

**DRI-LOK WATERPROOFING SYSTEM SPECIFICATIONS  
SECTION 07 BELOW GRADE FOUNDATION WATERPROOFING**

**GENERAL**

- 1.1 **SCOPE OF WORK**  
The work under this heading shall include all labor, materials, equipment and supervision required to install DRI-LOK Waterproofing protection as specified or where shown on the drawings.
- 1.2 **RELATED WORK BY OTHERS**  
1.2.1 Proper preparation of areas to receive waterproofing including removal of tie wires, patching of concrete, filling or leveling of horizontal surfaces.  
1.2.2 Removal of all water and debris from excavation where waterproofing is required.  
Supply placing and compacting of backfill.
- 1.3 **QUALIFICATION OF MANUFACTURER**  
Materials, application methods and equipment shall be of manufacture and type by: DRI-LOK Corporation 3030 Scioto Darby Executive Court Hilliard, Ohio 43026-8989 and have 45 years manufacturing and installation experience under the name: DRI-LOK WATERPROOFING SYSTEMS.
- 1.4 **STORAGE OF MATERIALS**  
All DRI-LOK materials stored at the job site shall be kept dry, properly covered and protected, and shall be on a platform off the ground.
- 1.5 **SPECIAL CONDITIONS**  
1.5.1 DRI-LOK Waterproofing shall not be applied in standing waters or during precipitation.  
1.5.2 Do not apply where there are indications of alkalines, brine or acids in the backfill material. Where there are alkalines, brines or acids, they are to be of no more than a PH of 10 and no lower than a PH of 5 and a maximum of brine content of 2 percent.  
1.5.3 Our waterproofing system, DRI-LOK Waterproofing System can be applied to foundation walls that are made of concrete block, poured concrete (same day as forms are removed), wood foundations and brick, as well as wood lagging and steel sheet piling without any additional preparations. We can also apply our system on structural decks, under plaza decks and on top of compacted gravel before the concrete floor is poured for under slab waterproofing.  
1.5.4 DRI-LOK waterproofing can be applied to vertical walls that are damp but not where running waters are present. Manufacturer to approve the extent of the above condition.  
1.5.5 DRI-LOK waterproofing can be applied to footers that are damp but no standing waters.  
1.5.6 DRI-LOK CORPORATION shall coordinate with general contractor for best application of waterproofing due to weather and timing of backfill.  
1.5.7 DRI-LOK waterproofing can be applied in zero degrees Fahrenheit temperatures. Manufacturer to approve zero degree conditions.  
1.5.8 DRI-LOK CORPORATION will supply material sheets to architect or general contractor when requested.
- 1.6 **WORK CONDITIONS**  
1.6.1 The contractor shall provide proper access to work area for equipment.  
1.6.2 Sufficient storage space at work area for required work materials.
- 1.7 **PRODUCTS**  
Exterior below grade waterproofing products shall be either pure Wyoming type bentonite clay or bentonite clay compound as specified herein.
- 2.0 **MATERIALS**  
2.1 **DRI-LOK Waterproofing.**  
A spray applied mineral waterproofing consisting of Wyoming type bentonite and an elasticized binder.  
2.1.2 DRI-LOK Waterproofing requires no protection board, drainage boards or drainage mats applied over product.
- 3.0 **CONDITION OF WORK SURFACES**  
3.1 Walls and footing shall be clean, dry and free of tie wires and obstructions. All debris and standing water shall be removed.  
3.1.1 Damaged or honeycombed concrete shall be patched and penetrations shall be grouted with a cement grout.  
3.1.2 Horizontal below grade surfaces shall be dry, free of obstructions and prepared to receive waterproofing or as recommended by the manufacturer.  
3.1.3 Damages to the waterproofing by other trades shall be the responsibility of such other trades. Repairs shall be made by the waterproofing contractor.

- 3.2 INSPECTION OF AREA  
Prior to beginning work representatives of the general contractor and architect and the waterproofing contractor shall examine the areas to be waterproofed. Areas not properly prepared shall be put in acceptable condition.
- 3.3 APPLICATION (Vertical Walls)
- 3.1.1 Apply DRI-LOK Waterproofing by spray methods in a nominal 1/4", or 3/8" thick seamless membrane, filling all joints, honeycombed areas and openings around pipes to as great a depth as possible. Thickness to be selected by architect, general contractor or recommended by the manufacturer to best suit his conditions.
- 3.1.2 Place a double thickness membrane at the construction joints and surrounding all pipe penetrations extending outward at least two inches in all directions.
- 3.1.3 Extend the waterproofing to the edge of the footings or as indicated on the drawings.
- 3.1.4 Waterproofing shall be self-supporting against the wall and resistant to weather damage to allow the contractor adequate time for placement of backfill. All vertical and horizontal edges shall be tightly sealed against the wall to protect against rain and run off waters. Backfill may be placed immediately, but no longer than 7 days.
- 3.1.5 Backfill shall be of granular nature, clean, free of debris, rock, lump clay, or like foreign materials. Where sand is used it shall be free of salts, acids or other like contaminants. (See special conditions).
- 3.2 APPLICATION (Wood Lagging and Piling).
- 3.2.1 Surfaces of wood lagging to have plywood installed to the wood lagging to create an acceptable surface to install waterproofing.
- 3.2.2 Fill all joints to as great a depth as possible.
- 3.2.3 Apply DRI-LOK waterproofing in a nominal 3/8" thick seamless membrane.
- 3.2.4 Extend the waterproofing inward at least 6" at the juncture of the grade and the lagging or piling.
- 3.2.5 Reinforcing steel may be placed and concrete may be poured immediately. Concrete shall be poured directly against the surface of the DRI-LOK membrane.
- 3.3 APPLICATION (Under Slab, Between Slabs and Plaza Decks)
- 3.3.1 Apply DRI-LOK membrane in nominal 1/4" or 3/8" thick seamless membrane by spray methods as recommended by the manufacturer.
- 3.3.2 Apply over prepared grade, compacted 304 gravel or mud slabs. Where installed on horizontal surface, cover entire surface with a 4 mil polyethylene sheet.
- 3.3.3 Penetrations through the slab shall be carefully treated, extending the membrane upwards around projections through the slab at least two inches.
- 3.3.4 Place a double thickness coating at all joints formed by the juncture of the footing and the grade and extend upwards of the concrete at least 4".
- 3.3.5 The concrete slab shall be placed as soon as sufficient waterproofed areas are available.

TECHNICAL DATA			JOBS COMPLETED SHORT LIST		
Permeability	D ASTM 5084 Mod	2.9x10 <sup>11</sup>	PROJECT	ARCHITECT	CM or CONTRACTOR
Index Flux	D ASTM 5887 Mod	2.7E-10	Bluffton College Res.Hall	The Collaborative Inc.	Thomas & Marker Const.
Hydraulic Conductivity	D ASTM 5887 Mod	1.9E-09	Bluffton, Ohio	Toledo, Ohio	Bellefontaine, Ohio
Bentonite Content	nominal 1/4" thickness	1lb. to 1 1/4 lb. sq. ft.	AEP Parking Garage	NBBJ Architects	Dugan & Meyers Const.
Bentonite Content	nominal 3/8" thickness	1 1/2 lb. to 2 lb. sq. ft.	Columbus, Ohio	Columbus, Ohio	Columbus, Ohio
Moisture Content		9	Kenyon College Rec. Ctr.	Gund Architects	Albert M. Higley Co.
Swell Index	D ASTM 5890	28	Gambier, Ohio	Cambridge, Mass.	Cleveland, Ohio
Elasticized Binder	D ASTM 7496		Huntington Park Stadium	360 Architecture	Turner Const. Co.
Nominal 1/4" thickness recommended for structures to a depth of 30 ft.			Columbus Ohio.	Columbus, Ohio	Lithko Contracting Inc.
Nominal 3/8" thickness required for structures 30 ft. and deeper.			J.M. Smucker Legacy Bldg.	Domokur Architects	Imhoff Const. Services
Spray applied seamless membrane			Orrville, Ohio	Akron, Ohio	Orville, Ohio
Application rate: approx. 1,000 sq. ft. per hr.			Nationwide Children's Hosp.	FKP Architects	Turner/Smoot Const.
Warranty Period: 10 yrs. from date of substantial completion			Replacement Hospital	Houston, Texas	Lithko Contracting Inc.
			Columbus, Ohio		Columbus, Ohio
			St. Ann's Hosp. E. Expansion	Karlsberger Archs.	Danis Bldg. Const. Co.
			Westerville, Ohio	Columbus, Ohio	Dayton, Ohio
			Ronald McDonald House	M+A Architects	Continental Bldg. Co.
			Columbus, Ohio	Dublin, Ohio	Columbus, Ohio
			Torat Emet Synagogue	RED Architects	Corna/Kokosing Const.
			Bexley, Ohio	Columbus, Ohio	Westerville, Ohio
			IGS Energy	Bird Houk Collaborative	Messer Const. Co.
			Dublin, Ohio	Gahanna, Ohio	Columbus, Ohio
			Ohio State Univ. Ohio Union	Moody/Nolan LTD.	Smoot Const. Co.
			Replacement Bldg.	Columbus, Ohio	Columbus, Ohio
			Columbus, Ohio		
			Denison Univ. Cleveland Hall	Maddox NBD	Lincoln Const. Co.
			Granville, Ohio	Columbus, Ohio	Columbus, Ohio

## SECTION 07 17 10

### BENTONITE WATERPROOFING

#### PART 1 – GENERAL

##### 1.1 SUMMARY

- A. Section Includes: Spray applied mineral waterproofing for below grade application.
- B. Specified in Other Sections:
  - 1. Excavation.

##### 1.2 SUBMITTALS

- A. Submit manufacturer's product data and installation instructions.
- B. Submit waterproofing system warranty.

##### 1.3 QUALITY ASSURANCE

- A. Installer: Performed only by the manufacturer or an experienced installer approved by the material manufacturer.

##### 1.4 PRODUCT HANDLING

- A. Deliver materials in manufacturer's original, unopened and labeled containers.
- B. Store, handle and protect materials in accordance with manufacturer's recommendations.

##### 1.5 PROJECT CONDITIONS

- A. Do not start waterproofing work until piping, conduit and other projections through the substrate have been installed and substrate patched and sealed.
- B. Protect adjacent materials and surfaces from overspray of materials.
- C. Proceed with waterproofing work only when existing and forecasted weather conditions will permit work to be performed in accordance with manufacturer's recommendations.

##### 1.6 WARRANTY

- A. Submit manufacturer's written ten year warranty agreeing to repair or replace work which leaks water, deteriorates excessively or otherwise fails to perform as required due to failure of materials or workmanship. Warranty shall include the responsibility for removal and replacement of work which conceals waterproofing work.

## PART 2 – PRODUCTS

### 2.1 ACCEPTABLE MANUFACTURERS

- A. Spray applied: DRI-LOK Corporation, 3030 Scioto Darby Executive Ct., Hilliard, Ohio 43026,  
Phone 614-777-0144

### 2.2 MATERIALS

- A. Bentonite: Loose, dry high-swelling Wyoming-type granular bentonite (clay), also known as sodium bentonite, minimum 85% montmorillonite (hydrated aluminum silicate), 90% minimum passing 20-mesh sieve and 10% maximum passing 200-mesh sieve.
- B. Bentonite waterproofing: Spray applied mineral waterproofing consisting of Wyoming type bentonite clay and an elasticizer binder.
- C. Protection Course: Provide type recommended by bentonite product manufacturer.

## PART 3 – EXECUTION

### 3.1 PREPARATION

- A. Proceed with waterproofing only after substrate work to receive bentonite application is complete, including penetrations (to the extent possible).
- B. Clean surfaces to be treated of oil, grease, dirt and loose material. Point and fill holes, joints and cracks flush with cement mortar or grout, grind down high spots and smooth rough surfaces.

### 3.2 INSTALLATION

- A. Spray apply one coat of bentonite waterproofing material, over scheduled walls below grade, covering all surfaces and filling all cracks with continuous coating free of breaks and pin holes. Extend coating from outside edge of footing to within 2 inches below finish grade and to top of foundations walls. Apply material at manufacturer's recommended rate of 1 1/4 lb. to 1 1/2 lb. per square foot to produce a uniform 1/4 inch seamless membrane thickness.
- B. Apply a double thickness to waterproofing material at all pipe penetrations, construction joints, corners and footing wall to junction points.

### 3.3 SUBSEQUENT OPERATIONS

- A. Protect applied waterproofing from rain or ground water damage until backfill operations are completed.
- B. Install foundation wall backfill within seven days. Place backfill in a manner that will not damage waterproofing coating.
  - 1. Where recommended by manufacturer, provide protection course.

END OF SECTION

