

03 30 00	Cast-in-Place Concrete
03 40 00	Precast Concrete
03 70 00	Mass Concrete

MasterGlenium[®] 3400

High-Range Water-Reducing Admixture

Description

MasterGlenium 3400 ready-to-use high-range water-reducing admixture is a patented new generation of admixture based on polycarboxylate chemistry. MasterGlenium 3400 admixture is particularly effective in producing concrete mixtures that provide longer “working time” for placement and finishing operations, without compromising very high early strength requirements. MasterGlenium 3400 admixture meets ASTM C 494/C 494M requirements for Type A, water-reducing, and Type F, high-range water-reducing, admixtures.

Applications

Recommended for use in:

- Concrete with varying water reduction requirements (5-40%)
- Concrete applications requiring very high-early strength development
- Concrete where high flowability, increased stability and durability are needed
- Self-consolidating concrete
- Strength-on-demand concrete, such as 4x4[™] Concrete

Features

- Maximum dosage effectiveness for a given water reduction
- Controlled rheology
- Improved retention of slump and workability
- Strength enhancement package

Benefits

- Can be used in a wide variety of concrete mixtures as a Type A or Type F admixture
- Extremely high early strength development
- Improved finishability and surface appearance
- May reduce/eliminate need for vibration and heat curing
- Improves overall production cost efficiencies
- Increases productivity

Performance Characteristics

Compressive Strength: Concrete produced with MasterGlenium 3400 admixture achieves significantly higher early compressive strength compared to plain concrete and concrete mixtures containing naphthalene, melamine, and early generation polycarboxylate high-range water-reducing admixtures.

Mixture Data: Laboratory Evaluation: Cementitious Materials: 700 lb/yd³ (415 kg/m³), Water/Cementitious Materials: 0.40, Ambient temperature: 70 °F (21 °C).

Compressive Strength, psi (MPa)

Mixture	12 h	24 h
Conventional Polycarboxylate	930 (27.1)	5690 (39.2)
MasterGlenium 3400 admixture	4260 (29.4)	6480 (44.7)

Mixture Data: Field Evaluation: Cementitious Materials: 700 lb/yd³ (415 kg/m³), Water/Cementitious Materials: 0.37, Cure Time: 19.75h.

Compressive Strength, psi (MPa)

Mixture	Ambient Cure	Sure Cure System
Conventional Polycarboxylate	4660 (32.1)	5600 (38.6)
MasterGlenium 3400 admixture	5550 (38.3)	6670 (46.0)

Slump Retention: MasterGlenium 3400 admixture was developed to provide extremely high-early strength concrete that exhibits good slump and workability retention characteristics, relative to other high-early strength-producing high-range water-reducing admixtures. A field trial mixture is recommended to ensure that the desired slump at a specific time period is achieved.

Guidelines for Use

Dosage: MasterGlenium 3400 admixture has a recommended dosage range of 2-12 fl oz/cwt (130-780 mL/100 kg) of cementitious materials. For most applications, dosages in the range of 2-6 fl oz/cwt (130-360 mL/100 kg) will provide excellent performance. For very high performance and self-consolidating concrete mixtures, up to 12 fl oz/cwt (780 mL/100 kg) of cementitious materials can be utilized. Because of variations in concrete materials, job site conditions and/or applications, dosages outside of the recommended range may be required. In such cases, contact your local sales representative.

Mixing: MasterGlenium 3400 admixture can be added with the initial batch water or as a delayed addition. However, optimum water reduction is generally obtained with a delayed addition.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: MasterGlenium 3400 admixture will neither initiate nor promote corrosion of reinforcing steel embedded in concrete, prestressing steel or of galvanized steel floor and roof systems. Neither calcium chloride nor other chloride-based ingredients are used in the manufacture of MasterGlenium 3400 admixture.

Compatibility: MasterGlenium 3400 admixture is compatible with most admixtures used in the production of quality concrete, including normal, mid-range and high-range water-reducing admixtures, air-entrainers, accelerators, retarders, extended set control admixtures, corrosion inhibitors, and shrinkage reducers.

Do not use MasterGlenium 3400 admixture with admixtures containing beta-naphthalene sulfonate. Erratic behaviors in slump, workability retention and pumpability may be experienced.

Storage and Handling

Storage Temperature: MasterGlenium 3400 admixture must be stored at temperatures above 40 °F (5 °C). If MasterGlenium 3400 admixture freezes, it can be thawed by warming and reconstituted by mechanical agitation. **Do not use pressurized air for agitation.**

Shelf Life: MasterGlenium 3400 admixture has a minimum shelf life of 6 months. Depending on storage conditions, the shelf life may be greater than stated. To ensure the longest shelf life potential, recirculation is required. Please contact your local sales representative regarding suitability for use and dosage recommendations if the shelf life of MasterGlenium 3400 admixture has been exceeded.

Packaging

MasterGlenium 3400 admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Safety Data Sheets: MasterGlenium 3400 admixture

Additional Information

For additional information on MasterGlenium 3400 admixture or its use in developing concrete mixtures with special performance characteristics, contact your local sales representative.

Master Builders Solutions, a brand of MBCC Group, is a global leader of innovative chemistry systems and formulations for construction, maintenance, repair and restoration of structures. The Admixture Systems business provides advanced products, solutions and expertise that improve durability, water resistance, energy efficiency, safety, sustainability and aesthetics of concrete structures, above and below ground, helping customers to achieve reduced operating costs, improved efficiency and enhanced finished products.

Utilizing worldwide resources, the Master Builders Solutions community of experts are passionate about providing solutions to challenges within all stages of construction, as well as the life cycle of a structure. At Master Builders Solutions we create sustainable solutions for construction around the globe.

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