

# GLENIUM<sup>®</sup> 103 SURETEC

New generation superplasticising admixture for extended slump retention

## DESCRIPTION

**GLENIUM 103 SURETEC** is a new generation superplasticiser with super retention technology. It contains polycarboxylate ether polymers and is specially formulated for ready-mix concrete where slump retention, high strength and durability are required in hot climates. The excellent dispersion effect makes **GLENIUM 103 SURETEC** the ideal admixture for the ready-mix concrete industry. The ability to work with low water /cement ratios and still obtain extended slump retention allows for the manufacture of high quality concrete.

**GLENIUM 103 SURETEC** is free of chloride and complies with BS5075 : Part 3 : 1985, and is also 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 103 SURETEC** 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. 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, generates 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

- concrete with less water content than with conventional admixtures
- faster mixing logistics during large jobs
- high flowability concrete
- highly durable concrete
- ready-mixed concrete
- mass concrete
- long distance transport

- pumped concrete
- hot weather concreting

## FEATURES AND BENEFITS

<b>High water reduction</b>	High early and ultimate strengths. Low permeability, high durability concrete.
<b>High flowability</b>	Ease of placing and compaction. No segregation.
<b>Superior slump retention</b>	No retempering. Ease of delivery to point of placement.
<b>Low shrinkage and creep</b>	Improve dimensional stability. Reduced risk of cracks.
<b>Good cohesion</b>	Ease of pumping. No bleeding.
<b>Good workability</b>	Excellent surface appearance. Self-compacting concrete.
<b>Minimal bleed water</b>	Excellent concrete quality.
<b>High elastic modulus</b>	Superior load bearing capacity.

## APPLICATION

### Dispensing

**GLENIUM 103 SURETEC** 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 103 SURETEC** 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

Dosage of **GLENIUM 103 SURETEC** depends on the mix design, ambient conditions and degree of water reduction and workability required. **GLENIUM 103 SURETEC** is dispensed at a rate of 800ml to 2,000ml per 100 kg of cementitious material. 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.

**GLENIUM 103 SURETEC** can be used in combination with other GLENIUM admixtures to achieve longer slump retention or other specific working requirements. The dosage employed in such cases may be different from the above recommendation. Trial mixes should be made

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with job materials to determine the optimum dosage required for a specified job requirement.

**GLENIUM 103 SURETEC** is not compatible with RHEOBUILD admixtures.

## SHELF LIFE

**GLENIUM 103 SURETEC** can be stored for 12 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.

## PACKAGING

**GLENIUM 103 SURETEC** is available in 205L drums or by bulk delivery.

## PRECAUTIONS

Health: **GLENIUM 103 SURETEC** 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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