MANTA

Technical Data Sheet

Version: 1.0

Manta MS3310

MS Polymer / Silyl-Terminated-Polyether

Description

Manta MS3310 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, MS3310 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, MS3310 is an ideal choice for demanding applications in the construction, transportation, and renewable energy industries.

Typical Physical Properties

Manta code:	MS3310
Chemical Name:	Silane terminated polyether
CAS NO.:	216597-12-5
Appearance	Transparent viscous liquid
Flash Point (℃):	≥100
Viscosity (25℃) / mpa·s:	45000 – 55000
Density (25℃) / g/cm³	1.002 ~ 1.005
Activity:	Medium activity
Modulus:	Medium-high modulus
Chemical Structure:	

Properties

- Fast curing
- High transparency
- 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 MS3310 serves as the primary reactive resin for the production of high-performance

adhesives, sealants, potting compounds, and coatings. It cures at ambient temperatures by absorbing atmospheric moisture, typically accelerated by catalysts such as amines or organotin compounds.
Depending on specific formulation requirements, it can be designed as either a one-component (1K) or two-component (2K) system, providing exceptional primerless adhesion to a diverse range of substrates.

Processing

1. Moisture Sensitivity: As alkoxy groups undergo hydrolysis and cross-linking in humid environments, it is critical to ensure hermetically sealed storage and a moisture-controlled production environment to prevent premature gelation.
2. Formulation Latitude: The dosage of Manta MS3310 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 avoid premature curing, all fillers must be thoroughly dehydrated before compounding. 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 properties, MS3310 can be formulated with adhesion promoters, antioxidants, biocides (fungicides), and UV stabilizers.

Typical Performance of a Reference Sample

MS3310 Inspection Items	Standard	Analysis Results
Appearance	Colorless transparent liquid	Colorless transparent liquid
Viscosity(25℃) mPa.s	45000-55000	52830
pH Value	6.0-9.0	7.0
Tensile Strength Mpa	≥0.5MPa	0.54
Elongation at tensile break%	≥100	124.8
Hardness(Shore A)	≥20	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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