

GLENIUM ACE 331

High early strength, high range water-reducing admixture with improved slump retention & finishability

DESCRIPTION

GLENIUM ACE 331 is an innovative second generation polycarboxylic ether polymer superplasticiser with high early strength and improved slump retention.

The particular molecular configuration of **GLENIUM ACE 331** accelerates the cement hydration. Rapid absorption of the molecule onto the cement particles, combined with an efficient dispersion effect maintains workability yet exposes increased surface of the cement grains to react with water.

As a result of this effect, it is possible to obtain earlier development of the heat of hydration, rapid development of the hydration products and, as a consequence, higher strengths at a very early age.

ZERO ENERGY SYSTEM

Zero Energy System is based on a combination of the advanced technology admixture **GLENIUM ACE 331** and the innovative technology of Rheodynamic concrete.

The Zero Energy System has been developed to help Precast Concrete producers rationalize their production process and save on energy costs combined with improved product quality and working conditions.

RECOMMENDED FOR

- **GLENIUM ACE 331** is suitable for making precast concrete elements at all workability's including Rheoplastic or Super Workable concrete having a fluid consistence, no segregation, a low water binder ratio and, consequently, high early and long term strengths.
- **GLENIUM ACE 331** may be used in combination with other BASF admixtures for producing Rheodynamic or Super Workable concrete, capable of self-compaction, even in the presence of dense reinforcement, without the aid of vibration, for making precast elements.
- **GLENIUM ACE 331** performs best when the concrete temperature is at 15°C or above.

FEATURES AND BENEFITS

GLENIUM ACE 331 offers the following benefits for the precast concrete industry to:

- produce Rheoplastic and Rheodynamic concrete having a low water cement ratio
- optimise curing cycles by reducing curing time or curing temperature
- eliminate heat curing
- eliminate the energy required for placing, compaction and curing (Zero Energy)
- increase productivity/reduction in cycle times
- improve surface appearance
- produce durable precast concrete elements
- improved engineering properties, compared to traditional superplasticiser's, such as early and ultimate compressive and flexural strengths, shrinkage and permeability

- Improved finishing

PROPERTIES

Typical properties of **GLENIUM ACE 331** are:

Appearance: Light brown, opaque liquid.	
SG	1.07 ± 0.02 @ 20°C
pH	5.7
NVM % w/w	30.0 ± 2.0
Alkali (Na ₂ O equivalent) % w/w	0.60 ± 0.1
Chloride ion (Cl ⁻)% w/w	0.007 ± 0.001
Sulphate (SO ₄) % w/w	0.07 ± 0.02

APPLICATION

GLENIUM ACE 331 is a liquid admixture normally added to concrete during the mixing process either at the batch plant or on site.

At the batch plant, **GLENIUM ACE 331** may be added with the initial batch water, however, the best results are obtained when the admixture is added after at least 70% of the added water and after all the other components are already in the mixer. When added at site, mix for a minimum of 5 minutes before discharging.

Avoid adding **GLENIUM ACE 331** to the dry materials.

Concrete which has lost slump may be re-tempered with **GLENIUM ACE 331** provided initial setting has not started.

DOSAGE

The normally recommended dosage rate is:

0.3 to 1.0 litres per 100kg of cementitious material (binder) and any material passing the 0.15mm sieve (fines of aggregates or fillers) used for producing conventional, Rheodynamic or Super Workable concrete.

Other dosages outside these ranges may be used in special cases according to specific job site conditions. In this case consult your BASF Technical Sales Representative. It is recommended that trials be conducted with the actual materials to be used and at the specified **GLENIUM ACE 331** dose rates to verify performance before proceeding to application.

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COMPATABILITY

GLENIUM ACE 331 is compatible with most BASF admixtures providing they are added separately to the mix

GLENIUM ACE 331 is recommended for use with:

- **Glenium Stream** admixtures to produce Rheodynamic and Super Workable concrete.
- **RHEOMAC, STABILMAC or TETRAGUARD** for producing shrinkage compensated concrete.
- **Meyco MS685**, silica admixture for SWC (SCC).

GLENIUM ACE 331 is NOT compatible with admixtures containing Sulphonated Naphthalene Formaldehyde Condensate such as **RHEOBUILD 1000**.

GLENIUM ACE 331 may have a synergistic effect on AEA's significantly increasing the amount of entrained air. Trials are recommended before using this combination.

It is recommended that any admixture or combination of admixtures is trailed with the particular materials and mix design to be used to verify concrete performance before commencing normal production.

For further information, consult your BASF Technical Sales Representative.

PACKAGING

GLENIUM ACE 331 is available in Bulk, 1000 litre pallecons, 200 litre drums and 20 litre cubes.

STORAGE

GLENIUM ACE 331 is best stored in a place where the temperature does not drop below +5°C. If the product has frozen, thaw at +3°C and agitate until completely reconstituted. Do not use compressed air to agitate. Non-bulk containers preferably should be stored under cover, out of direct sunlight and protected from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice, consult your local BASF Technical Sales Representative.

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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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF** 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** either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not **BASF**, are responsible for carrying out procedures appropriate to a specific application.

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