

# Manta MS330A

MS Polymer / Silyl-Terminated-Polyether

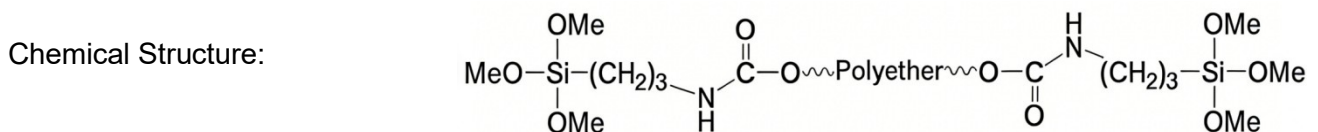
### Description

Manta MS330A is a silane-terminated polyether (STPE) polymer featuring trimethoxysilylpropylcarbamate functional groups on a linear Polypropylene Oxide (PPO) backbone.

Specifically engineered for premium moisture-curing elastic systems, MS330A undergoes a controlled hydrolysis process to form a robust, high-density siloxane network. This solvent-free and isocyanate-free binder ensures an odorless curing process with zero bubble formation, making it an ideal "green" alternative for high-end construction and industrial applications. It combines exceptional adhesive strength with superior elastic recovery, maintaining structural integrity across diverse substrates.

### Typical Physical Properties

Manta code:	MS330A
Chemical Name:	Trimethoxysilane Terminated Polyether; Polyether with gamma isocyanato trimethoxy silane;
CAS No.:	216597-12-5
Appearance	Colorless Transparent Liquid
Flash Point (°C):	237
Viscosity (25°C) / mpa·s:	22000 – 32000
Density (25°C) / g/cm <sup>3</sup> :	1.02 – 1.05
Catalyst Dosage (Tin, %)	1 - 2



Activity:	High Activity
Modulus:	Medium-high modulus

### Properties

- Optimal Balance of Activity & Modulus: High reactivity ensures fast tack-free times while delivering medium-to-high modulus for structural support.
- Superior Elasticity & Recovery: Exhibits excellent mechanical strength combined with very high elastic recovery, ideal for joint movements.
- Environmentally Friendly: 100% solids, zero VOC, and isocyanate-free; no bubbles or odors are generated during the cross-linking process.
- Excellent Optical Properties: High transparency and outstanding resistance to yellowing,

suitable for clear sealants and coatings.

- **Ease of Compounding:** Low base viscosity allows for efficient mixing with standard fillers and auxiliaries, ensuring a smooth production process.
- **Primerless Adhesion:** Provides strong, durable bonds to a vast range of substrates, including porous and non-porous surfaces, without the need for pre-treatment.

### Applications

1. **Automotive & Transportation:** High-performance elastic sealants for vehicle bodies, rail transport, and container construction where vibration resistance is essential.
2. **Construction & Architecture:** Medium-to-low modulus joint sealants for high-rise buildings and infrastructure, offering excellent weatherability.
3. **Transparent Encapsulation:** Precision potting compounds and crystal-clear adhesives for electronic components and decorative glass bonding.
4. **Eco-Friendly Interior Design:** Sustainable DIY and professional adhesives for interior decoration, ensuring healthy indoor air quality (Low VOC).
5. **Industrial Sealing Coatings:** Protective coatings requiring high flexibility, durability, and superior adhesion to metallic and plastic surfaces.

### Processing

Manta MS330A is highly soluble in common organic solvents but virtually insoluble in water. Upon exposure to moisture, it undergoes slow hydrolysis—releasing methanol—to form a chemically inert siloxane network. While uncatalyzed MS330A exhibits temporary stability in air, it must be stored and processed under moisture-controlled conditions to prevent slow polycondensation.

Standard mixing and compounding equipment are suitable for formulating Manta MS330A. To ensure long-term shelf life, the addition of water scavengers is essential. Vinyltrimethoxysilane (VTMO) or Trimethoxysilylmethyl-methylcarbamate(Alpha-silane) are highly recommended to prevent premature gelation during production and storage.

### Typical Performance of a Reference Sample

MS330A Inspection Items	Standard	Analysis Results
Appearance	Colorless or light yellow transparent liquid	Colorless transparent liquid
Viscosity(25°C) mPa.s	20000 – 38000	26880
pH Value	6-9	7.0
Tensile Strength Mpa	≥0.5MPa	0.77
Elongation at tensile break%	≥80	109
Hardness(Shore A)	≥35	36

### Guide formulation:

Component	Parts by Weight	Example / Function
Manta MS330A	30 - 40	MS Polymer
Plasticizer	10 - 20	PPG, DINP, or DOTP
Water Scavenger	1 - 2	Vinyltrimethoxysilane (VTMO)
Thixotropic Agent	2 - 5	Fumed Silica (Hydrophilic or Hydrophobic)
Fillers	40 - 50	Ground Calcium Carbonate (GCC) / TiO <sub>2</sub>
Antioxidants and UV-stabilizers	0.1 - 2	Hindered Phenols (AO) / HALS (UV)
Adhesion Promoter	1 - 2	Amino-silanes (e.g., AMEO, AMMO)
Catalyst	0.3 - 0.6	Organotin (DBTDL) or Tin-free alternatives

### 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 24 months. It is non-hazardous substance.

### Contact Information

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