

## SECTION 03 01 30.71

### REHABILITATION OF CAST-IN-PLACE CONCRETE

#### Multicoat Parking Garage System

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*This guide specification has been prepared by Multicoat in printed and electronic media, as an aid to specifiers in preparing written construction documents for concrete restoration and renovation. MULTICOAT PARKING GARAGE RESTORATION SYSTEMS are adaptable for both weatherproofing and water proofing. The SYSTEMS utilize a super-bonding Synthetic Resin modified cementitious coating, KRETE KOTE 2000, which is durable, anti-skid, weather and chemical resistant when applied over properly prepared traffic-bearing substrates. Weatherproofing is used over sound substrates where no leakage or water penetration has occurred. Waterproofing is needed if water penetration has taken place in order to restore surface integrity and prevent further leakage.*

*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 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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#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Section includes restoration, renovation coatings for the following applications:

- 1. Parking Garages

##### 1.2 RELATED SECTIONS

- A. 03 01 30 – Maintenance of cast-in-place concrete
- B. 09 97 00 – Special Coatings

##### 1.3 SUMMARY

- A. Section includes cementitious coating for external application to [concrete surfaces]

##### 1.4 SUBMITTALS

- A. 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.

#### 1.5 QUALITY ASSURANCE

##### A. 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.

##### B. Manufacturer Qualifications:

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

#### 1.6 DELIVERY AND STORAGE

- ##### A.
- Deliver, store off the ground and covered, handle and protect products from moisture in accordance with manufacturer's instructions.

- ##### B.
- 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.

- ##### C.
- Take necessary precautions to keep products clean, dry and free of damage.

#### 1.7 WARRANTY

- ##### A.
- Materials are guaranteed with respect to uniformity and quality within manufacturer's specifications.

#### 1.8 PROJECT CONDITIONS

- ##### A.
- Do not apply if substrate temperature is below 40°F or above 100°F, or if ambient temperature below 40°F above 100°F.

- ##### B.
- Do not apply if precipitation is expected within a twenty four (24) hour period.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURER

- ##### A.
- Multicoat Corporation 23331 Antonio Parkway, Rancho Santa Margarita, CA 92688, 877-685-8426, Email: info@multicoat.com, www.multicoat.com

#### 2.2 MATERIALS

**PARKING GARAGE RENOVATION SYSTEM:** A weatherproofing, and if applicable, waterproofing system, using a super-bonding Synthetic Resin modified cementitious coating, KRETE KOTE 2000/TOP COAT 2000, which is durable, anti-skid, weather and chemical resistant when applied over properly prepared traffic-bearing substrates.

A. MULTICOAT KRETE KOTE 2000/TOP COAT 2000 cementitious coating

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)

B. For waterproofing application: MULTICOAT MULASTICOAT Elastomeric Waterproofing Membrane

1. Tensile Strength & Elongation: 203 psi (ASTM-D2370)
2. Elongation: 1148% (ASTM2370)
3. Tensile Bond Adhesion, PSI: 162 Cohesive (ASTM C297)
4. Low Temperature Flexibility: 

½”	Room Temp	Pass	(ASTM D522)
(Mandrel Bend)	1”	@ -5F	Pass
	½”	@ -5F	Pass
5. Static Hydrostatic Pressure Test: Pass >45psi (ASTM C1306)
6. Hydrostatic Head: 12” Water/Film @ 40mil Pass 96 hour/no effect

2.3 ACCESSORY MATERIALS

- A. Crack Repair: MULTICOAT SPEED BOND CRACK REPAIR SYSTEM is unique two component water based polyurethane material. SPEED BOND is used to repair cracks, holes, and depressions prior to the application of various Multicoat Systems. SPEED BOND is a two-part material packaged in a standard caulking tube which does not require any special tools
- B. Concrete Repair: MULTICOAT SPEED MIX 2000 is a fast setting, resin modified, hydraulic cement. It is used by itself for most types of concrete repair such as leveling, filling cavities and cracks. Can be used interior or exterior, vertical, horizontal or overhead.
- C. 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.
- D. Fabric: Stitch Bond Polyester Fabric, 12” fabric furnished in a roll. Used in conjunction with MULASTICOAT to form flashing
- E. Water. Potable

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and adjoining construction, and conditions under which Work is to be installed. Do not proceed with Work until unsatisfactory conditions are corrected.
- B. Verify the following substrate conditions before application:
  - 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.

### 3.2 PREPARATION

- A. 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.
- B. Use shot blast, sandblast, or water blast with sand injector (minimum 3,500 psi). To remove heavy grease, use biodegradable degreasers and hot steam cleaning machine.
- C. Sandblast, acid etch or water blast with a turbo nozzle or sand injection attachment (3,500 psi minimum). If acid etching, must be neutralized and power wash with spinner tip. Make sure to remove all rust, paint and other foreign material that may interfere or prohibit proper bonding.
- D. Existing cracks should be opened up with a crack chaser to a minimum of 1/4". Open cracks should be cleaned of all dust and residue.
- E. Fill properly prepared cracks with SPEED BOND material. Backer rod or sand should be placed in cracks where depths are greater than 3/8". Inject SPEED BOND material into crack, level with the surface of the substrate. (Note: Follow directions on the cartridge carefully when using material.)
- F. After dispensing, immediately spread SPEED BOND flush with deck surface using a plastic spreader at least 2" on each side of crack. While still wet, broadcast 16-20 silica sand over wet SPEED BOND. Allow to harden, then, brush off loose sand.

### 3.3 APPLICATION

- A. For waterproofing apply a primer coat of Krete Kote 2000/Top Coat 2000 over entire area. Let dry, then apply a coat of MULASTICOAT to areas at junction of surface and joining of parapet walls.
- B. Embed 12" wide Stitch bonded Polyester fabric in the MULASTICOAT. Apply additional MULASTICOAT to saturate fabric and allow to dry.
- C. MULASTICOAT is then applied over entire substrate in two (2) coats with roller, or squeegee, using firm pressure (see "COVERAGE" below). First coat is allowed to dry to touch, usually 1-2 hours, depending on ambient temperature. Apply second coat crisscross to first coat. While the second coat is wet immediately broadcast 20 or 30 grit sand into the 2nd coat of MULASTICOAT while it is still wet. After product has dried completely, but prior to

application of the TOP KOTE 2000 or KRETE KOTE 2000, brush off loose sand from the substrate.

- D. Be sure all voids, pinholes, etc. are completely covered. Allow to cure minimum of 24 hours, longer in cool weather. Do not allow MULASTICOAT to be exposed for more than 2 days.

The following steps are then taken for both weatherproofing and waterproofing systems:

1. KRETE KOTE 2000/Top Coat 2000, resurfacing material, is field mixed with water to desired consistency. Ratio approximately 2 - 2 1/2 gallons of water to 65 lb. bag (see KRETE KOTE system instructions).
2. FIRST COAT Apply with squeegee or trowel, and allow to dry (usually about 1-2 hours). Mix thoroughly for a maximum of 3 minutes. Adjust to desired consistency by addition of dry material or small amount of water.
3. SECOND COAT: Apply same as first coat.
4. THIRD COAT: If texture is desired, apply KRETE KOTE with hopper gun for French Lace Texture (knock down texture), or roll with 1/4" texture roller for texture finish.
5. COLORSEAL Apply two coats of COLORSEAL. (Refer to COLORSEAL "Instructions for Use.") Allow minimum 24 hour cure before applying COLORSEAL. ALLOW TO CURE MINIMUM 72 HOURS BEFORE ALLOWING VEHICLE

- E. Coverage: Each 65 lb. bag of KRETE KOTE 2000/TOP COAT 2000 will cover approximately 175-200 sq. ft. (regular coat) and about 200-225 sq. ft. (textured coat). Each gallon of MULASTICOAT will cover approximately 40-50 sq. ft. (2 coats). Each gallon of COLORSEAL will cover approximately 150-200 sq. ft. when applied per instructions.

END OF SECTION