

MasterCO₂re 1000

High range water reducing admixture for low clinker concrete production
BS EN / EN 934-2: T3.1 & T3.2

Material Description

MasterCO₂re 1000 is an innovative versatile admixture based on polycarboxylic ether (PCE) polymers. MasterCO₂re 1000 is specially engineered for the ready-mix concrete market to be used with limestone cements and other low clinker cement systems.

Fields of Application

MasterCO₂re 1000 can be used for the production of all grades of concrete from high quality to low specification ready-mix concrete. The product is specifically designed to be used within systems where a lower cement contents are required whilst imparting enhanced rheology normally associated with higher cement content mix designs. This allows for improved placement capabilities of the concrete.

Characteristics and Benefits

MasterCO₂re 1000 offers the following benefits for:

The Ready-mix Producer:

- Capability of delivering high quality concrete at any time to the job site in place.
- Production of a concrete with low water cement ratio that meets EN 206-1 without loss of workability.
- Single product for most applications from everyday water reducing to Self-compacting Concrete.

The Contractor / Applicator:

- Easier placing.
- Improved concrete surfaces and finishing.
- Guarantee to place the same concrete as specified and ordered from ready-mix plant.
- More versatile and forgiving concrete mix.

The Engineer:

- Insurance that the concrete meets original specification.
- High quality concrete with better durability

Dosage

The normally recommended dosage rate of MasterCO₂re 1000 is approximately:

- *By Volume* - 0.5 to 1.0 litre 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 utilised in special cases according to specific job conditions. If required consult our 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 utilising power float or power trowelling methods, we recommend that you contact the Technical Services Department for dosage rate guidance.

Mixing

MasterCO₂re 1000 is a ready-to-use admixture to be added to the concrete as a separate component.

Optimal performance is obtained if MasterCO₂re 1000 is dispensed into the concrete mix right after the addition of the first 80% of the mixing water, i.e. when all solids are wetted out. Avoid adding the admixture to the dry aggregates.

Effects of Overdosing

The detrimental effects of an overdose MasterCO₂re 1000 of will depend upon the magnitude of the overdose in that an increase in initial setting time will occur. Provided the concrete is protected and cured, this will not necessarily result in any reduction in 28 day strength. The consistence (slump) of the concrete will be increased or the concrete will have a lower water content than the original mix design due to the additional plasticizing effects of the overdose. In addition to this there may be an increase in air entrainment.

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Air Entrainment

Within the recommended dosage range, the use of MasterCO₂re 1000 will not entrain air in excess of the requirements of BS EN 934-2, Tables 3.1 & 3.2.

Compatibility

MasterCO₂re 1000 can be used with all types of EN 197 Cements. For use with other special cements, contact our Technical Services Department.

MasterCO₂re 1000 should not be pre-mixed with other admixtures. If other admixtures are to be used in concrete containing MasterCO₂re 1000 they must be dispensed separately.

- Air entraining agent MasterAir to improve frost/thaw resistance

When such complimentary admixtures are required, it is important that laboratory 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 our Technical Services Department for further advice.

Packaging

MasterCO₂re 1000 is supplied in Bulk, 1000-litre IBC's and 15-litre containers.

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Product Data	
Appearance:	Brown liquid
Specific gravity @ 20°C:	1.10 ± 0.03 g/cm ³
pH-value:	5.0 ± 1
Alkali content (%):	≤ 1.00 by mass
Chloride content (%):	≤ 0.10 by mass
Corrosion behaviour:	Contains only components according to BS EN 934-1:2008, Annex A.1
Air Content:	Fulfilled
Water reduction:	≥ 112% of Reference mix
Increase in consistence:	Increase of ≥ 120mm from initial slump or ≥ 160mm from initial flow
Retention of consistence:	At 30 mins ≥ Reference mix at initial
Compressive strength:	Fulfilled
Durability:	NPD
Dangerous substances:	NPD
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 MasterCO ₂ re 1000 Safety Data Sheet
Disposal:	Refer to MasterCO ₂ re 1000 Safety Data Sheet

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DISCLAIMER

MasterCO₂re 1000, Master Builders Solutions UK Ltd, Version 2

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 vapour 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.

Health and Safety: *For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted. **Spillage:** Chemical products can cause damage; clean spillage immediately.

DISCLAIMER: "Master Builders Solutions UK Ltd" (the Company) endeavours 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.

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Declaration of Performance can be found at:
www.master-builders-solutions.com/en-gb

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