MANTA

Technical Data Sheet

Version: 1.0

Manta MS330C

Silyl-terminated polyether (STPE), SMP type

Description

Manta MS330C is a silyl-terminated polyether (STPE) based on a linear polypropylene oxide (PPO) chain capped with trimethoxysilylpropylcarbamate groups; it is also referred to as a silane-modified polymer (SMP).

MS330C is intended for elastic, moisture-cure sealants and adhesives. When exposed to humidity, its silane end groups hydrolyze and condense into a dense siloxane network. The polymer contains no solvents or isocyanates, cures without bubbles and with low odor, and provides high adhesive strength together with good elastic recovery on many substrates.

Performance equivalent to WACKER GENIOSIL® STP-E35.

Typical Physical Properties

Manta Code:	MS330C
Chemical Name:	Trimethoxysilylpropylcarbamate-terminated polyether (polyether reacted with 3-isocyanatopropyltrimethoxysilane)
CAS No.:	216597-12-5
Appearance:	Colorless, transparent viscous liquid
Flash Point:	237 °C
Viscosity (25 °C):	25,000 – 35,000 mPa·s
Density (25 °C):	1.02 – 1.05 g/cm³
Catalyst Dosage (Tin, on polymer):	1 – 2 %
Chemical Structure:	
Activity:	High
Modulus:	Medium-high

Properties

- Reactivity and modulus: fast skin formation from high reactivity, combined with a medium-high modulus.
- Elastic recovery: good mechanical strength with high recovery, suited to moving joints.
- Low-emission profile: 100 % solids, free of solvents and isocyanates; crosslinking produces no bubbles or odor; suitable for low-VOC products.
- Clarity: high transparency and good yellowing resistance for clear sealants and coatings.
- Compounding: medium viscosity for efficient mixing with standard fillers and additives.
- Adhesion: bonds to many porous and non-porous substrates, often without a primer; confirm

adhesion on the actual substrate.

Applications

1. Transportation: elastic sealing of vehicle bodies, rail vehicles and containers where resistance to vibration is needed.
2. Building and construction: can be formulated into low- to medium-modulus joint sealants for buildings and infrastructure with good weatherability.
3. Clear products: transparent adhesives, e.g., for decorative glass; can be evaluated for clear potting of electronic components, with electrical properties to be verified.
4. Interior applications: DIY and professional adhesives and sealants for indoor use; suitable for low-VOC formulations.
5. Coatings: flexible protective and sealing coatings with good adhesion to metals and plastics.

Processing

Manta MS330C dissolves in common organic solvents and is practically insoluble in water. Moisture causes slow hydrolysis with release of methanol, followed by condensation to a siloxane network. The uncatalyzed polymer is stable in air for a limited period, but storage and processing should take place under exclusion of moisture to avoid slow condensation.

Conventional mixing and compounding equipment is suitable. For sufficient shelf life of the finished formulation a water scavenger must be added; vinyltrimethoxysilane (VTMO) is recommended to prevent premature gelation in production and storage.

Typical Performance of a Reference Sample

MS330C Test Item	Standard	Result
Appearance	Colorless, transparent liquid	Colorless, transparent liquid
Viscosity (25 °C), mPa·s	20,000 – 30,000	25,790
pH Value	6 – 9	7.0
Tensile Strength, MPa	≥ 0.5	0.82
Elongation at Break, %	≥ 80	136
Hardness, Shore A	≥ 30	32

Reference Formulation

Component	Parts by Weight	Example / Function
Manta MS330C	30 - 40	Silane-terminated polymer (binder)
Plasticizer	10 - 20	PPG, DINP, or DOTP

Component	Parts by Weight	Example / Function
Water Scavenger	1 - 2	Vinyltrimethoxysilane (VTMO)
Thixotropic Agent	2 - 5	Fumed Silica (Hydrophilic or Hydrophobic)
Fillers	40 - 50	Ground Calcium Carbonate (GCC) / TiO_2
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

50 kg plastic drum with aluminum-foil liner bag;
200 kg drum with aluminum-foil liner bag;
1,000 kg IBC (tote);
Other pack sizes available on request.

Safety and Storage

Store in the tightly closed original container in a cool, dry place, protected from moisture and direct sunlight. Shelf life: 24 months from the date of production when stored as recommended. The product is classified as non-hazardous. Refer to the current Safety Data Sheet (SDS) for safety, handling and transport information.

Note: The values in this data sheet are typical values and are not intended for use in preparing specifications. Users should test the product to determine its suitability for their specific application.

GENIOSIL® is a registered trademark of Wacker Chemie AG.

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: +86 18961071292
Mail: inquiry@mantasil.com Web: www.mantasil.com