




## KÖSTER BDM Powder

Technical Data Sheet C 732

Issued: 2023-12-12

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

| <br>0764-CPR-0344 |   | <b>KÖSTER BAUCHEMIE AG</b><br>Dieselstraße 1-10, 26607 Aurich<br>22<br>Nr. C 732<br><b>EN 934-2:2009+A1:2012</b><br>(Admixtures for concrete,<br>mortar and grout - Part 2:<br>Concrete admixtures) |                                    |
|--|---|---|------------------------------------|
| Main Features  | Performance   | Evaluation and verification of system performance consistency   | Harmonized technical specification |
| Chloride content   | max. 0.1 %  | System 2+<br>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<br>≥ 85 % der CM*                              |   |                                    |
| Air pore content   | at TM* ≤ 2 %<br>(compared to CM*)                                 |   |                                    |
| Capillary water uptake   | 7 d<br>(TM* ≤ 50 % of the CM*)<br>28 d<br>(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 increased chemical resistance, thanks to reduced chloride ion uptake
- Longevity and durability of the concrete with increased functionality.

#### Technical Data

Color light, grey-beige powder  
 Bulk density approx. 0.80 g/cm<sup>3</sup>  
 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

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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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