



The Chemical Company

# X-SEED® 100

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

## Description of Product

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.

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:

X-SEED 100 is the essential component of BASF's Crystal Speed Hardening concept. Crystal Speed Hardening expresses the Value Proposition offered by the unique crystal seeding technology of X-SEED:

- 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.

## Fields of Application

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. 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.

## Features and Benefits

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 CO<sub>2</sub> emissions

# X-SEED® 100

<b>Technical Data/Typical Properties</b>	
Appearance	White/odor free suspension of nanoparticles
Density @ 20°C	1.135 g/cm <sup>3</sup>
pH-value @ 20°C	11
Alkali content (Na <sub>2</sub> O equivalent)	≤ 4.0 M%
Chloride ion content	≤ 0.1 M%

## Application Procedure

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.

## Dosage rate

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.

## Compatibility

X-SEED 100 is compatible with all BASF core technologies such as ZERO ENERGY SYSTEM™ and SMART DYNAMIC CONCRETE™, in particular with

- GLENIUM® type superplasticizers for high fluidification power
- RheoMATRIX® viscosity modifying agents for robust self-compacting concrete
- MICRO-AIR® air entraining agents for improved freeze-thaw resistance
- RHEOFINISH® form release agents for easy form-work removal and aesthetic surface finish

## Packaging

X-SEED 100 is available in bulk, 1060 kg containers and 210 kg drums.

## Storage

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.

## 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. X-SEED 100 is non-flammable, non-toxic or irritant and is not subject to special transport requirements.



Awarded with the EFCA EQ Seal

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