Ceresit

CR 90 Crystaliser

Crystalizing waterproofing coat

Crystalizing coat for waterproofing of buildings and structural components

TDS No CR100 11.17 G3

CHARACTERISTICS

- waterproofing through crystalisation
- resistant to positive and negative water pressure
- seals hairline cracks in the concrete structure up to 0,4 mm
- strong reduction of capillary absorption of water
- cooperates with the sealing tape
- vapour-open
- frost resistant
- economical application
- can be applied by brush or trowel

SCOPE OF USE

Ceresit CR 90 is designed for waterproofing and damp-proofing of non-deformable mineral substrates.
Ceresit CR 90 works in two ways – it forms a waterproofing layer on the surface of the substrates and additionally, during the structure exploitation, it builds crystals in the substrate pores.
Water-insoluble salts penetrate into the capillary structure of the concrete, where – through the contact with water – they gradually build up the crystals. This crystal formation process leads in time to the complete closure of capillarity routs, which finally eliminates the water transport in the concrete, in both directions.
Therefore crystalization can be seen as an additional protection of the substrate in case of the local damage of the coat or break caused by the initiation of the static cracks.
Ceresit CR 90 can be used for waterproofing of balconies, pedestals, underground parts of the buildings including basement walls, sewage treatment plants, water tanks (including drinking water tanks) with a water depth up to 15 m, fire tanks and small monolithic swimming pools up to 20 m^2.
CR 90 is used for waterproofing concrete and reinforced concrete, brickwork with full-joints and mineral plasters.
It can be applied from the possitive (up to 15 m) as well as the negative (up to 5 m) water pressure side.
The Ceresit CR 90 allows a proper cooperation with the Ceresit CL 152 Sealing Tape on the connections between walls and floor and expansion joints.
CR 90 can also be applied on corners combined with with Ceresit CL 56, Ceresit CL 57 and Ceresit CL 53.
Alternatively, it is also possible to use fleece tapes as an additional reinforcement of the waterproofing layer.
In case of possible mechanical loads such as pedestrian traffic, the coating should be protected e. g. through the application of the flooring layer or plaster without gypsum

content, or by laying the ceramic tiles with the help of Ceresit CM mortars.
Deformable structures require the use of flexible products, such as: Ceresit CR 166, CL 50, CL 51.
To block water leakages, rapid cement Ceresit CX 1 and CX 5 should be applied. Additionally, Ceresit CR 166 should be used for sealing of the terraces and surfaces with heated floors.

Ceresit CR 90 is suitable for the light, medium and heavy damp-and waterproofing classes.

Hydroslide Effect
The Hydroslide Effect creates an immediate water-repellent effect, providing a stronger reduction of capillary absorption of water vs. other standard slurries.

It leads to a stronger reduction of aggressive substances dissolved in water(e.g chlorides and de-icing salt) ensuring an excellent adhesion of subsequent layers.

SUBSTRATE PREPARATION

CR 90 adheares to load-bearing, solid and clean surfaces, free from any substances that decrease adhesion (such as grease, bitumen, dust), namely:
– Concrete with a minimum class of C 12/15 (over 3 months old),
– mineral plasters (cement, cement-lime) with the thickness of >10 mm and cement screeds (strength >12 MPa, over 28 days old)
– brickwork with full-joints, and the strength of >6 MPa (over 3 months old).
Surfaces must be smooth, absorbent and porous. Dirt, existing layers of low resistance and all previous paint coverings, lime plasters, and substances that impede adhesion must be carefully removed .
Corroded joints should be removed up to the depth of 2 cm and refilled with cement mortar. Deep holes and uneven substrates should also be repaired with cement mortars or concrete. The edges should be chamfered to approx. 3 cm, whereas corners should be rounded (with the cement mortar or CX 5 mixed with sand) to a radius of least at 4 cm.
CR 90 requires the pre-wetting of the substrates before application to the mat-wet conditions (without puddle formation).

APPLICATION

Sprinkle CR 90 into clean, cold water and mix (using a mixer) until the homogenous mass without lumps is obtained:
– for brush application – use 8 l water per 25 kg CR 90,
– for trowel application – use 6 l water per 25 kg CR 90.
The layer should be applied on the damp but not wet substrate. The first layer of CR 90 should be applied crosswise with a brush, the second layer can be applied by brush or a trowel. Apply the second layer only when the previous one is already hardened but still damp.
Protect surfaces against too rapid drying.
The coating can be walked on after 2 days, however, even after complete hardening the coating must not be directly exposed to heavy mechanical loads.

PLEASE NOTE:

Do not mix with other materials, additives or binders.
Before finishing the application check if the required thickness of CR 90 is achieved.
Use CR 90 only in dry condtions and at temperatures of +5°C to +25°C.
All the data refer to the temperature of +23°C and relative humidity of 55%. Please note that under other climatic conditions hardening can be accelerated or delayed.

CR 90 contains cement and produces an alkaline reaction with water. Therefore protect skin and eyes. If contact occurs, rinse thoroughly with water. In case of contact with eyes seek medical advice.
The content of chromium VI – is below 2 ppm during product's shelf life.

RECOMMENDATION

Keep the freshly applied coating in the wet conditions for min. 24 hours e.g. by water spraying or wetting with the brush.
When applied during sunny conditions , keep wet for at least 3 days and protect from direct sunlight. Protect against rain for at least 24 hours. Ceramic coverings can be applied after 3 days at the earliest. The full water loads are possible not earlier than after 5 days.
Ceresit CR 90 is resistant to agents with neutral and alkaline reaction.
This technical data sheet determines the scope of application of the material and the way of conducting the work, however, it cannot replace the professional preparation of the contractor. Apart from the data provided the application should be done in compliance with the construction and safety work principles. The manufacturer guarantees the quality of the product, however, he does not have any influence on the condition and the way of application. In case of any doubts individual application trials should be carried out. The previously issued data sheets become invalid with the issue of this data sheet.

Should you need support or advice, please consult our advisory service for architects and craftsmen on the hotline numbers
Phone +49 211/797 106-07/-36/-55/-59,
Fax +49 211/ 798 2104

TECHNICAL DATA

Base:	Cement combination with mineral fillers and additives	
Bulk density:	approx. 1.35 kg/dm³	
Mixing ratio: applied with the brush:	approx. 8.0 l water per 25 kg	
applied with the trowel:	approx. 6 l water per 25 kg	
Application temperature:	from +5°C to +25°C	
Pot life:	up to 3 h	
Pedestrian traffic:	after 2 days	
Adhesion:	> 1.0 MPa	
Indicative consumption:		
Protection:	Required thickness CR 90	Amount CR 90 [kg/m²]
– damp	2.0 mm	approx. 3.0
– permeability	2.5 mm	approx. 4.0
– water column to 15 m	3.0 mm	approx. 5.0
maximal thickness	5.0 mm	approx. 8.0
Shelf life:	Up to 12 months from the production date when stored on pallets in dry conditions and in original undamaged pack-ages.	
Packaging size:	Paper bags 25 kg	

This product holds the hygienic evaluation in respect of contact with drinking water No HK/W/0321/02/2007 issued by Padstwowy Zakład Higieny and technical approval No AT-15-7434/2007 issued by Instytut Techniki Budow-lanej and Certificate of Conformity issued by ITB No ITB 1645/W.

Apart from the information given here it is also important to observe the relevant guidelines and regulations of various organisations and trade associations as well as the respective standards of the German Standards Institute (DIN). The aforementioned characteristics are based on practical experience and applied testing. Warranted properties and possible uses which go beyond those warranted in this information sheet require our written confirmation. All data given was obtained at an ambient and material temperature of +23°C and 50% relative air humidity unless specified otherwise. Please note that under other climatic conditions hardening can be accelerated or delayed.

The information contained herein, particularly recommendations for the handling and use of our products, is based on our professional experience. As materials and conditions may vary with each intended application, and thus are beyond our sphere of influence, we strongly recommend that in each case sufficient tests are conducted to check the suitability of our products for their intended use. Legal liability cannot be accepted on the basis of the contents of this data sheet or any verbal advice given, unless there is a case of wilful misconduct or gross negligence on our part. This technical data sheet supersedes all previous editions relevant to this product.

Henkel CEE
Erdbergstrasse 29
1030 Vienna, Austria
www.ceresit.com

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