MANTA

Technical Data Sheet

Version: 1.0

Manta EH101

Methyl Hydrogen Polysiloxane Emulsion

Description

Manta EH101 is a water-based emulsion of methyl hydrogen polysiloxane. Because its molecular structure contains active silicon-hydrogen (Si-H) bonds, it can easily cross-link under the action of catalysts or heat to form a durable, highly effective water-repellent film on the surface or deep within substrates.

As an aqueous emulsion, Manta EH101 is an environmentally friendly, solvent-free alternative to traditional pure silicone fluids. It offers excellent dispersibility in water, low VOC emissions, and ease of application while maintaining the high vapor permeability (breathability) of the treated materials.

Typical Physical Properties

Manta Code:	EH101
Chemical Name:	Methyl hydrogen polysiloxane emulsion
Appearance:	Milky white liquid
Solid Content:	30 ± 2% (other solid contents can be customized)
pH:	4–6
Centrifugal Stability:	3000 rpm, 15 min: stable, no separation

Applications

Manta EH101 is versatile and widely used across several key industries:

1) Gypsum & Plasterboard Waterproofing: Added directly to the gypsum slurry (mixing water) to provide excellent mass water repellency for moisture-resistant plasterboards and gypsum blocks.
2) Textile & Fabric Treatment: Used together with hydroxyl silicone emulsion in textile finishing to impart durable water repellency (DWR), softness, and improved tear strength to synthetic and natural fabrics.
3) Glass Fiber & Mineral Wool: Applied as a protective coating to prevent moisture absorption and improve the structural integrity of insulation materials.
4) Construction & Industrial Materials: Water-repellent and moisture-proofing agent for leather, paper, glass, ceramics, metals, cement, concrete and natural stone such as marble.
5) Mold Release Agent: Forms a very thin, chemically inert release film on mold surfaces; does not corrode molds, needs low coating weight and gives stable release.

Application Method

Manta EH101 can be applied via admixture (in-mass), spraying, or padding processes.

1. Dilution & Preparation: For surface treatments, dilute EH101 with clean water to the desired working concentration. Tip: Always add the emulsion to the water slowly with gentle agitation; never add water directly into the concentrated emulsion.

2. In-Mass Addition (Admixture): For plasterboards or concrete, add the emulsion directly into the gauging water. The recommended dosage is typically 0.2% to 0.8% based on the dry weight of the substrate.

3. Surface Coating & Padding: For textiles or glass fibers, apply via a standard pad-dry-cure process. To accelerate Si-H cross-linking and achieve optimal DWR, a suitable catalyst (zinc or tin-based) and heat curing (typically 150°C – 180°C, 1–3 min) are highly recommended.

4. Chemical Incompatibility: Avoid mixing the emulsion with strong alkalis, bases, heavy metal salts, or oxidizing agents, as this will destroy emulsion stability and cause violent release of hydrogen gas.

Packaging

In 50kg, 200kg drum and 1000kg IBC.

Safety and Storage

Keep in a cool and dry place and avoid storage in direct sunlight. Shelf life is 12 months. It is non-hazardous substance.

Contact Information

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