KÖSTER
Waterproofing Systems

KÖSTER BDM Powder

Technical Data Sheet C 732

Issued: 2023-01-30

Building materials testing laboratory N.V. Grabchak, Lviv; "Test report No. 1 dated 14.11.2022 Water impermeability and compressive strength".

Triple action crystallizing integral waterproofing for concrete

CE 0764-CPR-0344		KÖSTER BAUCHEMIE AG Dieselstraße 1-10, 26607 Aurich 22 Nr. C 732 EN 934-2:2009+A1:2012 (Admixtures for concrete, mortar and grout - Part 2: Concrete admixtures)	
Main Feautures	**Performance**	**Evaluation and verification of system performance consistency**	**Harmonized technical specification**
Chloride content	max. 0.1 %	System 2+ EN 934-2:2009	
Alkali content	max. 6.5 %		
Corrosion behavior	contains all components according to EN 934-1:2008, A1		
Compressive strength	after 7 d und 28 d ≥ 85 % der CM*		
Air pore content	at TM* ≤ 2 % (compared to CM*)		
Capillary water uptake	7d (TM* ≤ 50 % of the CM*) 28d (TM* ≤ 60 % of the CM*)		
Dangerous substances	none, see safety data sheet		

*: TM = Test Mixture; CM = Control Mixture

Features

KÖSTER BDM Powder is a crystallizing concrete integral waterproofing for the production of concrete with reduced water absorption.

A new type of KÖSTER technology with a triple effect:
- Enhances physical compaction
- Enhances crystallization processes
- Makes the inner capillary pore system hydrophobic

The combination of active ingredients contained in KÖSTER BDM Powder improves the processing properties and thereby ensures a physically denser concrete structure with a reduced pore diameter. The chemical crystallization reactions of the cement are supported and narrow or close capillary pores on contact with water. The catalytically accelerated formation of nanocrystals reduces capillary water absorption and activates the self-healing powers of microcracks. The hydrophobic agent contained in KÖSTER BDM Powder is only actively formed in the concrete mixture and is used exclusively for internal hydrophobic pore treatment. An effect in terms of hydrophobing the concrete surface is not to be expected.

Concrete integrally waterproofed with KÖSTER BDM Powder ensures:
- A reduced water demand when mixing
- A reduced capillary water absorption
- A crystallization and hydrophobicization of the capillary network
- A higher freeze-thaw resistance
- An increasd chemical resistance, thanks to reduced chloride ion uptake
- Longevity and durability of the concrete with increased functionality.

Technical Data

Appearance	light/beige powder
Density (+20 °C)	approx. 0.80 g/cm³
Minimum processing temperature	+5 °C

Fields of Application

KÖSTER BDM Powder is used as an additive in the production of premixed or in-situ concrete. The type and amount of the addition depends on the intended use.
KÖSTER BDM Powder is suitable for all concrete components with permanent reduced water absorbency requirements.

For example:
- In collection and storage tanks
- Foundations
- Wall and floor panels
- Tunnel systems
- Precast concrete
- Many other fields of application

Application

Consumption depends on the porosity and quality of the concrete and the desired watertightness. To determine this, suitability tests must be carried out in advance.

KÖSTER BDM Powder is preferably added to the dry cement or added to the aggregate and mixed. Then it can be added to the water.

An even distribution is to be ensured by sufficient mixing time.

In the case of ready-mixed concrete, the dosing takes place on the construction site at the destination. KÖSTER BDM Powder is added directly to the mixing drum. An appropriate post-mixing time, depending on the drum filling, must be provided in order to obtain a homogeneous distribution of KÖSTER BDM Powder.

Aftertreatment

Typical aftertreatment measures increase the quality of the finished product. These include watering the set concrete and covering with polyethylene sheeting to trap moisture for hydration.

Consumption

Addition amount: 0.75 - 1.5 % of the cement weight
Consumption depends on the porosity and quality of the concrete and the desired watertightness. Preliminary tests must be carried out to

The information contained in this technical data sheet is based on the results of our research and on our practical experience in the field. All given test data are average values which have been obtained under defined conditions. The proper and thereby effective and successful application of our products is not subject to our control. The installer is responsible for the correct application under consideration of the specific conditions of the construction site and for the final results of the construction process. This may require adjustments to the recommendations given here for standard cases. Specifications made by our employees or representatives which exceed the specifications contained in this technical guideline require written confirmation. The valid standards for testing and installation, technical guidelines, and acknowledged rules of technology have to be adhered to at all times. The warranty can and is therefore only applied to the quality of our products within the scope of our terms and conditions, not however, for their effective and successful application. This guideline has been technically revised; all previous versions are invalid.

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determine this.

Cleaning
Clean tools and equipment immediately after use with water.

Packaging
C 732 015 15 kg bag

Storage
Store cool and dry. In originally sealed packaging it can be stored for a minimum of 12 months.

Safety
Wear protective gloves and goggles. Avoid contact with eyes.
Observe the information in the current Technical Data Sheet.
Observe all local, state, and governmental safety regulations when processing the material.

Other
When manufacturing the concrete components, the usual basics with regard to composition, manufacture, processing and post-treatment must be observed. The currently valid standards must be observed. Preliminary tests to determine the water penetration depth of the concrete to be produced are advisable.

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