

Manta HS140

High-Solids Silicone Waterproofing Roof Coating

Description

Manta HS140 is a single-component, moisture-curing silicone waterproofing coating. Formulated with advanced silicone rubber nano-composite emulsion technology, it cures to form a highly flexible, seamless, and durable elastomeric membrane.

To accommodate various application slopes and detailing needs, HS140 is available in three rheological grades:

Type I: Low Viscosity / Self-Leveling (Ideal for flat horizontal surfaces)

Type II: Medium Viscosity (Standard general-purpose roll/spray grade)

Type III: Thixotropic / Non-Sag (Ideal for vertical walls and complex detailing)

Typical Physical Properties

No.	Inspection Item	Product Type			Testing Basis
		I type	II type	III type	
1	Appearance	Uniform and delicate paste, without bubbles, impurities, crust, lumps, gel, or precipitates that are difficult to disperse.	Uniform and delicate paste, without bubbles, impurities, crust, lumps, gel, or precipitates that are difficult to disperse.	Uniform and delicate paste, without bubbles, impurities, crust, lumps, gel, or precipitates that are difficult to disperse.	GB/T 14683-2017(6.2)
2	Color	Black, white, grey, etc			ISO 4660:2011
3	Surface drying time(min), 25°C	30~45	30~45	30~45	GB/T 13477.5-2002
4	Viscosity mpa.s	4000±500	14000±1000	—	GB/T2749-2022(7.1)
5	Curing speed (mm/24h), 25°C	≥2.5	≥2.5	≥2.0	GB/T 29595-2013(5.8)
6	Density(g/ml)	1.20±0.1	1.2±0.1	1.4±0.1	GB/T 13477.2-2018

7	Hardness(Shore A)	30-45	30-45	30-40	GB/T 531.1-2008	
8	Tensile strength(Mpa)	≥1.3	≥1.5	≥1.7	GB/T 528-2009 Dumbbell type I sample	
9	Tear strength (N/mm)	≥3.5	≥3.5	≥4.0	GB/T 529-2008	
10	Elongation at break(%)	≥150	≥150	≥200	GB/T 528-2009Dumbbell type I sample	
11	VOC(%)	≤5	≤5	≤5	GB/T 33372-2020	
12	Volume shrinkage(%)	≤5	≤5	≤5	GB/T 13477.19-2017	
13	Solar reflectivity	0.8±0.1	0.8±0.1	0.8±0.1	JG/T 235-2014(6.4)	
14	Solar reflectance after accelerated aging(5000h)	≥0.75	≥0.75	≥0.75	JB/T 235-2014(6.7)	
15	Initial thermal emissivity	0.90±0.05	0.90±0.05	0.90±0.05	JB/T 235-2014(appendix C)	
16	Initial SRI value	110±5	110±5	110±5	ASTM E1980-11(2019)	
17	Moisture permeation rate	≤10.0	≤10.0	≤10.0	ASTM E96/E96-16	
18	Cohes iveness N/mm	Polyurethane foam	≥2.0	≥2.0	≥2.0	ASTM D903-98(2017)
		Acrylic coating				
		Galvanized metal				
		BUR asphalt sheet				
		EPDM (Ethylene Propylene Diene Monomer)				
Polyvinyl chloride						
19	Low-temperature	No cracking,	No cracking,	No cracking,	GB/T	

	flexibility -50°C, round bar 6mm	delamination, or bonding damage	delamination, or bonding damage	delamination, or bonding damage	16777-2008(13)
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Application

Manta HS140 is a highly versatile coating designed for universal compatibility and extreme environmental protection:

1. **Roofing & Infrastructure:** Ideal for waterproofing and thermal barrier/heat reflection on new and existing roofs, concrete floors, exterior walls, bridges, highways, and tunnels.
2. **Public & Heritage Structures:** Safe and highly effective for sensitive projects including libraries, archives, and historical buildings.
3. **Industrial & Utility:** External waterproofing and protection for warehouses and water tanks. Provides excellent anti-corrosion and thermal shielding for corrugated steel roofs and storage tanks.
4. **Detailing & Repair:** Exhibits outstanding adhesion to metal, concrete, wood, ceramics, and glass. Highly recommended for repairing basements, bathrooms, swimming pools, exterior facades, and providing UV/waterproofing protection for aluminum balconies and window awnings.
5. **Adhesive Use:** Functions as a high-performance adhesive for bonding permanent decorative wall panels.

Feature

- **Premium Formulation:** 100% pure silicone, high-solids elastomeric coating.
- **Energy Efficient (Cool Roof):** The bright white finish provides excellent waterproofing while significantly reducing cooling costs through high solar reflectivity.
- **Superior Mechanical Properties:** Exhibits exceptional elongation, peel adhesion, and tensile strength to easily accommodate structural movement.
- **Extreme Weatherability:** Unmatched resistance to UV degradation, permanent ponding water, salt spray, and ozone. Maintains flexibility in extreme temperatures from -40°C to +200°C.
- **Life Extension:** Rejuvenates, protects, and significantly extends the service life of virtually any roof surface.
- **Eco-Friendly & User-Friendly:** Low VOC formulation; easily applied via airless spray, heavy-duty roller, or brush. Available in customizable colors for highly aesthetic finishes.

Application Guidelines (Standard Operating Procedure)

1. Surface Preparation (CRITICAL)

The substrate must be completely clean, dry, and structurally sound. It must be strictly free from laitance (sanding), oil stains, grease, dust, and any loose particles.

2. Crack & Joint Treatment

Cracks and gaps $\geq 3\text{mm}$ must be properly routed and filled with a compatible silicone sealant prior to the main coating application.

3. Coating Application

Apply the coating using an airless sprayer, roller, or squeegee. It is typically applied in two intersecting coats (cross-hatch method). Ensure the total dry film thickness is $\geq 1.0\text{mm}$. Crucial: The second coat must only be applied after the first coat has fully cured.

4. Fabric Reinforcement System (For enhanced tensile strength and longevity)

- Step A (Base Coat): After surface preparation, apply a generous and even base coat longitudinally. Ensure complete coverage without missing spots, allowing the emulsion to penetrate gaps.
- Step B (Embedment): Immediately embed a layer of non-woven reinforcing fabric directly into the wet base coat. Press and roll firmly to remove air bubbles and ensure full saturation.
- Step C (Top Coat): Once the base coat and fabric layer have cured, apply the top coat evenly in a transverse (cross) direction, ensuring complete encapsulation with no missed areas.

Packaging & Storage

Packaging: Available in 5kg (5L / 1-gallon) plastic pails, 20kg (20L / 5-gallon) plastic pails, and 190kg (190L) metal drums.

Transportation: Transported as non-hazardous goods. Protect from direct sunlight, rain, severe impact, and crushing during transit.

Storage & Shelf Life: Store in a cool, dry, and well-ventilated area at temperatures below 27°C . Shelf life is 12 months in original, unopened packaging. (Note: Product exceeding the shelf life may still be utilized if it successfully passes standard quality assurance testing).

Contact Information

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