

PRODUCT DATA SHEET

SikaControl[®]-120 AER MA

(formerly MasterAir[®] 120)

Air entraining admixture for concrete

DESCRIPTION

SikaControl 120 AER MA 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. Even when used at a lower dosage rate than standard air-entraining admixtures.

USES

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

FEATURES

SikaControl 120 AER MA offers the following benefits.

- Increased resistance to damage from freeze/thaw cycles and to scaling from de-icing 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.

PRODUCT INFORMATION

Packaging	SikaControl 120 AER MA is supplied in 1000-litre IBC's.
Shelf life	12 months from the date of production, 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.

Colour	Dark Brown
Density	1.00 ± 0.02 g/cm ³ .
pH-Value	10.5 ± 1
Recommended dosage	SikaControl 120 AER MA 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 SikaControl 120 AER MA admixture used will depend upon the amount of entrained air required under actual job conditions. In a trial mix, use 600 ml 100kg of cement and adjust in the light of results obtained. In mixes containing water reducing, set-controlling admixtures, the amount of SikaControl 120 AER MA may be considerably less than the amount required in plain concrete. There is no standard dosage rate for SikaControl 120 AER MA 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 SikaControl 120 AER MA used will depend upon the amount of entrained air required under actual job conditions. 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	SikaControl 120 AER MA can be used with all types of EN 197 Cements. For use with other special cements, contact our Technical Services Department. SikaControl 120 AER MA should not be pre-mixed with other admixtures. If other admixtures are to be used in concrete containing SikaControl 120 AER MA they must be dispensed separately.

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

MIXING

Add SikaControl 120 AER MA 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 SikaControl 120

AER MA 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 SikaControl 120 AER MA used upon the amount of entrained air required under actual job conditions. In mixes containing water-reducing, set-controlling admixtures, the amount of SikaControl 120 AER MA 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 Technical Services Department. Measure the air content of the trial mix and either increase or decrease the quantity of SikaControl 120 AER MA 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 adjust-

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

refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

APPLICATION METHOD / TOOLS

Concrete durability research has established that the best protection for concrete from the adverse effects of freeze/thaw cycles and de-icing 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 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.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always

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