

GLENIUM[®] 111

New polycarboxylic ether superplasticizer for the production of high quality ready-mix concrete with low water cement ratio and exceptional workability

Description

GLENIUM[®] 111 is an innovative second generation superplasticizer based on polycarboxylic ether (PCE) polymers, and is specially engineered for ready-mix concrete.

GLENIUM[®] 111 is differentiated from conventional superplasticisers, such as those based on sulphonated melamine and naphthalene formaldehyde condensates in that it is based on a unique carboxylic ether polymer with long lateral chains. This greatly improves cement dispersion. At the start of the mixing process the same electrostatic dispersion occurs but the presence of the lateral chains, linked to the polymer backbone, generate a steric hindrance which stabilises the cement particles capacity to separate and disperse.

This mechanism provides flowable concrete with greatly reduced water demand.

Fields of application

GLENIUM[®] 111 is used for the production of high quality ready-mix concrete.

GLENIUM[®] 111 may be used in combination with RheoMATRIX for producing Smart Dynamic Concrete (SDC). The technology produces advanced self compacting concrete, without the aid of vibration. For economic, ecological and ergonomic ready-mix / precast concrete production.

Features and Benefits

GLENIUM[®] 111 offers the following benefits for:

The ready-mix producer:

- Capability of delivering high performance concrete at any time to the job site in place
- Production of a concrete with low water cement ratios 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

The engineer:

- Insurance that concrete meets original specification
- High quality durable concrete

Packaging

GLENIUM[®] 111 is supplied in 210 litre drums, 1,000 litre containers or in bulk.

*Typical properties

Appearance	Whitish to light brown coloured liquid
Specific gravity @ 25°C	1.060
pH value	5-8
Chloride content	"chloride-free" to EN 934-2

Standards

ASTM C-494 Type F&G

ASTM C-1017 Type I & II

GLENIUM® 111

Application procedure

Dosage

The normally recommended dosage rate of GLENIUM® 111 is 0.8 to 2.5 litre per 100kg of total cementitious material.

Other dosages may be recommended in special cases according to the specific site conditions. In this case please consult our Technical Services Department for advice.

Mixing

GLENIUM® 111 is a ready-to-use admixture to be added to the concrete as a separate component. Optimal result is obtained if GLENIUM® 111 is poured into the concrete mix right after the addition of the first 80% of the mixing water, i.e. when all solids are wetted. Avoid adding the admixture to the dry aggregates.

Compatibility

GLENIUM® 111 is not compatible with RHEOBUILD® superplasticizers.

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

- Viscosity modifying agent RheoMATRIX to produce Smart Dynamic Concrete (SDC).
- Air entraining agent MICRO-AIR® to improve frost/thaw resistance

GLENIUM® 111 is suitable for mixes containing:

- Microsilica
- Fly Ash (PFA)
- ground granulated blast furnace slag cement

Storage

GLENIUM® 111 should be stored out of direct sunlight and protected from extremes of temperature. The shelf life is 9 months when stored as above.

The occurrence of a surface layer with GLENIUM® 111 is normal and will have no effect on the performance of the product.

Handling and transportation

No special requirements must be observed during use. Protection gloves and glasses are however recommended. GLENIUM® 111 is non-flammable, non-toxic or irritant and is not subject to special transport requirements.

Safety precautions

GLENIUM SKY 111 contains no hazardous substances requiring labelling. For further information refer to the Material Safety Data Sheet.

Note

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local BASF representative.

BASF reserves the right to have the true cause of any difficulty determined by accepted test methods.

Quality and care

All products originating from BASF's Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and OHSAS 18001.

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* Properties listed are based on laboratory controlled tests.

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