

GLENIUM® B 201

(Formerly Glenium 110 IR Plus)

A high performance concrete superplasticiser based on modified polycarboxylic ether

Description

GLENIUM B 201 has been primarily developed of self compaction concrete where the highest durability and performance is required.

GLENIUM B 201 is free from chlorides and complies with ASTM C494 Types B, D and G.

GLENIUM B 201 is compatible with all Portland cements that meet recognised international standards.

Chemistry and mechanism of action of GLENIUM B 201

Conventional superplasticisers , such as those based on sulphonated melamine and naphthalene formaldehyde condensates, at the time of mixing, become absorbed onto the surface of the cement particles. This absorption takes place at a very early stage in the hydration process. The sulphonic groups of the polymer chains increase the negative charge on the surface of the cement particle and dispersion of the cement occurs by electrostatic repulsion.

GLENIUM B 201 is differentiated from conventional superplasticisers 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 as described previously 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.

Typical applications

The excellent dispersion properties of GLENIUM B 201 make it the ideal admixture for precast and readymixed concrete where low water cement ratios are required. This property allows the production of very high early and high ultimate strength concrete with minimal voids and therefore optimum density. Due to the strength development characteristics the elimination or reduction of steam curing in precast works may be considered as an economical option.

- high workability without segregation or bleeding
- less vibration required
- can be placed and compacted in congested reinforcement
- reduced labour requirement
- improved surface finish

Packaging

GLENIUM B 201 is available in 220 and 1100kg. drums and in bulk tanks upon request.

Effect on hardened concrete properties

- better resistance to aggressive atmospheric conditions
- reduced shrinkage and creep
- increased durability

Compatibility of GLENIUM B 201

GLENIUM must not be used in conjunction with any other admixture unless prior approval is received from Degussa Technical Services. GLENIUM B 201 is suitable for mixes containing:

- microsilica
- pulverised fuel ash
- ground granulated blast furnace slag cement

Dosage

The normal dosage for GLENIUM B 201 is between 0.5 and 2.0 litres per 100 kg of cement (cementitious material).

Dosages outside this range are permissible subject to trial mixes.

Directions for use

GLENIUM B 201 is a ready to use admixture that is added to the concrete at the time of batching.

The maximum effect is achieved when the GLENIUM B 201 is added after the addition of 50 to 70 % of the water. GLENIUM B 201 must not be added to the dry materials.

Thorough mixing is essential and a minimum mixing cycle, after the addition of the GLENIUM B 201 of 60 seconds for forced action mixers is recommended.

Storage

GLENIUM B 201 should be stored in original containers and at above 5 Centigrade. If frozen gradually thaw and agitate until completely reconstituted.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult Degussa's Technical Services Department.

Safety precautions

GLENIUM B 201 contains no hazardous substances requiring labelling. For further information refer to the Material Safety Data Sheet.