

Master X-Seed 100

Unique hardening accelerator for cementitious materials – essential component of the Crystal Speed Hardening™ concept.

Material description

Master X-Seed 100 is an engineered suspension of crystal seeds containing nanoparticles, designed to boost the hydration process of early age cement (6 -12 hrs).

Based on unique and innovative seeding technology, the growth of the essential Calcium Silicate Hydrate crystals is strongly accelerated.

Master X-Seed 100 promotes concrete hardening at low, ambient and even heat curing temperatures. Unlike traditional acceleration methods and thanks to the unique mode of action – the virtually barrier-free crystal growth of the seeds in between the cement grains – early strength development is accelerated while the final microstructure benefits from equivalent or improved properties.

Crystal speed hardening

Master X-Seed 100 is the essential component of Master Builders Solutions Crystal Speed Hardening concept. Crystal Speed Hardening expresses the Value Proposition offered by the unique crystal seeding technology of Master X-Seed 100:

- Efficient Processes
- Energy Reduction
- Material Optimization
- High Quality Specs

The concept addresses key industry requirements and has the power to exceed all current solutions. In particular, the concept is designed to make a significant contribution to meeting sustainable construction targets.

Master X-Seed 100 is optimized for all kinds of concretes, especially for structural precast elements where high early strength development is a key success factor for the producer. Master X-Seed 100 is a relevant alternative to heat curing methods and the strong promotion of hydration in particular supports the use of binders with lower clinker content.

Benefits

Master X-Seed 100 offers the following benefits:

- Early strength acceleration at low, ambient and heat curing temperatures Flexible adjustment of production capacities.
- Increased production cycles (double, triple rotation).
- Better use of formwork by earlier demoulding.
- Reduction/elimination of heat curing.
- Reduced investment and running cost of curing.
- Allows use of minimum required cement quantities.
- Allows binder optimization by using lower grade, less clinker-containing cements or by increasing use of supplementary cementitious materials (Limestone, Fly Ash, Slag).
- Lower risk of delayed ettringite formation.
- Reduced water absorption.
- Improved concrete durability aspects Improved plant and product ECO-efficiency by reducing CO2 emissions.

Compatibility

Master X-Seed 100 is compatible with all Master Builders Solutions core technologies such as Zero Energy System and Smart Dynamic Concrete, in particular with:

- MasterGlenium, MasterEase, MasterSure, MasterCO₂re type superplasticizers for high fluidification power.
- MasterMatrix viscosity modifying agents for robust self-compacting concrete.
- MasterAir air entraining agents for improved freeze-thaw resistance.
- MasterFinish form release agents for easy formwork removal and aesthetic surface finish.

Dosage

The recommended dosage rate is 2 to 4 litres per 100 kg of cement.

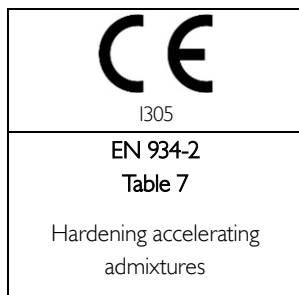
Other dosages may be used in special cases according to specific conditions. In this case please consult our Technical Services Department.



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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).



Packaging and storage

Master X-Seed 100 is available in 10 liters cans, 1.000 liters containers or in bulk.

Master X-Seed 100 must be stored at temperatures above 5°C. Protect from freezing! If frozen, warm slowly up and carefully remix before use. If stored in unopened containers according to manufacturer's instructions, the shelf life is 6 months.

Directions for use

Master X-Seed 100 is a ready-to-use liquid admixture to be added to the concrete during the mixing process. Enough mixing time to secure homogeneous dispersion should be provided.

Technical Information	
Form	White suspension
Relative density (g/cc at 20°C)	1.105 – 1.165
Essential characteristic in accordance to EN 934-2	Performance
Chloride ion content	≤ 0.1% by mass
Alkali content (Na ₂ O equivalent)	≤ 5.0%
Corrosion behaviour	Contains only components from EN 934-1 2008 Annex A. I
Air content	≤ 2.0 %
Hardening time/ strength development	20°C 24h ≥ 120%, 20°C 28gg ≥ 90% 5 °C 48h ≥ 130%

Handling and transportation

No special requirements must be observed while the product is used. Protective gloves and glasses are recommended. Do not eat, drink or smoke during application. Master X-Seed 100 is non-flammable, non-toxic or irritant and is not subject to special transport requirements.

Safety instruction

For information on the correct and safe use, transport, storage and disposal of the product, consult the most recent Safety Data Sheet.

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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.

Master Builders Solutions Italia Spa
Via Vicinale delle Corti, 21 – 31100 Treviso – Italia
T +39 0422 429200 F +39 0422 421802
www.master-builders-solutions.com/it-it
e-mail: infomac@masterbuilders.com