

Moisture Emission Test Kits HM-674B & HM-674D

INTRODUCTION:

These instructions are a guide for the general use of this apparatus. For specifications and complete test protocol, please refer to ASTM F 1869.

PREPARATION:

Required Tests

3 kits for areas up to 1,000ft² or less, additional test (1) for each 1,000ft² area following.

Conditions Required

Conditions in building interior must consist of temperatures between 65°—85°F. Relative humidity shall be between 40—60% for time period of at least 48 hours prior to testing. Temperature and relative humidity data should be recorded.

Surface Preparation

For proper removal of surface contaminants and foreign residue, OSHA approved practices are strongly recommended. Cleansing of concrete surface may be obtained through professional use of a grinder or coarse sand paper.

Prepare/Schedule Testing Area

A minimum of 20x20in of surface area should be thoroughly cleansed before testing. Please allow up to 24 hours before the tests are set. Tests must remain undisturbed for 60—72 hours. Preparation of tests in area under direct sunlight is not recommended.

OPERATING INSTRUCTIONS:

1. Weigh and Record Calcium Chloride Dish

Remove test dish from the silver package. Weigh and record the starting weight to the nearest 1/10g on chloride dish. Record location, time and date of testing.

2. Break Seal

Remove snap-fit cover of dish, exposing calcium chloride. Place cover under test dish to reuse after conclusion of testing. On the prepared concrete slab, place opened container.



HM-674D

3. Install Test Kit

Remove white paper from sealing adhesive and dispose. Avoid spilling the calcium chloride. Spillage will require a new dish to be opened, since a required amount of material is needed for valid testing. Promptly place the dome over the test dish. Firmly press along the edges of the sealing adhesive to ensure proper bonding of the unit to the floor. To ensure no air is able to exit from the enclosed area of test dome, lightly press the top of the dome with your hand.

4. Test Undisturbed for 60—72 Hours

Once the dome is installed, it must remain undisturbed with no exposure to direct sunlight. If dome damage occurs, but no air leaks are detected and calcium chloride material is intact, results may be valid. After 60—72 hours of testing, carefully remove dome and remove the open dish. Immediately replace the dish cover and reseal by pressing the snap-fit cover onto the dish, avoiding spillage of the calcium chloride.

5. Weigh the Dish

Weigh the sealed dish on the same gram scale used at the beginning of the test. Record final weight, time and date, and test location. Remove soft adhesive from concrete surface.

(Continued on back.)

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CALCULATION:

1. Use formula below to calculate vapor emission volume.
2. Results are measured in lbs per 1,000ft² over a period of 24 hours.

Example:

$$\text{MVER} = \frac{24 \times 1,000 \times \Delta M}{453.612 \times A \times T} = \frac{52.91 \times \Delta M}{A \times T}$$

T (Test Time) = 72 hours
ΔM (Change in mass of dish) = 3.0g
A (Contact area of test minus area of dish) = 0.4495ft²

Where:

MVER = Moisture Vapor Emission Rate, lb/1,000ft²/24 hours

ΔM = Change in mass (weight gain) of anhydrous calcium chloride, in grams

A = Contact area of the flanged cover on concrete, ft², after deducting the area of the dish. (Nominal value for HM-674 is 0.4495ft²)

T = Exposure (test) time, in hours

$$\begin{aligned} 52.91 \times 3.0 &= 158.73 \\ 0.4495 \times 72 &= 32.36 \\ 158.73 \div 32.36 &= 4.91 \end{aligned}$$

MVER = 4.91

MOISTURE & ALKALINITY DATA CHART:

Job Name: _____ **Date:** _____

Job Location: _____

Conducted By: _____ **Phone:** _____

Start Date: _____

End Date: _____

Room Temperature: _____

Room Temperature: _____

Humidity: _____

Humidity: _____

[illegible]