

# MasterGlenium SKY 8700

New generation superplasticising admixture for extended slump retention

## Material Description

**MasterGlenium SKY 8700** is one of the new generation superplasticisers with super retention technology.

**MasterGlenium SKY 8700** contains polycarboxylate ether polymers and is specially formulated for ready-mixed concrete where moderate slump retention, high strength and durability are required. The degree of slump retention will depend on ambient temperature, mix design and dose rate. Generally, for a given mix design and dose rate, slump retention will be reduced with increasing temperature. The excellent dispersion effect makes **MasterGlenium SKY 8700** the ideal admixture for the ready-mixed 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.

**MasterGlenium SKY 8700** is free of added chlorides, complies with AS 1478.1-2000, Type MWR/HWR, and is compatible with all cements meeting recognized 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. **MasterGlenium SKY 8700** 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.

## Areas of Application

- Concrete with less water content than with conventional admixtures
- Faster mixing logistics during large jobs
- High flowability concrete
- Mid-range slump concrete
- Highly durable concrete
- Ready-mixed concrete
- Mass concrete
- Long distance transport
- Pumped concrete
- Hot weather concreting

## Characteristics and Benefits

- Variable water reduction - high early and ultimate strengths. Low permeability, high durability concrete.
- High flowability - 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.
- Good workability - excellent surface finish.
- Suitable for use with self-compacting concrete.
- Minimal to nil bleed water - Excellent concrete quality.
- High elastic modulus - Superior load bearing capacity

## Application

**MasterGlenium SKY 8700** is a ready-to-use admixture, added to the concrete mix as a separate component. Optimal water reduction and workability is obtained if **MasterGlenium SKY 8700** 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.



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## Dosage

Dosage of **MasterGlenium SKY 8700** depends on the mix design, ambient conditions and degree of water reduction and workability required. **MasterGlenium SKY 8700** is normally dispensed at a rate of 300ml to 1000ml per 100kg of cementitious material. Other dosages may also be used depending on the specific mix design and working conditions but should be trialled first to verify performance.

## Compatibility

**MasterGlenium SKY 8700** can be used in combination with other Master Builders Solutions admixtures such as MasterGlenium, MasterMatrix, MasterPolyheed or MasterPozzoloth 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 and all admixtures or combinations to determine the optimum dosages required and to verify concrete performance for a specified job requirement before commencing supply.

**MasterGlenium SKY 8700** is not compatible for use with admixtures based on naphthalene formaldehyde condensates such as MasterRheobuild.

## Disclaimer

## Packaging

**MasterGlenium SKY 8700** is available in bulk, 1000 litre pallecons and 20 litre cubes.

## Storage & Shelf Life

Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect from direct sunlight. Protect from temperatures below: 5 °C. The packed product is destroyed at low temperatures or by frost. Protect from temperatures above: 45 °C The packed product will be damaged by high temperatures.

**MasterGlenium SKY 8700** has a shelf life of 12 months.

**MasterGlenium SKY 8700** should be recirculated before use.

## Precautions

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

MasterGlenium-SKY8700-ANZ-V9-0623

### STATEMENT OF RESPONSIBILITY

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