



Concrete Slab Moisture Content Testing

It is the general contractors' responsibility to provide a concrete slab that meets or exceeds the MFMA (Maple Flooring Manufacturers Association) guidelines for concrete slab moisture. Installation of any MFMA flooring system shall not commence until the concrete slab is determined to be "dry" using the industry recognized standard Relative Humidity (In-Situ Probe ASTM F2170) test procedure. Failure to comply with industry concrete moisture guidelines may result in substandard installations.

Items that Affect Dry Times:

- Slab thickness
- Required vapor barrier/damp-proofing
- Surface applied treatments
- Type of construction
- Concrete mix & water content
- Location of the building
- Climatic conditions
- Excessive Power troweling

The general contractor shall conduct Pre-Checks for moisture to determine if the slab is sufficiently dry prior to the MFMA Flooring Contractor arriving on site. Pre-Checks are not for final confirmation of readiness for installation.

Acceptable Pre-Checks:

- A. Relative Humidity (RH) Test (In-Situ Probe ASTM F2170) – Use a prepackaged relative humidity test kit following test kit manufacturer's instructions. This test method involves measuring relative humidity levels inside the concrete slab. Guidelines; equal to or lower than 85% RH for non-glue-down maple floor system and equal to or lower than 75% RH for glue down systems, prior to installation.
- B. Calcium Chloride Test – Use a prepackaged test kit and follow test kit manufacturer's instructions. This test measures the quantity of moisture passing through a concrete floor. The unit of measure is stated in 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.

The MFMA Flooring Contractor shall verify final slab moisture prior to beginning the installation of any maple flooring system to ensure compliance with MFMA Flooring Manufacturer's specifications. The only MFMA recognized test method for confirming concrete moisture levels within a slab is by testing its relative humidity using a Relative Humidity In-Situ Probe Test meeting ASTM F2170 standards.

Acceptable Results: equal to or lower than 85% RH for non-glue-down maple floor systems and equal to or lower than 75% RH for glue down systems. For concrete relative humidity conditions above MFMA's recommendation consult your MFMA Sport Floor Contractor or your MFMA Manufacturer.

Moisture tests must be conducted regardless of the age of the slab, and all new slabs should not be tested within 60 days of slab placement. MFMA Flooring Contractor shall document all tests for future reference. If the test(s) indicate a wet slab, delay installation of the maple system until specified conditions are achieved.

See Also: [Concrete Surface Vapor Retarders, Cupping, Crowning, and Compression Ridging & Compression Set](#)

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