

Manta WS111-P

Reactive Siloxane Emulsion for Paper & Packaging

Description

Manta WS111-P is a reactive poly-methyl hydrogen hydroxy siloxane emulsion, formulated specifically as a premium sizing and release agent for the paper and corrugated packaging industry. Under the combined action of a catalyst and high thermal energy during the paper machine drying process, the active siloxane molecules undergo a rapid dehydrocondensation cross-linking reaction. This process permanently bonds a robust, highly hydrophobic polysiloxane network to the cellulosic fibers, forcing water to bead up and roll off (the lotus effect) while simultaneously enhancing surface gloss.

Features

- **Exceptional Hydrophobicity:** Imparts superior liquid water hold-out and moisture resistance to paper substrates, protecting the structural integrity of corrugated boards in high-humidity environments.
- **Excellent Release Properties:** Functions as a premium release coating, imparting essential non-stick characteristics for specialty papers.
- **High Gloss Finish:** Enhances the aesthetic appeal of the paper with a smooth, glossy surface without greasy residues.

Typical Physical Properties

Manta code:	WS111-P
Chemical Name:	Poly-methyl hydrogen hydroxy siloxane
Appearance:	Milky white aqueous liquid
Total solid content:	Approx. 30%
pH:	6-8
Density(g/cm ³):	1.00-1.10
Flammable:	Aqueous system (Non-flammable)

Applications

Formulated exclusively for the paper manufacturing and converting industries:

1. **Food & Beverage Packaging:** Used to impart water resistance in disposable paper cups, plates, and wrapping paper. (Note: Suitability for direct/indirect food contact is subject to local regulatory compliance and specific FDA/BfR certifications of the final treated article).
2. **Release Papers:** Manufacturing of silicone release liners (silicone oil paper) and non-stick industrial packaging.
3. **Industrial Packaging:** Moisture-proofing for kraft paper, glossy paper, corrugated cardboard, and heavy-duty shipping sacks.

How To Use

1. Surface Sizing / Coating (Spray or Roll-Coat)

Dilute the WS111-P emulsion with clean water at a ratio of 1:1 to 1:3.

Apply evenly to the paper surface using standard sizing presses, spray systems, or roll coaters.

2. Internal Sizing (Pulp Addition)

For mass waterproofing, add the emulsion directly to the pulp slurry during the wet-end process.

The recommended dosage is 3% to 5% based on the dry weight of the pulp. Ensure thorough mixing before sheet formation.

Precautions

Thermal Operating Range: The formulated sizing liquid should be applied at ambient temperatures (0°C to 50°C). However, to achieve full catalytic cross-linking and optimal hydrophobicity, the treated paper must undergo thermal drying/curing at temperatures between 100°C and 200°C (e.g., across standard paper machine drying cylinders).

Occupational Safety: A safe, non-toxic green chemical. Operators handling the concentrated emulsion should wear standard protective gloves and safety goggles. In the event of ocular contact, flush thoroughly with copious amounts of water and seek medical advice.

Packaging

In 50kg, 60kg, 200kg drum, or customized.

Safety and Storage

Keep in a clean, cool, and dry place. Prevent rain, sun exposure, and container damage. Store strictly between 0°C and 50°C (Protect from freezing). Shelf life is 12 months in original unopened vented containers. It is non-hazardous substance.

Contact Information

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