BUILDING TRUST

PRODUCT DATA SHEET

SikaControl® WT-220 PH

WATER RESISTING AND CRYSTALLINE WATERPROOFING CONCRETE ADMIXTURE

DESCRIPTION

SikaControl® WT-220 PH is a combined water resisting and crystalline waterproofing admixture used to reduce permeability of concrete.

USES

SikaControl® WT-220 PH has been specifically formulated to produce high quality watertight concrete.

- Tunnels
- Basements
- Culverts
- Canals
- Water-tanks
- Inspection-chambers
- Manholes
- Swimming pools

CHARACTERISTICS / ADVANTAGES

SikaControl® WT-220 PH consists of a mixture of cements, amino alcohols and some other active ingredients. These active materials 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

Packaging	3.5 kg plastic bags
Appearance / Colour	Grey powder
Shelf Life	6 months from date of production
Storage Conditions	stored properly in original, unopened and undamaged sealed packaging in dry & covered conditions.
Density	~ 750 kg/m^3
Concreting Guidance	Concrete produce with SikaControl® WT-220 PH requires good concreting practice for pacing and finishing. For basement car park, dry shake floor hardeners such as Sikafloor® - 3 Quartz Top can be used without restriction. **Curing** As curing affects 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 E or Antisol -90 shall be applied at the recommended rate (refer to the respective product data sheets). Alternatively, traditional curing methods (for example polythene sheets, water spray, ponding or wet hessian) can be used.

Specific Advice

Quality Assurance

- A record of the batched concrete constituents shall be kept by the supplier of the product and forwarded to the Supervising Officer as requested.

Quality Control

- As quality control, cube strength tests shall be performed at 7 and 28 days. At random intervals, additional 150 mm cubes can be casted in order to perform water penetration test as per DIN 1048, part 5.
- The frequency of both tests shall be determined according to site requirements or as per the proposed sampling plan below:
- For every 1 000 m3 of concrete batched, 6 cubes shall be tested for compressive strength at 7 and 28 days
- For every 2 000 m3, 3 additional cubes shall be made for water penetration test at 28 days as per DIN 1048, part 5

Requirements

- The dispensing, dosing and mixing of the various admixtures for the said concrete shall adhere strictly to the final mix design (after trial mix) and in accordance with batching sequence clearly defined in the SikaControl® WT-220 PH product data sheet
- The placing, placing height and compaction of the said concrete shall be in accordance with BS 8110
- The curing protection of the said concrete during hardening stage shall be in accordance with BS 8110
- The spacing of reinforcements shall be sufficient for aggregates to pass andavoid segregation
- The formwork shall be clear, soundly constructed and must be grout tight. All this shall be in accordance with BS 8110, including its removal
- All construction, expansions, crack-induced joints, abutment of old and newbuildings, openings such as pipe penetrations and projections, etc., shall be treated with Sika's Joint Sealing materials or approved equivalent, to details approved by the supervising officer
- All tie-rods must be patched up with a polymer modified mortar or other approved materials. The material and patching shall be proposed by Sika and approved by the supervising officer
- Recommended Slump = 100 25mm

Concrete Mix Design

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

Basic Waterproof Concrete:

Concrete mix design depends on local requirements and/or local standards for watertight concrete systems.

Sika® Waterproof Concrete:

SikaControl® WT-220 PH has been formulated for use in concrete with minimum cement content of 350 kg/m3 and a maximum w/c-ratio of 0.45. Depending on
the specific mix design, the dosage of HRWR/superplasticiser has to be evaluated in order to achieve a S3/F4 consistence class (EN206-1).

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	Sikadur® Combiflex
Sika® Hydrotite	Sikaflex®	
Sika® Fuko		
Sikaflex®		

Concrete produced using the SikaControl® WT-220 PH 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 as epoxy, polyurethane flooring systems, vinyl tiles, carpet, etc. are to applied, a temporary moisture barrier will be required as an underlay.

Recommended Dosage	0.8 – 2.0 % of SikaControl® WT-220 PH by weight of binder
Dispensing	Before batching, check the truck/mixer to ensure no water is in the drum/mixer. Batch concrete based on the concrete mix design and mix homogeneously. Add SikaControl® WT-220 PH and mix for at least 5-10 minutes with the concrete mixing truck at full speed.Alternative dispensing sequence can be used provided that the batcher can ensure a homogeneous mix. The homogeneity of the mix after dosing of SikaControl® WT-220 PHremains the responsibility of the applicator. The w/c ratio and consistency control remains the responsibility of the concrete producer. Actual plant trials must be carried out before jobs commence to determine both fresh & hardened properties.

BASIS OF PRODUCT DATA

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

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local description of the application fields.

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

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.

Sika Philippines Inc.
888 Marcos Alvarez Ave.,
Talon V, Las Piñas City, Philippines 1747
Tel. No.: +63 2 8806-2875
Fax. No.:+63 2 8806-2883
Website: phl.sika.com