MasterAir® 200

Air Entraining Admixture for Concrete
TS EN 934-2: T5

Material Description

MasterAir® 200 is an air-entraining admixture which gives concrete extra protection by creating ultra-stable air bubbles that are strong, small and closely spaced - a characteristic especially useful in the types of concrete known for their difficulty to entrain and maintain the air content desired.

Areas of Application

- Concrete exposed to freeze/thaw attack.
- To reduce bleeding due to poor aggregate grading.

Characteristics and Benefits

The entrainment of optimum air content in concrete results in the following improvements in concrete quality:

- Increased resistance to damage from freeze/thaw cycles and to scaling from deicing salts.
- Reduced permeability - increased water-tightness.
- Reduced segregation and bleeding.
- Improved plasticity and workability.
- Greatly improved stability of air entrainment.
- Improved air-void system in hardened concrete.

Improved ability to entrain and retain air in low-slump concrete; concrete containing high-carbon content fly ash; concrete containing large amounts of fine materials; concrete using high-alkali cements; high-temperature concrete; and concrete with extended mixing times.

Processing Method

Concrete durability research has established that the best protection for concrete from the adverse effects of freeze/thaw cycles and deicing salts results from: proper air content in the hardened concrete; a suitable air-void system in terms of bubble size and spacing; and adequate concrete strength; assuming the use of sound aggregates and proper mixing, placing, handling and curing techniques.

Control of air content should be based upon determinations made on concrete at the time of placement, following adjustment of the batch to proper consistency (slump). The rate of use of an air-entraining admixture depends on the air content to be obtained along with many other factors. The amount

Technical Properties	
Structure of the Material	Oil Alcohol Ether Sulfate and Sodium Based
Appearance	Light Brown Liquid
Specific gravity (25°C)	0.970 – 1.035 kg/lt
pH Value	9 - 12
Viscosity (23°C)	Low viscous
Alkali Content (%)	≤ 8.0 (by mass)
Chloride Content (%)	≤ 0.1 (by mass)
Corrosion Behaviour	Contains only components according to BS EN 934-1:2008, Annex A.1
Dangerous Substances	Comply with annex AZ.

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normally required is reduced by the introduction of water-reducing, set-controlling admixture.

When unusually low amounts of an air-entraining admixture are sufficient to achieve normal ranges of air content or if the required amount of air-entraining admixture necessary to achieve required levels of air content is observed to decrease significantly under given conditions, the reason for this change should be investigated. In such cases, it is especially important to determine: (a) that a proper amount of air is contained in the fresh concrete at the point of placement, and (b) that a suitable air-void system (spacing factor) is being obtained in the hardened concrete.

Mixing

Add **MasterAir® 200** to the concrete mix using a dispenser designed for air-entraining admixtures; or add manually using a suitable measuring device that ensures accuracy within plus or minus 3% of the required amount.

There is no standard dosage rate for **MasterAir® 200** admixture. The exact quantity of air-entraining admixture needed for a given air content of concrete is not predictable because of differences in constituent materials. Typical factors which might influence the amount of air entrained are: water content, temperature, cement, sand grading, sand aggregate ratio, slump, means of conveying and placement, use of extra fine materials such as fly ash, etc. The amount of **MasterAir® 200** used upon the amount of entrained air required under actual job conditions.
In mixes containing water-reducing, set-controlling admixtures, the amount of **MasterAir® 200** needed is somewhat less than the amount required in plain concrete. In mixes requiring a significantly higher or lower dosage to obtain the desired air content, consult our **MBT Tech** Technical Services Department.

Measure the air content of the trial mix and either increase or decrease the quantity of **MasterAir® 200** admixture to obtain the desired air content in the production mix.

Check the air content of the first batch and make further adjustments if needed. Frequent checks during the course of the work should be made since factors mentioned in paragraph 3 above may require adjustments in the **MasterAir® 200** dosage rate.

Adjustments to the dosage should be based on the amount of entrained air in the mix at the point of placement.

Dosage

MasterAir® 200 is designed to be incorporated in concrete targeted to achieve air contents in the range 3 - 8%. It is compatible with all **EN 197** cements but the dosage may vary.

The amount of **MasterAir® 200** admixture used will depend upon the amount of entrained air required under actual job conditions. In a trial mix, use 0,09-0,2 kg for 100 kg of cement and adjust in the light of results obtained. In mixes containing water-reducing, set-controlling admixtures, the amount of **MasterAir® 200** may be considerably less than the amount required in plain concrete.

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For optimum, consistent performance, the air-entraining admixture should be dispensed on damp, normal, or lightweight fine aggregate. If this is not possible, plant trials should be performed to identify the optimum dispensing method. When using lightweight fine aggregate, field evaluations should be conducted to determine the best location to dispense the air-entraining admixture - on the damp fine aggregate or with the initial batch water.

Compatibility

MasterAir® 200 can be used with all types of **EN 197** Cements. For use with other special cements, contact our **MBT Tech** Technical Services Department. **MasterAir® 200** should not be pre-mixed with other admixtures. If other admixtures are to be used in concrete containing **MasterAir® 200** they must be dispensed separately.
MasterAir® 200 admixture is compatible with concrete containing other admixtures or admixture systems - water - reducers, high - range water - reducers, accelerators, retarders, densifiers and water repellents. It also increases the entrained air content of concrete made with air-entraining Portland cement.
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 **MBT Tech** Technical Services Department for further advice. The use of **MasterAir® 200** air-entraining admixture with **MasterPozzolith®** admixtures forms a desirable combination for producing the highest quality, normal or lightweight concrete. Heavyweight concrete normally does not contain entrained air.

Packaging

MasterAir® 200 is available in 1000 kg IBCs and 200 kg barrels.

Shelf Life

12 months if stored according to manufacturer's instructions in unopened container.

Storage

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.

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

The technical information given in this publication is based on the present state of our best scientific and practical knowledge. **MBT Teknik Yapı Kimyasalları Sanayi ve Ticaret A.Ş.** is only responsible for the quality of the product **MBT Teknik Yapı**

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Kimyasalları Sanayi ve Ticaret A.Ş. is not responsible for results that may occur because the product is used other than advised and/or out of instructions regarding the place and the method of use. This technical form is valid only till a new version is implemented and nullifies the old ones.

Contact

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