

MasterSure HES 1540

Second generation high range water reducing/superplasticizing admixture for concrete with extended consistence retention developed for precast concrete industry where high slump retention and a low W/C are required.

DESCRIPTION AND WHERE TO USE

MasterSure HES 1540 (High Early Strength) is an innovative second generation superplasticizer of polycarboxylic ether (PCE) polymers with good water reduction and extended consistency retention dedicated to precast concrete where high early strengths are needed in order to speed up the precast operation of demoulding and moving of the elements to the stocking area.

The fresh concrete shows no segregation and at the same time has a low water cement ratio and, consequently, high early and long term strengths as per EN 206-1 and UNI 11104 standards.

MasterSure HES 1540 is chloride free, meets UNI EN 934-2, UNI EN 480 (1-2), UNI 10765, ASTM C 494 requirements for Type F and it is also compatible with all cements meeting the EN 197 and ASTM C 150 standards.

THE NEW CHEMISTRY OF MASTERSURE HES

MasterSure HES 1540 is an innovative line of superplasticizer based on a unique blend of state of the art polymers of Master Builders Solutions research laboratory.

The polymer system present in MasterSure HES are studied in order to be slowly release in the basic conditions of the cement paste at the very early hydration process and to be gradually adsorbed onto adsorption onto the cement particles partially hydrated and disperses them efficiently over a long period of time. This means that the slump retention can be quite long (60 – 90 minutes) depending on the dosage that can be modulated on requirements.

MasterSure HES molecules leave sufficient surface of the cement exposed to allow contact with water for a rapid hydration reaction which results in high early strength development.

BENEFITS FOR PRECAST PRODUCER

MasterSure HES 1540 offers the following benefit for the precast concrete industry to:

- produce Rheoplastic or Smart Dynamic Concrete having a low water cement ratio;

- extended the consistence retention of concrete the time required for the pouring of the precasted elements;
- obtain high early strength development also at the very early curing ages;
- produce durable precast concrete elements as per EN 206-1.

As compared to the traditional superplasticizers, the engineering properties such as early and ultimate compressive and flexural strengths, bond to steel, and modulus of elasticity, shrinkage, creep, and impermeability are improved.

COMPATIBILITY

In order to optimise some special properties of the concrete, use of the following complementary admixtures is suggested:

- **MasterMatrix SDC 150** to produce a Smart Dynamic Concrete;
- silica fume, **MasterRoc MS 610**, for high performance concrete and increased durability in chemical aggressive environments (exposure class XA1 to XA3, EN 206-1);
- demoulding agent **MasterFinish** for to help remove formwork and to improve the architectural finish.

MasterSure HES 1540 is not compatible with all admixtures of MasterRheobuild series.

DIRECTIONS FOR USE

MasterSure HES 1540 is a liquid admixture to be added to the concrete during the mixing process:

- mix cement and secondary binders, sand, coarse aggregates and the mix water until a stiff, yet homogeneous, mixture is obtained;
- optimal mixing water reduction is obtained if MasterGlenium SKY 695 is mixed into the concrete right after the addition of the initial 80-90% of the total water;
- avoid adding the admixture to the dry aggregates;
- add MasterGlenium SKY 695 admixture and mix again for to 60 seconds in order to disperse it homogeneously;
- continue mixing until required workability is obtained, with addition of the remaining water.

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Technical Information	
Form	Liquid
Relative density (g/cc at 20°C)	1.040 – 1.080

DOSAGE

MasterSure HES 1540 The recommended dosage rate range is 0.8 to 1.4 litres per 100 kg of binder.

Other dosages may be recommended in special cases according to specific job site conditions.

In such cases please consult our Technical Service Department for advice.

PACKAGING AND STORAGE

MasterSure HES 1540 is available in 10 litre cans, 1.000 litre container or in bulk.

MasterSure HES 1540 must be stored in a place where the temperature does not drop below 5 °C.

From 16/12/1992 BASF Construction Chemicals Italia Spa operates under the Quality System in compliance with European Standard UNI-EN ISO 9001. The environmental management system of BASF Construction Chemicals Italia Spa is certified accordingly to UNI EN ISO 14001 and the System of Safety Management is certified accordingly to OHSAS 18001. Environment sustainability: Partner Green Building Council since 2009.

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For further information, please consult your local BASF Construction Chemicals Italia Spa representative.

The technical advice on how to use our products, either written or verbally given, are based on the present state of our best scientific and practical knowledge, and no guarantee and/or implicit or explicit responsibility are assumed on final results of works executed by the use of our products.

The owner, his representative, or the contractor is responsible for checking the suitability of our products as to the intended use and aims.

Supersedes all prior issues on this product.

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