



PRODUCT DATA SHEET

Sika® Aer Solid

HOLLOW POLYMER MICROSPHERES FOR ARTIFICIAL AIR PORES IN CONCRETE TO INCREASE FREEZE-THAW RESESTANCE

PRODUCT DESCRIPTION

Sika® Aer Solid consists of hollow microspheres with an elasto-plastic surface that are added to a concrete mix to provide artificial air voids instead of using air-entraining admixtures.

WHERE TO USE

Creates artificial air pores in concrete to increase the frost and freeze/thaw resistance.

Typical structure types:

- Bridges, roads, water and marine

Concrete applications:

- High strength concrete with durable performance requirements
- Very flowable concrete requirements e.g. SCC (Self-Compacting Concrete) where it is often difficult to keep normally air-entrained air voids in suspension
- Very low or no-slump concrete, where it is difficult to introduce air voids with air entraining agents
- Shotcrete applications with requirements for high resistance to freeze-thaw and de-icing salts
- Difficult application conditions e. g. long concrete transportation times or long pumping distances
- Power floated concrete surface (external parking areas)

PRODUCT INFORMATION

Composition / Manufacturing	Acrylonitrile-Polymer	
Packaging	2 kg plastic bag	8 bags per case
Appearance / Colour	White paste	
Shelf Life	60 months from date of production	

CHARACTERISTICS / ADVANTAGES

- Additional space for expanding freezing water
 - Reduced suction of capillary pores
 - Substitute for additional fines
 - Additional support in the matrix of mortars and concretes
 - Increased resistance to freeze-thaw and de-icing salts
 - Reduced capillary water absorption
 - Improved workability by means of 'ball bearing effect'
- Advantages over conventional air-entraining admixtures:
- Obtains high resistance to freeze-thaw and de-icing salts, even under difficult consistence or installation requirements/conditions
 - Lower concrete strength reduction

APPROVALS / CERTIFICATES

- CE Marking and Declaration of Performance to ETA 13/0363 - Elastic micro hollow spheres as concrete admixture
- European Technical Assessment ETA 13/0363 based on EAD - Elastic micro hollow spheres as concrete admixture
- Use of Concrete Additives ETA-13/0363, Sika® Aer Solid, DIBt, Approval No. Z-3.212-1948

Storage Conditions	The product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between 5 °C and 30 °C. Always refer to packaging.
Density	~0,2 kg/dm ³
Equivalent Sodium Oxide	≤ 0.5%

TECHNICAL INFORMATION

Concreting Guidance	The standard rules of good concreting practice, concerning production and placing must be followed. Laboratory trials must be carried out before concreting on site, especially when using a new mix design or producing new concrete components. Fresh concrete must be cured properly and curing applied as early as possible.
Specific Advice	Sika® Aer Solid in concrete can be verified by washing out the hollow microspheres according to ASTM C-173/C-173M-01. Testing in a standard air void pot will give incorrect results. The Roll-A-Meter-value as a part of the required dosage is to be determined in the context of the initial testing. Within the initial testing a CDF-test according to DIN CEN/TS12390-9, Section 7 must be performed.

APPLICATION INFORMATION

Compatibility	Sika® Aer Solid may be combined with many other Sika® products. Trials must always be carried out before combining products in specific mixes. Contact Sika Technical Services for additional information and any specific combinations.
Recommended Dosage	Concrete: 3.5 kg/m ³ (EN 206-1 / DIN 1045-2) Sprayed concrete: 7.0 kg/m ³ (EN 14487 / DIN 18551)
Mixing	Sika® Aer Solid must be added with the aggregates and before adding the superplasticiser. Mixing time is limited on the required mixing process.

BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

LIMITATIONS

- Loss of liquid/moisture within the bags has no influence on performance. Dosage must remain the same even with loss of moisture.

ENVIRONMENT, HEALTH & 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.

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 recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. 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 or may be downloaded from our website at: www.sika.ca

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Product Data Sheet

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