



The Chemical Company

# GLENIUM<sup>®</sup> 27

A new generation superplasticising admixture for ready-mix concrete applications

## DESCRIPTION

**GLENIUM 27** is a new generation superplasticising admixture, based on chains of modified polycarboxylate ether. It has been used extensively by the ready-mix concrete industry where slump retention, high strength and durability are required in hot climates.

The patented chemistry makes **GLENIUM 27** the ideal admixture for ready-mix concrete applications. The ability to work with very low water/cement ratios and still obtain extended slump retention allows for the manufacture of high quality concrete.

**GLENIUM 27** is free of chloride and has been formulated to comply with ASTM C494 for Type A and Type F admixtures. **GLENIUM 27** is compatible with all cements meeting recognised international standards.

### Chemistry and Mechanism of action

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 27** 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. In addition, these polymers have been synthesised with "time release" technology to extend slump life without retardation of set time. This provides long slump retention excellent and early strengths. 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 that stabilises the cement particles capacity to separate and disperse.

This mechanism provides flowable concrete with greatly reduced water demand.

## FIELDS OF APPLICATION

- concrete with less water content than with conventional admixtures
- faster mixing logistics during large jobs
- high flowability concrete
- highly durable concrete
- high strength concrete
- ready-mixed concrete
- mass concrete
- long distance transport
- pumped concrete
- hot weather concreting
- self compacting concrete

### Compatibility

Do not use other water reducers and/or superplasticisers in the mix with **GLENIUM 27**. **GLENIUM 27** is compatible with selected BASF Construction Chemicals air-entraining agents. Consult your local BASF Construction Chemicals representatives for advice.

## FEATURES AND BENEFITS

|                                 |   |
|---------------------------------|---|
| <b>High water reduction</b>     | Excellent early and ultimate strengths. Low permeability, high durability concrete. |
| <b>High flowability</b>         | Ease of placing and compaction. No segregation or bleeding.                         |
| <b>Superior slump retention</b> | No retempering. Ease of delivery to point of placement.                             |
| <b>Low shrinkage and creep</b>  | Improves dimensional stability. Reduces risk of cracks.                             |
| <b>Good cohesion</b>            | Ease of pumping. Significantly less bleeding than BNS based products.               |

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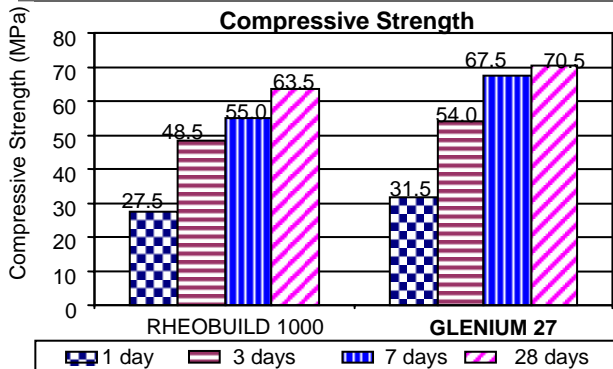
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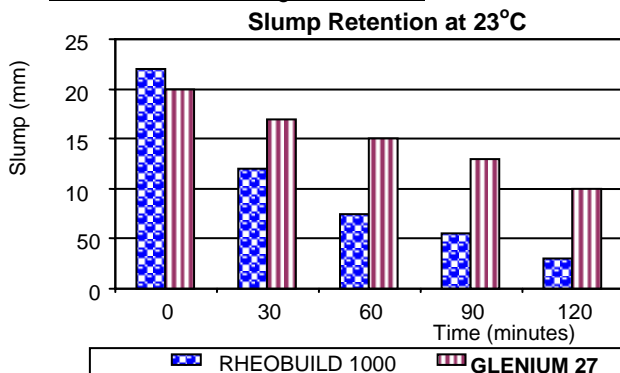
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## TYPICAL PERFORMANCE DATA



**GLENIUM 27** improves early and final strength considerably. **GLENIUM 27** also improves the slump retention and workability of concrete more than traditional superplasticisers.

Cement content 420kg, W/C = 0.38



## APPLICATION

### Dispensing

**GLENIUM 27** is a ready-to-use admixture to be added to the concrete mix as a separate component.

Optimal mixing water reduction is obtained if **GLENIUM 27** is poured into the concrete mix right after the addition of the first 50-70% of the mixing water. Avoid adding the admixture to the dry aggregates. A separate dispenser and feed line must be used.

## DOSAGE

The normally recommended dosage rate is approximately 1,000ml per 100kg of cementitious material. Other dosages 800 - 1,600ml per 100kg of cementitious materials may be recommended in special cases according to specific job site conditions. Consult your local BASF Construction chemicals representatives for advice.

## PACKAGING

**GLENIUM 27** is available in 205L drums or in bulk delivery.

## SHELF LIFE

**GLENIUM 27** can be stored for 6 months if stored at temperatures above 0°C, in tightly sealed original drums. If found to be frozen, thaw it and reconstitute by stirring.

## PRECAUTIONS

**Health :** **GLENIUM 27** 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

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