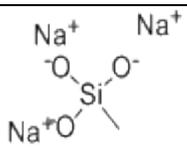




Technical Data Sheet

ITCO SIL™ SMS 2003 (Sodium Methyl Siliconate)

Synonyms	methyl-silanetrirosodiumsalt ;Silanetriol,methyl-,sodiumsalt ;sodium methylsilanetriolate;
CAS No.	16589-43-8
EINECS No.	240-648-3
Molecular Formula	CH ₃ Na ₃ O ₃ Si
Molecular Structure	
Molecular Weight	160.09

Introduction

ITCO SIL™ SMS 2003 is a new rigid three-dimensional modified silicone waterproof material used in building, mainly composed by methyl silicate. Its mechanism is efficient waterproofing under the action of water and carbon dioxide to produce silicon methyl alcohol, methyl alcohol further condenses with construction materials from a chemical reaction to produce an insoluble layer of a few molecules thick waterproof material surface and internal structure a polymer compound, i.e., the silicone resin film mesh. This resin has a waterproof membrane, impermeable, moisture, rust, anti-aging, anti-pollution, etc., which can be widely used in cement mortar, gypsum, perlite, reinforced concrete, waterproof coatings, and other areas.

Properties

Test	Unit	Typical Value
Appearance	-	colorless or pale-yellow liquid;
pH value	-	13
Solid content	%	≥ 32
Stability	-	No stratification, no floating oil, no significant precipitation

Main Features

1. **ITCO SIL SMS 2003** is a colorless or pale-yellow liquid
2. Non-toxic, odorless, non-flammable, non-explosive, miscible with water, environmental pollution, in full compliance with health and environmental protection requirements
3. It has excellent water resistance, and excellent weather resistance and durability
4. Non-permeability stronger than normal cement increased by four times
5. Superior wear resistance, life can be increased more than 6 times
6. Passivation, no corrosion of steel
7. Safe and convenient in work

Uses

1. Widely used in anti-rust roofing, internal and external walls, floors, bathrooms, kitchens basements and warehouses as well as waterproof concrete mechanism penetration
2. For underground civil air defence projects: Such as culverts, bridges, dams, tunnels, large hydropower, water diversion project to reduce water erosion. Prevent weathering
3. For a variety of pools: such as swimming pools, clean water tank, cesspool, water towers and so on
4. Impregnation effect such as perlite board, house brick, cement block, high-rise building lightweight brick veneer, asbestos, inorganic fabrics, insulation materials, etc., so that it has significant waterproof, moisture: 4 for high-water inorganic aggregates
5. The water-soluble architectural coatings waterproof, color protection, pollution prevention, anti-aging, it has been widely used in external wall finishes
6. used in latex paints, water glass, 107 plastic additives, it can markedly increase the water-based, and can maintain stable bond strength

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7. Used in oil drilling, adjustable mud viscosity and density, which can effectively prevent the collapse of drilling to improve drilling efficiency
8. Open for post-oil pump, oil injection layer, a layer of oil to prevent the collapse of the crust skeleton. So that oil from wells far more successful exploitation
9. For other special purposes to reduce water absorption and permeability

Instructions

1) Water Seepage Mortar Construction

- a. **Clean up the grass roots:** Clear grassroots debris, grease, suspended sediment, etc., to make it moist, clean, solid, rough. Asperities using plain ash and cement mortar layered levelling.
- b. **The selection of materials:** Portland cement is not less than 32.5, such as 425 grade cement, sand is clean sand, clay content less than 3%, a particle size of 1-2mm.
- c. **A solution of water seepage and mortar ratio**
 - A. water seepage solution preparation: Waterproof rust agents: water = 1: 5-6 (volume, mix)
 - B. water seepage mortar ratio Cement: sand: water seepage solution = 1: 2.5-3: 0.5-0.6
 - C. construction ratio (see table below)

Layer	Water seepage solution ratio Waterproof rust agents: water (by volume)	Mortar ratio Cement: sand: water seepage solution
Bonding layer slurry paste	1 : 4	1 : 0.0 : 0.6
Layer waterproof mortar	1 : 5	1 : 2.0 : 0.5
Surface layer of cement mortar	1 : 6	1 : 2.5 : 0.5

d. Construction:

- A. **Wipe waterproof barrier layer:** Wipe a bonding layer slurry paste on the primary surface of waterproof layer with thickness of 2-3mm, add a 1cm thick layer waterproof mortar; when the initial setting compaction, and wipe with a wooden board into hemp stamp face, finally wiping waterproof mortar surface layer having a thickness of 1cm, light compaction roll when the initial setting. For decoration, wood should be wiped with a pockmarked face plate stamp. (Note: The waterproof layer and thickness can be adjusted according to design requirements)
- B. **Conservation:** When the open operation should be carried out after the final setting mortar nursing, the same method with ordinary mortar, curing time can be 3-4 days.

2. Proportion of rust waterproof concrete construction and working

(1) In concrete ratio:

- A) No. 325 slag cement 360kg: 700kg: sand stones 1200kg: water 185kg: waterproof rust inhibitor 8kg;
- B) No. 425 ordinary cement 420 kg: Sand 700kg: gravel 1110kg: Water 195kg: waterproof Rust inhibitor 8kg; (Note: before construction, the waterproof rust inhibitor should be formulated as an aqueous solution, the ratio of water: water = 1: 24.5 (weight ratio)

(2) Construction: Construction methods are same with ordinary concrete

Using restrictions

1. The structure should not be used in a large number of water-soluble salts on the substrate, to avoid contact with high concentrations of salt;
2. Should not be used in place of high-acid environment (due to the high acid environment is not conducive to participate in the reaction of carbon dioxide)
3. Best construction temperature is 10 °C -35 °C

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Precaution

1. The product is an alkaline aqueous solution, to avoid skin, eyes, mouth contact. It should be washed with water once splashed on the skin immediately; if splashed into the eyes, wash with water more than 15 minutes immediately, and sent to hospital for an examination promptly (do not wipe with solution).
2. Within 24 hours should be applied to avoid the rain, water flushing or other intervention
3. After diluted with water, it is best used in the same day, the remaining solution cannot fly-tips.
4. If not in use, it should be sealed and stored in a cool, dry place.

Packaging

Packed in iron, plastic barrels, 240 Kgs drum, 60 Kgs plastic barrel

Storage and Handling

Keep in cool, dry and well-ventilated place, far away from fire, heat source, Storage temperature < 30°C. Avoid direct sunlight, sealed tightly, and do not contact with air. Avoid moisture, no contact with oxidants, acid and alkali.

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