Construction

SikaSet®

Low shrinkage accelerator

Product Description	SikaSet® is a concentrated solution of accelerating, plasticizing and shrinkage-reducing agents. It may be used with standard or high early strength Portland cement, including white cement or blends of sand and cement.
Uses	SikaSet® is a low shrinkage accelerator for Portland cement. It produces fast setting, low shrinkage, high strength concrete, toppings, dry pack mortar and grout. SikaSet® mortar is also used to set, bond, embed, grout surface or repair veneers, slabs, terrazzo, floors, walls, hooks, etc., for marble, limestone, granite and natural or artificial stone.
Characteristics / Advantages	With SikaSet® the initial set of Portland cement can be controlled through a range from just a few minutes to several hours. A 1:3 or 1:5 solution of SikaSet® and water will allow extended time for mixing and placing, while a more concentrated solution is used for accelerated construction progress. SikaSet® mortar is cohesive and provides good adhesion to concrete and masonry surfaces. Both early and ultimate compressive strengths are greater than strengths obtained with conventional cement accelerators.

Tests

Approval / Standard	SikaSet® conforms to ASTM C-499-62T, Type C.

Product Data

Form

Appearance / Colour	Clear liquid
Packaging	25 kg pails and 250 kg drums

Storage

Storage Conditions / Shelf Life	2 years from the date of production when stored in original unopened packaging in a cool, dry place. Protect from direct sunlight.

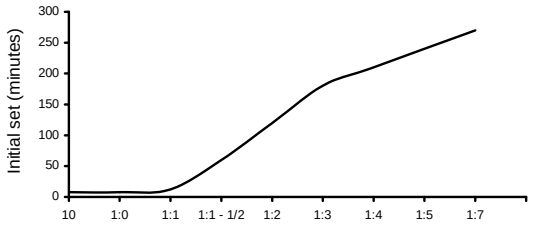
System Information

Application Instructions

Setting Time

The graph below shows initial set under 1 set of conditions with various dilutions of SikaSet®. Similar relationships exist with different temperatures and other w/c ratios or brands of cement. However, since actual initial and final setting time will vary with different brands of cement and job conditions, tests with small quantities of cement to be used should be conducted on the job to determine the proper dilution for the desired setting time.

Data: Test was made according to ASTM C-191



Mortar:	1 : 1
w/c	0.35
Temperature:	+21°C

Cleaning of Tools

Clean all tools and application equipment with water immediately after use. Hardened and/or cured material can only be mechanically removed.

Notes on Application / Limitations

Mix temperature should be +10° C or higher to take full advantage of accelerating actions. SikaSet® **should not** be used for reinforced and prestressed concrete, concrete containing embedded aluminium conduit or window frames, nor concrete fill placed on metal pan flooring systems.

Due to the many variables encountered in concrete placements, trial mixes should always be made with the same materials to be used on the actual project. Actual conditions should be simulated as closely as possible to determine the correct proportions of SikaSet® in order to provide the required setting time and strength.

Typical Applications

Toppings

Hard wearing toppings with good adhesive quality are made using SikaSet® diluted 1:5. Topping mortar should be placed as stiff as possible for maximum hardness. Measured slump should be from 0 - 50 mm. For toppings up to 20 mm thick, use 1 part fresh Portland cement and 3 parts clean sharp sand. For toppings more than 20 mm thick, use 1 part cement, 1.5 parts clean sharp sand and 2 parts grit or fine aggregate.

Toppings require special care in curing to ensure that the moisture is retained for the full period of hydration. Polythene sheet should cover the topping for a minimum of 48 hours.

Pavement Patching

Normally diluted 1:5 with water, SikaSet® is used to gauge a rich concrete mixture with a cement content of 400 – 500 kg per cubic meter. High early strength cement is generally preferred when fastest strength development is desired. The resulting mix has good workability which permits rapid placement.

Setting time may be shortened by increasing SikaSet® proportion, or lengthened by decreasing it. Patches achieve 28-day strength in approximately 24 hours.

Patches should be ponded for 4 hours to prevent moisture loss and craze cracking.

Dry-Pack Mortar

Dry-pack mortars made with SikaSet® are used for patching concrete structures and for assembling pre-cast concrete members. These patches exhibit no discernible cracking. Dry-pack mortar is made with 1 part Portland cement, 2 parts sand, and SikaSet® diluted with 2 - 5 parts water, depending on setting time desired.

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Grout	A fast setting grout with good flow characteristics and high adhesion is made with 1 part cement and 1 part fine sand. This is gauged to a fluid consistency with SikaSet® diluted with 2 - 5 parts water, depending on desired initial set.
Marble & Stone Setting	To set marble or stone, SikaSet® mortar maybe used for spot setting. SikaSet® mortar is also used for grouting joints in horizontal or vertical tiles, marble and stone or for buttering the edges of slabs to obtain a full mortar joint. A 1:5 dilution of SikaSet® is typically employed for these purposes.
Terrazzo	SikaSet® mortar is denser and polishes better than plain cement mortar. When gauging mixes for terrazzo, breccias or artificial marble, its use saves construction time since long waiting periods between placing and rubbing and polishing can be safely reduced. A 1:5 dilution permits rubbing after 2 days instead of the usual 6 days, with cleaning or fine stoning following after 24 hours instead of 72 hours.

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.

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 (available upon request) containing physical, ecological, toxicological and other safety-related data.

Legal Note

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.

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