MANTA

Technical Data Sheet

Version: 1.0

Manta MS3310

Silyl-terminated polyether (STPE), SMP type

Description

Manta MS3310 is an alkoxysilane-terminated polyether (STPE, also known as silane-modified polymer, SMP) with a polypropylene oxide (PPO) backbone. It is designed as a binder for moisture-curing elastic sealants and structural adhesives that require a balance of flexibility and curing speed. MS3310 is isocyanate-free, solvent-free and suitable for low-VOC formulations. It cures without bubbles and with low odor, gives a smooth surface and adheres to many substrates without primer. Typical fields of use are construction and transportation; renewable energy applications are subject to testing.

Typical Physical Properties

Manta Code:	MS3310
Chemical Name:	Silane-terminated polyether
Appearance:	Transparent viscous liquid
Flash Point:	≥ 100 °C
Viscosity (25 °C):	45,000 – 55,000 mPa·s
Density (25 °C):	1.002 – 1.005 g/cm³
Activity:	Medium
Modulus:	Medium-high
Chemical Structure:	

Properties

- Room-temperature curing
- High transparency
- Good resistance to aging and yellowing
- Good bond strength and tensile elasticity
- Good resistance to water and chemical solvents
- Good storage stability
- Solvent-free and low odor
- Can be blended with other polymers

Applications

Manta MS3310 is used as the reactive base polymer for adhesives, sealants, potting compounds and coatings. It cures at ambient temperature with atmospheric moisture, typically accelerated by amine or organotin catalysts.

It can be formulated as one-component (1K) or two-component (2K) systems with good adhesion to many substrates without primer.

Processing

1. Moisture sensitivity: the alkoxysilane end groups of MS3310 hydrolyze and crosslink on contact with water or atmospheric moisture. Store the polymer in tightly sealed containers and process it under

moisture-controlled conditions to avoid premature gelation.

2. Fillers: MS3310 can be compounded with common fillers such as precipitated calcium carbonate (PCC), ground calcium carbonate (GCC), fumed silica, quartz flour, diatomaceous earth and aluminum hydroxide. The polymer content can be adjusted to the required properties.
3. Drying: dry all fillers thoroughly before compounding. Vinyltrimethoxysilane (VTMO) is recommended as a water scavenger.
4. Plasticizers: suitable plasticizers include phthalates (e.g., DINP, DIDP), DOTP and low-molecular-weight polyethers (PPG).
5. Additives: adhesion promoters, antioxidants, fungicides and UV/light stabilizers can be added to adjust the end-use properties.

Typical Performance of a Reference Sample

MS3310 Test Item	Standard	Result
Appearance	Colorless, transparent liquid	Colorless, transparent liquid
Viscosity (25 °C), mPa·s	45,000 – 55,000	52,830
pH Value	6.0 – 9.0	7.0
Tensile Strength, MPa	≥ 0.5	0.54
Elongation at Break, %	≥ 100	124.8
Hardness, Shore A	≥ 20	29

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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