

MasterGlenium[®] SKY 8323

New generation superplasticizing admixture

DESCRIPTION

MasterGlenium SKY 8323 is a new generation high range water reducing admixture, based on chains of modified polycarboxylate ether technology.

MasterGlenium SKY 8323 is free of chloride, meets ASTM C 494 requirements for Type A and Type F and it is also compatible with all cements meeting the ASTM standards.

THE NEW CHEMISTRY of **MasterGlenium SKY 8323**:

What differentiates MasterGlenium SKY 8323 from the traditional high range water reducing with good workability is a new, unique mechanism of action that greatly improves the effectiveness of cement dispersion. Traditional high range water reducing like melamine and naphthalene sulfonates are based on polymers, which are absorbed by the cement granules. They wrap around the granules surface areas at the very early stage of the concrete mixing process. The sulphonic groups of the polymer chains increase the negative charge of the cement particle surface and disperse these particles by electrical repulsion.

This electrostatic mechanism causes the cement paste to disperse and has the positive consequence of requiring less mixing water to obtain a given concrete workability. Hydration however starts as soon as the cement particles get in contact with mixing water. The rapid growth of hydration crystals will change the surface mechanical of the particles and thus of set the free dispersion of them. **MasterGlenium SKY 8323** has a different chemical structure from the traditional high range water reducing. It consists of polycarboxylate ether polymer with long side chains. At the beginning of the mixing process it initiates the same electrostatic dispersion mechanism as the traditional high range water reducing, but the side chains linked to the polymer backbone generate a steric hindrance, which greatly stabilises the cement particles ability to separate and disperse. With this process, flowable concrete with greatly reduced water content is obtained. The mechanism allows obtaining, compared to traditional high range water reducing admixtures, considerably reduction of mixing water content and higher early strengths.

Integrated with super slump retention technology, **MasterGlenium SKY 8323** can provide good slump retention property as well without sacrificing early strength. The combination of high early strength and good slump retention make **MasterGlenium SKY 8323** attractive not only in precast concrete but also RMC and site mix concrete production.

RECOMMENDED USES

MasterGlenium SKY 8323 is especially suitable for concrete used in the construction which requires good workability and high early and final strengths, such as:

- Production of load bearing precast elements (e.g. bridge girders, piles, concrete housing)
- Self-compacting concrete for precast concrete
- Low slump concrete
- Structures constructed using travelling forms and slip forms
- Hot weather concreting
- Insitu casting of structural elements

FEATURES AND BENEFITS

- **High workability** - Short placement. Saves times and labour.
- **High water reduction** - High impermeability and strength.
- **Superior cohesion** - No segregation even at high workability. Excellent concrete quality
- **High early strength** - Early demoulding. Shorter steam curing cycles.
- **High elastic modulus** - Superior load bearing capacity
- **Low shrinkage** - Better dimensional stability and creep.

APPLICATION

Dispensing

MasterGlenium SKY 8323 is a ready-to-use admixture to be added to the concrete mix as a separate component. Optimal mixing water reduction is obtained if **MasterGlenium SKY 8323** is poured into the concrete mix right after the addition of the mixing water.

Avoid adding the admixture to the dry aggregates.

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Rate of Hardening

Setting time is influenced by the chemical and physical composition of the basic ingredients of the concrete, temperature of the concrete and climatic condition. Trial mixes should be made with job materials to determine the optimum dosage required for a specified setting time and a given strength requirement.

DOSAGE

The normally recommended dosage rate is approximately 0.8 - 2.0 litre per 100 kg of cementitious material. Other dosages may be recommended in special cases according to specific job site conditions (consult our Technical Service Department for advice).

PACKAGING

MasterGlenium SKY 8323 is available in bulk and 205L drums.

SHELF LIFE

MasterGlenium SKY 8323 can be stored for 12

months if stored at temperature above 0°C in tightly sealed original drums. If found to be frozen, thaw it and reconstitute by stirring.

PRECAUTIONS

Health: **MasterGlenium SKY 8323** 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 on the product Material Safety Data Sheet.

STATEMENT OF RESPONSIBILITY

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

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