**DURAL AQUATIGHT 100 PLUS**

DURAL AQUATIGHT 100 PLUS is a two-component, modified epoxy system designed to seal concrete and reduce moisture vapor emissions prior to applying finished flooring. DURAL AQUATIGHT 100 PLUS has been proven to reduce moisture vapor emissions and is resistant to damage from high alkalinity. Subsequent to the application of the DURAL AQUATIGHT 100 PLUS, a Euclid Chemical epoxy, urethane, cementitious underlayment or topping system is installed.

**Note to Specifier: DURAL AQUATIGHT 100 PLUS is a moisture mitigation coating/primer that is designed to be applied as a primer coat for Euclid epoxy coatings, cementitious underlayments and toppings that are to be placed over a concrete substrate that has high moisture vapor emission (MVE) rates. Specifications for this product will need to incorporate a Euclid resinous flooring system, cementitious topping or underlayment and proper joint sealants and fillers.**

***Step 1:*** *DURAL AQUATIGHT 100 PLUS, moisture mitigation treatment is applied per manufacturer’s literature.*

***Step 2:*** *Application of the specified Euclid epoxy, urethane or cementitious flooring system per manufacturer’s literature.*

***{Note to Specifier: The paragraphs below are meant to be incorporated into Parts 1, 2 and 3 of a standard CSI 3 Part Format specification, project’s General Structural Notes or directly onto the plans. They must be carefully reviewed by a qualified design professional and edited to meet the particular requirements of the project at hand, assure compliance with any governing building codes, and coordinate with other specification sections and drawings.}***

PART 1 GENERAL.

*{Note to Specifier: Insert the following paragraph and sub paragraphs as required for your project. Euclid’s recommended products are shown in italics. More info can be found on these products at* [*www.euclidchemical.com*](http://www.euclidchemical.com) *or by clicking on the product links.}*

1.01 RELATED WORK:

A. Joint Fillers and Sealants– [Eucolastic](http://euclidchemical.com/products/construction-products/joint-fillers-sealants/polyurethane-sealants/), [Tammsflex](http://euclidchemical.com/products/construction-products/joint-fillers-sealants/polysulfide-sealants/), [Dural 340](http://euclidchemical.com/products/construction-products/joint-fillers-sealants/epoxy-fillers-sealants/dural-340-nssl/), [Qwikjoint UVR](http://euclidchemical.com/products/construction-products/joint-fillers-sealants/polyurea-joint-fillers/euco-qwikjoint-uvr/)

B. Concrete Repair:

2. Horizontal: [Express Repair](http://euclidchemical.com/products/construction-products/repair/horizontal-repair/cementitious-mortars/express-repair/), [VersaSpeed 100](http://euclidchemical.com/products/construction-products/repair/horizontal-repair/cementitious-mortars/versaspeed-100/), [EucoRepair SCC](https://www.euclidchemical.com/products/construction-products/repair/repair-horizontal/cementitious/eucorepair-scc/)

3. Form and Pour: [Eucocrete](http://euclidchemical.com/products/construction-products/repair/horizontal-repair/cementitious-mortars/eucocrete/)

C. Self Leveling Underlayment: [EucoFloor SL160](https://www.euclidchemical.com/products/construction-products/repair/horizontal-repair/self-leveling-underlayments/eucofloor-sl160/)

1.02 QUALITY ASSURANCE

A. Obtain primary resinous flooring materials, including moisture mitigation systems, primers, base coats, seal coats and topcoats etc from one single resinous flooring manufacturer. Obtain secondary materials including aggregates, sheet flashings, joint sealants, and substrate repair materials of type and from source recommended by resinous flooring manufacturer.

B. The surface must be tested for moisture content in accordance with ASTM F2170 and/or ASTM F1869.

C. Finished Flooring Mock-Up:

1. Prior to commencing the moisture mitigation treatment, self leveling underlayment and finished flooring application, prepare a minimum **<<insert size>>** full scale, reference mock-up of each type, **[and][color][and][ texture]** of finished flooring surface for approval by Owner.Said reference mock-up shall be constructed in location designated by owner/architect, using the same moisture mitigation treatment, self leveling underlayment materials, equipment, tools, personnel and methods for installing all materials as will be used for the remaining work to be performed.

2. Once accepted by owner or owner’s representative, mock-up is to remain, and is to be protected from damage. It shall become the standard for acceptance of color and texture for finished flooring application.

3. When Engineer/Architect determines that mockup does not meet requirements, demolish and remove it from the site and cast another until the mockup is accepted.

1.03 PROJECT CONDITIONS

A. Environmental Limitations: Apply the moisture mitigation treatment within the range of ambient and substrate temperatures recommended in writing by manufacturer. Do not apply the moisture mitigation system to wet substrates. The substrate and all materials must be maintained at 50° to 90°F (10° to 32°C) for 24 hours before, during and after installation.

1. Coordinate flooring work with other trades to ensure adequate illumination, ventilation, and dust free environment during application and curing of the system.

B. Enclose application area and condition to environmental conditions that will be present during normal building use for a minimum of 72 hrs. before any moisture testing is done and before the application of the moisture mitigation system.

C. Conditions for Concrete

*{Note to Specifier: : Moisture retaining cover cure of new concrete is to be removed after seven days to allow the concrete to air dry prior to flooring installation.}*

1. New concrete shall be in place a minimum 7 days before proceeding.

2. Any cementitious repair mortars must have a full 7-day cure prior to coating unless otherwise approved in writing by architect.

3. Examination:

a. Prior to commencement of the moisture mitigation treatment application examine substrates, with Applicator present, for compliance with requirements and for other conditions affecting performance of the moisture mitigation system.

b. For the record, prepare written report, endorsed by Applicator, listing conditions detrimental to performance.

c. Verify compatibility with and suitability of substrates.

d. Contractor must report, in writing, surfaces left in improper condition by other trades. Application of the moisture mitigation treatment system indicates acceptance of surfaces and conditions.

PART 2.0 PRODUCTS

2.01 MOISTURE MITIGATION TREATMENT SYSTEM

A. Moisture Mitigation Treatment System: (2) component, low viscosity, penetrating epoxy designed for use as a moisture mitigation treatment on concrete with the following characteristics:

1. Mix Ratio, by volume 2.4:1 - Pre-measured Kit

2. Solids Content, % 100

3. Pot Life, mins 20-25

4. VOC, EPA Method 24 <50 g/L

5. Tensile Strength, psi, ASTM D638 >7,000

6. Tensile Elongation, % ASTM D638 2

7. Bond Strength, psi, ASTM D7234 >250

8. Compressive Strength, psi, ASTM D695 14,000

9. Water Absorption, %, ASTM D570 0.2

10. Hardness, Shore D, ASTM D2240 80-90

11. Flammability, ASTM D635 Self-Extinguishing

12. Permeability, ASTM E96, Perms

@ 12 mils wet film thickness 0.076

@ 16 mils wet film thickness 0.062

13. Alkaline Resistance,

ASTM D1308, 14 day immersion

10% Sodium Hydroxide unaffected

50% Sodium Hydroxide unaffected

14. Product:

a. Euclid Chemical Company (The); Dural Aquatight 100 PLUS, [www.euclidchemical.com](http://www.euclidchemical.com)

PART 3.0 EXECUTION

3.01 SURFACE PREPARATION

A. The concrete substrate must be cured a minimum of 7 days and have a surface tensile strength of greater than 200 psi (1.4 MPa), when tested with a “Elcometer” or similar pull tester per ASTM C 1583 and have a compressive strength greater than 3,500 psi (24.3 MPa) before coating.

The surface must be structurally sound, clean and free of dirt, grease, oil, curing compounds, soil, dust, densifiers, water soluble unreacted sodium/potassium silicates, oil or wax-based sweeping compounds and other contaminants. The concrete slab must not be in an active state of ASR or NSAR or be exposed to hydrostatic pressure. Surface laitance must be removed. All substrates must be properly prepared with shot blasting ONLY (unless another method is approved by Euclid Chemical) to achieve a minimum CSP 3-4 surface profile in accordance with Guideline 310.2R-2013, published by the International Concrete Repair Institute (ICRI) and then thoroughly cleaned of all dust and debris.

1. For concrete slabs that have an existing, or previously installed floor covering or coating system, laboratory examination of core samples is required.
2. The prepared surface of the concrete must be porous. Test the prepared surface in accordance with ASTM F3191. The prepared surface must be able to completely absorb a single drop of water in 60 seconds. Conduct one test per each 100 square feet. Areas that fail this test must be further prepared until a passing test is achieved.

3.02 MOISTURE MITIGATION TREATMENT SYSTEM APPLICATION:

A. Moisture Mitigation Treatment System Application

# 1. Mechanical Mixing- The moisture mitigation treatment system coating shall be thoroughly mixed utilizing a mechanical drill with a manufacturer approved mixing blade. Premix individual components separately per manufacturer’s recommendations then combine materials and mix per manufacturers recommendations. Bottom and sides of container may be scraped during mixing but shall not be scraped once mixing has ceased. Do not aerate material.

2. Apply the properly mixed moisture mitigation coating using a notched squeegee ensuring that proper coverage rates are achieved and that there is a minimum 12 mil coverage over all high spots on the properly prepared concrete. Backroll the spread material using a 3/8” shot nap roller that is suitable for epoxy resins to ensure even coverage.

3. Apply subsequent finished floor systems within the recoat minimum and maximum times of the moisture mitigation treatment system.

B. Non-Moving Cracks: Cracks less than 1/8” wide shall be filled with Moisture Mitigation Resin. Cracks larger than 1/8” wide shall be filled as recommended by the Moisture Mitigation System manufacturer. Once the non-moving cracks have been filled, and while it is still wet, broadcast sand to refusal. Allow to cure thoroughly and then remove all excess sand prior to proceeding with the application.

C. Saw Cut Joints: Saw Cut Joint sidewalls and the bottom of the joint shall be coated with Moisture Mitigation Resin and then allowed to cure for 12 to 24 hours. Then the Saw Cut Joint should be filled with a joint filler recommended by Moisture Mitigation System Manufacturer.

D. Moving Cracks and Expansion/Isolation Joints: All moving cracks and expansion/isolation joints must be honored up through the system. The Expansion Joint sidewalls and bottom of the joint shall be coated with Moisture Mitigation System Resin and allowed to cure 12 to 24 hours. Seal joint with Moisture Mitigation System manufacturer’s recommended backer rod and joint sealant.

*{Note to Specifier: Please remember to specify Euclid Chemical, decorative epoxy coatings or underlayment flooring systems that are to be applied over our moisture mitigation treatment system.*

3.03 CURING AND PROTECTING

A. Prevent contamination and damage during application and curing stages.

B. Protect resinous flooring from damage and wear during remainder of construction period.

END SECTION