

Technical Data Sheet

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 Sigunit® -P10 AF

Sigunit® -P10 AF

Accelerating shotcrete admixture powder

Product Description

Sigunit® -P10 AF is a readily soluble powder. Sigunit® -P10 AF dissolved in water is a liquid, alkali-free set accelerator for shotcrete. Its effectiveness depends on its mixing ratio powder / water (its dilution / concentration).

Uses

Sigunit® -P10AF dissolved in water is suitable for both dry and wet spraying processes and it is used for :

- Support at the face whilst advancing tunnels and mines
- Rock- and slope stabilisation
- High quality lining shotcrete

Characteristics / Advantages

Sigunit® -P10 AF dissolved in water as a shotcrete set accelerator has the following characteristics and advantages :

- High early strength development
- Alkali-free
- Minimal strength loss of the accelerated concrete
- No pollution of groundwater by leached out alkalis
- Distinct reduction of rebound
- Improves bond of shotcrete to rock and concrete thus facilitating overhead spraying
- Distinct reduction of dust
- Chloride-free, does not attack iron and steel

The supply in powder form has the following additional advantages :

- High flexibility in use
- Low cost of logistics
- Longer shelf-life

Product Data

Form

Appearance / Colour Powder, whitish

Packaging One way big bag

Storage

Storage Conditions / Shelf Life 12 months from date of production if stored in original unopened, undamaged Sealed containers, protected from direct sunlight and frost at temperatures between 5°C and +30°C.



Technical Data

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| Chemical Base | Special inorganic materials. |
| Density | 0.75 ± 0.95 kg/l (bulk density) The density of the liquid set accelerator depends on the powder content and varies in the range of 1.30 to 1.45 kg/l. The actual density must be determined on site. |
| pH Value | ~ 3.0 dissolved in water. |

System Information

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| System Structure | Aggregate grading for pumped concrete: Usual mix with 8 mm aggregate size. Concrete consistency (dependent on spraying equipment used): Flow table spread size ≥ 45 cm; w/c ratio ≤ 0.48. The use of an appropriate superplasticiser (such as Sika® ViscoCrete® SC-305 / SikaTard® -203) is essential. Temperature of fresh concrete : > +15°C. |
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Application Details

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| Dosage | The correct dosage must be determined by preliminary testing. For layer thickness of up to 15 cm in one pass, dosage is between 3% and 6% of weight of binder. Dosage of Sigunit® -P10 AF is by peristaltic pump such as the Sika® Aliva-403 pump. Optimised mixing with the concrete mix is also essential. The following Sika® products are generally used for the basic shotcrete mix : - Sika® ViscoCrete SC-305 - SikaTard® -203 - SikaTard® -930 - SikaPump® - SikaFume® -HR / -TU / Sikacrete®-L / Sikacrete®-PP1 TU |
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Application Instructions

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| Mixing | The liquid product mixed from Sigunit® -P10 AF must be stored in suitable containers made of plastic or stainless steel. Details of type and length of storage of mixed product must always be agreed with the local Sika company. |
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Notes on Application / Limitations

If thicker layers of shotcrete are to be applied, ensure that the temperature of the basic concrete is not lower than +15°C. Lower temperatures require higher dosage of accelerator.

The accelerator's effect depends on the cement content, the age and type of cement, on the substrate and the shotcrete temperature as well as on the layer thickness and spraying process. The w/c ratio of the basic concrete mix in the wet spraying process, and the quantity of gauging water in the dry spraying process are also parameters influencing the acceleration effect of dissolved Sigunit® -P10 AF powder.

When using sulphate resistant cements strength development can be slower. Sigunit® -P10 AF is not compatible with alkaline shotcrete accelerators. Before using Sigunit® -P10 AF requires technically correct dosing and conveying / spraying technology. Metal parts of the pump that come into direct contact with

Sigunit® -P10 AF should be made of stainless steel.

Contact your local Sika company for any additional technical support required.

Notes

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.



Protective Measures To avoid allergic reactions, we recommend the use of protective gloves and facial mask. In case of contact with skin or eyes, immediately wash thoroughly with plenty of water. Sigunit® -P10 AF should not be discharged into drains, waterways or the ground.

Local regulations and health and safety advice on the packaging labels must be observed.

Important Notes Must be disposed of as hazardous waste in accordance with local regulations.

Please consult material safety data sheet. Residues of material must be removed according to local regulations. Fully cured material can be disposed of as household waste under agreement with the responsible local authorities.

Detailed health and safety information as well as detailed precautionary measures e.g. physical, toxicological and ecological data can be obtained from the safety data sheet.

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 product 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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