

## PRODUCT DATA SHEET

# SikaControl®-210 WT CWA

## CRYSTALLINE WATERPROOFING CONCRETE ADMIXTURE

### DESCRIPTION

SikaControl®-210 WT CWA (Crystalline Waterproofing Admixture) is a special cementitious mix of active chemicals that readily reacts with moisture in the concrete to form crystalline structures within the pores and capillary tracts of the concrete. SikaControl®-210 WT CWA effectively waterproofs the concrete against ground water penetration from any direction, protecting against waterborne salts and eliminating concrete decay.

SikaControl®-210 WT CWA, an integral waterproofing system that gives a strong and lasting protection from harsh environmental conditions, is ideal for interior and exterior below grade concrete structures. As conditions on projects site and temperature varies, please contact technical professionals for advice on the use of SikaControl®-210 WT CWA for your specific project.

### USES

SikaControl®-210 WT CWA has been specifically formulated to produce high quality watertight concrete for the following:

- Foundations
- Sewage Treatment plants
- Tunnels and subway systems

- Underground structures
- Dams
- Pre-cast structures
- Swimming pools and reservoirs

### FEATURES

SikaControl®-210 WT CWA consists of a mixture of active ingredients that will form non-soluble materials throughout the pore and capillary structure of the concrete and seal the concrete permanently against penetration of water and other liquids. In addition, the special formula and ingredients enhances the self-healing properties of concrete and will improve the ability to heal concrete cracks.

- Reduced water penetration under pressure
- Reduced water absorption
- Enhancement of self-healing properties of the concrete
- Improvement in resistance against chemical attack
- Reduced vapour transmission

### PRODUCT INFORMATION

<b>Composition</b>	Organic & inorganic solutions
<b>Packaging</b>	20 kg plastic bag
<b>Shelf life</b>	12 months from date of production if stored in original unopened and undamaged original sealed containers
<b>Storage conditions</b>	Store properly in original, unopened and undamaged sealed packaging in dry and covered conditions. Protect from direct sunlight, moisture, water and rain.
<b>Appearance and colour</b>	Powder / White

## TECHNICAL INFORMATION

### Concreting guidance

The standard rules of good concreting practice, concerning production and placing, are to be followed.

#### Curing

As curing affect watertightness of the concrete, care should be taken to ensure proper curing. When concrete has hardened and finishing completed, a curing compound such as Antisol® shall be applied at the recommendation rate (refer to the respective product data sheets).

### Concrete mix design

**For waterproof concrete**, concrete mix design depends on local requirements and / or local standards for watertight concrete systems.

**For Sika® Watertight Concrete**, SikaControl®-210 WT CWA has been formulated for use in concrete with a minimum binder content of 350 kg/m<sup>3</sup> and a maximum w/b-ratio of 0.45. Depending on the specific mix design the dosage of HRWR/superplasticizer has to be evaluated in order to achieve a S3 / F4 consistence class (EN 206-1).

Laboratory trials are always recommended to evaluate and confirm actual water reduction and consistence class.

## SYSTEM INFORMATION

### Compatibility

Sika® Joint systems is highly recommended to seal construction, movement and difficult joints.

Construction Joints	Movement Joints	Special/Difficult Joints
Sika® Waterbars	Sika® Waterbars	Sika® Fuko
SikaSwell®	Sikadur® Combiflex® SG System	Sikadur® Combiflex® SG System
Sika® Hydrotite	SikaHyflex®	
Sika® Fuko		

Concrete produced using the SikaControl®-210 WT CWA will produce concrete with improved water impermeability. However, the system is not designed

as a moisture vapour barrier and should therefore only be specified under the following conditions:

- No finishing is required
- A breathable finish such as plaster, quarry tiles, floor hardener, etc. is required

If non-breathable finishes such epoxy, polyurethane flooring systems, vinyl tiles, carpet, etc. are to be applied, a temporary moisture barrier will be required.

## APPLICATION INFORMATION

### Recommended dosage

0.8 – 1.0 % of SikaControl®-210 WT CWA by weight of cement

### Compatibility

SikaControl®-210 WT CWA may be combined with many other Sika products.

- Sika® ViscoCrete® series
- Sikament® series
- Sika Plastiment® and Sika Plastocrete® series
- SikaFume®

Concrete containing SikaControl®-210 WT CWA should have a minimum SCM of not more than 40%.

#### Note:

Always conduct trials before combining products in specific mixes and contact our Sika® technical service for more information and advice.

## BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## IMPORTANT CONSIDERATIONS

- It is important to obtain a homogeneous mixture of SikaControl®-210 WT CWA with the concrete. Therefore, do not add dry SikaControl®-210 WT CWA powder directly to wet concrete as this may cause clumping and thorough dispersion will not occur
- Concrete containing SikaControl®-210 WT CWA does not preclude the requirement for design of crack control, construction joint detailing and measures for repairing defects in concrete (i.e honeycombing, tie holes, crack beyond specified limits)

## ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

## APPLICATION INSTRUCTIONS

### DISPENSING

- Forced action and truck mixers should be free from all contaminants prior to the batching of concrete containing SikaControl®-210 WT CWA
- SikaControl®-210 WT CWA must be added to the concrete at the time of batching. The sequence of procedures for addition will vary according to the type of batch plant operation and equipment
- For Ready Mix plant - Dry Batch Operation**, add SikaControl®-210 WT CWA directly into the drum of the dry mix and thoroughly mix the admixture with half of the required water and aggregate for about 5 minutes or add to the aggregate and sand at the conveyor belt up to the mixing point
- Charge in the remaining ingredient of the design mix and proceed with the batching as in all cases, total quantity of water to be added in the design mix should taken into consideration the amount of moisture from aggregate and sand. Mix materials for a minimum of 5 minutes to ensure that SikaControl®-210 WT CWA has been thoroughly dispersed throughout the concrete.

- For Ready Mix Truck – Wet Mix Operation**, mix SikaControl®-210 WT CWA with water to form a very thin slurry (an example 4 kg powder to 4 kg water), recommended ratio from Powder to Water is 1 : 1. Pour the required amount of material into the drum of the ready mix truck. The aggregate, cement and water should be batched and mixed in the plant in accordance with standard practices (taking into account the quantity of water that has already been placed in the readymix truck). Pour the SikaControl®-210 WT CWA slurry into the truck and mix for at least 5 minutes to ensure even distribution of SikaControl®-210 WT CWA throughout the concrete
- Precast Batch Plant**, Add SikaControl®-210 WT CWA to the rock and sand, the mix thoroughly for 2-3 minutes before adding the cement and water. The total concrete mass should be blended using standard practices
- The w/c ratio and consistence control remains the responsibility of the concrete producer. Trials are recommended to evaluate and confirm the actual flowability and workability

## LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

## LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

### PT. Sika Indonesia Head Office and Manufacturing

Jl. Raya Cibinong-Bekasi Km.20  
Limusunggal-Cileungsi  
Bogor 16820-Indonesia  
Tel. +62 21 8230025, Fax +62 21  
8230026



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