



The Chemical Company

GLENIUM[®] C380

New generation superplasticising admixture for the precast concrete

DESCRIPTION

GLENIUM C380 is a new generation superplasticiser for concrete containing polycarboxylate ether polymers. It has been primarily developed for use in precast and prestressed concrete, but it is also suitable for use in other types of concrete.

GLENIUM C380 is free of chloride and has been formulated to comply with the requirements of ASTM C494 for Types A and F admixtures. **GLENIUM C380** is compatible with all cements meeting recognised international standards.

Chemistry and Mechanism of Action

GLENIUM C380 is differentiated from conventional superplasticisers in that it is based on a unique polycarboxylate ether polymer with long lateral chains. This greatly improves cement dispersion. 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.

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.

Compability

Do not use other water-reducers and/or superplasticisers in the mix with **GLENIUM C380**. **GLENIUM C380** is compatible with selected BASF Construction Chemicals air-entraining agents. Consult your local BASF Construction Chemicals representative for advice.

FIELDS OF APPLICATION

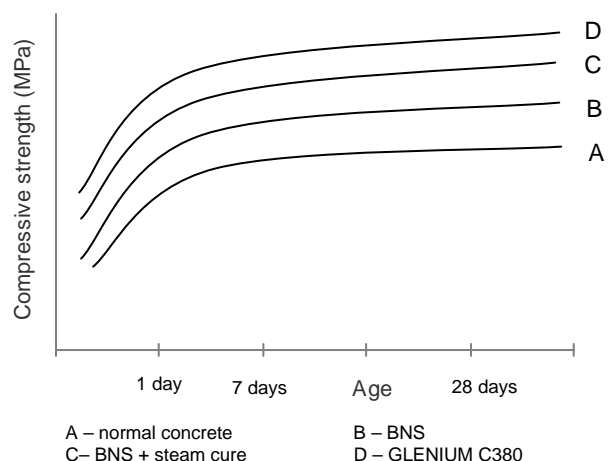
GLENIUM C380 allows the precaster to work with normal to low water/cement ratios. The high early strength, low retardation and low dosage make **GLENIUM C380** the ideal admixture for the precast concrete industry. The use of **GLENIUM C380** also allows the manufacture of high performance concrete with high early (18-24 hours) and final strength.

FEATURES AND BENEFITS

High water reduction	High early and ultimate strengths. May be possible to eliminate steam curing. Low permeability, high durability concrete.
High flowability	Ease of placing and compaction. Less vibration required even in case of steel reinforcement congestion. Less workmanship required.
Superior workability	Improves concrete finish. Excellent surface appearance and texture.
Reduced slump loss	No retempering. Ease of delivery to point of placement.
Low shrinkage and creep	Improved dimensional stability. Reduced risk of cracks.
Superior cohesion	Ease of pumping.
High elastic modulus	Superior load bearing capacity.
Minimal bleed water	Improved surface quality

TYPICAL PERFORMANCE DATA

GLENIUM C380 improves early and final strength considerably. **GLENIUM C380** also improves slump retention and workability of concrete more than traditional superplasticisers.



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APPLICATION

Dispensing

GLENIUM C380 is a ready-to-use that is added to the concrete at the time of batching.

The maximum effect is achieved when the **GLENIUM C380** is added after the addition of 50 to 70% of the water. **GLENIUM C380** must not be added to the dry materials. A separate dispenser and feed line must be used.

DOSAGE

The normal dosage of **GLENIUM C380** is between 500 and 800 ml per 100 kg of cementitious materials. Other dosages may also be used depending on the specific working conditions.

Trial mixes should be made with job materials to determine the optimum dosage required for a specified job requirement.

PACKAGING

GLENIUM C380 is available in 205L drums or by bulk delivery.

SHELF LIFE

GLENIUM C380 can be stored for 6 months if stored at a temperature above 0°C and in tightly sealed original containers. If frozen, thaw it and completely reconstitute by mild agitation. Do not use compressed air.

PRECAUTIONS

Health: **GLENIUM C380** does not contain any hazardous substances requiring labelling.

It is safe for use with standard precautions followed in the construction industry, such as use of hand gloves, safety goggles, etc.

For detailed Health, Safety and Environmental recommendations, please consult and follow all instructions in the product Material Safety Data Sheet.

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF Construction Chemicals** publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by **BASF Construction Chemicals** either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not **BASF Construction Chemicals**, are responsible for carrying out procedures appropriate to a specific application.