MANTA

Technical Data Sheet

Version: 1.0

Manta MS3030T

Silyl-terminated polyether (STPE), SMP type

Description

Manta MS3030T is a silyl-terminated polyether (STPE) based on a polyoxypropylene backbone with moisture-reactive silyl end groups. It is a solvent-free and isocyanate-free base polymer for elastic sealants and adhesives and an alternative to conventional polyurethane and silicone systems. The polymer cures at ambient temperature by reaction with moisture. Unlike polyurethane systems it releases no CO_2 during curing, so formulations cure without bubbles and with low odor. The low glass transition temperature (Tg) of the polyether backbone helps maintain flexibility over a wide temperature range.
Performance similar to Kaneka S303H.

Typical Physical Properties

Manta Code:	MS3030T
Chemical Name:	Silyl-terminated polyether (STPE)
Appearance:	Light yellow, transparent liquid
Flash Point:	≥ 237 °C
Boiling Point:	≥ 250 °C
Viscosity (25 °C):	10,000 – 15,000 mPa·s
Density (25 °C):	approx. 1.0 g/cm³
Water Solubility:	Practically insoluble
Activity:	Moderate
Modulus:	Moderate

Properties

- Moderate activity, moderate modulus
- Good adhesion strength
- Room-temperature curing; tin-free catalysts can be used where required
- Good resistance to aging and yellowing
- Good resistance to water and chemical attack
- Good elastic recovery
- Good storage stability
- Solvent-free and low odor
- Can be blended with other Manta polymers

Applications

Manta MS3030T is a base polymer for elastic sealants, structural adhesives, encapsulants and protective coatings. It can be formulated as one-component (1K) or two-component (2K) moisture-curing systems.

1. Construction: can be formulated into low-modulus sealants for expansion joints and facades with good weathering resistance and movement capability.
2. Transportation: elastic sealants for rail vehicles, buses and specialty vehicles.
3. Consumer and DIY: easy-to-use sealants with bubble-free curing.
4. Interior decoration: solvent-free, low-odor and paintable decoration sealants.
5. Industrial assembly: binder for elastic adhesives and potting compounds in electronics and

general manufacturing; electrical properties to be verified in the final formulation.

Processing

Manta MS3030T is readily soluble in common organic solvents (e.g., ethanol) and practically insoluble in water; formulation components should therefore be oil-soluble. The terminal silane groups hydrolyze with moisture to silanols, which condense in the presence of a catalyst to form a siloxane (Si–O–Si) network.

Without catalyst the polymer is stable in air for a limited time, but moisture must be controlled during processing and storage. Dry all raw materials and add a moisture scavenger such as vinyltrimethoxysilane (VTMO) to ensure the shelf life of the formulated product.

Conventional mixing equipment 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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