MANTA

Technical Data Sheet

Version: 1.0

Manta MS201S

Silane-Terminated Polyether Polymer

Description

Manta MS201S is a silyl-terminated polyether (STPE) with moisture-reactive silyl end groups for moisture-curing systems. It is used as a base polymer for elastic sealants, structural adhesives and protective coatings.

Unlike conventional polyurethane and silicone systems, formulations based on MS201S can be solvent-free and isocyanate-free. Curing proceeds without bubbles and with low odor, which improves working conditions, and the polymer adheres to many substrates without primer. Performance similar to Kaneka S327.

Typical Physical Properties

Manta Code:	MS201S
Chemical Name:	Silyl-terminated polyether (STPE)
Appearance:	Transparent to slightly yellow viscous liquid
Viscosity (25 °C):	18,000 – 28,000 mPa·s
Boiling Point:	> 250 °C
Density (25 °C):	approx. 1.0 g/cm³
Flash Point:	≥ 237 °C
Water Solubility:	Practically insoluble
Activity:	High
Modulus:	Low

Properties

- High reactivity, low modulus: designed for flexibility and stress relaxation.
- Bond strength: reliable adhesion to a wide range of substrates.
- Curing: fast curing; compatible with tin-free catalysts.
- Weathering: good resistance to weathering and yellowing in outdoor use.
- Resistance: good resistance to water and chemical attack.
- Elastic recovery: high elastic recovery after repeated stress and movement.
- Storage stability: good shelf-life stability.
- Environmental profile: solvent-free and low odor; suitable for low-VOC formulations.
- Compatibility: can be blended with other polymers for customized formulations.

Applications

Manta MS201S is a base polymer for elastic sealants, structural adhesives, encapsulants (potting compounds) and protective coatings. It can be formulated as one-component (1K) or two-component (2K) moisture-curing systems:

1. Construction: low-modulus expansion joint and facade sealants.
2. Transportation: elastic bonding and sealing for rail vehicles, automotive and specialty vehicles.
3. Consumer and DIY: easy-to-use DIY sealants.
4. Interior decoration: solvent-free, low-odor decoration sealants.

Processing

Manta MS201S is readily soluble in common organic solvents (e.g., ethanol) and practically insoluble in water; all formulation components, including plasticizers and additives, should

therefore be oil-soluble.

Curing mechanism: the terminal silane groups cure in two steps:

- Hydrolysis: reaction with atmospheric moisture forms reactive silanol groups.
- Condensation: catalyst-accelerated condensation of the silanol groups forms siloxane (Si–O–Si) bonds and a three-dimensional network.

Moisture control: without catalyst the polymer is stable in air for a limited time, but humidity must be controlled. Dry all raw materials and use a chemical moisture scavenger such as vinyltrimethoxysilane (VTMO) to prevent premature gelation and ensure shelf life.

Equipment: conventional mixers (e.g., planetary mixers) can be used. Please contact Manta technical service for formulation support.

Cleaning

Uncured material can be removed with common organic solvents such as ethanol or dimethyl carbonate (DMC). Cured material can only be removed mechanically.

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: 12 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.

Contact Information

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