**SECTION 07 14 00**

**FLUID APPLIED WATERPROOFING**

 **SECTION 03 01 00**

 **MAINTENANCE OF CONCRETE**

Multicoat Above Grade Pedestrian Concrete Waterproofing System

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*This guide specification has been prepared by Multicoat Product Systems, in printed and electronic media, as an aid to specifiers in preparing written construction documents for a multi-layer waterproofing system for various above grade substrates. This is a multi-layer protective coating designed for above grade concrete decks. The system applies SCRATCH KOTE 2000, a resin modiﬁed cementitious base coat. The system adds an elastomeric waterprooﬁng membrane (MULASTICOAT®) with a synthetic resin modiﬁed cementitious top coating. (KRETE KOTE 2000, TOP COAT 2000, or MICRO-TOPPING)*

*This guide specification intended use is for multiple applications. Delete the section and tile not applicable. Edit entire master to suit project requirements. Modify or add items as necessary. Delete items which are not applicable. Words and sentences within brackets [\_\_\_\_\_] reflect a choice to be made regarding inclusion or exclusion of a particular item or statement. This section may include performance, proprietary and descriptive type specifications. Edit to avoid conflicting requirements. Editor notes to guide the specifier are included between lines of asterisks to assist in choices to be made. Remove these notes before final printing of specification.*

*This guide specification is written around the Construction Specifications Institute (CSI) Section Format standards.*

*For specification assistance on specific product applications, please contact our offices or any of our local product representatives throughout the country.*

*Multicoat Product Systems reserves the right to modify these guide specifications at any time. Updates for this guide specification will be posted on the manufacturer’s web site and/or in printed matter as they occur. Manufacturer makes no expressed or implied warranties regarding content, errors, or omissions in the information presented.*

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1. GENERAL
	* + 1. RELATED DOCUMENTS
				1. Drawings and other Contract Documents, listed in the agreement between the Owner and Contractor, apply to this Section.
			2. RELATED SECTIONS
				1. 03 50 00 – Cementitious Decks and Underlayments
			3. SUMMARY
				1. Section includes a multi-layer waterproof system used as a protective coating designed for above grade pedestrian concrete surfaces.
				2. SUBMITTALS
				3. Product Data:

1. Submit manufacturer's descriptive literature and product specifications for each product.

2. Submit laboratory tests or data that validate product compliance with the performance criteria specified.

* + - 1. QUALITY ASSURANCE
				1. Installer Qualifications:

1. Acceptable to manufacturer with documented experience on at least 2 projects of similar nature in past 2 years and/or training provided by the product manufacturer.

* + - * 1. Manufacturer Qualifications:

1. Company specializing in manufacturing Products specified in this Section with minimum **[10]** years documented experience.

* + - 1. DELIVERY AND STORAGE
				1. Deliver, store off the ground and covered, handle and protect products from moisture in accordance with manufacturer's instructions.
				2. Deliver materials in manufacturer's unopened containers, fully identified with brand, type, grade, class and all other qualifying information. Provide Material Safety Data Sheets for each product.
				3. Take necessary precautions to keep products clean, dry and free of damage.
			2. WARRANTY
				1. Materials are guaranteed with respect to uniformity and quality within manufacturer’s specifications.
			3. PROJECT CONDITIONS
				1. Do not apply if substrate temperature is below 40°F or above 100°F, or if ambient temperature below 40°F above 100°F.
				2. Do not apply if precipitation is expected within a twenty four (24) hour period.
1. PRODUCTS
	* + 1. MANUFACTURER
				1. Multicoat Corporation 23331 Antonio Parkway, Rancho Santa Margarita, CA 92688, 877-685-8426, Email: info@multicoat.com, www.multicoat.com
			2. MATERIALS

 A. MULTICOAT SCRATCH KOTE 2000 is a super bonding synthetic resin modified cementitious coating which forms a hard, rough textured base coat, securely bonding to a properly prepared substrate.

 1. Weatherometer: 2000 hrs. – Passed (ASTM G23)

 2. Compressive Strength: 2595 psi @ 45 Days air cured - (ASTM C109)

 3. Flexural Strength: Modulus of Rupture - 770psi (ASTM-D790)

 4. Tensile Strength: 457 psi (ASTM-C190)

 5. Bond Strength (Flatwise Tension): 225 psi (ASTM-C297)

 6. Abrasion Test: 1000cyc-1000gms (ASTM-1242A)

 7. 50-Cycle Freeze thaw: Passed (ASTM-C67)

 8. Impact Resistance: MIL-D-3134F Passed

B. MULTICOAT MULASTICOAT an elastomeric waterproofing membrane

1. Tensile Strength & Elongation: 119.6 psi / Elongation 1148% (ASTM-D2370)

2. Tensile Bond Adhesion, PSI: 162 Cohesive (ASTM C297)

3. Low Temperature Flexibility: ½” Room Temp Pass (ASTM D522)

 (Mandrel Bend)                        1” @ -5F    Pass

                                                                       ½” @ -5F    Pass

4. Static Hydrostatic Pressure Test: Pass >45psi (ASTM C1306)

5. Hydrostatic Head: 12” Water/Film @ 40mil Pass 96 hour/no effect

C. MULTICOAT SCRATCH KOTE/TOP KOTE/ KRETE KOTE/MICRO-TOPPING Super bonding, flexible synthetic resin modified cementitious coating which forms a durable, anti-skid, weather and chemical resistant surface over properly prepared substrates.

1. Weatherometer: 2000 hrs. – Passed (ASTM G23)

2. Compressive Strength: 2595 psi @ 45 Days air cured - (ASTM C109)

3. Flexural Strength: Modulus of Rupture - 770psi (ASTM-D790)

4. Tensile Strength: 457 psi (ASTM-C190)

5. Bond Strength (Flatwise Tension): 225 psi (ASTM-C297)

6. Abrasion Test: 39 mil loss 1000cyc-1000gms (ASTM-1242A)

7. Salt Spray: 300 hrs. – Passed (ASTM-B117)

8. Water Vapor Transmission: 8.5 Perms (ASTM-E96A)

9. 50-Cycle Freeze thaw: Passed (ASTM-C67)

10. Impact Resistance: MIL-D-3134F Passed

11. Flame Spread: Class A (ASTM-E84)

* + - 1. ACCESSORY MATERIALS
				1. Color Sealer: ACRATHANE COLORSEAL consists of a series of high quality waterbased modified resins that provide a high quality, durable seal on masonry, cementitious, and other building substrates. Colors are factory blended to insure uniformity.
				2. Color Stain: MULTICOAT MULTI-STAIN is an acrylic based concrete stain furnished in factory blended containers. It is used as a decorative color stain for most cementitious substrates. Interior applications must be sealed with either Micro Seal System or Acrathane Clear Sealer; Exterior must be sealed with Acrathane Clear Seal.
				3. Clear Sealer: MULTICOAT ACRATHANE CLEARSEAL is also a water base material. Not typically used in COLORSEAL applications, however it can be used to achieve a glossy, wet look. Is also used in conjunction with MULTI-STAIN to lock in the color. CLEARSEAL can also be used on most masonry and stone substrates.
				4. Vapor Shield: Multicoat’s VAPOR SHIELD is a Chemical Hardener, Densifier, Soluble Chloride Reducer used over bare concrete prior to cementitious overlay applications. Vapor Shield is a nonflammable, nontoxic, nonacid sealer that strengthens and internally waterproofs cementitous materials
				5. Fabric: Stitch Bond Polyester Fabric, 12” fabric furnished in a roll. Used in conjunction with MULASTICOAT to form flashing.
				6. Water: Potable.
1. EXECUTION
	* + 1. EXAMINATION
				1. Examine substrates and adjoining construction, and conditions under which Work is to be installed. Do not proceed with Work until unsatisfactory conditions are corrected.
				2. Verify the following substrate conditions before application of waterproof system:

1. That substrate condition is satisfactory and in accordance with manufacturer's instructions.

2. That concrete surfaces are free of voids, spalled areas, loose aggregate and sharp protrusions, and with no coarse aggregate visible.

* + - 1. PREPARATION
				1. Substrate must be structurally sound and free from grease, oil, dirt, dust, sealers, water repellents and other foreign materials which may interfere with proper bonding.
				2. Cleaning may be accomplished by shot blasting, sand blasting, mechanical sanding, acid etching, or minimum 3500 psi power washing.
				3. If the surface is cleaned with muriatic acid, it must be thoroughly neutralized by flushing with a solution of baking soda and water.
				4. Smooth steel troweled concrete must be roughened to insure a good bond.
				5. If patching of the concrete surface is necessary, it may be re-leveled with Multicoat Speed Mix.
				6. Apply Vapor Shield to concrete surfaces as per directions.
			2. APPLICATION
				1. General: Comply with waterproofing manufacturer's written instructions for application and curing.
				2. Coverage: SCRATCH KOTE 2000 175 to 200 sf. ft per bag. MULASTICOAT: 80 to 100 sq. ft. per gallon. Stitch Bond Polyester Fabric: 12” x 324’ rolls. KRETE KOTE/TOP COAT 2000, MICRO TOPPING - 250 sq. ft. per bag per coat. (See “PACKAGING AND STORAGE”) COLORSEAL 150 - 200 sq. ft. per gallon (2 coats).
				3. If and where necessary, flash all posts, drains, coves, penetrations, and other irregularities with MULASTICOAT and stitch bond polyester fabric mesh.
				4. We recommend a primer coat of either SCRATCH KOTE 2000, KRETE KOTE or TOP COAT to be applied to the concrete surface. Mix as per instructions on the bag. Trowel or roll onto the deck covering and allow to dry completely.
				5. Apply MULASTICOAT over entire area in two coats with brush, roller, airless sprayer or hopper gun. Allow first coat to dry to touch, usually 1-2 hours depending on ambient air temperature. Apply second coat in a crisscross pattern to first coat. While second coat is wet, broadcast silica sand over the top and allow to dry. Prior to additional materials being applied, brush and remove any sand particles away from the surface. Allow the MULASTICOAT® to fully dry before proceeding with KRETE KOTE/TOPCOAT 2000, or MICRO-TOPPING surfacing. We do recommend to limit the exposure of Mulasticoat to the sun, weather and other construction trades to no more than 24 to 48 hours as the risk of mechanical abuse could harm the Mulasticoat..
				6. KRETE KOTE and TOP COAT 2000 are furnished in 65 lb. bags and MICRO TOPPING is furnished in 50 lb. bags, and both are field mixed with potable (clean) water in the approximate amount of 1 3/4 - 2 gallons per bag for the KRETE KOTE/ TOP COAT and 1-1/4 to 1-1/2 for the MICRO TOPPING.
				7. Mix vigorously to disperse all lumps and to thoroughly wet all particles. Use a margin trowel to clear vessel sides. Adjust to desired consistency by addition of dry material or small amount of water. For best results let KRETE KOTE, TOP COAT, or MICRO TOPPING stand in the bucket for 3-5 minutes, then add a small amount of water and rebreak material. This will give additional pot life.
				8. Mixed KRETE KOTE, TOP COAT 2000, and MICRO TOPPING are applied by trowel or squeegee in one coat, one coat plus texture coat, or two or more coats plus texture coat, depending on surface conditions.
				9. Apply two coats of COLORSEAL (Refer to COLORSEAL “Instructions for use.”) Allow minimum 24 hour cure before allowing foot traffic. Masonry patterns available with MULTI-STAIN.

END OF SECTION 071400