

**Product Data Sheet**

Edition 11/11/2009

Identification no:

01 07 05 04 001 0 000012

Sika®Watertight Concrete Powder

Water Resisting Concrete Admixture



**BS EN 934-2**

**08**

**0086 CPD - 472347**

# Sika®Watertight Concrete Powder

## Water Resisting Concrete Admixture

Construction

### Product Description

Sika®Watertight Concrete Powder is a combined water resisting and HRWR/Superplasticising admixture, used to enhance the workability of and reduce the water permeability of concrete. The product incorporates Sika®ViscoCrete Superplasticiser Technology and depending on material package will produce watertight concrete at a S3 consistence with a w/c ratio of <0.45 without the addition of a separate HRWR/Superplasticiser. Watertight concrete can be produced which is suitable for BS8102:1990 Type B construction (grades 1-4). Sika®Watertight Concrete Powder meets the requirements of BS EN 934-2 Table 9.

### Uses

Sika®Watertight Concrete Powder has been specifically formulated to produce high quality watertight concrete. Sika®Watertight Concrete Powder is used as a constituent of the Sika®Watertight concrete system and contact MUST be made with Sika Ltd to ensure that full system compliance is achieved. This Technical Data Sheet MUST be read in conjunction with Sika publication Sika® Technology and Concept for Watertight Construction.

- Water retaining structures
- Below ground structures
- Swimming pools
- Lift pits
- Tunnels

### Characteristics / Advantages

- Reduced water absorption
- Reduced water penetration
- Accurate control of w/c ratio
- In combination with a Sika®ViscoCrete HRWR/Superplasticiser, SCC can be produced
- Reduced shrinkage and creep
- Provided in a water soluble bag for ease of dispensing
- Consistent performance
- Reduced stock and environmental issues at production plant



## Concrete Mix Design

- Sika® Watertight Concrete Powder has been formulated for use in concrete with a medium to high workability (>S3 Consistence) with a minimum cement content of 350kg/m<sup>3</sup> and a maximum water/cement ratio of 0.45.
- Sika® Watertight Concrete Powder has been specifically formulated to produce a S3 consistence with a w/c ratio of <0.45 at 350kg/m<sup>3</sup> without the addition of a separate HRWR/Superplasticiser
- Subject to material package and cement content water reductions of between typically 10 – 15% can be achieved. Laboratory trials are always recommended to evaluate and confirm actual water reduction.
- Should the addition of a HRWR/Superplasticiser be required to achieve a w/c ratio of <0.45 it is recommended that a Sika®ViscoCrete HRWR/Superplasticiser be selected.

## Typical Results

### 350kg/m<sup>3</sup> Cement Content (Cem1)

Admixture	Dosage	W/C Ratio	Cement Content kg/m <sup>3</sup>	Consistence	Compressive Strength		Water Reduction (%)
					7 Days N/mm <sup>2</sup>	28 Days N/mm <sup>2</sup>	
Control	-	0.50	350	110mm	22.0	47.0	-
Sika® Watertight Concrete Powder	1.75 kg/m <sup>3</sup>	0.42	350	110mm	54.0	68.0	16.0

### 400kg/m<sup>3</sup> Cement Content (Cem1)

Admixture	Dosage	W/C Ratio	Cement Content kg/m <sup>3</sup>	Consistence	Compressive Strength		Water Reduction (%)
					7 Days N/mm <sup>2</sup>	28 Days N/mm <sup>2</sup>	
Control	-	0.46	400	120mm	35.0	52.0	-
Sika® Watertight Concrete Powder	1.75 kg/m <sup>3</sup>	0.42	400	120mm	61.0	69.0	10.0%

## Product Data

**Form** Powder

**Appearance / Colour** White

**Packaging** 6 x 1.75KG bags (1 pack)



---

## Storage

---

**Storage Conditions / Shelf-Life** 12 months from date of production if stored in unopened and undamaged original sealed containers protected from moisture at temperatures between +5 °C and +25 °C.

---

## Technical Data

---

**Chemical Base** Combination Fatty Acid and Polycarboxylate

---

**Bulk Density** 0.50 kg/litre

---

**Water Soluble Chloride Content** <0.1%w/w (chloride free)

---

**Alkali Content** <0.4%w/w

---

## System Information

---

### Application Details

---

**Consumption / Dosage** ■ 1.75kg bag per m<sup>3</sup>

---

**Dispensing/Batching Procedure**

- Forced action and truck mixers should be free from all contaminants prior to the batching of concrete containing Sika® Watertight Concrete Powder.
- The outer product protection bag **MUST** be removed.
- Sika® Watertight Concrete Powder should be added to the mixer at the recommended dose (1 bag per m<sup>3</sup>) prior to the batching of concrete.
- Batched concrete mix constituents should be subsequently batched on to the Sika® Watertight Concrete Powder in accordance with Sika® mix design recommendations.
- Additional mixing water should then be dispensed to bring the concrete to the desired consistence.
- On completion of the batching procedure the concrete load should be mixed in the truck mixer/agitator on full revolutions for a minimum of 5 minutes to ensure that the optimum consistence has been achieved.
- The w/c ratio and consistence control remains the responsibility of the concrete producer. Laboratory trials are recommended to evaluate and confirm the actual water reduction.

---

**Application Conditions / Limitations** ■ In the event of part loads <1.0m<sup>3</sup> it is recommended that a 1m<sup>3</sup> dose of Sika® Watertight Concrete Powder is used.

---

**Compatibility** Sika® Admixtures:

- Compatible with all Sika® ViscoCrete HRWR/Superplasticiser
- Other product compatibility information available on request

Cements:

- All cement combinations

---

**Notes on Application / Limitations**

- Support from our Technical Department is recommended
- If used in combination with a Sika® ViscoCrete HRWR/Superplasticiser in the construction of a watertight environment contact **MUST** be made with Sika Ltd

---

**Value Base** 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.

---

---

**Health and Safety Information**

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet 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.

---

CE Labelling

 0086	
Sika Ltd, Welwyn Garden City, Herts AL7 1BQ, UK  08  0086 CPD – 472347  BS EN 934-2: Table 9	
<b>Chloride Ion</b>	< 0.1%
<b>Alkali Content</b>	< 0.40%
<b>Corrosion Behaviour</b>	Contains only components from EN 934-1:2008, Annex A.1



Sika Limited  
Watchmead  
Welwyn Garden City  
Hertfordshire  
AL7 1BQ  
United Kingdom

Phone +44 1707 394444  
Telefax +44 1707 329129  
[www.sika.co.uk](http://www.sika.co.uk), email: [sales@uk.sika.com](mailto:sales@uk.sika.com)

