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*This guide specification intended use is for multiple applications. Delete the section and title not applicable.*

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**SECTION 03 01 30.71**

**REHABILITATION OF CAST-IN-PLACE CONCRETE**

**SECTION 35 60 00**

**CONCRETE RESTORATION SYSTEM**

Multicoat Shield Kote 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 polymer modified cementitious coatings. Multicoat offers a super bonding, polymer modified cementitious coating is designed to restore the function and appearance of old concrete. Cured product seals and forms a protective coating over concrete surfaces which are submerged underwater and is specifically designed for application to fish ponds and hatcheries.*

*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. SUMMARY, Section includes:
				1. Chemical Hardener, Densifier, Soluble Chloride Reducer used over bare concrete prior to cementitious overlay applications.
				2. Polymer-modified cement waterproofing for internal, external application to [**concrete**] [**concrete unit masonry**] [**and**] [**brick substrates**].
			3. SUBMITTALS
				1. 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
				1. Chemical Hardener, Densifier, Soluble Chloride Reducer used over bare concrete prior to cementitious overlay applications.

1. Product: Vapor Shield

2. Color: Clear

3. Liquid

* + - * 1. Polymer Modified Cementitious Coating that requires the addition of water, resistant to water and moisture.

1. Product: Pond Kote

2. Color: Gray

3. Aggregate: Powder

4. Compressive Strength: 3128 psi @ at 28 days (Complies with ASTM C 109)

5. Flexural Strength: 1375 psi @ at 28 days (Complies with ASTM D 790)

6. Water %: 22.50%

7. Toxicity: Passed @ (96hr. LC50)\*

8. Specific Gravity: 2.75

\*Toxicity testing was done on flat head minnows and rainbow trout, with no adverse effects to either species of fish.

* + - 1. ACCESSORY MATERIALS
				1. Patching Compound: MULTICOAT SPEED BOND CRACK REPAIR SYSTEM is comprised of a 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. It is a two-part material packaged in a standard caulking tube which does not require any special tools.
				2. Mortar Repair: MULTICOAT SPEED MIX a hydraulic repair mortar used to fill voids, depressions and damaged area and to fill back to a level profile.
				3. 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 applications:

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, or minimum 3500 psi power washing.
				3. On concrete block walls, all head and bed joints must be free of holes and finished flush with block substrate.
				4. For new poured in place walls, a water-based form release should be used. If an oil base form release must be used the wall must be scrubbed with tri sodium phosphate (TSP), power washed and rinsed.
				5. Horizontal cracks should be treated.
			2. APPLICATION
				1. General: Comply with waterproofing manufacturer's written instructions for application and curing.
				2. Vapor Shield:

Horizontal Surfaces: Avoid over-application and puddling on horizontal surfaces. Excess unreacted Vapor Seal will leave white crystals on concrete. Brush or broom to more porous area.

Vertical Surfaces: Apply from top to bottom to point of refusal. Apply sealer in two even coats using a low-pressure sprayer. After the first coat has soaked in , immediately apply the second coat. Apply only as much material as the surface will readily absorb. Areas that absorb sealer at faster rate will require additional coats. After the final coat of sealer is dry, spray a light mist of water over the treated area. After the first water mist is dry to touch, apply a second water mist.

* + - * 1. Pond Kote:

Use a 1/2-inch drill and Multicoat Cage Mixer to mix material.

Mix 1-3/4 to 2 gallon of clean potable water to one 65-lb bag of POND KOTE until well blended and lump free.

Application on walls can be by spray and trowel, floor can be by broom or squeegee.

Dampen surface with water before application.

Apply at coverage rates listed below.

Thickness: Coverage per Bag

1/16” 120 sq. ft. per bag.

1/8” 60 sq. ft. per bag

1/4” 30 sq. ft. per bag.

Substrate, weather, and workmanship will cause coverage rates to vary.

* + - * 1. Allow Pond Kote material to dry 7 to 10 days prior to filling with water.
				2. After filling, run circulation pumps/filters followed by a light brushing to remove any surface contaminants prior to adding fish. Longer dry time will be required for interior applications.
				3. Do not bridge expansion or control joints with the POND KOTE. All expansion or control joints must be cut and cleaned out and filled with approved caulking material.

**END OF SECTION**