SECTION 03 05 00

CONCRETE WATER PROOFING ADMIXTURE

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\*\* NOTE TO SPECIFIER \*\* ISE Logik Industries; concrete water proofing admixture.

This section is based on the products of ISE Logik Industries, which is located at:5635 Iron Works Rd.Theodore, AL 36581Toll Free Tel: 877-549-5159Tel: 585-474-3553Email: [request info (decraft@iselogik.com)](https://arcat.com/rfi?action=email&company=ISE%252BLogik%252BIndustries&message=RE%253A%2520Spec%2520Question%2520(03050ise)%253A%2520&coid=49683&spec=03050ise&rep=&fax=)
Web: <http://www.iselogik.com>

 [ [Click Here](https://arcat.com/company/ise-logik-industries-49683) ] for additional information.
No one is more knowledgeable and dedicated to stopping moisture vapor in its tracks, for floors and roof decks, than ISE Logik. ISE Logik has been dedicated to Lean Construction practices and the freedom from the costly dependence of concrete moisture testing as a standard building protocol since the company�s beginning. It is the #1 specialist in moisture vapor mitigation for new concrete slab construction or floor renovation over existing concrete. As a leader in educating the industry through webinars and articles, ISE Logik participates on various ASTM committees to establish standards and best practices in roofing, flooring, and waterproofing.

ISE Logik products are listed as Construction Products-Building Products Category in Division 3 (Concrete) and Division 9 (Finishes-Flooring) Select ISE Logik products also carry HPD and NSF labeling ISE Logik admixtures are formulated to stop moisture migration and warranted to 100% RH with no moisture testing required.

We are here to help architects, specifiers, general contractors, concrete flooring and roofing contractors, and installers have successful time and money-saving installations over concrete anywhere in the U.S.

1. GENERAL
	1. SECTION INCLUDES
		1. Integral liquid concrete waterproofing admixture.
	2. RELATED SECTIONS

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

* + 1. Section 03 30 00 - Cast-in-Place Concrete.
		2. Section 03 15 16 - Concrete Construction Joints.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. American Concrete Institute (ACI):
			1. ACI 212.3R-16 - Report on Chemical Admixtures for Concrete; Chapter 15-Permeability-reducing admixtures.
			2. ACI 224R-01 - Control of Cracking in Concrete Structures (Reapproved 2008).
			3. ACI SPEC 301-16 - Specifications for Structural Concrete.
			4. ACI PRC-305-20: Guide to Hot Weather Concreting.
			5. ACI PRC-306-16 Guide to Cold Weather Concreting.
			6. ACI SPEC-308.1-11 Specification for Curing Concrete.
			7. ACI PRC-309-05: Guide for Consolidation of Concrete.
		2. ASTM International (ASTM):
			1. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
			2. ASTM C157 - Standard Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete.
			3. ASTM C494 - Standard Specification for Chemical Admixtures for Concrete.
			4. ASTM C1260 - Standard Test Method for Potential Alkali Reactivity of Aggregates, Mortar-Bar Method.
			5. ASTM D5084 - Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter.
		3. Deutsches Institut fur Normung e. V. (German Institute for Standardization)
			1. DIN 1048.5 - Testing Hardened Concrete - Depth of Penetration of Water Under Pressure
		4. US Army Corps of Engineers Cement and Concrete Handbook (CRD-C):
			1. CRD-C 48-92 - Standard Test Method for Water Permeability of Concrete.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data: Provide technical data on waterproofing admixtures certifying compliance with specified performance requirements, storage and handling recommendations and application instruction method.
		3. Independent Test Reports:
			1. Provide reports certifying compliance of waterproofing admixtures with specified performance requirements.
			2. Reports shall include dosage rate for admixtures.

\*\* NOTE TO SPECIFIER \*\* Delete if not paragraph is not required.

* + 1. Sustainable Design Submittals:
			1. Regional Materials.
			2. Low-Emitting Materials.
			3. Health Product Declaration (HPD).
			4. NSF/ANSI 61: Drinking Water System Components - Health Effects Compliant.
			5. NSF/ANSI 372: Drinking Water System Components - Lead Content Compliant.
	1. QUALITY ASSURANCE
		1. Perform Work in accordance with ACI SPEC 301.
		2. Source Quality Control: Obtain all liquid concrete waterproofing admixture products from a single manufacturer.
		3. Conform to ACI PRC 305 when concreting during hot weather.
		4. Conform to ACI PRC 306 when concreting during cold weather.
		5. Manufacturer: The admixture manufacturer shall have demonstrated experience in supplying liquid concrete waterproofing admixtures.
		6. Dosage Rate: Dosage rate for this Project will be the same dosage that is used in the submitted Independent Test Reports to meet specified performance requirements.
		7. Testing: The following data must be recorded to comply with the manufacturer's warranty requirements:
			1. Slump using ASTM C143.
			2. Air content using ASTM C231.
			3. Temperature of concrete and of ambient air.
			4. Time of batching, testing and placement.
			5. Cylinders: Take compressive test cylinders from each load tested or as called for in the job specifications.
	2. 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.
	3. 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. Store above 32 degrees F (0 degrees C) and never allow to freeze.
	4. PROJECT CONDITIONS
		1. Structural Design: The concrete structure shall be designed to meet local building codes and in addition shall be designed to minimize and control any occurrence of cracks within the concrete mass. Follow ACI 224R and ACI 301 regarding the placement of reinforcement and crack control joints.
		2. Weather Conditions:
			1. For mixing, transporting, and placing concrete under conditions of high temperature, evaporation rate that exceeds 1 kg/m2/h, or as revised by the Architect/Engineer, follow ACI PRC 305 (Hot Weather Concreting)
			2. For mixing, transporting, and placing concrete under conditions of low temperature, ACI PRC 306 (Cold Weather Concreting)
			3. For flatwork being placed in hot, dry, or windy conditions, surface humidity must be maintained by fogging or use of monomolecular film (evaporation retardant).
	5. WARRANTY
		1. Manufacturer's Warranty: Provide manufacturer's standard limited warranty.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturers:
			1. FullForce by ABC Polymer, which is located at: Helena Industrial Park, 545 Elm Street, Helena, AL 35080; Phone: 205.620.9889; Web: www.FullForceSolutions.us.

\*\* 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.
	1. PERFORMANCE REQUIREMENTS
		1. Permeability:
			1. When tested to USACE CRD C48, no passage of water through treated samples when exposed to a vertical water head equal to 200 psi (1379 kPa).
			2. When tested to DIN 1048.5, no passage of water through treated samples when exposed to a vertical water head equal to 75 psi (517 kPa).
			3. Reduced Permeability per ASTM D5084: Flow rate less than or equal to 6X10E-8 cm/s.
		2. Compressive Strength: Treated concrete must have compressive strength equal or higher than plain concrete when tested to ASTM C39/C39M at 28 days.
	2. CONCRETE MATERIALS
		1. Cementitious Materials and Aggregates: Refer to Section 03 30 00.
	3. ADMIXTURES
		1. Basis of Design: DuraForce(iwp) Liquid Integral Waterproofing Admixture: Permeability-reducing admixture for hydrostatic conditions (PRAH) as defined by ACI 212.3R-16 Chapter 15.
			1. Description: Liquid admixture formulated to react with the hydroxide ions produced by the cement hydration process. This creates hydration products within the capillary pores and blocks them, shutting down moisture vapor movement through the concrete.
			2. Type S Admixture per ASTM C494/C494M: Certified, Specific Performance Admixture.
			3. Early Strength Gain per ASTM C39/39M: Achieves design strength in as little as three to seven days after casting of specimen due to internal curing.
			4. Mitigating Effect on ASR per ASTM C1260: 10 percent reduction of effects of ASR compared to control specimen.
			5. Protects against alkali and efflorescence attack from the concrete.
			6. Mitigating Effect on Shrinkage per ASTM C157: 30 percent shrinkage reduction by Day 28 from casting of specimen.
			7. Manufactured with deionized water to removed trace mineral ions.
			8. Inhibits corrosion due to decreased permeability of concrete.
			9. Reduces slab warp, plastic shrinkage, cracking, and crazing.
		2. Use water reducing admixtures to achieve desired slump.
		3. Use of other admixtures in same batch as liquid waterproofing admixture is acceptable if each admixture is added separately.
	4. MIXING
		1. Mix in accordance with Manufacturer's recommendations:
			1. Replace mix water on a 1:1 basis with DuraForce(iwp).
			2. Mix thoroughly to insure uniform distribution.
			3. Compatible with fly ash and granulated ground blast furnace slag.
			4. Compatible with other chemical admixtures.
			5. Compatible with steel or mesh fibers.
			6. Does not promote corrosion of embedded reinforcement.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly constructed and prepared.
		2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Coordinate the placement of joint devices with erection of concrete formwork and placement of form accessories.
	3. INSTALLATION
		1. Install liquid waterproofing admixture to concrete mix at ready-mix plant in accordance with manufacturer's written instructions.
			1. Batching and mixing of materials shall be in accordance with ASTM C94/C94M.
			2. Mix at least 5 minutes after the addition of concrete waterproofing admixture.
		2. Placing Concrete: Refer to Section 03 30 00, supplemented as follows:
			1. Ensure the following are not disturbed during concrete placement.

\*\* NOTE TO SPECIFIER \*\* Delete any of the following four items not required.

* + - * 1. Reinforcements.
				2. Embedded parts.
				3. Formed expansion/contraction joints.
				4. Inserts.
			1. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
			2. Place concrete continuously between predetermined expansion, control, and construction joints.
			3. Do not interrupt successive placement; do not permit cold joints to occur.
			4. Consolidate concrete in accordance with ACI 309R with special attention given to joint locations.
		1. Curing: Cure in accordance with Section 03 30 00, supplemented as follows:

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

* + - 1. Wet cure waterproof concrete using fog mist spray, sprinkler, or wet burlap for 3 to 7 days.
			2. Wet cure waterproof concrete to ACI 308.1 using fog mist spray, sprinkler, or wet burlap for 3 to 7 days.
			3. Use curing compound Types 1 and 1-D, Class B conforming to ASTM C309.
			4. Use curing compound Type 1, Class A conforming to ASTM C1315.
	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. PROTECTION
		1. See appropriate Section in Division 01 for Protecting Installed work.
		2. Protect completed waterproof assemblies from damage after application.
	2. SCHEDULES
		1. Provide liquid waterproofing admixture in the following locations:

\*\* NOTE TO SPECIFIER \*\* Delete locations not required.

* + - 1. Below grade parking.
			2. Elevator pits.
			3. Sump pits.
			4. Tunnels.
			5. Underground vaults.
			6. Dry wells.
			7. Manholes.
			8. Planters and swimming pools.
			9. Cisterns.
			10. Foundations.
			11. Walls.
			12. Footings.
			13. Locations indicated on Drawings.
			14. \_\_\_\_\_\_.

END OF SECTION