

Technical Data Sheet Concretum D-ZERO Plus (P)

A) Description

Product:

Concretum® D-ZERO Plus (P) is a multi functional powder additive for concrete. The product is a shrinkage-compensating agent and increases the impermeability of concrete. The additive is used together with Concretum® D-ZERO 11, 12 or 32 (L) to produce the low-shrinking concrete Concretum® D-ZERO Plus.

Application:

Concretum® D-ZERO Plus (P) is used together with Concretum® D-ZERO 11, 12 or 32 (L) for the production of concretes with very low shrinkage. Therefore, Concretum® D-ZERO Plus (P) reduces the risk of cracking - which results from shrinkage - for construction units with the smallest expansion higher than 25 cm.

Typical examples are:

- Industrial floors
- Concrete carriageways
- Shoulder walls and curbs
- Waterproof concretes (e.g. groundwater structures)

See also product information on Concretum® D-ZERO Plus.

Concretum® D-ZERO Plus (P) can only be used for reinforced construction units. The reinforcement content should not be less than 0.15%.

Concretum® D-ZERO Plus (P) can be used as an additive to produce concretes in plants on and off site.

Advantages:

Concretum® D-ZERO Plus (P) combines different functions. Apart from the shrinkage compensation, the additive causes high permeability against liquids, injurious substances and gas. Despite this, a good workability is maintained.

Concretum® D-ZERO Plus, which is produced with Concretum® D-ZERO Plus (P), shows the following advantages:

- low shrinkage
- low risk of cracking
- low water permeability
- high chloride resistance
- slow carbonating

See also the corresponding product information on Concretum® D-ZERO Plus.

B) Product data

Function:

Concretum® D-ZERO Plus (P) compensates the negative effects of shrinkage and high amounts of hydration heat. In combination with Concretum® D-ZERO 11, 12 or 32 (L), Concretum® D-ZERO Plus (P) guarantees a shrinkage coefficient according to SN EN 262/1 Anhang F on a reference concrete of max. 0.1‰ after a drying period of 90 days.

Colour:

White powder

Delivery:



10 kg bag, pallet of 40 bags, bulk delivery of 18 t (silo).

Shelf life:
Six months from production if stored properly.

Storage:
In unopen original packaging under dry circumstances. Concretum® D-ZERO Plus (P) loses its efficiency if contacted with moisture before using.

Chemical basis:
Anorganical powder.

Uniformity:
homogeneous

Bulk density:
0.9 kg/l

pH-content:
approx. 12.5 (100 g/l)

C) Operating instructions

Application:

Concretum® D-ZERO Plus (P) is solely permitted for the production of the low-shrinking concrete Concretum® D-ZERO Plus in combination with Concretum® D-ZERO 11, 12 or 32 (L). It is recommended to define the concrete mix design in cooperation with Concretum AG by a set-up of the concrete plant. This set-up usually consists of preliminary concrete tests to check relevant properties of fresh and hardened concrete. The compatibility between local raw materials such as cement and aggregates and Concretum® D-ZERO Plus (P) is tested also.

Dosage:

The dosage is defined by Concretum AG for every concrete plant during the set-up process. The average dosage is between 10 and 30 kg/m³. In particular cases the dosage defined by Concretum AG shall be authoritative.

Mixing:

Concretum® D-ZERO Plus (P) is added to cement and aggregates before adding water. Afterwards, Concretum® D-ZERO 11, 12 or 32 (L) is either added to the mixing water or added to the mixer together with the water. To fully exploit the high water reduction a wet mixing time of 90 - 120 seconds is recommended. To prevent excess water it is recommended to start the additional water dosage (on top of the mixing water) not before 2/3 of the wet mixing time.

Additional information:

As long as there are no other regulations in this data sheet, the general rules of good practise in concrete production have to be followed. In addition, all measures on optimal processing and curing of concrete to standard SIA 262 have to be taken.

Concretum D-ZERO Plus (P) develops dust which can have strongly irritating effects. The dust should not be inhaled. Contact with moisture causes strong generation of heat. For this reason, it is necessary to wear gloves, goggles and respirator. Detailed information on safety is available in the safety data sheet (see also section F).



Compatibility:

A combination of Concretum® D-ZERO Plus (P) with other additives such as air-entraining agents or retarders will be individually tested during the preliminary set-up process. After successful testing possible combinations will be approved by Concretum AG.

D) Data

All data published in this technical data sheet is based on internal laboratory tests of Concretum AG. Real values may vary due to external factors that cannot be affected by Concretum AG.

E) Country specific data

Data and values on products of Concretum AG may vary depending on the country of application. The corresponding local technical data sheets are valid. In the case of doubt Concretum AG provides information on valid data and values for the country in question.

F) Important safety information

For detailed safety information it is recommended to seek advice in the current material safety data sheet on our homepage (www.concretum.com).

G) Proof of defects

Products of Concretum AG feature the specific properties that are completely described in this data sheet. For quality control purposes Concretum AG retains samples of each production batch for 24 months. If products of Concretum AG are censured as defective by a customer, a verification of this statement is done solely by checking the corresponding batch sample by an internal testing procedure.

H) Legal information

This data sheet is part of a possible contract between Concretum AG and the customer. The properties of the products are completely described in section B. An application of the products has to be done according to both the instruction of Concretum AG and this data sheet.

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