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Floor Systems

**VT05.de**

Technical Information 2017-10

## **Working instructions for CM measurement**

Determination of the moisture content of calcium sulphate flowing screed using the calcium carbide method

### Description

The calcium carbide method (CM measurement) determines the level of screed moisture and establishes the readiness for floor covering.

#### Residual moisture with readiness for covering of Knauf flowing screeds

Floor covering	Unheated screeds	Heating floor screeds
Vapour permeable floor coverings (textile, etc.)	≤ 1.0 %	
Vapour-retardant floor coverings (tiles)	≤ 1.0 %	≤ 0.5 %
Vapour-proof coverings (PVC), as well as parquet etc.	≤ 0.5 %	

<b>Note</b>	Removal of a sample for CM measurement on heated screeds may only be taken at designated measurement points to avoid damage to the heating tubes.
<b>Note</b>	Take care to ensure that as little moisture as possible is lost when preparing the sample. Carry out sample removal and preparation as quickly as possible. Do not prepare the sample with exposure to direct sunlight or draughts.

### Preparation for sample removal

Observe the following measures before removing the sample:

1. Check to ensure that the CM measurement device is sealed. If this is not the case replace the rubber seal.
2. Insert four balls into the CM measurement device.
3. If necessary, attach the scales to the case of the measurement device.
4. Prepare the dish, club hammer and spoon.
5. Prepare the written protocol (specifying the building site, storey, room, test date, testers name and test result).

### Performing the test

Proceed as follows to perform the test:

1. Always take an average sample across the entire cross-section of the screed.
2. Crush the average sample in the dish so that it can be fully pulverized in the CM measurement device using the balls.  
We recommend subsequent placement of the average sample into a plastic bag and mixing it ensuring a homogeneous test material.
3. Measure off the test material to be weighed using the spoon.  
Calcium sulphate screed: 100 g
4. Carefully fill the test material and the balls into the CM measurement device through the funnel with the largest spout.
5. Hold the CM measurement device at a slant and pour in the glass ampule containing calcium carbonate.
6. Close the CM measurement device and shake it vigorously until the indicator on the manometer dial starts to rise.
7. Pulverize the test material in the CM measurement device with the assistance of the balls by vigorously shaking the device to and fro as well as by circular motions.  
Take care to ensure that the manometer is not damaged.  
Duration: 2 minutes
8. Shake the CM measurement device for a further minute, as described under step 7, five minutes after closing the CM measurement device.
9. Shake the CM measurement device again briefly (for about 10 seconds) 10 minutes after closing the CM measurement device and read off the value.  
Read off the moisture value from the calibration table and enter it into the protocol.

<b>Note</b>	On calcium sulphate bound screeds a further increase in the pressure is possible. This must not be considered when determining the level of moisture in the screed as it includes chemically bound water.
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10. Empty the CM measurement device and clean it.

<b>Note</b>	Check the test material when emptying the device. If it is not fully pulverized, repeat the test including the removal of a suitable sample and pulverize the test material carefully with the club hammer.
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11. Dispose of the test material according to the manufacturers specifications.

**Protocol for CM measurement acc. to these working instructions**

**Client** \_\_\_\_\_

**Building / property** \_\_\_\_\_

**Building phase / part / storey / apartment** \_\_\_\_\_

**Section** \_\_\_\_\_

**Requirements** See included working instructions.

**Documentation**

	Measurement no. 1	Measurement no. 2 <sup>1)</sup>	Measurement no. 3 <sup>1)</sup>
Room no.			
Tester			
Date			

1) Only necessary if screed moisture level too high in the previous measurement.

**Test result**

	Unit	Result 1	Result 2	Result 3
Sample weight	g			
Manometer reading	bar			
Water content <sup>2)</sup>	%			
Screed thickness	mm			

2) According to the conversion table of the CM measurement device manufacturer it corresponds to CM %

**Validation**

Place / Date	Place / Date	Place / Date
Investor / client Stamp / signature	Site manager / architect Stamp / signature	Heating installer Stamp / signature



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