MANTA

Technical Data Sheet

Version: 1.0

Manta WS400

Cationic Silane/Siloxane Emulsion

Description

Manta WS400 is a solvent-free cationic emulsion based on reactive silanes and modified polysiloxanes.
It is specifically optimized for high-performance surface impregnation. Performance equivalent to Wacker SILRES® BS 4004.

Typical Physical Properties

Manta Code:	WS400
Chemical Name:	Cationic silane/polysiloxane emulsion
Appearance:	Milky white liquid
Active Content(%):	approx. 50
Density (20°C, g/cm³):	approx. 1
pH Value:	approx. 4.0-6.0

Properties

Exceptional Hydrophobicity: Delivers fast-acting, strong water repellency with an outstanding beading effect.
Highly Breathable: Maintains uncompromised water vapor permeability of the substrate.
Rapid Effectiveness: Develops high early water resistance very fast due to cationic surface substantivity.
Pronounced Beading Effect: Generates a strong surface water droplet roll-off (lotus) effect.
Deep Penetrating Power: Excellent depth of penetration into mineral capillary networks.
Eco-Friendly: 100% solvent-free, water-borne formulation.

Application

Manta WS400 is utilized as a highly active water-repellent agent for the formulation of water-based impregnators and surface treatments.

Application Guidelines

Manta WS400 is highly suitable for various porous mineral substrates, including fired brick, clinker, sand-lime brick, natural stone, and mineral renders/mortars. It is less suitable for dense, low-absorbency natural stone, especially limestone and marble.

- Dilution Ratio: Dilute WS400 with water at a ratio of 1:4 to 1:9 depending on the substrate's absorption capacity.
- Application Technique: Apply the diluted solution generously and evenly using a brush, roller, or flooding method. A "wet-on-wet" application technique is highly recommended to ensure complete, uninterrupted coverage.

Key Formulation & Mixing Rules

1. Water Quality: It is highly recommended to dilute WS400 with deionized or purified water. Hard water containing high levels of calcium and magnesium ions may compromise the emulsion's dilution stability.
2. Dilution Sequence (CRITICAL): To avoid emulsion shock or phase inversion, always add the water slowly to the WS400 emulsion under continuous, gentle agitation. Strictly prohibit adding the concentrated emulsion directly into a large volume of water.
3. Compatibility Warning: WS400 is a cationic system. It is primarily designed to be applied as a stand-alone aqueous dilution. If compounding with other polymer dispersions is required, strict

compatibility testing must be conducted. Never mix with anionic emulsions or additives, as immediate coagulation (flocculation) will occur.
4. Application Restriction (CRITICAL): Due to its highly substantive cationic nature, WS400 is designed exclusively for topical/surface application. DO NOT use as an integral admixture (mass hydrophobation) in fresh cement or concrete, as immediate coagulation will occur.

Packaging

In 20-25kg/ Plastic drum, 180-200kg/Iron drum

Safety and Storage

Temperature Sensitivity: Manta WS400 is an aqueous cationic emulsion that is highly sensitive to frost and extreme heat. It must be stored indoors at temperatures strictly between 5°C and 40°C.
Storage Risks: Exposure to temperatures outside this recommended range may cause irreversible emulsion breakage (phase separation).
Quality Verification: In the event of suspected frost or heat damage, the viability and homogeneity of the product must be thoroughly verified prior to any application or formulation.

Contact Information

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