

Manta MS305D

MS Polymer / Silyl-Terminated-Polyether

Description

Manta MS305D is a Silane-Terminated Polyether (STP) polymer featuring a polyoxypropylene backbone. Designed for moisture-curing systems, it undergoes hydrolysis and cross-linking upon exposure to ambient humidity to form a durable, elastic network. It serves as a premium base resin for formulating high-quality elastic sealants, structural adhesives, and protective coatings. Compared to traditional silicone and polyurethane (PU) technologies, MS305D offers a superior balance of performance and environmental safety. It is 100% solvent-free, low-VOC, and contains no free isocyanates, eliminating the health and safety risks associated with PU.

Typical Physical Properties

Manta code:	MS305D
Chemical Name:	Silane terminated polyether
Appearance	Colorless transparent liquid
Flash Point (°C):	≥100
Viscosity (25°C) / mpa·s:	1400 – 1600
Density (25°C) / g/cm ³ :	1.002 – 1.005
Hardness(Shore A):	70
Activity:	Medium activity
Modulus:	High modulus
Chemical Structure:	



Properties

- Medium activity, High modulus
- Excellent anti-aging and anti-yellowing properties.
- Excellent bonding strength and tensile elasticity.
- Excellent water resistance and chemical solvent resistance.
- Excellent storage stability.
- Solvent-free, odor-free, environmentally friendly.
- Can be mixed with other polymers.

Applications

Manta MS305D is a high-hardness resin designed as a core binder for moisture-curing systems.

It can be formulated into both 1-component (1K) and 2-component (2K) systems, offering exceptional bonding strength across diverse substrates.

1. **Industrial Adhesives & Sealants** Ideal for high-strength structural bonding and heavy-duty industrial joint sealing where high mechanical resistance is required.
2. **Coatings & Potting Compounds** Used as a base for durable protective coatings and electronic potting, providing excellent encapsulation and weather resistance.
3. **Transportation & Automotive** Perfect for structural assembly in EV batteries, rail transit, and specialty vehicles, offering high hardness and vibration damping.
4. **Construction & Infrastructure** High-performance sealing for expansion joints, window perimeters, and facade cladding, ensuring a paintable and non-staining finish.
5. **New Energy** Reliable sealing and structural fixing for solar panels and wind energy components.

Processing

1. **Moisture Control:** Due to the moisture-sensitive nature of alkoxy groups, maintaining a strictly dehydrated environment during storage and production is critical to prevent premature cross-linking.
2. **Formulation Flexibility:** MS305D offers excellent compatibility with various fillers. Dosage can be adjusted to meet specific requirements when mixing with PCC (Nano-precipitated Calcium Carbonate), GCC (Ground Calcium Carbonate), Fumed Silica, silica flour, diatomaceous earth, or aluminum hydroxide.
3. **Dehydration Process:** To prevent premature gelation, all fillers must be thoroughly dehydrated. Silane VTMO is highly recommended as an effective moisture scavenger.
4. **Plasticizer Selection:** Compatible plasticizers include Phthalates (such as DOP, DINP, DIDP), as well as PPG and other low-molecular-weight polyethers.
5. **Performance Additives:** For enhanced properties, MS305D can be formulated with adhesion promoters (tackifiers), antioxidants, fungicides (mildew inhibitors), and UV/Light stabilizers.

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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