

MasterAir[®] 111

Air-entraining agent for concrete

DESCRIPTION

MasterAir 111 is an air-entraining admixture, which creates microscopic air bubbles that are strong, small and closely spaced. These air bubbles improve the plasticity of the fresh concrete and reduce the sulphate attack and water penetration of the cured concrete.

APPLICATIONS

Entraining controlled air bubbles in a wide range of concrete types such as:

- ☐ Airport runways
- ☐ Road works
- ☐ Normal mix designs to reduce bleeding and improve cohesive properties
- ☐ Concrete containing big quantity of fine materials
- ☐ Mass concrete, such as dams, to improve and ease placing, compaction.

ADVANTAGES

- ☐ Helps to reduce the w/c ratio
- ☐ Reduce segregation
- ☐ Reduce bleeding
- ☐ Increase resistance of the hardened concrete to sulphate and frost
- ☐ Increase workability
- ☐ Improves surface finish
- ☐ Enables air-entrainment level of approximately $8.5\pm 1\%$ into concrete mixes without loss in strength
- ☐ Cohesiveness of the concrete mix will help concrete placing

COMPATIBILITY

MasterAir 111 is compatible with concrete containing MasterRheobuild and MasterPozzolith admixtures produced by Master Builders Solutions. It is also compatible with all brands of Portland cement available in Egyptian market.

The use of **MasterAir 111** with Master Builders Solutions admixtures forms a desirable combination for producing the highest quality, normal or lightweight concrete.

PACKAGING

MasterAir 111 is available in 210 litre drums.

TYPICAL PROPERTIES

Specific gravity:	1.07 - 1.08 at 25°C
pH:	6-8
Colour:	Dark brown
Chloride content:	Nil to BS 5075 :1982

STANDARDS

MasterAir 111 meets the requirements of:

ASTM C-260-86
ASTM C494, Type A and D
AASHTO M-154
CRD-C 13-77
BS 5075: 1982, Part 2

APPLICATION PROCEDURE

MasterAir 111 should be added to the concrete mix during the mixing cycle at the same time as the water or the aggregate. For optimum performance, **MasterAir 111** should be added to damp, fine aggregate.

As stated in ACI 212 and other publications, when two or more admixtures are used, they must be added to the mix separately and must not be mixed with each other prior to adding to the concrete mix. Never add **MasterAir 111** to dry cement. No extension to normal mixing time is necessary.

DOSAGE

MasterAir 111 is added to the concrete mix in such a quantity that will produce the required effect in the concrete.

The exact quantity of **MasterAir 111** should be determined by several trial mixes keeping in mind that the following factors will affect concrete in the wet state: w/c ratio; concrete and ambient temperatures; cement content; sand to aggregate ratio; sand grading; method of placement.

MasterAir® 111

The required amount of air is generally obtained by the addition of 0.4-1 ltr /100kg of cement.
In concrete mixes that contain MasterRheobuild or MasterPozzoloth admixtures, the required of **MasterAir 111** is generally less than the amount required in plain concrete

STORAGE

MasterAir 111 admixtures should be stored and dispensed at 2°C or higher. Although freezing does not harm this product, precautions should be taken to protect it from freezing. If it freezes, thaw and

reconstitute by mild mechanical agitation.
Do not - Group in many countries.
use pressurised air for agitation.

SHELF LIFE

MasterAir 111 Up to 24 months if stored according to manufacturer's instructions in unopened containers.

SAFETY PRECAUTIONS

MasterAir 111 is a caustic solution. In case of contact with skin, eyes or clothing, immediately flush the exposed area with water for at least 15 minutes. Remove contaminated clothing and shoes. Call a doctor – especially if contact is with eyes. Wash clothing before re-use and discard shoes. Always keep the product out of the reach of children.

NOTE

Field service, where provided, does not constitute Supervisory responsibility. For additional information contact your local Master Builders Solutions representative.

Master Builders Solutions reserves the right to have the true cause of any difficulty determined by accepted test methods.

QUALITY AND CARE

All products manufactured by Master Builders Solutions Egypt, or imported from Master Builders Solutions affiliate companies world-wide, are manufactured to procedures certified to conform to the quality, environment, health & safety management systems described in the ISO 9001:2015, ISO 14001:2015 & OHSAS 18001:2007 standards.

* Properties listed are based on laboratory controlled tests.

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