



Viscofluid SCC/10

Viscosity modifying
admixture for
self compacting
concrete



DESCRIPTION

Viscofluid SCC/10 is a new admixture able to increase the viscosity of mixtures, substantially improving stability, homogeneity, and resistance to segregation and bleeding. It should be used with the admixtures from the **Dynamon** range for self compacting concrete.

TECHNICAL CHARACTERISTICS

Viscofluid SCC/10 is a fundamentally important ingredient for *Self Compacting Concrete (SCC)*, with high stability and absence of segregation and bleeding.

Self compacting concrete is a mixture that can flow and fill every corner, even the most inaccessible areas, of a formwork, without vibration or compacting. In other words, without the need of any external force other than gravity.

These concretes are highly flowable at the fresh state and can flow across great distances from the point at which they are poured.

Viscofluid SCC/10 substantially does not alter the high deformability obtained by adding admixtures from the **Dynamon** range and at the same time ensures an increase of the cohesion and homogeneity of the concrete which has practically

no segregation. By using **Viscofluid SCC/10**, the increase of cohesion of the mixtures is determined at the resting state of a type of three-dimensional grid generated by the interconnection of the bio-polymer chains with high molecular weight (Fig. 1).

Therefore, the interlacing of the **Viscofluid SCC/10** polymer chains is responsible for the high level of homogeneity and absence of segregation of the self compacting concrete at the resting state.

The high stability during the resting state of **Viscofluid SCC/10** admixed concrete corresponds to the high deformability of moving mixtures as that determined by the alignment of the bio-polymer chains in the direction of the concrete flow (Fig. 1).

This property of self compacting concrete prepared with **Viscofluid SCC/10** is fundamental. The mixture will flow where the formwork narrows – due to differing sections or structural elements – and to flow past reinforcing bars in congested areas without the segregation of its components. Thanks to its particular synthesis, **Viscofluid SCC/10** can, along with the use of the admixtures from the **Dynamon** range and accurately proportioned by the volume of fines and a limited volume of coarse aggregates,



produce mixtures with enough viscosity to prevent the segregation of the mixture when it flows through areas with a high density of re-bars. **Viscofluid SCC/10** eliminates the “blocking effect” of the mixture near the re-bars thanks to its ability to increase the plasticity without compromising the mixture’s flowing properties.

Viscofluid SCC/10 can improve, during every stage of concreting, a complete “wrapping” of coarse aggregates with enough mortar (“excess mortar”) that can substantially reduce the number of coarse grain collisions (Fig. 2).

Viscofluid SCC/10 allows for:

- increased cohesion and homogeneity of self compacting concrete eliminating segregation and bleeding, but without altering the mixtures’ deformability during the fresh state;
- making the rheological properties of self compacting concrete less sensitive to the chemical – physical variations of raw materials (e.g. variation of aggregate size) or small proportioning errors of the concrete. To obtain high cohesion and absence of segregation required by self compacting concrete, the addition of **Viscofluid SCC/10** can be modified by varying its dosage between 1-2% by volume with respect to the weight of fine parts used to prepare the mix (the fine parts are represented by the sum of cement, fly ash and/or limestone filler and different graded aggregates passing through a 0.125 mm sieve).

RECOMMENDATIONS

Although there are no specific uses for which **Viscofluid SCC/10** admixed with hyperplasticisers of the **Dynamon** range for producing normal fluid and superfluid

concrete (consistency class S4 and S5) is not recommended, the use of **Dynamon SX14** and **Dynamon SX18** admixtures could be better alternatives.

Compatibility with other products

The **Viscofluid SCC/10** admixture is compatible with other products for preparing special self compacting concrete, especially with:

- **Mapeplast PT1** air-entraining agent for self compacting concrete, resistant to freeze-thaw cycles.
- **Mapeplast SF** powder silica fume-based admixture for self compacting concrete with high mechanical strength, high impermeability and durability.
- **Expancrete** expanding agent for shrinkage compensated self compacting concrete.
- Fly ash and limestone filler.
- **DMA 1000, DMA 2000** and **DMA 3000 Form-Release Agent** for releasing concrete from formworks.
- **Mapecure E** or **Mapecure S** curing emulsions to protect concrete from rapid water evaporation.

DOSAGE

By volume

From 1 to 2 l per 100 kg of powder (d < 0.125 mm).

PACKAGING

200 l drums and 1,000 l tanks.

Also available in bulk on request.

STORAGE

Store in original sealed packaging, protect from frost and sunlight.

FOR PROFESSIONALS.

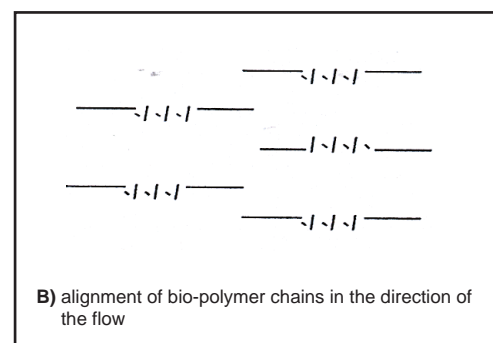
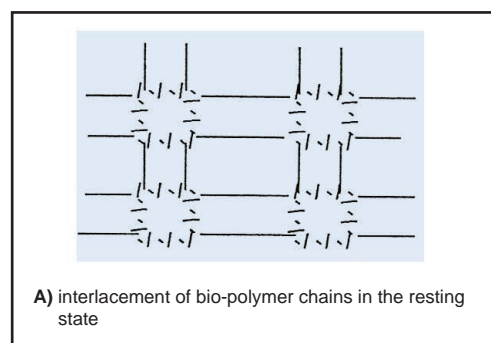


Fig. 1 - A scheme of the **Viscofluid SCC/10** chains in concrete during the resting state and in movement

PRODUCT IDENTITY (typical values)	
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Consistency:	liquid
Colour:	brown
Density (kg/l):	1.02 ± 0.02 at +20°C
Active ingredient (%):	5.5
Specific action:	<ul style="list-style-type: none"> - improved cohesion - reduction of segregation and bleeding
Chlorides:	absent
Storage:	12 months in original sealed packaging. Protect from frost.
Hazard classification according to EC 99/45:	none
Customs class:	3824 40 00

WARNING

While the indications and guidelines contained in this data sheet correspond to the company's knowledge and wide experience, they must be considered, under all circumstances, merely as an indication and subject to confirmation only after long-term, practical applications. Therefore, anybody who undertakes to use this product, must ensure beforehand that it is suitable for

the intended application and, in all cases, the user is to be held responsible for any consequences deriving from its use.

All relevant references of the product are available upon request

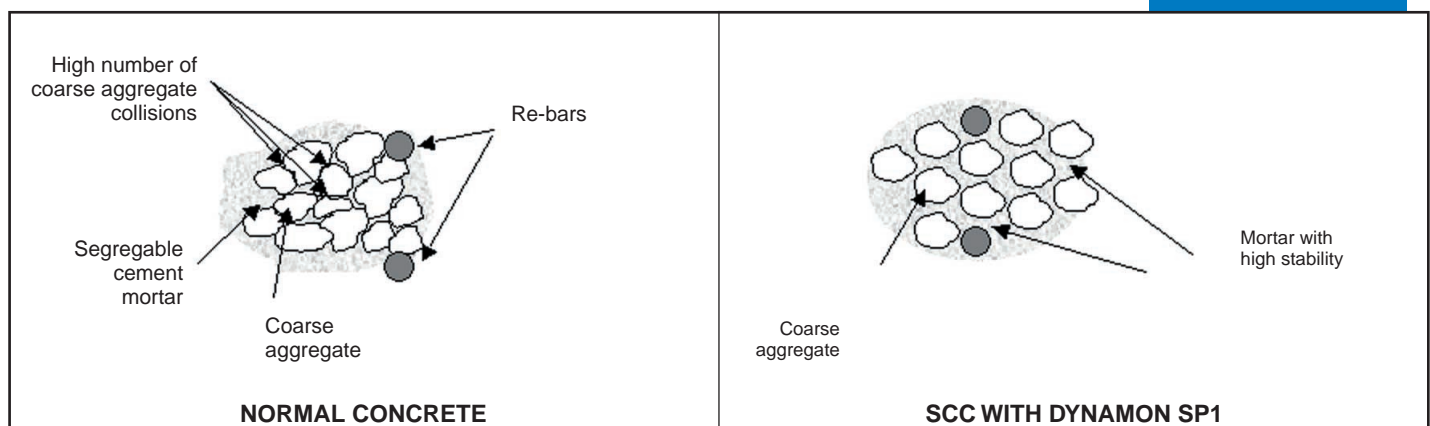


Fig. 2 - Eliminating the "blocking" effect of normal concrete using admixtures of the Dynamon range



BUILDING THE FUTURE

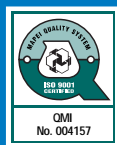
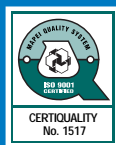
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