

# MasterAir 108

Formerly: MICRO-AIR® 108

**Air entraining admixture for high durable concrete structures against freeze/thaw cycles damages.**

## DESCRIPTION AND WHERE TO USE

MasterAir 108 is an air entraining admixture designed to increase durability of concrete structures against freeze/thaw cycles damages (exposure classes XF1-4 according to EN 206-1).

**MasterAir 108 provides durable concrete resistant to ice and frost by creating stable, small, closely spaced air bubbles system.**

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;
- adequate concrete strength, assuming the use of sound aggregates and proper mixing, placing, handling and curing techniques.

MasterAir 108 is free of chloride and meets UNI EN 934-2, UNI EN 480 (1-2), ASTM C 260 requirements.

According to EN 206-1 the optimum air content must be in the range of 4-6%.

## BENEFITS

- High durable concrete structures against freeze/thaw cycles damages.
- Greatly improved stability of air-entrainment.
- Improved air-void system in hardened concrete.
- Reduced permeability.
- Increased watertightness.
- Reduced segregation and bleeding.
- Improved plasticity and workability of fresh 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.

## COMPATIBILITY

In order to optimise special requirements the use of the following complementary is suggested:

- **MasterGlenium** or **MasterRheobuild** series superplasticizers in order to obtain higher concrete strength or to compensate the reduction of strength due to micro bubbles.

- silica fume **MasterRoc MS 610** for high performance concrete and improve durability in chemical aggressive environments (exposure classes XC1, XC2, XC3, XC4, XD1, XD2, XA1, XA2, XA3, XS2, XS3 according to UNI EN 206-1 ed UNI 11104).
- synthetic micro-fibres **MasterFiber 24** to prevent cracks due to plastic shrinkage.
- curing agent **MasterKure** against a too quick evaporation of mixing water, especially during summer conditions.

**MasterAir 108 not to mix with admixtures of MasterSet or MasterPozzolith, MasterRheobuild and MasterGlenium line.**

## DIRECTIONS FOR USE

- Add MasterAir 108 admixture 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.
- Check the air content of the first batch and make further adjustments if needed. Due to possible changes in the factors that affect the dosage rate of MasterAir 108, frequent checks should be made during the course of the work.
- Adjustments to the dosage should be based on the amount of entrained air in the mix at the point of placement.

## EFFECT OF AIR ADDITION ON CONCRETE COMPRESSIVE STRENGTH

Air addition on concrete can affect its hard state with a reduction on compressive strength that can range from 5 to 10 MPa depending on the percentage of added air. Therefore, if needed, it is recommended to adjust the concrete composition with an increase of cement content in order to compensate the compressive strength loss.

## SAFETY PRECAUTIONS

MasterAir 108 is a light basic water solution.

Avoid eye and skin contact and wear rubber gloves and goggles. If contact occurs, rinse with plenty of water; in case of eye contact seek medical advice.

For further information, refer to Material Safety Data Sheet.

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Technical Information	
Form	Liquid
Relative density (kg/l at 20°C)	0.978 – 1.018

## DOSAGE

In order to meet EN 206-1 requirements (the optimum air content should be in the range of 4-6%), the recommended dosage rate of MasterAir 108 is 0.03-0.400 litres per 100 kg of binder.

Other dosages may be recommended in special cases according to specific job site conditions.

Air entrainment can be strongly affected by:

- granulometric distribution of aggregates
- fine materials composition (cement, sand, mineral admixture type)
- quantity of fly ash or silica fume

- concrete workability
- type of mixing and transportation
- concrete pumping

In these cases, different dosages of MasterAir 108 could be used. Please consult our Technical Service Department for advice.

## PACKAGING AND STORAGE

MasterAir 108 is available in 10 litre cans, 208 litre drums, and 1.000 litre containers. MasterAir 108 must be stored in a place where the temperature does not drop below 5 °C.

From 16/12/1992 BASF Construction Chemicals Italia Spa operates under the Quality System in compliance with European Standard UNI-EN ISO 9001. The environmental management system of BASF Construction Chemicals Italia Spa is certified accordingly to UNI EN ISO 14001 and the System of Safety Management is certified accordingly to OHSAS 18001. Environment sustainability: Partner Green Building Council since 2009.

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For further information, please consult your local BASF Construction Chemicals Italia Spa representative.

The technical advice on how to use our products, either written or verbally given, are based on the present state of our best scientific and practical knowledge, and no guarantee and/or implicit or explicit responsibility are assumed on final results of works executed by the use of our products.

The owner, his representative, or the contractor is responsible for checking the suitability of our products as to the intended use and aims.

Supersedes all prior issues on this product.

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