

MasterSet R 100

Set retarding admixture for concrete EN 934 - 2: T10

DESCRIPTION

Placing and finishing requirements are facilitated because MasterSet R 100 retards setting time.

- Increased compressive and flexural strength.
- Durability to damage from freezing and thawing.
- Reduced water content required for given workability.
- Retarded setting characteristics.

FIELDS OF APPLICATION

MasterSet R 100 admixture is recommended for use in all types of concrete where moderate to extended retardation of set and improved performance are desired.

This admixture improves pumped concrete, shot-concrete (wet mix), and conventionally placed concrete. It improves plain, reinforced, precast, prestressed, lightweight or normal weight concrete.

MasterSet R 100 admixture can be used with air-entraining cements and with air-entraining admixtures approved under; **EN934 part 2** specifications. On its own, MasterSet R 100 admixture does not entrain air.

FEATURES and BENEFITS

The set retarding characteristics of MasterSet R 100 admixture aid in the production of concrete with the following special qualities:

- Improved workability.
- Reduced segregation.
- Superior finishing characteristics for flatwork and cast surfaces.
- Controlled retardation - depending on the addition rate.
- Provides flexibility in scheduling of placing and finishing operations.
- Offsets the effects of too early hardening during extended delays between mixing and placing.
- Helps eliminate cold joints.
- Allows for dead-load deflection to take place (before concrete sets) in extended pours for bridge decks, cantilevers, non-shored structural elements, etc.
- Lowers peak temperature and/or rate of temperature rise in mass concrete - reduces thermal cracking.

- Effective as a single admixture or as a component in a MasterPozzoloth admixture system.

DOSAGE

For most concrete mixes using average concrete ingredients, MasterSet R 100 admixture is recommended for use at the rate of:

- *By Weights* - 0.40 to 0.60 kg per 100 kg of cement (binder).

The dosage rates given above are for typical usages, they are not meant as absolute limits, as other dosages may be utilized in special cases according to specific job conditions. If required consult Master Builders Solutions Yapı Kimyasalları Sanayi ve Ticaret Ltd.Şti Technical Services Department for advice. Trial mixes should be carried out to ensure optimum dosage and effect. Where the concrete is to be machine finished by utilizing power float or power trowelling methods, we recommend that you contact with Master Builders Solutions Yapı Kimyasalları Sanayi ve Ticaret Ltd.Şti Technical Services Department.

COMPRESSIVE STRENGTH

Concrete produced with MasterSet R 100 admixture will have rapid strength development after initial set occurs. If retardation is within the normal ASTM C-494 Types B and D specification, MasterSet R 100 admixture will develop higher early (24 hours) and higher ultimate strengths than plain concrete when used within the recommended dosage range and under normal, comparable curing conditions.

When MasterSet R 100 admixture is used in heat-cured concrete; the length of the preheating period should be increased until initial set of the concrete is achieved. The actual heat-curing period is then reduced accordingly to maintain existing production cycles without sacrificing early or ultimate strengths.

EFFECTS OF OVERDOSING

If MasterSet R 100 is used at too high a dosage rate then the concrete set may be retarded for a significant period of time. In this situation, and provided that the concrete is protected from frost and water loss, the 28 day strength of the affected concrete is likely to be at least equivalent to the same concrete with a normal dosage of MasterSet R 100.

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RATE OF HARDENING

The temperature of the concrete mix and the ambient temperature (forms, earth, reinforcement, air, etc.) affect the hardening rate of concrete. At higher temperatures, concrete hardens more rapidly which may cause problems with placing and finishing.

A function of MasterSet R 100 admixture is to retard the set of concrete. Within the normal dosage range, it will generally extend the compaction and setting time of concrete containing normal Portland cement approximately 2½ to 10 hours compared to a plain concrete mix, depending on job materials and temperatures. Trial mixes should be made with job materials approximating job conditions to determine the dosage required. MasterSet R 100 admixture may be used at less than the recommended dosage for the purpose of retardation only.

COMPATIBILITY

MasterSet R 100 can be used with all types of **EN 197** Cements. For use with other special cements, contact with Master Builders Solutions Yapı Kimyasalları Sanayi ve Ticaret Ltd.Şti Technical Services Department.

MasterSet R 100 should not be pre-mixed with other admixtures. If other admixtures are to be used in concrete containing MasterSet R 100 they must be dispensed separately.

When complimentary admixtures are required it is important that trials are performed, prior to any supply, to determine the respective dosages of any complimentary admixture, and the suitability, in the fresh and hardened state, of the resultant concrete. In these circumstances we recommend that you consult Master Builders Solutions Yapı Kimyasalları Sanayi ve Ticaret Ltd.Şti Technical Services Department for further advice.

PACKAGING

MasterSet R 100 is supplied in bulk and 1000-kg IBC's .

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Product Data	
Structure of the Material	Lignin Sulfonate
Appearance	Brown liquid
Specific gravity @ 20°C	1.115 – 1.175 kg/l
pH-value	7 - 8
Alkali content (%)	≤ 5.00 (by mass)
Chloride content (%)	≤ 0.10 (by mass)
Corrosion behavior	Contains only components according to BS EN 934-1:2008, Annex A.1
Dangerous substances	Comply with annex AZ.
Logistics	
Shelf life	12 months if stored according to manufacturer's instructions in unopened container.
Storage conditions	Store in original sealed containers and at temperatures between 5°C and 30°C. Store under cover, out of direct sunlight and protect from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.
Handling and transportation	Refer to MasterSet R 100 Safety Data Sheet.
Disposal	Refer to MasterSet R 100 Safety Data Sheet.

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HEALTH AND SAFETY

*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapor until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

SPILLAGE

Chemical products can cause damage; clean spillage immediately.

DISCLAIMER

"Master Builders Solutions Yapı Kimyasalları Sanayi ve Ticaret Ltd.Şti." (the Company) endeavors to ensure that advice and information given in Product Data Sheets, Method Statements and Material Safety Data Sheets (all known as Product Literature) is accurate and correct. However, the Company has no control over the selection of its products for particular applications. It is important that any prospective customer, user or specifier, satisfies him/her-self that the product is suitable for the specific application. In this process, due regard should be taken of the nature and composition of the background/base and the ambient conditions both at the time of laying/applying/installing the material and when the completed work is to be brought into use. Accordingly, no liability will be accepted by the Company for the selection, by others, of a product, which is inappropriate to a particular application. Products are sold subject to the Company's standard conditions of sale and all customers, users and specifiers, should ensure that they examine the Company's latest product literature.

CONTACT INFORMATION

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