

Manta WS450

Silicone Resin Emulsion for Architectural Coatings

Description

Manta WS450 is a solvent-free aqueous emulsion of a modified polysiloxane resin. It is specifically engineered to function as the primary binder or co-binder in the formulation of premium exterior architectural coatings and silicone resin plasters.

Equivalent to Wacker SILRES® BS 45.

Typical Physical Properties

Manta code:	WS450
Chemical Name:	Aqueous emulsion of modified polysiloxane resin
Appearance:	Milky white liquid
Active Content(%)	approx. 50
Specific Gravity(20°C, g/cm ³)	approx. 1

Properties

- **Exceptional Water Repellency:** Provides durable, highly effective moisture protection.
- **Highly Breathable:** Maintains extremely high water vapor permeability, allowing building facades to "breathe".
- **Aesthetic Preservation:** Exhibits excellently low dirt pick-up, ensuring long-lasting facade cleanliness.
- **Early Rain Resistance:** Rapidly develops water resistance shortly after coating application.
- **Robust Film-Forming:** Forms a resilient, microporous silicone resin network.
- **High Alkali Resistance:** Perfectly stable in high-pH environments, highly compatible with silicate-based formulations.
- **Eco-Friendly:** 100% solvent-free, water-borne system.

Application

Manta WS450 acts as a core hydrophobic binder in silicone resin paints and elastomeric plasters. It delivers the optimal balance of driving-rain protection and vapor transmission. Furthermore, owing to its outstanding alkali resistance, it is highly recommended as a modifying co-binder for sodium silicate paints (mineral paints) to significantly upgrade their water repellency.

Formulation Guidelines

During the manufacturing process, Manta WS450 is typically incorporated into the water-based coating formulation at the following dosages (calculated by weight relative to the total formulation):

Silicone Resin Paints: 4.0% - 10.0%

Silicone-Modified Acrylic Paints: 2.0% - 4.0%

Silicone Resin Plasters / Renders: 2.0% - 6.0%

SiSi Plasters (Silicate/Silicone Hybrid Renders): 2.0% - 4.0%

Formulator's Tip: While Manta WS450 provides an exceptional microporous water-repellent network, to achieve an ultimate surface water-beading (lotus) effect, we strongly recommend formulating it in combination with 1.0% - 3.0% of Manta WS136 (Water-Repellent Additive).

Packaging

In 190kg drum and 950kg IBC

Safety and Storage

Temperature Sensitivity: Manta WS450 is an aqueous emulsion highly sensitive to frost and extreme heat. Store indoors at temperatures strictly between 5° C and 40° C.

Storage Risks: Exposure to temperatures outside this 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 formulation or application.

Shelf Life: 12 months when stored properly in original, unopened containers. It is classified as a non-hazardous substance.

Contact Information

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