BUILDING TRUST

PRODUCT DATA SHEET

Sika® WT-220 PMY

WATER RESISTING AND CRYSTALLINE WATERPROOFING CONCRETE ADMIXTURE

DESCRIPTION

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

USES

Sika® WT-220 PMY has been specifically formulated to produce high quality watertight concrete for the following:

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

CHARACTERISTICS / ADVANTAGES

Sika® WT-220 PMY 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 the date of production
Storage Conditions	Store properly in original, unopened and undamaged sealed packaging in dry and covered conditions. Protect from direct sunlight, moisture, water and rain.
Density	~750 kg/m³

TECHNICAL INFORMATION

Concreting Guidance

Concrete produced with the Sika® WT-220 PMY requires good concreting practices for placing and finishing. For basement car parks, dry shake floor hardeners such as Sikafloor®-3 QuartzTop can be used without restriction.

Curing

As curing affects watertightness of the concrete, care should be taken to ensure proper curing. When concrete has set and finishing completed, 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

- The batch record of the concrete constituents shall be kept by the concrete supplier and forwarded to the Supervising Officer as requested.

Quality Control

- As part of quality control, compressive strength tests shall be carried-out at 7 and 28 days. At random intervals, additional 150 mm cubes shall be made for water penetration test according to BS EN 12390-8 : 2009.
- The frequency of both tests shall be determined according to site requirements or as per the proposed sampling plan below:

For every 500 m³ of concrete	6 cubes shall be tested for compressive strength at 7 and 28 days
For every 2 000 m³ of concrete	3 additional cubes shall be made for water penetration test at 28 days

- The proportioning, dispensing, dosing and mixing of the various materials in the concrete shall strictly follow the final mix design (decided after plant trials).
- The placing, placing height and compaction of the concrete shall be in accordance with BS 8110
- The curing/protection of the concrete during hardening stage shall be in accordance with BS 8110
- The spacing of reinforcements shall be sufficient for aggregates to pass through and avoid segregation
- The formwork shall be clean, rigidly constructed and must be grout tight.
- All construction, expansions, crack-induced joints, abutment of old and new buildings, 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 holes must be patched up with a polymer modified mortar or other approved materials. Use Sika® MonoTop® patch repair mortar.
- Workability. The concrete slump shall be > 100 mm. No segregation and bleeding.

Concrete Mix Design

Plant trials are always recommended to evaluate and confirm the consistency class, compressive strength and watertightness of the concrete, before and after the addition of Sika® WT-220 PMY.

Basic Waterproof Concrete

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

Sika® Waterproof Concrete

Sika® WT-220 PMY has been formulated for use in concrete with minimum cement content of 350 kg/m³ and a maximum water-cement ratio (w/c) of 0.45, with a minimum consistency class of S3 (EN 206-1).

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		

APPLICATION INFORMATION

Recommended Dosage	0.8–2.0 % of Sika® WT-220 PMY by weight of binder

APPLICATION INSTRUCTIONS

DISPENSING

- Before mixing, check the truck/mixer to ensure no water is in the drum/mixer.
- Weigh the materials (based on approved concrete mix design) and mix the concrete until homogeneous.
- Add Sika® WT-220 PMY into the drum/mixer and mix for another 5–10 minutes at full speed.
- Alternative dispensing sequence can also be used. However, the homogeneity of the mix after dosing of Sika® WT-220 PMY remains the responsibility of the applicator.
- The maximum water-cement ratio (w/c) and consistency requirements must be adhered to at all times and remains the responsibility of the concrete supplier.
- Plant trials must be carried out before commencement of actual supply, to determine both fresh and hardened properties of the concrete after the addition of Sika® WT-220 PMY.

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 Product Data Sheet for the exact 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 Kimia Sdn. Bhd.
Lot 689, Nilai Industrial Estate, 71800 Nilai
Negeri Sembilan D.K., Malaysia
Phone: +606-7991762
Fax: +606-7991980
e-mail: info@my.sika.com
Website: www.sika.com.my