
Refractory mortars —

Part 7:

**Determination of permanent change
in dimensions on heating**

Mortiers réfractaires —

*Partie 7: Détermination des variations dimensionnelles permanentes
lors du chauffage*



This document is a preview generated by ELS



COPYRIGHT PROTECTED DOCUMENT

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	1
5 Apparatus	1
6 Test preparation	2
6.1 Sampling.....	2
6.2 Preparation of the refractory bricks.....	2
7 Procedure	3
7.1 Preparation of the test specimens.....	3
7.2 Measurement of test specimens.....	4
7.3 Drying the test specimens.....	4
7.4 Firing the test specimens.....	4
7.5 Measurement of test specimens after heating (drying or firing).....	5
8 Calculations	5
8.1 The permanent change in dimensions on drying.....	5
8.2 The permanent change in dimensions on firing.....	5
8.3 The permanent change in dimensions on heating.....	5
9 Precision	6
9.1 Interlaboratory tests.....	6
9.2 Repeatability.....	6
9.3 Reproducibility.....	6
10 Reporting	6
Annex A (informative) Results of interlaboratory tests	7

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 33, *Refractories*.

A list of all parts in the ISO 13765 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Refractory mortars —

Part 7:

Determination of permanent change in dimensions on heating

1 Scope

This document describes the method for determining the permanent change in dimensions on heating (drying and/or firing) of refractory mortars.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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*

ISO 13765-1, *Refractory mortars — Part 1: Determination of consistency using the penetrating cone method*

ISO 13765-2, *Refractory mortars — Part 2: Determination of consistency using the reciprocating flow table method*

ISO 13765-3, *Refractory mortars — Part 3: Determination of joint stability*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Principle

A mortar sample is heated and the dimensional change after heating is determined. Place the test specimens of refractory mortars, whose length between two marks has been determined, in a drying oven or furnace. Heat (drying and/or firing) to a specified temperature for a specified time and then cool to room temperature. Measure the length between two marks again. Calculate the permanent change in dimensions on heating.

5 Apparatus

5.1 Mixer, as specified in ISO 13765-1 or ISO 13765-2.

5.2 Balance, with a maximum weighing capacity of 10 kg and capable of weighing to the nearest 1 g.