RHEOMAC® 1009 SURETEC

New generation super slump retaining aid for extended slump retention

DESCRIPTION

RHEOMAC 1009 SURETEC is an innovative new generation polycarboxylate ether based slump retaining aid with super retention technology. Additionally, it can help the ready-mixed / precast concrete industries, where more than normal slump retention and durability are required, particularly in hot climates. **RHEOMAC 1009 SURETEC** is a specifically tailored, stand alone product, the constituents of its active ingredient exhibiting unique adsorption characteristics to cement. **RHEOMAC 1009 SURETEC** can be used in conjunction with BASF polycarboxylate ether and modified lignosulphonate based admixtures only to aid in super slump retention of a concrete mix. The excellent dispersion effect makes **RHEOMAC 1009 SURETEC** the ideal aid for the ready-mixed concrete / precast concrete industry, without affecting concrete setting times. The ability to work over a range of water binder ratios including low w/b ratios and still obtain extended slump retention allows for the manufacture of high quality concrete.

RHEOMAC 1009 SURETEC is free of added chloride and complies with ASTM C 494/ C 494M-08, Type G, BS EN 934 – 2:2001, AS 1478.1 - 2000 Type SN and is also compatible with all cements meeting recognized international standards.

CHEMISTRY & MECHANISM OF ACTION

Conventional superplasticisers, such as those based on sulphonated melamine and napthalene 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. **RHEOMAC 1009 SURETEC** is differentiated in that this unique polycarboxylate ether polymer with long lateral chains is tailored to generate a super slump retaining effect in combination with polycarboxylate ether and/or modified lingosulphonate based admixtures. This greatly improves cement dispersion and steric hindrance. 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 and aids in super slump retention.

RECOMMENDED FOR

- super slump retaining concrete with equal or less water content than conventional admixtures
- faster mixing logistic during large jobs
- high flowability concrete
- highly durable concrete
- ready-mixed concrete
- precast concrete
- mass concrete
- long distance transport
- pumped concrete
- hot weather concreting

FEATURES & BENEFITS

- **High workability- ease of placing and compaction. No segregation.**
- **Superior slump retention - no re-tempering. Ease of delivery to point of placement.**
- **Low shrinkage and creep - improve dimensional stability. Reduced risk of cracks.**
- **Good cohesion - ease of pumping. No bleeding.**
- **Good workability - excellent surface appearance. Self-compacting concrete.**
- **Minimal bleed water - excellent concrete quality.**
- **High elastic modulus- superior load bearing capacity**

QUANTITY TO USE

Dosage of **RHEOMAC 1009 SURETEC** depends on the mix design, ambient conditions and degree of water reduction and workability required. **RHEOMAC 1009 SURETEC** is dispensed at a rate of 100 ml to 500ml 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. Dosage of **RHEOMAC 1009 SURETEC** can be adjusted according to demand of dosing requirement to affect the right degree of workability.

As highlighted**, RHEOMAC 1009 SURETEC** can be used in combination with other BASF 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 with job materials to determine the optimum dosage required for a specified job requirement.

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DISPENSING

RHEOMAC 1009 SURETEC is a ready-to-use admixture to be added to the concrete mix as a separate component along with a polycarboxylate ether or modified lignosulphonate based admixture. Optimal mixing is obtained if **RHEOMAC 1009 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. Care should be taken that it does not get mixed with any of our **RHEOMAC** products.

COMPATIBILITY

RHEOMAC 1009 SURETEC is not compatible with Rheobuild admixtures or other admixtures containing naphthalene formaldehyde condensates.

RHEOMAC 1009 SURETEC can be used with other BASF Construction Chemicals admixtures to achieve cost effective customised performance. However, those admixtures should be dispensed separately and added separately to ensure complete distribution throughout the mix. **RHEOMAC 1009 SURETEC** should not be used in conjunction with other admixtures unless specific test information is available.

PACKAGING

RHEOMAC 1009 SURETEC is supplied in 20 litre pails, 1000 litre pallecons and bulk delivery.

STORAGE

RHEOMAC 1009 SURETEC can be stored for 12 months if stored at a temperature above 0ºC and in tightly sealed original containers.

Recirculation of **RHEOMAC 1009 SURETEC** in bulk tanks is needed prior to its actual use in concrete

If frozen, thaw it and completely reconstitute by mild agitation. Do not use compressed air.

PRECAUTIONS

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the BASF **Material Safety Data Sheet (MSDS**) from our office or our website.

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