

MasterGlenium SKY 544

High range water reducing admixture for concrete - EN 934-2: T3.1 & T3.2

Material Description

MasterGlenium SKY 544 is an innovative second-generation superplasticizer based on polycarboxylic ether (PCE) polymers. It is derived directly from the Total Performance Control™ concept. MasterGlenium SKY 544 is specially engineered for ready-mix concrete. Its particular configuration allows its delayed adsorption onto the cement particles and disperses them efficiently. As compared with other PCE superplasticizers, it is possible to obtain a high quality concrete mix with accelerated strength development and extended workability without delayed setting characteristics.

Total Performance Control

The Total Performance Control™ concept ensures that ready-mix producers, contractors and engineers get a concrete that is of the same high quality as originally specified; starting from production at the batching plant, to the delivery and application into place, and followed by its hardening process. Utilizing Rheodynamic™ concrete technology it provides a concrete mix with exceptional placing characteristics and accelerated cement hydration for early strength development and high-quality concrete.

Fields of Application

MasterGlenium SKY 544 is used for the production of high quality ready-mix concrete.

MasterGlenium SKY 544 may be used in combination with MasterMatrix admixtures for producing Rheodynamic™ concrete, capable of self-compaction, even in the presence of dense reinforcement.

Characteristics and Benefits

MasterGlenium SKY 544 offers the following benefits for the precast concrete industry:

The ready-mix producer:

- Capability of delivering high quality concrete at any time to the job site in place.
- Production of a concrete with low water cement ratio that meets EN 206-1 without loss of workability.
- Single product for many application needs.

The contractor / applicator:

- Easier placing and faster strength development.
- Improved concrete surfaces.
- Guarantee to place the same concrete as specified and ordered from ready-mix plant.
- More versatile and forgiving concrete mix.

The engineer:

- Insurance that concrete meets original specification
- High quality concrete with better durability.

Dosage

The normally recommended dosage rate of MasterGlenium SKY 544 is approximately:

- *By Volume* - 0.19 to 1.11 litres per 100 Kg of cement (binder)
- *By Mass* - 0.20 to 1.20 kg per 100 Kg of cement (binder)

The dosage rates given above are for typical usages, they are not meant as absolute limits, as other dosages may be utilised in special cases according to specific job conditions. If required consult our Technical Services Department for advice. Trial mixes should be carried out to ensure optimum dosage and effect. Where the concrete is to be machine finished by utilising power float or power trowelling methods, we recommend that you contact the Technical Services Department for dosage rate guidance.

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Mixing

MasterGlenium SKY 544 is a ready-to-use admixture to be added to the concrete as a separate component. Optimal performance is obtained if MasterGlenium SKY 544 is dispensed into the concrete mix right after the addition of the first 80% of the mixing water, i.e. when all solids are wetted out. Avoid adding the admixture to the dry aggregates.

Compatibility

MasterGlenium SKY 544 is not compatible with MasterRheobuild superplasticizers.

MasterGlenium SKY 544 can be used with all types of EN 197 Cements. For use with other special cements, contact our Technical Services Department.

MasterGlenium SKY 544 should not be pre-mixed with other admixtures. If other admixtures are to be used in concrete containing MasterGlenium SKY 544 they must be dispensed separately.

In order to optimize special requirements the use of the following complementary additives is suggested:

- Viscosity modifying agent MasterMatrix to produce Smart Dynamic concrete and Rheodynamic™ concrete.

- Air entraining agent MasterAir to improve frost/thaw resistance.

When such complimentary admixtures are required it is important that laboratory trials are performed, prior to any supply, to determine the respective dosages of any complimentary admixture, and the suitability, in the fresh and hardened state, of the resultant concrete. In these circumstances we recommend that you consult our Technical Services Department for further advice.

Packaging

MasterGlenium SKY 544 is available in Bulk, 1000-litre IBC's and 15-litre containers.

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Product Data	
Appearance:	Beige / milky white
Specific gravity @ 20°C:	1.08 ± 0.02 g/cm ³
pH-value:	6.0 ± 1
Alkali content (%):	≤ 2.00 by mass
Chloride content (%):	≤ 0.10 by mass
Corrosion behaviour:	Contains only components according to BS EN 934-1:2008, Annex A.1
Air Content:	Fulfilled
Water reduction:	≥ 112% of Reference mix
Increase in consistence:	Increase of ≥ 120mm from initial slump or ≥ 160mm from initial flow
Retention of consistence:	At 30 mins ≥ Reference mix at initial
Compressive strength:	Fulfilled
Durability:	NPD
Dangerous substances:	NPD
Logistics	
Shelf life:	12 months if stored according to manufacturer's instructions in unopened container.
Storage conditions:	Store in original sealed containers and at temperatures between 5°C and 30°C. Store under cover, out of direct sunlight and protect from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.
Handling and transportation:	Refer to MasterGlenium SKY 544 Safety Data Sheet
Disposal:	Refer to MasterGlenium SKY 544 Safety Data Sheet

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DISCLAIMER

MasterGlenium SKY 544, Master Builders Solutions UK Ltd, Version 8

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapour until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

Health and Safety: *For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted. **Spillage:** Chemical products can cause damage; clean spillage immediately.

DISCLAIMER: "Master Builders Solutions UK Ltd" (the Company) endeavours to ensure that advice and information given in Product Data Sheets, Method Statements and Material Safety Data Sheets (all known as Product Literature) is accurate and correct. However, the Company has no control over the selection of its products for particular applications. It is important that any prospective customer, user or specifier, satisfies him/her-self that the product is suitable for the specific application. In this process, due regard should be taken of the nature and composition of the background/base and the ambient conditions both at the time of laying/applying/installing the material and when the completed work is to be brought into use. Accordingly, no liability will be accepted by the Company for the selection, by others, of a product, which is inappropriate to a particular application. Products are sold subject to the Company's standard conditions of sale and all customers, users and specifiers, should ensure that they examine the Company's latest Product Literature.

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Declaration of Performance can be found at:
www.master-builders-solutions.com/en-gb

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