

MasterGlenium SKY 903

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

Material Description

MasterGlenium SKY 903 is an innovative superplasticizer based on polycarboxylic ether (PCE) polymers. It is the next step of the Total Performance Control™ concept. MasterGlenium SKY 903 is specially engineered for ready-mix concrete. Its particular configuration allows its delayed adsorption onto the cement particles and disperses them efficiently.

With MasterGlenium SKY 903 it is now possible to obtain a high quality concrete mix with accelerated strength development and extended workability without delayed setting characteristics. MasterGlenium SKY 903 gives the same high quality performance as other products in the MasterGlenium SKY range but pays particular emphasis on workability retention. The unique polymer formulation enables true workability retention to be achieved across a broad spectrum of consistence classes (S3 to SF3). This is achieved without set retardation or reduced 24 hour strength performance. The formulation of MasterGlenium SKY 903 has been particularly optimised for use with high replacement levels of GGBS (ground granulated blast furnace slag) or PFA (pulverised fuel ash).

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 Smart Dynamic Concrete technology it provides a concrete mix with exceptional placing characteristics, extended workability retention and accelerated cement hydration for early strength development and high-quality concrete.

Fields of Application

MasterGlenium SKY 903 is especially beneficial for the production of high quality ready-mix concrete particularly when high water reductions are required in combination with a requirement for an extended period of workability e.g. long distance deliveries or deliveries with extended discharge times.

MasterGlenium SKY 903 is designed to exhibit workability retention for periods up to 4 hours.

Characteristics and Benefits

MasterGlenium SKY 903 offers the following benefits for the precast concrete industry:

The ready-mix producer:

- Production of a concrete with low water cement ratio that meets EN 206-1 without loss of workability.
- Single product for many application needs.
- Enhanced retention performance with high replacement levels of GGBS or PFA
- Confidence that the workability will be the same at the job site as it was when first produced.

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

MasterGlenium SKY 903 is particularly suited for mixes where higher strengths/low water cement ratios are required without significant workability reduction over a 4 hour period. The normally recommended dosage rate of MasterGlenium SKY 903 is approximately:

- *By Volume* - 0.46 to 1.39 litres per 100 Kg of cement (binder)
- *By Mass* - 0.50 to 1.50 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

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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.

Mixing

MasterGlenium SKY 903 is a ready-to-use admixture to be added to the concrete as a separate component. Optimal results are obtained if MasterGlenium SKY 903 is dispensed into the concrete mix 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 and cement.

Compatibility

MasterGlenium SKY 903 can be used with all types of EN 197 Cements. For use with other special cements, contact our Technical Services Department.

MasterGlenium SKY 903 should not be pre-mixed with other admixtures. If other admixtures are to be used in concrete containing MasterGlenium SKY 903 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 OR Self Compacting 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 903 is available in Bulk, 1000-litre IBC's and 15-litre containers.

Contact Details

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Product Data	
Appearance:	Light brown liquid
Specific gravity @ 20°C:	1.08 ± 0.02 g/cm ³
pH-value:	6.0 ± 1
Alkali content (%):	≤ 1.50 by mass

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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 903 Safety Data Sheet
Disposal:	Refer to MasterGlenium SKY 903 Safety Data Sheet



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



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Disclaimer

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Health and Safety

*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

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.

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.

