

Technical Data Sheet

PRODUCT DESCRIPTION

M190 is a two-component, 100% solids, solvent-free epoxy primer and moisture barrier system specifically engineered for reinforcing loose, weak, or moist cementitious substrates. It exhibits exceptional penetration into porous concrete and screeds, consolidating surface while providing a continuous, high-density moisture-retarding membrane. M190 can also be used as a low-viscosity injection resin for repairing non-structural cracks. M190 is suitable for both interior and exterior applications and is compatible with various floor coverings, self-leveling, and resinous coatings.



FEATURE

- Easy to apply
- Flexible dilution ratio
- Highly penetrative
- Moistureproofing effect
- Zero VOC, low odor
- Replacing primer
- Cure within 12-24 hours
- Resealable and reusable

PRODUCT MECHANISM

Substrate Reinforcing

M190 contains low-viscosity, unmodified epoxy resins that readily penetrate micro-pores and capillary channels of weak or sandy concrete. Upon curing, it forms a rigid, polymer network that mechanically interlocks with the substrate, increasing surface tensile strength and abrasion resistance. This reinforcing effect eliminates dusting and laitance, creating a sound receiving surface for subsequent flooring materials.

Moistureproofing

When applied at the recommended film thickness (two coats), M190 produces a continuous, pinhole-free membrane with extremely low permeability. The high crosslink density and hydrophobic backbone of the cured epoxy effectively block capillary rise of moisture, reducing in-situ relative humidity (RH) to acceptable levels for moisture-sensitive floor coverings such as timber, vinyl, and rubber. This system is effective over substrate with humidity up to 100% RH, 6% concrete moisture, or 8% moisture content with no standing water.

Crack Repairing

M190 effectively repairs non-structural hairline cracks and dormant fissures in concrete and cementitious screeds. Its ultra-low viscosity enables deep penetration into cracks as narrow as 0.1 mm, curing to a rigid, moisture-impermeable solid with superior adhesion. For optimal results, cracks wider than a hairline (≥ 0.3 mm) should be lightly routed, cleaned of dust, then injected or brush-flooded with M190. The product cures within 48 hours at 23 °C, restoring surface integrity and blocking vapor transmission. Active expansion or moving cracks must be honored through the flooring system and are not suitable for repair with M190.

SUBSTRATE PREPARATION

- All substrates must be structurally sound, dry, and thoroughly cleaned of all contaminants, curing agents, or bond-breakers.
- Preparation should involve mechanical cleaning—such as shot blasting—followed by a rigorous vacuuming to eliminate any remaining debris. Do not apply over wet surfaces or where standing water is present.
- Active expansion joints, isolation joints, and moving cracks must be honored through the entire flooring system.

Dormant cracks wider than 0.8 mm (1/32") should be pre-filled with a rigid epoxy repair mortar (e.g., M190 used as a paste with fine silica) before priming.

PRODUCT APPLICATION

1. M190 Epoxy Moisture Barrier and Hardener should be applied using a short-pile roller, flat-edge trowel, or brush. Rollers and trowels are suitable for large, open areas, while brushes are essential for corners, edges, and irregular surfaces where a uniform film thickness must be maintained.
2. M190 is a two-component system and must be thoroughly mixed before use. Pour the entire contents of Component B into Component A. Using a low-speed electric drill (300–400 rpm) equipped with an epoxy mixing paddle, stir for at least 3 minutes until a uniform, streak-free mixture is obtained. Never dilute with water or solvents. After mixing, the product has a pot life of approximately 20–30 minutes at 23°C.

Substrate Reinforcing

When treating loose, sandy, or weakly bonded cementitious substrates, apply M190 as a single continuous coat at a coverage of 200–300 g/m². The low-viscosity epoxy penetrates deep into pores and micro-cracks, consolidating friable particles and eliminating dusting. Allow 12–24 hours for the coat to become surface-dry and walkable, and 48 hours for full cure. For full-surface crack arrest, embed a fiberglass or carbon fiber mesh into the wet M190 coat before it cures. The mesh shall be laid flat over the entire area and lightly pressed into the epoxy using a roller or trowel to ensure complete wet-out and intimate contact with the substrate. To enhance mechanical interlock with subsequent self-leveling compounds or repair mortars, broadcast 20–40 mesh dry quartz sand (approximately 1.2 kg/m²) evenly over the wet epoxy before it cures. After full cure, vacuum away any loose, unbonded sand.

Moistureproofing

When used as a moisture vapor barrier, two coats are always necessary to achieve a continuous, pinhole-free membrane. Apply the first coat at a coverage of 150–200 g/m², ensuring uniform coverage over the entire substrate. Allow 12–24 hours for the first coat to surface-dry (walkable but not fully cured). Then apply the second coat at a coverage of 100–150 g/m², preferably in a direction perpendicular to the first coat to minimize holidays. After the second coat, allow a minimum of 24 hours before installing moisture-sensitive floor coverings using reactive resin adhesives or applying cementitious self-leveling underlayments.

Crack Repairing

For non-structural dormant cracks exceeding 0.3 mm in width, first rout the crack along its length to create a V-shaped or rectangular groove. At intervals of 20–30 cm, cut perpendicular slots across the crack and insert corrugated steel plates into these cross-slots to provide mechanical reinforcement. After cleaning all dust and debris, inject or pour M190 epoxy into the entire prepared area, ensuring complete filling of the crack and cross-slots. Before the epoxy cures, center a strip of fiberglass or carbon fiber mesh over the crack and embed it fully into the wet M190. The mesh serves as localized anti-crack reinforcement, distributing tensile forces across the repair zone and preventing re-opening under minor substrate movement. If self-leveling underlayment will be applied subsequently, broadcast clean 20–40 mesh quartz sand onto the wet epoxy surface before it cures to create a mechanical bond.

TECHNICAL DATA

Product Identity		
	Component A	Component B
Color	Transparent Liquid	Transparent Liquid
Density	1.16 g/L	1.05 g/L
Application Data		
Mix Ratio	Component A : Component B = 2 : 1	
Consistency of Mix	Liquid	
Color	Transparent	
Density	1.1 g/L	
Maximum Permissible Humidity	8% Moisture Content by Mass 6% Concrete Moisture (Calcium Carbide Method) 100% Relative Humidity (ASTM F2170)	
Resistance to High Alkalinity	No Effect	
Applicable Temperature	5-35°C	
Pot Life	30 min	
Open Time	45-60 min	
Initial Cure	12-24 hrs	
Final Cure	3-7 days	
Tensile Bond Strength (Concrete)	>3 MPa	

CONSUMPTION

Actual consumption depends on substrate porosity, surface profile, and application method.

One 15 kg unit (10 kg A + 5 kg B) covers approximately 60–100 m² as a single coat, or 30–50 m² as a two-coat system.

■ As substrate reinforcer: 150-250 g/m² pre coat

■ As moistureproofing: 100-200 g/m² pre coat

PRODUCT LIMITATIONS

- Do not apply if substrate temperature is below 5°C or above 35°C.
- Do not use as a substitute for structural waterproofing membranes where hydrostatic pressure exists.
- Not suitable for surfaces with standing water or active water infiltration.
- Not recommended over gypsum or anhydrite screeds as a moisture barrier (these must be fully dry before application).
- Do not dilute with solvents or water.
- Avoid application when relative humidity exceeds 85% or dew point is within 3°C of substrate temperature.

PACKAGING & STORAGE

- Available in a total 15 kg unit (Part A: 10 kg / pail; Part B: 5 kg / pail)
- The shelf life of M190 Epoxy Moisture Barrier and Reinforcer is at least 1 year from date of manufacture when stored in the original unopened container in a cool, dry environment; protect from direct sunlight exposure and avoid low temperature to prevent the product from freezing.

SAFETY INFORMATION

PLEASE READ THE SAFETY DATA SHEET THOROUGHLY PRIOR TO APPLYING THE PRODUCT

Ensure suitable PPE (Personal Protective Equipment) such as protective gloves, respiratory, face, skin and eye protection are worn at all times while handling this product. Avoid breathing dust, fumes, gas, mist, vapors or spray. Avoid contact with eyes and skin. If this product comes in contact with skin, rinse with soap and plenty of water. If the product comes in contact with eyes, wash out immediately with water. Ensure adequate ventilation during mixing and application. Wash contaminated clothing before reuse. Keep out of the reach of children. Call a doctor if you feel unwell. Safety Data Sheet (SDS) is available on request.

TECHNICAL SERVICES

Adhere to all product limitations, and if unsure about a particular application, contact Morient Mortar at:

USA: (908) 809-5672

International: (0086) 400-878-0800

Email: info@msyh.com.cn