Concrete Slab Moisture Content

Installation of an MFMA flooring system shall not commence until the subfloor is determined to be "dry" by industry standard testing procedures. MFMA does not recommend testing for concrete moisture content within 60 days of pour. The required vapor barrier or under-slab membrane will likely increase slab drying times. Some factors affecting the concrete slab 's drying time include:

- Slab thickness
- Surface applied treatments
- Type of construction
- Concrete formulation
- Location of the building
- Climatic conditions
- Power troweling

When conducting slab moisture testing, follow the manufacturer's recommendation on the number of tests that should be performed - regardless of the age of the slab, document all tests. If the test(s) indicate a wet slab, delay installations of the maple system until specified conditions are met.

It is the general contractors' responsibility to provide a dry concrete slab within MFMA standards for moisture content and flatness. The flooring contractor shall verify slab conditions prior to the commencement of any maple flooring system installation to ensure compliance with flooring manufacturer specifications.

The only MFMA recognized method for reading concrete moisture levels within a slab is by testing its relative humidity. Please refer to the instructions of the manufacturer's relative humidity test kit for complete details on how to administer the test correctly. MFMA recommends the relative humidity level for a concrete slab for a non-glue-down maple floor system be 85% or lower and for glue down systems the concrete slab relative humidity level should be 75% or lower before installation. For concrete relative humidity conditions above MFMA's recommendation consult your MFMA Sport Floor Contractor or your MFMA Manufacturer.

Concrete Relative Humidity Test

A. Relative Humidity Test (In-Situ Probe Test)
   Use a prepackaged relative humidity testing kit (must be compliant with the most recent ASTM F2170) and follow the manufacturer's instructions. This test method involves measuring relative humidity levels inside of the concrete slab.

Pre-Tests

The following can be administered as pre-tests for testing the moisture content of a concrete slab but should not be used to confirm a concrete slab has dried to acceptable levels:

A. Polyethylene Film Test
   Tape a 2' x 2' square of 6 mil clear polyethylene film flat to the slab, sealing all edges with moisture resistant tape. Suspend a 250–375-watt heat lamp 2' above the plastic film. After 24 hours, check the film - if no condensation or "clouding" develops on the underside of the polyethylene, the test area shall be considered dry enough to test the concrete slab's relative humidity.

B. Calcium Chloride Test
   Use a prepackaged calcium chloride test (widely available) and follow the manufacturer's instructions. The Calcium Chloride Test measures the quantity of moisture passing through a concrete floor. This measurement is stated as pounds of moisture over a 1,000 sq. ft. area during a 24-hour period. An acceptable level is 4.5 lbs. or less.

C. Electronic Concrete Moisture Meters
   Due to the different types of electronic concrete moisture meters on the market, MFMA recommends following the manufacturer's instructions for proper on-site testing procedures.

Revised 04/13

© 2021 MFMA

Disclaimer: MFMA provides general information to architects, specifiers, and consumers. MFMA, its members, officers and agents disclaim any responsibility whatsoever for the accuracy or applicability of these guidelines under all circumstances and conditions.

Maple Flooring Manufacturers Association
888/480-9138
mfma@maplefloor.org
www.maplefloor.org