

Manta MS27

Silane Terminated Polyether Polymer

Description

Manta MS27 is an alkoxy-silane terminated polyether polymer designed for high-performance moisture-curing systems. It serves as an ideal base resin for elastic sealants, structural adhesives, and protective coatings.

Distinct from traditional polyurethane and silicone systems, formulations based on Manta MS27 are 100% solvent-free and isocyanate-free. The polymer ensures a bubble-free and odorless curing process, significantly improving the application environment. It demonstrates exceptional broad-spectrum adhesion, bonding effectively to a diverse range of substrates without the need for primers.

Typical Physical Properties

Manta code:	MS27
Chemical Name:	Silane Terminated Polyether Polymer
Appearance	Transparent to slight yellow viscous liquid
Viscosity (25°C) / mPa·s:	28000-38000
Boiling point	> 250°C
Gravity	1.0 g/m ³
Flash point	≥237°C
Water-Soluble	Virtually Insoluble
Activity:	High activity
Modulus:	Low modulus

Properties

- High Reactivity, Low Modulus: Optimized for flexibility and stress relaxation.
- Superior Bond Strength: Ensures reliable performance across diverse substrates.
- Fast Curing: Supports accelerated production cycles; compatible with non-tin catalysts for enhanced eco-friendliness.
- Excellent Weathering & Yellowing Resistance: Long-term stability in harsh outdoor environments.
- Robust Chemical & Water Resistance: Highly resistant to moisture and chemical corrosion.
- High Elastic Recovery: Maintains structural integrity after repeated stress and movement.
- Superior Storage Stability: Long shelf life with consistent chemical properties.
- Eco-Friendly Profile: 100% solvent-free, odorless, and VOC-compliant.
- Broad Compatibility: Can be seamlessly blended with other polymers for customized formulations.

Applications

Manta MS27 polymer is engineered as the primary binder for high-performance elastic sealants, structural adhesives, encapsulants (potting compounds), and protective coatings. Utilizing a moisture-curing mechanism, it can be formulated into both one-component (1K) and two-component (2K) systems:

1. Construction: Low-modulus expansion joint and facade sealants.
2. Transportation: Elastic bonding and sealing for rail transit, automotive, and specialty vehicles.
3. Consumer/DIY: High-safety, user-friendly DIY sealants.
4. Interior Decoration: Eco-friendly, solvent-free, and odorless decorative sealants.

Instructions

Manta MS27 is highly soluble in common organic solvents (e.g., ethanol) but nearly insoluble in water. Consequently, all formulation components, including plasticizers and additives, should be primarily oil-soluble.

Curing Mechanism: The polymer cures through a two-stage moisture-triggered process at the terminal silane groups:

- Hydrolysis: Reaction with atmospheric moisture to form reactive silanol intermediates.
- Cross-linking: Catalyst-accelerated condensation of silanol groups to form robust siloxane bonds (-Si-O-Si-), resulting in a high-strength, three-dimensional network.

Moisture Control & Stability: While MS27 exhibits temporary stability in ambient air without a catalyst, its high reactivity makes humidity control critical. To prevent premature gelation and ensure shelf-life stability, strict dehydration of raw materials is mandatory. We highly recommend using Vinyl Trimethoxysilane (VTMO) as an effective chemical moisture scavenger.

Manufacturing: MS27 is compatible with conventional mixing equipment (e.g., planetary mixers). For specialized technical support, please consult our engineering team.

Cleaning

Uncured product can be removed using common organic solvents, such as ethanol or dimethyl carbonate (DMC). Once fully cured, the material can only be removed through mechanical means.

Packing

50kg plastic drum lined with aluminum foil bag; 200kg drum lined with aluminum foil bag;
1000kg IBC/Tote;
Can be customized.

Safety and Storage

Keep in a cool and dry place and avoid storage in direct sunlight. Shelf life is 12 months. It is non-hazardous substance.

Contact Information

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