SECTION 09 97 26

CEMENTITIOUS COATINGS

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\*\* NOTE TO SPECIFIER \*\* RiteArmor / Dalor Group LLC; Urethane concrete flooring systems for industrial and commercial applications.
This section is based on the products of RiteArmor / Dalor Group LLC, which is located at:Jersey City, NJ 07302Tel: 646-496-5396Email: [request info (info@dalorgroup.com)](https://arcat.com/rfi?action=email&company=RiteArmor%252B%252F%252BDalor%252BGroup%252BLLC&message=RE%253A%2520Spec%2520Question%2520(09670dal)%253A%2520&coid=54262&spec=09670dal&rep=&fax=)
Web: <https://www.ritearmorflooring.com>
 [ [Click Here](https://arcat.com/company/ritearmor-dalor-group-llc-54262) ] for additional information.
Urethane concrete is recognized as the most robust and durable industrial floor coating available today. Originally designed for food and beverage industry, it has demonstrated many impressive high-performance features. It is a type of industrial floor coating, formulated by combining polyurethane with cement, aggregate, and other specialized materials.
It is also known by other names, such as urethane cement, polyurethane-modified mortar, cementitious urethane, or polyurethane screed.
Our state-of-the-art, proprietary ultra-thin self-leveling technology enables RiteArmor urethane concrete to be applied in layers as thin as 1 millimeter. This breakthrough expands RiteArmor urethane concrete flooring's reach beyond traditional heavy-duty applications, making it suitable for light- to medium-duty sectors as well. Another standout feature of RiteArmor urethane concrete is its remarkable eco-friendliness. Furthermore, its customizability, a product of relentless efforts by our team of brilliant and dedicated scientists, is unparalleled.
RiteArmor® urethane concrete flooring systems have earned the trust and acclaim of numerous customers across diverse industries. Choose RiteArmor and experience urethane concrete flooring that delivers outstanding quality without a hefty price tag!

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Cementitious Flooring of the Following Types:
			1. Urethane concrete, self-leveling. (RiteArmor CK-16)
			2. Urethane concrete, trowel grade. (RiteArmor CK-17)
			3. Urethane concrete, ultra-thin, self-leveling. (RiteArmor CK-1)
			4. Urethane concrete, self-leveling, anti-static. (RiteArmor CK-1 AS)
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03 01 30 - Maintenance of Cast-In-Place Concrete.
		2. Section 03 30 00 - Cast-in-Place Concrete.
		3. Section 03 53 00 - Concrete Topping.
		4. Section 07 16 13 - Polymer Modified Cement Waterproofing.
		5. Section 07 18 00 - Traffic Coatings.
		6. Section 09 61 36 - Static-Resistant Flooring Treatment.
		7. Section 09 67 00 - Fluid Applied Flooring.
		8. Section 09 67 23 - Resinous Flooring.
		9. Section 09 96 35 - Chemical Resistant Coatings.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00.
		2. Product Data:
			1. Manufacturer's data sheets on each product to be used.
			2. Preparation instructions and recommendations.
			3. Storage and handling requirements and recommendations.
			4. Typical installation methods.
		3. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.
	2. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
		2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
		3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
			1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
			2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
			3. Retain mock-up during construction as a standard for comparison with completed work.
			4. Do not alter or remove mock-up until work is completed or removal is authorized.
	1. PRE-INSTALLATION CONFERENCE
		1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
		2. Protect from damage due to weather, excessive temperature, and construction operations.
	3. PROJECT CONDITIONS
		1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
	4. WARRANTY
		1. Manufacturer's Warranty: Provide manufacturer's standard limited warranty.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: RiteArmor / Dalor Group LLC, which is located at:Jersey City, NJ 07302Tel: 646-496-5396Email: [request info (info@dalorgroup.com)](https://arcat.com/rfi?action=email&company=RiteArmor%252B%252F%252BDalor%252BGroup%252BLLC&message=RE%253A%2520Spec%2520Question%2520(09670dal)%253A%2520&coid=54262&spec=09670dal&rep=&fax=);Web: <https://www.ritearmorflooring.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* RiteArmor® CK-16 is suitable for industrial facilities that require chemical resistance, corrosion protection, excellent cleanliness, and frequent high-pressure power wash.

* + 1. This product is recommended for use in the following places:
		2. Food processing plants, beverage plants, dairy factories, breweries, distillation workshops.
		3. Pharmaceutical plants and laboratories.
		4. Wet and dry processing areas.
		5. Refrigerated and frozen areas.
		6. Chemical processing plants, pulp and paper mills, large clean warehouses, storage area floors.
		7. Delete article if not required.
	1. URETHANE CONCRETE, SELF-LEVELING
		1. Basis of Design: RiteArmor CK-16 Urethane Concrete, Self-Leveling; as manufactured by Dalor Group.
			1. Performance Requirements:
				1. Compressive Strength: 5800 psi (40 MPa).
				2. Flexural Strength: Minimum 1450 psi (10 MPa).
				3. Bond Strength to Concrete Base: Minimum 290 psi (2.0 MPa).
				4. Full Cure Time: 7 days.
				5. Cure Time for Foot Traffic: 24 hours.
				6. Resistant to various organic, inorganic acids, alkalis, salts, and solvents.
				7. Moisture control; breathable; not slippery when wet.
			2. Service Temperature: Maintains its physical properties in the temperature range of Minus 40 to 167 degrees F (minus 40 to 75 degrees C).
			3. Binding Strength: Generally greater than the tensile strength of concrete, with abrasion resistance.
			4. Elasticity: Higher than cement-based concrete floor, thereby reducing the risk of cracking and improving impact resistance.
			5. Thickness: 0.16 to 0.24 inches (4 to 6 mm).
			6. Coverage: 16 to 27 sq ft (1.5 to 2.5 sq m) per kit.
			7. Application Workable Time: 25 minutes.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: As indicated on Drawings.
			2. Color: Corn Yellow, RAL 1006.
			3. Color: Ivory, RAL 1014.
			4. Color: Crimson, RAL 3002.
			5. Color: Capri Blue, RAL 5019.
			6. Color: Emerald Green, RAL 6001.
			7. Color: Gray, RAL 7035.
			8. Color: Dark Gray, RAL 7037.
			9. Color: To be selected by Architect.

\*\* NOTE TO SPECIFIER \*\* RiteArmor® CK-17 is suitable for heavy-duty anti-slip facilities with high demands for extreme heavy load bearing, chemical resistance, corrosion resistance, and frequent cleaning with high-pressure and high-temperature power wash. Delete if not required.

* 1. URETHANE CONCRETE, TROWEL GRADE
		1. Basis of Design: RiteArmor CK-17 Urethane Concrete, Trowel Grade; as manufactured by Dalor Group.
			1. Performance Requirements:
				1. Compressive Strength: 5800 psi (40 MPa).
				2. Flexural Strength: Minimum 1450 psi (10 MPa).
				3. Bond Strength to Concrete Base: Minimum 290 psi (2.0 MPa).
				4. Full Cure Time: 7 days.
				5. Cure Time for Foot Traffic: 24 hours.
				6. Resistant to various organic, inorganic acids, alkalis, salts, and solvents.
				7. Moisture control; breathable; not slippery when wet.
			2. Service Temperature: Maintains its physical properties in the temperature range of Minus 40 to 248 degrees F (minus 40 to 120 degrees C).
			3. Application Workable Time: 25 minutes.
			4. Binding Strength: Generally greater than the tensile strength of concrete, with abrasion resistance.
			5. Elasticity: Higher than cement-based concrete floor, thereby reducing the risk of cracking and improving impact resistance.
			6. Coverage: 14 to 27 square feet (1.3 to 2.5 square meters) per kit.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: As indicated on Drawings.
			2. Color: Corn Yellow, RAL 1006.
			3. Color: Ivory, RAL 1014.
			4. Color: Crimson, RAL 3002.
			5. Color: Capri Blue, RAL 5019.
			6. Color: Emerald Green, RAL 6001.
			7. Color: Gray, RAL 7035.
			8. Color: Dark Gray, RAL 7037.
			9. Color: To be selected by Architect.

\*\* NOTE TO SPECIFIER \*\* RiteArmor® CK-1 is suitable for parking garages, warehouses, general office areas in industrial plants, and similar facilities. This ultra-thin urethane concrete self-leveling floor is ideal for light to medium-duty applications, whether for installations or renovations.

* + - 1. The CK-1 floor offers features such as abrasion resistance, excellent slip resistance, stain and corrosion resistance, no peeling, breathable, and impact resistance.
			2. Delete if not required.
	1. URETHANE CONCRETE, ULTRA-THIN, SELF-LEVELING
		1. Basis of Design: RiteArmor CK-1 Urethane Concrete, Ultra-Thin, Self-Leveling; as manufactured by Dalor Group.
			1. Performance Requirements:
				1. Compressive Strength: 5800 psi (40 MPa).
				2. Flexural Strength: Minimum 1450 psi (10 MPa).
				3. Bond Strength to Concrete Base: Minimum 290 psi (2.0 MPa).
				4. Full Cure Time: 7 days.
				5. Cure Time for Foot Traffic: 24 hours.
				6. Resistant to various organic, inorganic acids, alkalis, salts, and solvents.
				7. Moisture control; breathable; not slippery when wet.
			2. Service Temperature: Maintains its physical properties in the temperature range of 14 to 131 degrees F (minus 10 to 55 degrees C).
			3. Binding Strength: Generally greater than the tensile strength of concrete, with abrasion resistance.
			4. Elasticity: Higher than cement-based concrete floor, thereby reducing the risk of cracking and improving impact resistance.
			5. Thickness: 0.04 to 0.08 inches (1 to 2 mm).
			6. Coverage: 59 to 118 square feet (5.5 to 11 square meters) per kit.
			7. Application Workable Time: 25 minutes.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: As indicated on Drawings.
			2. Color: Corn Yellow, RAL 1006.
			3. Color: Ivory, RAL 1014.
			4. Color: Crimson, RAL 3002.
			5. Color: Capri Blue, RAL 5019.
			6. Color: Emerald Green, RAL 6001.
			7. Color: Gray, RAL 7035.
			8. Color: Dark Gray, RAL 7037.
			9. Color: To be selected by Architect.

\*\* NOTE TO SPECIFIER \*\* RiteArmor CK-1 AS is suitable for industrial plants and locations that demand high standards of anti-static properties, chemical resistance, slip resistance, and cleanliness. Delete if not required.

* 1. URETHANE CONCRETE, SELF-LEVELING, ANTI-STATIC
		1. Basis of Design: RiteArmor CK-1 AS Urethane Concrete, Self-Leveling, Anti-Static; as manufactured by Dalor Group.
			1. Performance Requirements:
				1. Surface Resistance:

Conductive (CD): 10,000 to 1,000,000 Ohms.

Antistatic (AS): 1,000,000 to 1,000,000,000 Ohms.

* + - * 1. Volume Resistance:

Conductive (CD): 10,000 to 1,000,000 Ohms.

Antistatic (AS): 1,000,000 to 1,000,000,000 Ohms.

* + - * 1. Compressive Strength: 5800 psi (40 MPa).
				2. Flexural Strength: Minimum 1450 psi (10 MPa).
				3. Bond Strength to Concrete Base: Minimum 290 psi (2.0 MPa).
				4. Full Cure Time: 7 days.
				5. Cure Time for Foot Traffic: 24 hours.
				6. Resistant to various organic, inorganic acids, alkalis, salts, and solvents.
				7. Moisture control; breathable; not slippery when wet.
			1. Service Temperature: Maintains its physical properties in the temperature range of 14 to 131 degrees F (minus 10 to 55 degrees C).
			2. Binding Strength: Generally greater than the tensile strength of concrete, with abrasion resistance.
			3. Elasticity: Higher than cement-based concrete floor, thereby reducing the risk of cracking and improving impact resistance.
			4. Application Workable Time: 15 minutes.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: As indicated on Drawings.
			2. Color: Corn Yellow, RAL 1006.
			3. Color: Ivory, RAL 1014.
			4. Color: Carmine, RAL 3002.
			5. Color: Sky Blue, RAL 5015.
			6. Color: Emerald Green, RAL 6001.
			7. Color: Gray, RAL 7035.
			8. Color: Dark Gray, RAL 7037.
			9. Color: To be selected by Architect.
1. EXECUTION
	1. EXAMINATION
		1. Substrate shall be concrete.
		2. Do not begin installation until substrates have been properly constructed and prepared.
			1. RiteArmor urethane concrete flooring materials can be applied on fresh concrete that is poured at least 15 days earlier.
			2. Base shall be solid, free of dust and other contaminants such as grease, paint, residual wet adhesives, or loose materials.
			3. Prepare substrate as recommended by manufacturer.
		3. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
	3. INSTALLATION
		1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
			1. For optimal installation mix materials at 59 to 86 degrees F (15 to 30 degrees C). Use mechanical mixer in accordance with manufacturer's recommendations.

\*\* NOTE TO SPECIFIER \*\* Delete installation options not required.

* + 1. Self-Leveling: Install with trowel or scraper. Immediately use a spike roller to roll surface and remove any bubbles.
		2. Trowel Grade: Install with spreader cart and trowel. Take care to avoid over-trowelling surface.
		3. Rolling: Immediately use a spike roller to roll surface and remove any bubbles.
	1. FIELD QUALITY CONTROL
		1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection, or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
	1. CLEANING AND PROTECTION
		1. Clean products in accordance with the manufacturer's recommendations.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION