FLUIBETON 2000

SUPERPLASTICIZER ADMIXTURE FOR HIGH QUALITY CONCRETES.

DESCRIPTION

FLUIBETON 2000 is a superplasticizer ready to use, based on hydrosoluble synthetic polymers of different molecular weight.

FLUIBETON 2000 is chloride free, its high fluidifying power is due to the synergism of each polymer that develops a determined action, optimal on Portland cement and its various formulations (Portland-Pozzolanic, Portland+fly ash, Portland+silica fume etc.).

The consequent major dispersion of fine parts in water consents to obtain fluid concretes or un-segregable, fluid and/or extra-fluid concretes.

FIELD APPLICATION

FLUIBETON 2000 is used for the production of precious concretes either for realised works or in civil and industrial precastings.

In particular case for exposure to chemical aggressive atmospheres as: city areas, marine industries and all the structures subject to static and dynamic sollecitations.

Considering the other performances of FLUIBETON 2000, its use is advisable for preparation of special concretes as follows:

- Precastings and in particular case light section structures.
- Fiber-reinforced concretes with stainless steel fibers type FIBERMIX.
- Concretes with compensated shrinkage, using expansive agents, see technical sheet of our EXPAN 25.
- High waterproofing concretes, the addition of silica fume FILLCRETE consents to obtain self-levelling cohesive concretes also for under water pourings, obtaining high mechanical resistances.

ADVANTAGES

FLUIBETON 2000 consents to produce self levelling not segregable (rheoplastic) concretes. The additivated concrete with FLUIBETON 2000 modifies its consistency from "humid" (2-4 cm of slump) to "superfluid" or "self-levelling" only by adding the product in the indicated dosages.

The W/C ratio of additivated concrete with FLUIBETON 2000 shall result lower if compared to normal plasticizer.

The advantage is to be able to produce concretes with W/C ratio 0,3-0,4 having 20-25 cm of slump, with mechanical strength very high either in brief or long curing.

The workability increase reduces laying, facilitates pouring in light sections even if strongly reinforced, the concrete will result more homogeneous, easy to lay and needs less vibration time.

The mechanical resistances shall result proportionally to water reduction effected, reaching an increase of 100% or more, when compared to a similar concrete having same workability but not additivated.

The low W/C ratio's obtainable with the use of FLUIBETON 2000 consent to produce concretes with permeability coefficient as per Darcy's lower than ($1.10 \cdot 10^{-10}$ ÷ $1.10 \cdot 10^{-12}$ cm/s) hence absolutely waterproof.

The synergy of the various polymers constituting the FLUIBETON 2000, develops a high dispersive power, it improves the degree of cement hydration and increases the percentage of use. The advantage together with a better density, is reflected on increase of durability, giving the concrete more resistance to external aggressive agents.

The real reduced W/C ratio obtainable with FLUIBETON 2000, the major dispersive power, improved degree of cement hydration, the synergic polymers action of different synthetic nature, grant's improvement of the whole technical characteristics of the hardened concrete as example:

High mechanical strength to abrasion. better adherence to iron-concrete, waterproofing, durability and dimensional stability further to a contained shrinkage.

The combined use of FLUIBETON 2000 and an air-entraining agent AERBETON consents to realise concretes resistant to freeze-thaw cycles.

COMPATIBILITY

FLUIBETON 2000 is compatible with all types, and classes of cements (Portland, Pozzolanic etc.).

In the case of operative necessities high mechanical strengths in brief seasonings are required it is advisable to use cements type Portland R 525.

FLUIBETON 2000 is compatible with all types of additives in accordance with UNI,ASTM,AASHTO standards. Since FLUIBETON 2000 gives a maximum performance of concrete, it is advisable to call our technical personnel before using other admixtures, the only exception is mixing with AERBETON which consents to realise resistant concretes to freeze-thaw cycles.

WORKABILITY IN TIME

The use of FLUIBETON 2000 in concrete mixings allows to maintain the workability obtained after adding the admixture for a period of time varying from 20 to 40 minutes (at 20 °C), according to the type and batching of the used cement. The loss of workability happens gradually.

Site technical tests shall consent to individuate the necessary specifications for the use.

MECHANICAL STRENGTHS

With the use of FLUIBETON 2000 high mechanical strength is obtained either in brief or long curings due to the additive's high capacity in reducing W/C ratio.

This fact will allow to obtain absolute higher values if compared to similar concretes not additivated.

DOSAGE AND USE MODALITY

FLUIBETON 2000: 2,5 ± 0,5 kg for 100 kg of cement (i.e. 2 - 3 kg each 100 kg of cement):

FLUIBETON 2000 is a superplasticiser that due to its particular characteristics (high dispersive power) consents to produce superfluid, self-levelling and no segregation concretes, with a ratio W/C of 0,30 ÷ 0,40 and consequent high mechanical strength further to general characteristics, due to high used dosage.

In a way to obtain a better technico-economic result, FLUIBETON 2000 has to be used in high quality concretes, hence, with a cement dosage not less than 350 kg/m³.

- Mix as usual the various components of concrete and add the water mix to a maximum of 30% in respect to weight of cement until obtaining a homogeneous mix.

Should the aggregates contain a high percentage of water, reduce quantity of initial water mix.

- Add FLUIBETON 2000 and protract the mixing time for at least 1-2 minutes.

- Once the consistency of concrete is checked during mixer's movement, add the needed water until reaching the requested workability.

The best obtainable results using FLUIBETON 2000 are by effecting long mixing times, in this case it consents to the additive a total development of its dispersive power.

Should bleeding phenomena be verified, a longer mixing is needed, further to reduction of water adding and/or admixture dosage.

PACKING AND STOCKING

Drums of 230 kg

Tanks of 1000kgs

Bulk in tanks.

FLUIBETON 2000 when exposed to temperatures lower than 0 °C, should be mixed and heated before the use.

CONCRETE CURING

In order to obtain better results it is advisable to protect the concrete from fast evaporation after pouring, specially in dry and ventilated climates, with the most suitable and common known devices.

The use of *DRACO ITALIANA SpA's* curing compound product "PROBETON CURING" type T or B is recommended in a way to obtain better results.

SPECIFICATIONS

The concrete used for the structures described in this specification shall be mixed with the admixture FLUIBETON 2000 of *DRACO ITALIANA SpA* ., in a way to obtain better technico-operative results.

FLUIBETON 2000 complies with UNI 8145 and ASTM C 494 Type F standards.

The admixture shall be used according to the producer's *DRACO ITALIANA S.p.A.* recommendations, who upon request, will give technical assistance with skilled personnel.

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This edition annuls and replaces the previous