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Cementitious
Waterproofing

MasterSeal® 500

Crystalline capillary waterproofing coating for concrete

FORMERLY TEGRAPROOF®

YIELD

55 lb (25 kg) pails

YIELD

SLURRY COAT

330 ft² per 55 lb pail at 1.5 lbs/yd²
(30 m² per 25 kg pail at 0.83 kg/m²)

DRY SHAKE

200 ft² per 55 lb pail at 2.5 lbs/yd²
(18 m² per 25 kg pail at 1.4 kg/m²)

STORAGE

Store in unopened containers at
60 to 80° F (16 to 27° C) in
clean, dry conditions.

SHELF LIFE

1 year when properly stored

VOC CONTENT

0 g/L less water and exempt solvents

DESCRIPTION

MasterSeal 500 is a crystalline capillary waterproofing coating for concrete. It is designed for coating applications both above and below grade.

PRODUCT HIGHLIGHTS

- Withstands positive and negative hydrostatic pressure for dual-sided waterproofing
- Resists de-icing salts, making MasterSeal 500 suitable for winter environments
- Protects against sewage and industrial wastes for use in wastewater treatment applications
- Contains no chlorides, reducing the risk of corrosion
- Easy to apply and cost effective
- Penetrates concrete, seals capillaries and hairline cracks, and remains waterproof even if surfaces are damaged

APPLICATIONS

- Horizontal (non-traffic bearing) and vertical
- Interior and exterior
- Above or below grade
- Concrete and block foundations
- Repairing hairline cracks
- Sewage and water treatment plants and tanks
- Newly poured concrete as a dry shake
- Underground vaults
- Subway tunnels (non-traffic bearing)
- Water reservoirs
- Elevator pits
- Concrete and masonry

INDUSTRIES/SECTORS

- Water and Wastewater
- Commercial and Industrial Buildings

Technical Data

Composition

MasterSeal 500 is a crystalline capillary waterproofing system for concrete.

Test Data

PROPERTY	RESULTS				TEST METHOD
	3 days	7 days	28 days	56 days	
Chemical resistance, gram weight change					ASTM C 267
Control samples	0.0	0.0	+0.1	+0.3	
Acid exposed	+0.1	-0.2	-1.1	-4.8	
Salt exposed	+0.3	+0.8	+0.6	+0.7	
Compressive strength, psi (MPa)					ASTM C 109
Control samples	2,110 (14.6)	3,870 (26.7)	5,200 (35.9)	5,780 (39.9)	
Acid exposed	2,280 (15.7)	3,540 (24.4)	5,160 (35.6)	5,500 (37.9)	
Salt exposed	2,020 (13.9)	3,490 (24.1)	5,540 (38.2)	5,720 (39.4)	
Permeability test,					CRD C 48
Negative direction:	Virtually impermeable; no visible degradation; no water flow. Slight dampening after 420 hrs at 200 psi hydrostatic pressure.				
Positive direction:	Virtually impermeable under 125 psi hydrostatic pressure. After 300 hrs at 200 psi, flow measured 0.075 cm ³ /hr over final 120 hours.				

All application and performance values are typical for the material, but may vary with test methods, conditions, and configurations.

HOW TO APPLY

SURFACE PREPARATION

EXISTING CONCRETE

1. Surfaces must be clean and sound.
2. Waterblasting is preferred for surface preparation to mechanically clean and roughen the surface, leaving the surface saturated with water.
3. Remove all oil, dirt, laitance and other contaminants.
4. Surfaces must be dampened before application of MasterSeal 500.

NEW CONCRETE

1. After forms are stripped, waterblast as described above to remove form oils and laitance. Surface must be left damp for application of MasterSeal 500.
2. Rout construction joints, cold joints, and non-leaking cracks greater than $\frac{1}{4}$ " wide to a minimum 1 by 1" (25 by 25 mm) in sound concrete. Routing should create "U" shape. Saturate routed area with water and leave damp for application of MasterSeal 500 mortar.
3. Rout leaking cracks as described above to 1" (25 mm) wide by $1\frac{1}{2}$ –2" (37–51 mm) deep in sound concrete. Saturate routed area with water and leave damp for application of MasterSeal 590.

MIXING

MASTERSEAL 500 SLURRY COAT

1. Mix 1 part clean potable water to $2\frac{1}{4}$ – $2\frac{1}{2}$ parts powder by volume or 2.25 gallons (8.9 L) of water to one 55 lb (25 kg) pail.
2. Mix thoroughly with a slow-speed drill and a paddle.
3. For larger batches, use a mortar mixer.
4. Do not mix more material than can be used in 20 minutes at 75° F (24° C) and 50% relative humidity.
5. If mixture thickens, stir to thin consistency. Do not add extra water.

MASTERSEAL 500 MORTAR

1. Add sufficient clean, potable water to powder to produce a stiff trowelable mortar.
2. Mix thoroughly with a slow-speed drill and paddle or use a mortar mixer for large batches.
3. Do not mix more material than can be used in 20 minutes at 75° F (24° C) and 50% relative humidity.

APPLICATION

SLURRY COAT

1. MasterSeal 500 slurry coat may be applied with a brush (synthetic bristle), broom or plaster sprayer at a rate of 1.5 lbs/yd² (0.83 kg/m²). Work slurry well into openings, rough surfaces, joints and routed out areas.
2. Apply second coat, when required, after first coat has reached initial set (usually within 1 hour). If first coat has dried out, moisten surface before applying second coat.

MORTAR

1. MasterSeal 500 mortar is applied with a trowel or spatula at a rate of 0.85 lb per 1 lineal foot in a 1 by 1.5" (25 by 38 mm) configuration. Apply mortar to cracks, holes, reglets and coving areas.
2. After areas are primed with first coat of MasterSeal 500 slurry, apply mortar in areas not greater than $\frac{1}{2}$ " (13 mm). Allow mortar to reach initial set before adding additional layers.

DRY SHAKE FOR NEWLY POURED CONCRETE:

1. Use MasterSeal 500 directly from container. Wearing rubber gloves, distribute the powder evenly by hand over freshly poured concrete at 2.25–2.5 lb/yd² (1.2 to 1.3 kg/m²) before final floating operation.
2. Two applications are recommended to obtain stated physical properties. Distribute the powder at one-half the recommended rate in one direction, and the other half at a right angle to the first application. Keep hand as close to the surface as possible to prevent material from blowing away. For large areas, a rotary type spreader may be used.
3. Float slab and trowel to final finish.

CURING

1. MasterSeal 500 must remain moist to allow the crystals to form. All MasterSeal 500 applications must be kept moist for a minimum of 48 hours. After initial set, moist cure MasterSeal 500 using water spray. Fog-spray the treated surface 3–4 times daily for the 48-hour period. For warmer climates, more frequent spraying may be required.
2. Protect freshly applied MasterSeal 500 from extreme weather conditions, such as rain, strong winds, high temperatures and freezing for a period of not less than 48 hours after application.
3. For certain applications, MasterSeal 500 can be wet cured for 24 hours, followed by application of an ASTM C 309-approved water-based curing agent. Contact Master Builders Solutions Technical Service when curing using this method.

CLEAN UP

Before curing, MasterSeal 500 may be cleaned from tools and other surfaces with water. Cured material must be removed mechanically.

FOR BEST PERFORMANCE

- Add only clean, potable water to MasterSeal 500.
- MasterSeal 500 is not designed as a decorative finish.
- Before applying a topcoat over MasterSeal 500, test and evaluate compatibility.
- Not recommended for application at temperatures below 40° F (4° C).
- Full activation and effectiveness may require 2–3 weeks beyond application.
- Protect surfaces from foot traffic for 48 hours or heavy traffic for 7 days.
- Follow accepted curing procedures for optimum performance.
- Proper application is the responsibility of the user. Field visits by Master Builders Solutions personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting www.master-builders-solutions.com/en-us, e-mailing your request to mbsbcst@mbcc-group.com or calling 1(800)433-9517. Use only as directed.

IN CASE OF EMERGENCY: Call CHEMTEL +1 (800) 255-3924 or if outside the US or Canada, +1 (813) 248-0585.

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