
Refractory mortars —

Part 6:

**Determination of moisture content of
ready-mixed mortars**

Mortiers réfractaires —

Partie 6: Détermination de l'humidité des mortiers prêts à l'emploi

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 13765-6 was prepared by Technical Committee ISO/TC 33, *Refractories*.

ISO 13765 consists of the following parts, under the general title *Refractory mortars*:

- *Part 1: Determination of consistency using the penetrating cone method*
- *Part 2: Determination of consistency using the reciprocating flow table method*
- *Part 3: Determination of joint stability*
- *Part 4: Determination of flexural bonding strength*
- *Part 5: Determination of grain size distribution (sieve analysis)*
- *Part 6: Determination of moisture content of ready-mixed mortars*

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Refractory mortars —

Part 6:

Determination of moisture content of ready-mixed mortars

1 Scope

This part of ISO 13765 describes a method for determining the moisture content of ready-mixed refractory mortars.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 8656-1, *Refractory products — Sampling of raw materials and unshaped products — Part 1: Sampling scheme*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

moisture content

loss in mass of a sample dried at 110 °C, expressed as a percentage of the original mass of the sample

4 Principle

A sample of known mass is dried to constant mass in an oven at 110 °C ± 5 °C.

5 Apparatus

5.1 **Balance**, capable of weighing to the nearest ± 0,1 g.

5.2 **Electrical drying oven**, fitted with a temperature controller and capable of operating at 110 °C ± 5 °C.

5.3 **Desiccator**.

6 Sampling

Take a sample in accordance with ISO 8656-1 or as agreed between interested parties.

Sample ready-mixed mortars by emptying the entire contents of the container in which the mortar is supplied into another container of larger capacity and mixing thoroughly. It is important that any supernatant liquid not be discarded. Ensure that a representative sample of the wet mixture is obtained.

7 Procedure

Each sample shall be analysed in duplicate.

Using the balance (5.1), weigh at least 50 g to the nearest 0,1 g into a clean, dry evaporating dish (or suitable glass dish), spreading the sample evenly within the dish. Record the mass as m_1 .

Dry in the oven (5.2) at 110 °C for 5 h or until constant mass is attained, i.e. until two successive weighings made 10 min apart and after 2 h in the oven do not differ by more than 0,2 g or 0,5 %.

Remove the sample from the oven and allow to cool to room temperature in a desiccator (5.3).

Weigh the dried sample to 0,1 g. Record the mass as m_2 .

8 Calculation

Calculate the moisture content, w_w , in percentage, using the equation:

$$w_w = \frac{m_1 - m_2}{m_1} \times 100$$

where

m_1 mass of the wet sample, in grams;

m_2 mass of the sample after drying, in grams.

Report the result as the mean of the duplicate results to the nearest 1 %.

If the difference in the results between the duplicates tested exceeds 1 %, disregard the result and repeat the test.

9 Test report

The report shall include the following information:

- a) all information necessary for identification of the material tested, including a description of the material, manufacturer, type, brand, batch number, etc.;
- b) a reference to this part of ISO 13765 (ISO 13765-6);
- c) the name of the testing establishment;
- d) the results of the test, i.e. moisture content in percentage, including the results of the individual determinations and their mean, calculated as specified in Clause 8;
- e) any deviations from the procedure specified;
- f) any unusual features (anomalies) observed during the test;
- g) the date of the test.