

Product Data Sheet
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Sika® Watertight Concrete Powder

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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 BS8102:2009 Type B construction (grades 1-3). 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® Solutions for Watertight Concrete.

- 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

Tests

Approvals / Standards

Conforms to the requirements of BS EN 934-2 Table 9
DoP 02 07 05 04 001 0 000012 1088, certified by Factory Production Control Body 0086, Certificate 541325, and provided with the CE mark



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/m³ 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/m³ 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/m³ Cement Content (Cem1)

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

400kg/m³ Cement Content (Cem1)

Admixture	Dosage	W/C Ratio	Cement Content kg/m ³	Consistence	Compressive Strength		Water Reduction (%)
					7 Days N/mm ²	28 Days N/mm ²	
Control	-	0.46	400	120mm	35.0	52.0	-
Sika® Watertight Concrete Powder	1.75 kg/m ³	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 m³

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.
- Sika® Watertight Concrete Powder should be added to the mixer at the recommended dose (1 bag per m³) 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 <1.0m³ it is recommended that a 1m³ 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

EN 934-2:2009 is a candidate "harmonized" European Standard and fully takes into account the requirements of the European Commission mandate M128. Products related to concrete, mortar and grout, given under the EU Construction Products Directive (89/106/EEC) and intended to lead to CE marking.

CE-labelled as per Annex ZA.3, table ZA.2 conformity 2+ and fulfil the requirements of the given mandate of the EU Construction Products Directive (89/106/CE).

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Certificate No. EMS 4308



Certificate No. FM 12504

