

MasterAir 108

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

Material description

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).

Fields of application

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.

Features and 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.

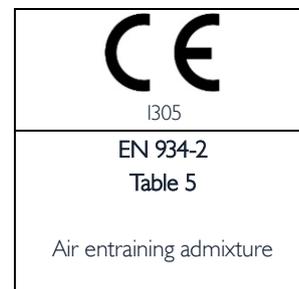
Compatibility

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

- MasterGlenium, MasterEase or MasterCO₂re series superplasticizers in order to obtain higher concrete strength or to compensate the reduction of strength due to micro bubbles,
- silica fume MasterLife 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 to prevent cracks due to plastic shrinkage,
- curing agent MasterKure against a too quick evaporation of mixing water, especially during summer conditions.

Do not to mix MasterAir 108 with admixtures of MasterSet or MasterPozzolith, MasterRheobuild and MasterGlenium, MasterEase or MasterCO₂re, line.

In compliance with the European Regulation (EU No 305/2011 and EU No. 574/2014) the product is provided with the CE marking according to UNI EN 934-2 and the relative DoP (Declaration of Performance).



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

Technical Information	
Form	Liquid
Relative density (kg/l at 20°C)	0.978 – 1.018
Essential characteristic in accordance to EN 934-2	
Chloride ion content	≤ 0.1% by mass
Alkali content (Na ₂ O equivalent)	≤ 2.0%
Corrosion behaviour	Contains only components from EN 934-1 2008 Annex I
Compressive strength	28 days ≥ 75%
Air content (entrained air)	Air content (entrained air)
Air void characteristic	Air void characteristic

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

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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.

Other services

For additional technical information, brochures, references, technical reports and technical support please visit www.master-builders-solutions.com/it-it or alternatively contact infomac@masterbuilders.com.

Scan QR code to visit the product page and download the latest version of this technical data sheet and any additional documentation.



Disclaimer

Since 16/12/1992, Master Builders Solutions Italia Spa has been operating under a Certified Quality System compliant with the UNI EN ISO 9001 Standard. Furthermore, the Environmental Management System is certified according to the UNI EN ISO 14001 Standard and the Safety Management System is certified according to the UNI ISO 45001 Standard.

For further information, please consult the local Technician of Master Builders Solutions. The technical advice on how to use our products, either written or verbally given, are based on the current state of our scientific and practical expertise, and does not imply the assumption of any guarantee and/or responsibility for the final results of works executed using our products.

Therefore, the customer is not exempted from the exclusive task and responsibility of verifying the suitability of our products for the intended use and purposes.

This version supersedes all the previous ones.

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