

SECTION 01450

CONCRETE SURFACE TESTING FOR FLOOR COVERINGS

PART 1 – GENERAL

1.01 SUMMARY

- A. Moisture and pH (alkalinity) testing at all grade levels to receive floor coverings by Independent Testing Personnel.

1.02 RELATED SECTIONS

- A. Section 09620 - Specialty Flooring
- B. Section 09640 - Wood Flooring
- C. Section 09650 - Resilient Flooring
- D. Section 09660 - Static Control Flooring
- E. Section 09670 - Fluid Applied Flooring
- F. Section 09680 – Carpet Flooring

1.03 REFERENCES

- A. ASTM F-1869-04 – Standard Test Method for Measuring Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
- B. ASTM F-710-03 – Standard Practice for Preparing Concrete Floors and Other Monolithic Floors to Receive Resilient Flooring.

1.04 SUBMITTALS

- A. Results: Provide documented results including, testing dates, start and ending weights and all calculations reported per ASTM F 1869 in lbs. per 1,000 square feet/24 hours and ASTM F 710 for pH level.
- B. Locations Map: Provide each testing result documented on a locations map. Map may be finish floor plan by Architect or similar representation.

C. Testing Equipment: Name of test kit manufacturer and product data for each product used.

D. Certification: Manufactures published documents stating specified testing equipment meets current ASTM standards.

1.05 QUALITY ASSURANCE

A. Installer: Owners testing laboratory or specialized third party testing laboratory certified by Test Kit Manufacturer for product use.

B. Material: Pre-packaged testing equipment

1. Moisture: Meets ASTM F 1869-2004 specifications

2. pH (alkalinity): Meets ASTM F 710-2003 specifications

1.06 SCHEDULING

A. Site Meeting: Testing Agency, Owner, Architect and Contractor shall meet 30 days prior to flooring installation to discuss testing requirements, specifications and locations prior to testing.

B. Follow site conditions for substrate preparation and building environment specified by ASTM F 1869 standards.

PART 2 – PRODUCTS

2.01 MANUFACTURER

A. Base Design Intent: American Moisture Test, Inc. **www.DomeTest.com**

1. Single source, prepackaged ASTM F 1869 and ASTM F 710 compliant testing equipment.

a. Owners Independent Testing Lab

b. Specialized Third Party Testing Laboratory

1. **www.concreteconstructives.com**

2. Or equal.

2.02 MATERIALS

A. ASTM F 1869 Test

1. Non-recycled anhydrous calcium chloride, minimum purity 94%
2. Non-pre-weighed
3. Dome with self adhesive butyl sealant
4. Calcium chloride container:
 - a. Content weight limited to 16 grams +/- 1 gram.
 - b. Dimensions: 69mm +/- 1mm diameter with 16mm +/- 1mm height
 - c. Sealed with pressure-sensitive vinyl tape
 - d. Gram Scale: Calibrated to 0.1 grams as specified by ASTM

C. ASTM F 710 Test

1. Pre-packaged color chart and pH paper
2. Wide range 1 – 14 pH paper
3. Distinct color chart for each pH level
4. Clean tap water

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Site: Weatherproofed, doors installed and windows secured. Do not start testing process when site has standing water, surface contaminates, exposed to exterior conditions or concrete installation is less than 90 days of age.

3.02 PREPARATION

A. Concrete Surface:

1. Substrates shall be free of adhesives residue, paint, curing compounds, sealers, floor coverings and other surface contaminants.
2. Test Area: Minimum area of 20 x 20 inches to remain uncovered for 24 hours prior to test kit placement.

- B. Do not prepare sites that could be exposed to direct sunlight.

- C. Temperature & Humidity: Maintain site at the temperature and humidity conditions to those anticipated during normal occupancy and maintain these conditions 48 prior and during testing period. If meeting this criterion is not possible, then conditions shall be $75 \pm 10^{\circ}\text{F}$ and $50 \pm 10\%$ relative humidity.

3.03 INSTALLATION

A. ASTM F 1869 TESTING

1. Apply testing equipment at a rate of three (3) tests for areas up to 1,000 square feet and one (1) test per each 1,000 square feet thereafter.
2. Perform all gram scale weights on site.
3. Allow testing equipment to be enclosed within dome for 60 to 72 hours.
4. Calculate and report results as pounds of emission per 1,000 sq.ft. per 24 hours

B. ASTM F 710 pH (Alkalinity) TESTING

1. Perform pH testing when ASTM F 1869 testing is complete, at same locations.
2. Apply several drops of clean tap water to form a 1 inch diameter circle.
3. Allow to absorb into concrete for 30 seconds.
4. Dip pH testing strip into water and remove immediately.
5. Compare with manufactures provided color chart.
6. Record testing result on a locations map.

- C. Report results, calculations and locations as specified in this section.

3.04 FIELD QUALITY CONTROL

- A. Do not allow floor coverings to be installed in areas above flooring manufacturer's specifications for moisture and alkalinity. Consult Architect or specifications for project requirements on correcting excessive levels.

END OF SECTION
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