MANTA

Technical Data Sheet

Version: 1.0

Manta WS114

Concentrated Silicone Stone & Masonry Impregnator

Description

Manta WS114 is a concentrated aqueous solution of alkali metal methyl siliconate. Developed specifically for the hydrophobic treatment of natural stone and mineral masonry substrates, it deeply penetrates the capillary network to deliver robust, long-lasting moisture protection.
Reaction Mechanism: Upon application, the active siliconate reacts with atmospheric carbon dioxide to form an insoluble, highly cross-linked polymethylsiloxane water-repellent barrier deep within the substrate, while preserving the stone's natural appearance and breathability.

Features

- Eco-Friendly Profile: A Zero-VOC, water-based formulation free of irritating solvent odors, complying with strict environmental emission standards.
- Superior Impermeability: Significantly reduces capillary water absorption. Impermeability is up to four times that of ordinary untreated cement.
- Extended Durability: Good weatherability and durability with outstanding abrasion resistance; the service life of the treated substrate can be extended by more than 6 times.
- Rebar Passivation: The inherent alkalinity promotes a passivating effect within concrete matrices, actively protecting internal reinforcing steel (rebar) from corrosion.
- User-Friendly & Economical: Highly water-reducible concentrate ensures straightforward application and exceptional cost-efficiency for large-scale projects.

Typical Physical Properties

Manta Code:	WS114
Chemical Name:	Aqueous Alkali Metal Methyl Siliconate
Appearance:	Colorless or light yellow transparent liquid
Total Solid Content:	30%
Yield of Polymethylsilsesquioxane:	≥ 20%
Viscosity(25°C, mm2/s):	8-15
pH:	≥12.5
Specific Gravity (25°C):	1.10-1.30
Alkali Content%:	8-10

Applications

Manta WS114 is strictly designed for the hydrophobic surface treatment of porous mineral building materials:
1. Natural & Artificial Stone: Provides robust, invisible moisture protection for marble, granite, limestone, and engineered stone surfaces.
2. Architectural Masonry: Highly effective for the impregnation of external brickwork, roofing tiles, gypsum boards, and fair-faced concrete, preventing weathering and efflorescence.
3. Coating Additive: Acts as an additive for latex paints, water glass (sodium silicate) and polyvinyl formal (107) adhesives, significantly improving water repellency while maintaining stable bond strength.

How to use

Surface Impregnation (Spray Application):

- Dilution: Dilute the WS114 concentrate with clean, potable water at a ratio of 1:10 to 1:15.
- Application: Apply evenly using a low-pressure sprayer onto the absorbent substrate (stone, brick, or painted walls). Ensure a saturating coat.
- Winter Construction: Fully compatible with standard sodium nitrite-based antifreeze admixtures for cold-weather application.

Precautions & Occupational Safety (CRITICAL)

- Highly Caustic (pH ≥ 12.5): This is a strongly alkaline industrial chemical. Applicators must wear chemical-resistant gloves, protective clothing, and safety goggles. Avoid direct skin contact. In the event of ocular exposure, flush immediately with copious amounts of water and seek urgent medical attention.
- Metal Incompatibility (Explosion Hazard): Strictly avoid contact with active metals such as zinc, aluminum, and tin during transport and application. The chemical reaction generates flammable Hydrogen Gas.
- Storage Vessels: Do not store in iron or unlined metal containers to prevent chemical degradation and severe container corrosion. Store exclusively in high-density plastic (HDPE) drums.

Packaging

In 200kg drum, or customized.

Safety and Storage

Storage: Keep in a clean, cool, and dry place. Prevent rain, sun exposure, and container damage. Maintain storage temperatures between 0°C and 50°C (Protect from freezing). Shelf life is 12 months.

Contact Information

Nanjing Manta New Material Co., Ltd
Add: Room 102-247, Building 17, No. 1 Qiliqiao North Road, Nanjing Area of the China (Jiangsu) Pilot Free Trade Zone, Nanjing, China
Factory: Miaoguan Town Industrial Park, Sishui County, Jining City, Shandong Province, China
Mob: +86 18961071292
Mail: inquiry@mantasil.com Web: www.mantasil.com