

MasterPolyheed[®] 3534

Next generation superplasticizer for the production of high-quality ready-mix concrete with low water cement ratio and enhanced rheology

DESCRIPTION

MasterPolyheed 3534 is part of a range of latest generation superplasticizers formulated from unique polymers manufactured in-house by Master Builders Solutions. It is specially engineered for ready-mix concrete.

MasterPolyheed 3534 is differentiated from conventional superplasticizers, such as those based on sulphonated naphthalene formaldehyde condensate in that it is based on unique polymers with long lateral chains. This greatly improves cement dispersion. At the start of the mixing process the same electrostatic dispersion occurs 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.

TYPICAL APPLICATIONS

MasterPolyheed 3534 is used for the production of high-quality ready-mix concrete.

ADVANTAGES

The ready-mix producer:

- Capability of delivering high performance concrete at any time to the job site in place
- Production of a concrete with low water cement ratios with excellent workability retention properties
- Single product for many application needs

The contractor / applicator:

- Easier placing and faster strength development
- Improved concrete surfaces
- Guarantee to place the same concrete as specified and ordered from ready-mix plant

The engineer:

- Insurance that concrete meets original specification
- High quality durable concrete

PACKAGING

MasterPolyheed 3534 is supplied in 210 L drums, 1,000 L containers or in bulk.

STANDARDS

ASTM C-494 Type D&G
 BS EN 934-2

TYPICAL PROPERTIES*

Appearance	Light to dark brown liquid
Specific gravity @ 25°C	1.060 - 1.080
pH value	4.0 - 7.0
Chloride content	"chloride-free" to EN 934

APPLICATION GUIDELINES

The normally recommended dosage rate of **MasterPolyheed 3534** is 0.80 - 2.00 L/100kg of total cementitious material.

Other dosages may be recommended in special cases according to the specific site conditions. In this case please consult our Technical Services Department for advice.

SMART DYNAMIC CONCRETE

MasterPolyheed 3534 may be used in combination with **MasterMatrix** for producing Smart Dynamic Concrete (SDC). The technology produces advanced self-compacting concrete, without the aid of vibration. For economic, ecological and ergonomic ready-mix concrete production.

MIXING

MasterPolyheed 3534 is a ready-to-use admixture to be added to the concrete as a separate component. Optimal result is obtained if **MasterPolyheed 3534** is poured into the concrete mix right after the addition of the first 80% of the mixing water, i.e. when all solids are wetted. Avoid adding the admixture to the dry aggregates.

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MasterPolyheed 3534 is suitable for mixes containing all types of cement and supplementary cementitious materials such as:

- Microsilica (Silica Fume)
- Fly Ash (PFA)
- GGBS (ground granulated blast furnace slag)

Note: **MasterPolyheed 3534** is not compatible with **MasterRheobuild** superplasticizers.

STORAGE AND SHELF LIFE

MasterPolyheed 3534 should be stored in unopened containers or bulk tanks so as to protect from extremes of temperature.

The shelf life is 12 months when stored as above.

The occurrence of a surface layer with **MasterPolyheed 3534** is normal and will have no effect on the performance of the product.

HANDLING AND TRANSPORTATION

No special requirements must be observed during use. Protection gloves and glasses are however recommended. **MasterPolyheed 3534** is non-flammable, non-toxic or irritant and is not subject to special transport requirements.

HEALTH AND SAFETY

MasterPolyheed 3534 contains no hazardous substances requiring labelling. For further information refer to the Material Safety Data Sheet.

QUALITY AND CARE

All products originating from Master Builders Solutions Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001 and ISO 14001.

* Properties listed are based on laboratory controlled tests.

® = Registered trademark of the MBCC Group in many countries.

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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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