SECTION 09 05 61.13
MOISTURE VAPOR BARRIER

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings, general provisions of the Contract, and other related construction documents such as Division 01, Division 03, and Division 09 specifications that apply to this Section

1.2 SUMMARY

A. This Section includes a ready-to-use, one-component, water-based, two-coat system formulated to suppress excessive moisture in concrete:

1. ARDEX VB 100™ Fast-Track, One-Component Moisture Vapor Barrier
2. ARDEX ARDIFIX™ Two-Part, Low Viscosity Rigid Polyurethane Crack & Joint Repair
3. ARDEX ARDISEAL™ RAPID PLUS Semi-Rigid Joint Sealant
4. ARDEX V 1200™ Self-Leveling Underlayment

B. Related Sections include the following:

1. Section 03 54 16, Hydraulic Cement Underlayment
2. Division 09 Flooring Sections

1.3 REFERENCES

A. ASTM F2170 - Relative Humidity in Concrete Floor Slabs Using in situ Probes

B. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring

C. ASTM C1583 - Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension

D. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials

E. ASTM D1308 - Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes

F. ASTM D2369 – Standard Test Method for Volatile Content of Coatings

G. ASTM D4263 - Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method

1.4 SUBMITTALS

A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used. Include manufacturer's Safety Data Sheets.

B. Qualification Data: For Installer

1.5 QUALITY ASSURANCE

A. Installation of the ARDEX product must be completed by a factory trained applicator, such as an ARDEX LevelMaster Elite® or ARDEX Choice Contractor, using mixing equipment and tools approved by the manufacturer. Please contact ARDEX Americas (724) 203-5000 for a list of recommended installers.

B. Manufacturer Experience: Provide products of this section by companies which have successfully specialized in production of this type of work for not less than 5 years. Contact Manufacturer Representative prior to installation.

1.6 WARRANTY

A. ARDEX Standard Limited Warranty applies. Extended system warranty is available for installers who are trained by the ARDEX Technical Services department.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver products in original packaging, labeled with product identification, manufacturer, batch number and shelf life.

B. Store products in a dry area with temperature maintained between 50° and 85° F (10° and 29° C) and protect from direct sunlight.

C. Handle products in accordance with manufacturer's printed recommendations.

1.8 PROJECT CONDITIONS

A. Do not install material below 50° F (10° C) surface and air temperatures. These temperatures must also be maintained during and for 48 hours after the installation of products included in this section. Install quickly if substrate is warm and follow warm weather instructions available from the ARDEX Technical Service Department.

PART 2 - PRODUCTS

2.1 MOISTURE VAPOR BARRIER

A. Fast-Track, One-Component Moisture Vapor Barrier for Concrete to Receive ARDEX Underlayments.

1. Acceptable Products:

a. ARDEX VB 100™ ; Manufactured by ARDEX Americas, USA, (724) 203-5000, www.ardexamericas.com

2. Performance and Physical Properties: Meet or exceed the following values for material cured at 70° F+/-3°F (21° C+/-3°C) and 50% +/-5% relative humidity:

a. Application: Manual
b. Permeability (ASTM E96): <0.1 perms
c. 14 pH solution (ASTM D1308): No effect
d. VOC: 0 g/L
e. Walkable: Approximately 60 minutes
f. Install Underlayment: Minimum 1 hour after second coat, maximum 24 hour
g. Container: Ready-to-use, resealable

2.2 HYDRAULIC CEMENT UNDERLAYMENT

A. Hydraulic Cement-based Self-Leveling Underlayment.

1. Acceptable Products:

a. ARDEX V 1200™; Manufactured by ARDEX Americas, USA, (724) 203-5000, www.ardexamericas.com

i. Primer: NO primer required

2. Performance and Physical Properties: Meet or exceed the following values for material cured at 70° F+/-3°F (21° C+/-3°C) and 50% +/-5% relative humidity:

i. Application: Barrel Mix or Pump
ii. Flow Time: 10 minutes
iii. Final Set: Approx. 90 minutes
iv. Compressive Strength: 4500 psi (315 kg/cm^2) at 28 days, ASTM C109M.
v. Flexural Strength: 1000 psi (70 kg/cm^2) at 28 days, ASTM C348.
vi. VOC: 0

B. Water shall be clean, potable, and sufficiently cool (not warmer than 70°F).

2.3 CRACK AND JOINT REPAIR

A. Low Viscosity Rigid Polyurethane Crack and Joint Repair; ARDEX ARDIFIX™; Manufactured by ARDEX Americas; USA; 724-203-5000, www.ardexamericas.com

B. Semi-Rigid Joint Sealant; ARDEX ARDISEAL™ Rapid Plus Semi-Rigid Joint Sealant; Manufactured by ARDEX Americas; USA; 724-203-5000, www.ardexamericas.com

PART 3 – EXECUTION

3.1 PREPARATION

A. Concrete Subfloors: Prepare substrate in accordance with manufacturer's instructions.

1. Prior to proceeding please refer to ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring. All concrete subfloors must be sound, solid, clean, and free of all oil, grease, dirt, curing compounds and any substance that might act as a bond breaker before application. Substrate preparation must be by mechanical means, if necessary.

2. No minimum profile required.

3. The concrete must have a minimum tensile strength of at least 150 psi (10.5 kg/cm^2) for areas to receive normal foot traffic, and 200 psi (14 kg/cm^2) for areas of heavy commercial traffic when tested in accordance with ASTM C1583.

4. Prior to beginning the installation, the relative humidity within the concrete can be measured (ASTM F2170). No standing water shall be present.

B. Crack and Joint Treatment

1. Dormant control joints and dormant cracks greater than a hairline (1/32'' / 0.79 mm) must be pre-filled with ARDEX ARDIFIX™. Dormant cracks and dormant control joints must be filled in strict accordance with the installation instructions provided by the ARDEX Technical Service Department. Once the dormant cracks and dormant control joints have been filled properly, broadcast sand to refusal, and allow these areas to cure thoroughly. ARDEX recommends wearing an N-95 dust mask when broadcasting sand. Remove all excess sand prior to proceeding with the ARDEX VB 100™ installation.

2. All moving joints and moving cracks must be honored up through the ARDEX VB 100™, the ARDEX V 1200™ and the floor covering by installing a fully flexible sealing compound designed specifically for use in moving joints, such as ARDEX ARDISEAL™ RAPID PLUS.

3.2 APPLICATION OF ARDEX VB 100™:

A. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.

B. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas from contact due to mixing and handling of materials.

C. Mixing: Comply with manufacturer's printed instructions and the following.

1. DO NOT MECHANICALLY MIX. DO NOT ADD WATER OR OTHER ADDITIVES! Stir the ARDEX VB 100™ with a wooden paint stirrer or similar prior to use to ensure that all components that have settled are in full suspension.

D. Application: Comply with manufacturer's printed instructions and the following.

1. Immediately apply the freshly stirred ARDEX VB 100™ to the prepared concrete.

2. For best results, saturate a 3/8” nap roller and apply uniformly in a singular direction, and back roll. Once the first coat has dried, repeat this process in a perpendicular direction.

3. Once an area has been coated completely, allow this to dry to a tack-free film approximately 45 minutes (70°F/21°C) for the first coat and approximately 60 minutes (70°F/21°C) for the second coat.

4. Following the application of the ARDEX VB 100™, install the ARDEX V 1200™ as outlined in the technical data sheet, or, proceed with direct flooring installation per ARDEX Technical Data Sheets.

5. It is not necessary to re-test the substrate for moisture emissions prior to installing the floor covering.

3.3 APPLICATION OF ARDEX V 1200™:

A. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.

B. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas from contact due to mixing and handling of materials.

C. Mixing: Comply with manufacturer's printed instructions.

D. For pump installations, ARDEX V 1200™ shall be mixed using the ARDEX ARDIFLO™ Automatic Mixing Pumps. Contact the ARDEX Technical Service Department (888) 512-7339 for complete pump operation instructions.

E. When mixing sanded materials, ARDEX recommends using the ARDEX DUSTFREE™ or a standard “gutter hook” vacuum attachment in combination with a wet/dry (Shop-Vac® style) vacuum and HEPA dust extraction vacuum system. Additionally, each bag should be handled with care and emptied slowly to avoid creating a plume of dust. Contact the ARDEX Technical Service Department for more details on ARDEX products and air quality management.

F. Application: Comply with manufacturer's printed instructions.

G. Curing

1. ARDEX V 1200™ requires no special curing. ARDEX V 1200™ can be walked on in 2-3 hours after installation. The dry time required prior to installing finish flooring will vary with the thickness of the ARDEX V 1200™ installation and the type of flooring being installed. Contact ARDEX Technical Services Department (888) 512-7339 for information regarding recommended dry times.

3.4 FIELD QUALITY CONTROL

A. Where specified, field sampling of the ARDEX products is to be done by taking an entire unopened bag/unit of the product being installed to an independent testing facility to perform testing. There is no in-situ test method applicable for this system.

3.5 PROTECTION

A. Prior to the installation of the finish flooring, the surface of the ARDEX V 1200™ should be protected from abuse by other trades by the use of plywood, Masonite or other suitable protection course.

END OF SECTION