

SiSiB® WR0779 Potassium Methyl Silicate Powder

INTRODUCTION

SiSiB® WR0779 is a high-purity potassium methyl silicate powder designed for high-performance waterproofing in cementitious construction materials. It reacts with silanol groups in silicate-based materials in the presence of water to form a crosslinked water-repellent layer, achieving excellent anti-capillary and moisture-resistant effects. The material also exhibits micro-expansion and improves matrix density.

PHYSICAL PROPERTIES

Appearance	White powder
Solid content	>99%
Potassium hydroxide content	>39%
Sesquioxide content	>60%
pH-Value	13-14
Moisture content	<0.5%
Specific gravity	0.85-0.86

APPLICATIONS

SiSiB® WR0779 is suitable for a broad range of waterproofing and protective applications:

- **Building Construction:** Roofs, internal/external walls, floors, bathrooms, kitchens, basements, warehouses
- **Infrastructure:** Bridges, tunnels, dams, hydropower stations, civil defense projects
- **Water Facilities:** Swimming pools, water tanks, sewage tanks
- **Absorbent Materials:** Perlite boards, cement boards, lightweight panels, inorganic fabrics, insulation materials
- **Surface Treatments:** Waterproofing, anti-staining, and anti-aging protection of mineral-based exterior wall finishes
- **Additive for Coatings:** Enhances water repellency of latex paints, sodium silicate solutions, and 107 adhesives
- **Oil Drilling:** Controls mud viscosity/density and prevents borehole collapse
- **Reservoir Stabilization:** Post-drilling injection to prevent structural collapse and improve extraction

USAGE GUIDELINES

Waterproof Mortar

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- Cement-Sand Ratio = 1:2.5 - 1: 3
- Water-Cement Ratio: ≤ 0.5
- Dosage: 0.4% of cement weight
- Pre-blend SiSiB® WR0779 evenly with dry cement and sand before adding water
- Apply two layers (each ~10mm), with a 1mm plain mortar primer
- Surface finish: roughened with wood trowel; wet curing required
- Optional: spray 1:70 aqueous solution of the powder for curing

Waterproof Concrete

- Dosage: 0.4-0.5% of cement weight
- Add SiSiB® WR0779 to dry mix before adding water
- Follow conventional concrete placement and curing methods

Leak Repair

- Roughen smooth surfaces, clean thoroughly
- Apply bonding layer with plain mortar, then waterproof mortar
- Seal leaks before coating; treat corners as rounded fillets
- Overlap joints 100–150mm with bonding and waterproof layers

Spray Application

- Dilute WR0779 with clean water at 1:50 ratio
- Spray on absorbent mineral substrates (e.g., cement, brick, gypsum board, painted walls)
- Provides fast and efficient water-repellent treatment

Waterproof Cement Preparation

- Dosage: 0.5% of cement weight
- Mix thoroughly and use for plugging, joint sealing, mortar production, or foamed cement

PACKING

SiSiB® WR0779 is available in 25Kg bags.

STORAGE

SiSiB® WR0779 may be stored up to one year in a sealed container. Containers should be stored in a cool, dry area. Extended storage at elevated temperatures or exposure to direct heat or sunlight could reduce

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product life. Keep containers sealed when not in use.

HANDLING

This document does not contain the product safety information required for safe use. Before handling, please refer to the product and safety data sheets, as well as container labels, for information on safe usage, physical hazards, and health risks. Safety Data Sheet is available on the website, from the distributor, or by contacting SiSiB customer service.

NOTE

All information in the leaflet is based on our present knowledge and experience. We reserve the right to make any changes according to technological progress or further developments. Performance of the product described herein should be verified by testing.

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