



## PERFORMING CM-MEASUREMENTS

Updated: December 2018

A CM-measurement is used to determine the screed moisture in order to verify readiness for laying. Samples for CM-measurements may only be taken from assigned locations when dealing with heated screed.

At least 1 measurement must be performed for screed areas up to 100 m<sup>2</sup>. For larger areas, one measurement per 200 m<sup>2</sup> is sufficient. In residential construction, one measurement per apartment unit is advised. For heated screed, at least one measuring location per room must be marked. 3 measurements are to be performed per 200 m<sup>2</sup> area. In order for the number of marked measuring locations to be sufficient, intermediate foil tests are recommended before performing another CM-measurement. Sufficient dryness is approximately achieved if no traces of moisture appear at max. flow temperature under a 50x50 cm PE foil covering the area and taped down at the edges within 24 hours. The intermediate foil tests and additional CM-measurement(s) constitute special services.

**In principle, little moisture loss must be ensured during sample preparation. That means:**

- Sampling and sample preparation must be performed as fast as possible
- Sample preparation may not be carried out at direct sun exposure and/or air draft
- Test devices must be aligned with the room climate (condensate), very important during cold weather
- Check whether CM-device is tight (possibly with calibration substance), renew rubber seal, if necessary
- Keep steel balls and scale ready
- Provide 2 PE-bags, gloves, sledge hammer and spoon
- Prepare report (information about construction site, floor, room, test date, test result and tester)

## Only perform CM-measurement with gloves

Perform test as follows:

**Note:**

- Alternative measuring methods (for example dielectric methods) only serve to pre-test and isolate moist areas
- The use of an electric caulking hammer is recommended for screed with higher stability classes or thicker screed layers

1. Always remove sample across the entire profile of the screed and fill into PE-bag. Do not remove the aggregate!
2. Crush sample in PE-bag in the bowl until it is possible to completely crush it in the CM-device using the steel balls
3. Homogenize the sample by refilling the entire sample material into another PE-bag
4. Fill initial weight volume 50 g into the pressure cylinder
5. Add 3-4 steel balls into the pressure cylinder
6. Gently slide ampule of calcium carbide into the pressure cylinder, holding it at an incline
7. Close pressure cylinder with manometer head
8. Shake well for two minutes while ensuring that manometer is not impinged. Shake for another minute 5 minutes after closing the cylinder. 10 minutes after closing the cylinder, shake for another 10 seconds and then read off value.
9. Empty CM-measuring device and clean it.

**Important:**

Check test material while emptying. If it is not completely crushed, repeat test. Test material is completely crushed when binding agent has pulverized, the aggregate may be somewhat visible.