

Manta MS330B

MS Polymer / Silyl-Terminated-Polyether

Description

Manta MS330B is an alkoxy-silylated polyether polymer with a high-purity polyoxypropylene (PPO) backbone. Specifically engineered for premium moisture-curing systems, it leverages advanced silane-termination technology to deliver a superior balance of high flexibility and rapid cross-linking. Distinguishing itself from traditional silicone and polyurethane systems, Manta MS330B is entirely solvent-free, isocyanate-free, and low-VOC, ensuring an odorless and bubble-free curing process. This green chemistry provides an excellent surface finish and superior over-paintability. With exceptional primerless adhesion to a broad spectrum of substrates, MS330B is an ideal binder for high-performance elastic sealants, structural adhesives, and protective coatings in the construction, transportation, general industry, and renewable energy sectors.

Typical Physical Properties

Manta code:	MS330B
Chemical Name:	Silane terminated polyether
Appearance	Transparent viscous liquid
Flash Point (°C):	≥100
Viscosity (25°C) / mpa·s:	60000 – 70000
Activity:	Medium activity
Modulus:	Medium-high modulus
Chemical Structure:	



Properties

- **Exceptional Optical Clarity:** High transparency with a clear, colorless finish, ideal for crystal-clear sealant applications.
- **Superior Weathering & Yellowing Resistance:** Exceptional resistance to UV radiation and thermal aging, ensuring long-lasting aesthetic performance without discoloration.
- **High Activity & Rapid Ambient Curing:** Exhibits fast tack-free times and through-cure; compatible with both organotin and tin-free (amine-based) catalysts.
- **Robust Mechanical Integrity:** Delivers strong bonding strength combined with high tensile elasticity and excellent elastic recovery.
- **Advanced Chemical & Water Resistance:** Engineered to maintain structural integrity and adhesion even under prolonged exposure to water and various chemical solvents.
- **Superior Storage Stability:** Exhibits excellent shelf-life stability, ensuring consistent performance even in complex, high-filler formulations.

- **Eco-Friendly & Odorless:** 100% solids, solvent-free, and isocyanate-free (Low VOC), meeting the strictest environmental and safety regulations.
- **High Formulation Latitude & Blending Compatibility:** Can be seamlessly blended with other Manta polymers or various resins to precisely tailor mechanical properties and performance.

Applications

Manta MS330B serves as the primary reactive binder for high-performance adhesives, sealants, potting compounds, and coatings. It cures at ambient temperatures by reacting with atmospheric moisture, typically accelerated by catalysts such as amines or organotin compounds.

Depending on specific requirements, it can be formulated into either one-part (1K) or two-part (2K) systems, offering exceptional primerless adhesion to a diverse range of substrates.

Key Advantages in Formulation:

- **Optimized Thixotropy:** Due to its high base viscosity, the required dosage of fumed silica can be significantly reduced during compounding. This not only lowers formulation costs but also enhances the overall physical properties of the finished sealant.
- **Superior Performance Ratios:** In standard formulations, the high-viscosity nature allows for a higher resin content relative to fillers, resulting in a finished product with superior mechanical strength, durability, and elasticity.

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 MS330B 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, MS330B can be formulated with adhesion promoters, antioxidants, fungicides (mildew inhibitors), and light stabilizers.

Typical Performance of a Reference Sample

MS330B Inspection Items	Standard	Analysis Results
Appearance	Colorless transparent liquid	Colorless transparent liquid
Viscosity(25°C) mPa.s	60000-70000	65170
pH Value	6.0-9.0	7.0

Tensile Strength Mpa	$\geq 0.7\text{MPa}$	0.79
Elongation at tensile break%	≥ 100	117
Hardness(Shore A)	≥ 30	34

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

Nanjing Manta New Material Co., Ltd

Add: Room 102-247, Building 17, No. 1 Qiliqiao North Road, Nanjing Area of the China (Jiangsu)
Pilot Free Trade Zone, Nanjing, China

Factory: Miaoguan Town Industrial Park, Sishui County, Jining City, Shandong Province, China

Mob: 0086 18962800162

Mail: inquiry@mantasil.com Web: www.mantasil.com