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CEM-KOTE CW PLUS

Crystalline/Capillary Waterproofing

DESCRIPTION

CEM-KOTE CW PLUS is a single-component, cement-based waterproofing coating enhanced with a proprietary blend of reactive chemicals. When applied to damp concrete, it forms a durable cementitious surface layer while simultaneously allowing reactive components to penetrate into the substrate. This dual-action system provides both a physical barrier and long-term waterproofing coating. Unused reactive ingredients remain permanently active, responding to moisture by forming insoluble crystalline structures that block capillaries and micro-cracks, providing ongoing self-sealing capability. The product allows vapor transmission while offering lasting protection against water ingress, even under hydrostatic pressure.

USES

CEM-KOTE CW PLUS is a dual-action crystalline waterproofing coating designed for both new and existing concrete structures exposed to water pressure. It is suitable for water storage and water treatment concrete structures, digestors, clarifiers, utility vaults, reservoirs, tanks, basements, tunnels, foundations, swimming pools, concrete slabs, and other structural elements. Applied to either the positive or negative side, it protects against moisture ingress in both accessible and difficult-to-reach areas, making it ideal for infrastructure, utility, and water-retaining applications across a range of environments. For specific project requirements, contact W. R. MEADOWS.

FEATURES/BENEFITS

- Potable Water Safe: Certified to NSF/ANSI 61 - Protective Barrier Materials
- Dual-Side Protection: Resists positive and negative water pressure.
- Self-Sealing: Self-seal cracks up to 0.5 mm (20 mils).
- Low Permeability: Effective protection against water up to 200 psi (462') of water head pressure).
- Durable Coating: High strength - 8000 psi (55 MPa)
- Easy Application: Brush or spray; 30+ minute working time; cures in 48 hours @ 73° F (23° C) and 50% RH
- Eco-Friendly: Inorganic, 0 VOC, and non-flammable.
- UV Resistant: Suitable for exterior exposure without degradation.

PACKAGING

50 Lb. (22.7 Kg) Bags
50 Lb. (22.7 Kg) Pails

Color: Industrial Gray

COVERAGE/YIELD

50 lb. (22.7 kg) units yield approximately 0.47 ft.³ (13.2 L)

Two-Coat Requirement:

- CEM-KOTE CW PLUS must be applied in two coats at 20 – 25 mils.
- Effective coverage is approximately 175 ft.² (16.25 m²) per unit at 40 – 50 mils total thickness.

Application Rate per Coat:

- 1.25 - 1.4 lb./yd² (approximately 0.7 - 0.75 kg/m²)

The actual coverage will depend highly on surface roughness and the thickness applied. The applicator must carry out a sample application to determine the actual coverage for the given substrate type and profile.

SHELF LIFE

When stored on pallets in a dry, cool area at a minimum temperature of 45° F (7° C), shelf life for bags is one year. Shelf life for pails is two years.

SPECIFICATIONS/STANDARDS

- ANSI/NSF Standard 61 – Barrier Materials
- Potable Water Approved

TECHNICAL DATA

Compressive Strength (ASTM C109)	
1 Day	2,520 psi (17.37 MPa)
7 Days	6380 psi (43.98 MPa)
28 Days	8090 psi (55.77 MPa)
Modulus of Rupture (ASTM C348) 28 days	6.2 - 8.3 MPa (900 - 1200 psi)
Working Time @ 73° F (23° C) and 50% RH	30+ Minutes
Pull-Off Adhesion (Bond Strength with Concrete) ASTM D7234	213 psi (1.46 MPa) – Failure in Concrete Substrate* *Failure occurred within the concrete substrate, indicating the coating bond strength exceeded the cohesive strength of the substrate.
Water Vapor Permeance 3 mm (1/8") thickness ASTM E96	1.8 metric perms
VOC Content	0 g/L
Crystal Growth, High Resolution Optical Microscopy	56% additional crystal growth when compared to control

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Test Standard	Test Conditions	Results (CEM-KOTE vs. Control)	Performance Summary
Permeability, USACE CRD-C48	200 psi (1.38 MPa); tested at SGS Lab	0.46×10^{-12} vs. 39.4×10^{-12} $(ft^3/sec)/ft^2(ft\ head/ft)$	99% reduction in permeability; no measurable leakage
Depth in Penetration, DIN 1048	72 psi (0.5 MPa) for 72 hrs; 28-day cure	< 1 mm vs. 27.90 mm penetration	≥ 96.4% reduction in water ingress

APPLICATION

The applicator must, prior to bid, confirm detailing, REINFORCING FABRIC use, and correct surface preparation and application procedures.

Surface Preparation … Prepare concrete substrate in accordance with ICRI Technical Guideline #310.2R-2013: Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair. Mechanically roughen or high pressure water-jet existing concrete substrate to a minimum concrete surface profile of CSP-3 and a minimum pull-off adhesion (concrete bond strength) of 1 MPa. A higher CSP may be required, depending on substrate condition. When using high-pressure water jet, ensure that the pressure gauge is functional and number can be verified on machine. Remove all unsound concrete and provide a profiled, porous surface. Substrate must be structurally sound, dust-free, and free of grease, oil, dirt, curing compounds, release agents, or any other surface or penetrated contaminants that will adversely affect bond. Sanding or wire-abrading are not approved surface preparation methods. Substrate must be saturated, surface dry (SSD) and free of standing water.

Active water leaks must be stopped using MEADOW-PLUG™ from W. R. MEADOWS. Deeper surface deterioration should be repaired with CEM-KOTE CW PATCH or MEADOW-CRETE® OV from W. R. MEADOWS. Leave the surface of CEM-KOTE CW PATCH or MEADOW-CRETE OV rough and wash thoroughly with high-pressure water before application of CEM-KOTE CW PLUS. CEM-KOTE CW PLUS should be applied within 48 hours after the surface repair.

Reinforcing Steel … Remove all loose rust from any exposed reinforcing steel and apply two coats of FIBRE-PRIME.

Crack Treatment … Any existing cracks must be treated separately using CEM-KOTE FLEX ST and REINFORCING FABRIC NW or REINFORCING FABRIC HD. In below-grade applications and/or negative side waterproofing, use only REINFORCING FABRIC HD.

Mixing … Mix one bag with approximately 1.1 - 1.26 gal. (4.1 - 4.8 L) of water, depending on required consistency, ambient temperature, and relative humidity. Use a drill (400 – 600 rpm) with a mixing paddle.

W. R. MEADOWS recommends the Collomix® MK 140 HF for mixing. Gradually add the dry material into water and mix until a smooth and lump-free mix is obtained. Do not over mix. Adjust the water for brushable consistency or a stiffer consistency for trowel application.

Application Method … Apply a basecoat of CEM-KOTE CW PLUS in slurry consistency at a uniform rate of 1.25 – 1.4 lb./yd² (0.7 – 0.75 kg/m²) using appropriate compressed-air spray equipment, stiff masonry brush, or stiff broom. Apply the second coat of CEM-KOTE CW PLUS at a uniform rate of 1.25 – 1.4 lb./yd² (0.7 – 0.75 kg/m²) after basecoat has reached initial set but is still “green” (tacky).

When layers over 1/8” (3 mm) are required, apply in two application coats. Start by applying a thin layer of CEM-KOTE CW PLUS first as a bonding agent by brush or broom. Apply second, stiffer consistency coat of CEM-KOTE CW PLUS into the wet slurry by trowel. Keep wet edge. The thickness of each coat application should not exceed 1/8” (3 mm). Do not build up a layer thicker than ¼ (6 mm). Always perform a mock-up before full-scale application to confirm layer thickness. Do not apply more than 1/8 (3 mm) thickness.

Curing … If structures are to be filled with water, they may be filled after 48 hours of moist cure. If the structure will not be filled, then moist cure for a minimum of 72 hours. Protect the surface from rapid drying. When specific conditions exist curing with MED-CURE from W. R. MEADOWS may be allowed in lieu of water curing. Consult W. R. MEADOWS for qualifying details. When working under tarps at freezing temperatures, avoid using propane heaters. Electrical heaters must be used to prevent carbonation of CEM-KOTE CW PLUS.

Paint can be applied to CEM-KOTE CW PLUS. A water-based acrylic paint can be applied after 28 days cure time of CEM-KOTE CW PLUS. Verify the selected paint is suitable for concrete.

Cleanup … All tools and equipment must be cleaned with water immediately after use. Cured material must be removed mechanically.

PRECAUTIONS

CEM-KOTE CW PLUS is a fast setting material. Temperatures can affect working time. It is suggested that product be applied within 15 - 30 minutes after mixing. Mix only the amount of material that can be applied within this period of time. Do not apply CEM-KOTE CW PLUS when the temperature is expected to be below 40° F (4° C) or when rain is imminent. The proper surface preparation is essential for successful bond of CEM-KOTE CW PLUS. When cup grinding, ensure proper CSP can be reached or seek alternative surface prep method.

Contact your W. R. MEADOWS representative for warranty information.

For most recent data sheet, sustainability information, and SDS, visit www.wrmeadows.com.

IAPMO R&T WATER QUALITY PLATINUM SEAL IAPMO RESEARCH AND TESTING™

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Certified by IAPMO R&T to NSF/ANSI 61 for Material Safety

LIMITED WARRANTY

W. R. MEADOWS, INC. warrants at the time and place we make shipment, our material will be of good quality and will conform with our published specifications in force on the date of acceptance of the order. Read complete warranty. Copy furnished upon request.

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