

# MasterGlenium SKY 8379

New generation polycarboxylic ether hyperplasticiser for high performance concrete

## Material Description

**MasterGlenium SKY 8379** has been primarily developed for applications in the premixed and precast concrete industries where the highest durability and performance is required in conjunction with improved workability and finishing. **MasterGlenium SKY 8379** is free from chlorides and complies with AS 1478.1 – 2000 Type HWR and ASTM C494 Types A and F.

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 8379** is differentiated from conventional superplasticisers in that it is based on a unique carboxylic 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, generate 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

- Flowable concrete with low water/cement ratio without segregation or bleeding
- Allows reduction of curing cycles – i.e. time or temperature
- Possibility of elimination of steam curing
- Less vibration required even in case of congested steel reinforcement
- Less labour required
- Improves concrete surface finish and texture
- Compared to traditional superplasticisers, the addition of **MasterGlenium SKY 8379** will improve the physical properties and thus the durability of concrete

## Characteristics and Benefits

**MasterGlenium SKY 8379** increases:

- Early and ultimate compressive strength
- Early and ultimate flexural and tensile strength
- E-modulus
- Adhesion to reinforcement and prestressed steel
- Resistance to carbonation and chloride ion attack of concrete
- Resistance to aggressive atmospheric conditions

**MasterGlenium SKY 8379** decreases:

- Risk of shrinkage
- Creep

## Properties

Colour	Light brown to amber
Specific Gravity	1.047 - 1.087
pH	4.5 - 6.5

## Application

The excellent dispersion properties of **MasterGlenium SKY 8379** make it the ideal admixture for precast and premixed concrete where low water cement ratios are required. This property allows the production of very high early and high ultimate strength concrete with minimal voids and therefore optimum density. Due to the strength development characteristics, the elimination or reduction of steam curing in precast works may be considered as an economical option.

**MasterGlenium SKY 8379** is a ready-to-use admixture to be added to the concrete mix as a separate component.

Optimal concrete plastising effect (and thus maximum water reduction) is obtained if **MasterGlenium SKY 8379** is poured into the concrete mix right after the addition of the first 50-70% of the mixing water.

# MasterGlenium SKY 8379

New generation polycarboxylic ether hyperplasticiser for high performance concrete

Avoid adding the admixture to the dry aggregate or sand.  
**MasterGlenium SKY 8379** is not compatible with admixtures containing melamine or naphthalene sulphonates. Contact your local Master Builders Solutions Technical Sales Representative to obtain the recommended compatible admixtures.

## Dosage

The normally recommended dosage rate is between 0.2 - 0.8 litres per 100kg of cementitious material (binder) depending on specific mix design and requirements. Other dosages may be recommended or used in special cases according to specific job conditions but the performance must be verified with trial mixes before committing to supply (consult your local Master Builders Solutions Technical Sales Representative for advice).

## Packaging

**MasterGlenium SKY 8379** is supplied in 1000 litre pallecons.

## Disclaimer

MasterGlenium-SKY8379-ANZ-V8-0623

### STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this MB Solutions Australia Pty Ltd 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 and for ensuring that the application and use of the product is in accordance with the manufacturer's guidelines and recommendations.

### NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by MB Solutions Australia Pty Ltd either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not MB Solutions Australia Pty Ltd, are responsible for carrying out procedures appropriate to a specific application.

### MB Solutions Australia Pty Ltd

ABN 69 634 934 419  
 Unit 102, 2 Burbank Place  
 Norwest NSW 2153

Freecall: 1300 227 300

[www.master-builders-solutions.com/en-au](http://www.master-builders-solutions.com/en-au)

### MB Solutions New Zealand Ltd

45C William Pickering Drive  
 Albany, Auckland  
 New Zealand

Phone: +64 9 414 7233

### Emergency Advice:

1300 954 583 within Australia (24hr)  
 0800 001 607 within New Zealand

