

# Manta MS3303I

MS Polymer / Silyl-Terminated-Polyether

### Description

Manta MS3303I is an alkoxy-silylated polyether polymer built on a high-purity polyoxypropylene (PPO) backbone. It is specifically designed as a premium binder for moisture-curing elastic sealants and structural adhesives that require a balance of high flexibility and rapid curing. Distinguishing itself from traditional polyurethane and silicone systems, MS3303I is entirely isocyanate-free, solvent-free, and low-VOC. It ensures a bubble-free, odorless curing process, delivering a superior surface finish. With exceptional primerless adhesion to a broad spectrum of substrates, MS3303I is an ideal choice for demanding applications in the construction, transportation, and renewable energy industries.

### Typical Physical Properties

Manta code:	MS3303I
Chemical Name:	Silane terminated polyether
Appearance	Transparent viscous liquid
Flash Point (°C):	≥100
Viscosity (25°C) / mpa·s:	30000 – 45000
Activity:	High Activity
Modulus:	Low-Medium modulus
Chemical Structure:	



### Properties

- **High Activity & Low-to-Medium Modulus:** Specifically optimized for high-movement joints, providing excellent stress-relief and elastic recovery.
- **Rapid Ambient Curing:** Exhibits fast tack-free times and through-cure, compatible with both organotin and tin-free (amine-based) catalysts for enhanced eco-friendliness.
- **Exceptional Optical Clarity:** High transparency combined with superior resistance to UV aging and yellowing, ensuring long-lasting aesthetic performance.
- **Robust Mechanical Integrity:** Delivers strong bonding strength while maintaining high tensile elasticity and durability against water and chemical solvents.
- **Superior Storage Stability:** Exhibits excellent shelf-life stability even in complex formulations.
- **High Formulation Flexibility:** Solvent-free and odorless; can be seamlessly blended with other Manta polymers to tailor mechanical properties.

### Applications

1. **Construction & Infrastructure:** The primary resin for low-modulus expansion joints, curtain wall sealants, and high-performance weather-resistant building seals.
2. **Transportation & Automotive:** Used in elastic sealing and structural bonding for vehicle bodies, rail transit, and marine interiors where vibration damping is required.
3. **New Energy & Electronics:** Ideal for solar module bonding and as a transparent encapsulant/potting adhesive for sensitive electronic components.
4. **Eco-friendly Interior Design:** Formulating "Green" DIY sealants and decoration adhesives for indoor use, ensuring healthy air quality.
5. **Industrial Coatings:** Acts as a flexible, reactive binder for protective coatings on diverse substrates.

### Processing

1. **Moisture Sensitivity:** Since alkoxy groups undergo hydrolysis and cross-linking in humid environments, it is critical to ensure hermetically sealed storage and a moisture-free production environment to prevent premature gelation.
2. **Formulation Latitude:** The dosage of Manta MS3303I can be flexibly adjusted. It exhibits excellent compatibility with various functional fillers, including PCC (Precipitated Calcium Carbonate), GCC (Ground Calcium Carbonate), fumed silica, quartz flour, diatomaceous earth, and aluminum hydroxide.
3. **Dehydration:** To prevent premature curing, all fillers must be thoroughly dehydrated. Vinyltrimethoxysilane (VTMO) is typically employed as a high-efficiency water scavenger.
4. **Plasticizer Compatibility:** Suitable plasticizers include various phthalates (e.g., DINP, DIDP, DOTP) and low-molecular-weight polyethers (PPG).
5. **Performance Additives:** For optimized end-product performance, MS3303I can be formulated with adhesion promoters, antioxidants, fungicides (mildew inhibitors), and light stabilizers.

### Typical Performance of a Reference Sample

MS3303I Inspection Items	Standard	Analysis Results
Appearance	Colorless transparent liquid	Colorless transparent liquid
Viscosity(25°C) mPa.s	30000-45000	39170
pH Value	6.0-9.0	7.0
Tensile Strength Mpa	≥ 0.5MPa	0.58
Elongation at tensile break%	≥ 100	117.6
Hardness(Shore A)	≥ 25	29

### 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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