

PRODUCT DATA SHEET

SikaRapid[®]-453 3D

SETTING ACCELERATOR FOR SIKACRETE[®] 3D AND 3DCP SYSTEMS

DESCRIPTION

SikaRapid[®]-453 3D is a high-performance, alkali-free liquid setting accelerator for use with Sikacrete[®] 3D multi-component systems and other 3DCP systems.

USES

- Reduction of the setting time of a 3D concrete printing material (3DCP) to a few seconds
- Printing of objects with larger overhangs
- Compatible with Sikacrete[®]-2700 or 3700 3D series and other 3DCP systems

FEATURES

- Very short setting time possible
- Control of setting time
- Increased productivity
- Alkali-free
- Chloride-free

See also the corresponding technical data sheet for the Sikacrete[®]-2700 or 3700 3D series or data sheets for other 3DCP systems.

PRODUCT INFORMATION

Composition	Special organic substances
Packaging	30 kg can
Appearance and colour	Liquid / White
Shelf life	When stored properly at a storage temperature between +5°C and +30°C, it can be kept for 6 to 12 months from the date of production.
Storage conditions	Protect from frost, direct sunlight and contamination. Homogenise SikaRapid [®] -453 3D by shaking or better by using compressed air (period approx. 5 minutes) if necessary.
Density	1.46 g/cm ³ at +20°C
pH-Value	ca. 3
Viscosity	≤ 400 mPa*s at +20°C
Total chloride ion content	≤ 0.10%
Equivalent sodium oxide	≤ 1.0%

TECHNICAL INFORMATION

Concreting guidance

SikaRapid®-453 3D is fed at a precise and constant dosage with the mortar flow to a suitable pressure head, which enables fast and homogeneous mixing. As the mortar hardens in seconds, it is important that the pressure head allows the accelerator to be quickly washed off with clean water after stopping. Always start with a very low dosage of the accelerator until the desired setting time is achieved. Under no circumstances should it be added to the mixing water. Metal parts of the pump, pipes and pressure head that come into contact with SikaRapid®-453 3D must be made of stainless steel. If you have any questions, please contact Sika's Technical Department.

APPLICATION INFORMATION

Recommended dosage

The dosage depends on the required setting time, the temperature of the pressure mortar, the water content of the mixed mortar and the dry mortar used.

A typical dosage is between 1.0% and 4.0% by weight of the dry mortar. The recommended dosage for Sika material can be found in the respective Sikacrete® 3D multi-component system PDB.

The optimum dosage for other 3DCP systems must be determined by preliminary tests. For new mixtures, it is advisable to carry out laboratory tests to determine the appropriate setting time.

Dispensing

Always ensure that the pump hoses and the dosing opening in the print head are thoroughly cleaned and that the dosing pump is in good, well-maintained condition.

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

IMPORTANT CONSIDERATIONS

1. Information on performance characteristics can be found in the corresponding product data sheet for the Sikacrete 3D system.
2. For other 3DCP systems, the parameters must be determined in advance through testing.
3. Printing the first layers on a cold substrate slows down the setting time.

ECOLOGY, HEALTH AND 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.

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.

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