BS EN 993-10:2020



BSI Standards Publication

Methods of test for dense shaped refractory products

Part 10: Determination of permanent change in dimensions on heating

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National foreword

This British Standard is the UK implementation of EN 993-10:2020. It supersedes BS EN 993-10:1998, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee RPI/1, Refractory products and materials.

A list of organizations represented on this committee can be obtained on request to its committee manager.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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English Version

Methods of test for dense shaped refractory products - Part 10: Determination of permanent change in dimensions on heating

Méthodes d'essai pour produits réfractaires façonnés denses - Partie 10: Détermination de la variation permanente de dimensions sous l'action de la chaleur

Prüfverfahren für dichte geformte feuerfeste Erzeugnisse - Teil 10: Bestimmung der bleibenden Längenänderung nach Temperatureinwirkung

This European Standard was approved by CEN on 1 September 2020.

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European foreword

This document (EN 993-10:2020) has been prepared by Technical Committee CEN/TC 187 “Refractory products and materials”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2021, and conflicting national standards shall be withdrawn at the latest by April 2021.

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

This document supersedes EN 993-10:1997.

The main change from the previous edition is the addition of precision data in clause 10 derived from a large scale interlaboratory study completed by 10 European laboratories.

Reproducibility and repeatability data are available only for a limited number of testing methods and materials, but may be complemented in subsequent editions.

The series of standards EN 993 'Methods of test for dense shaped refractory products' consists of 20 parts, some of which have been withdrawn and replaced by equivalent standards:

— *Part 1: Determination of bulk density and porosity*

— *Part 2: Determination of true density*

— *Part 3: Test methods for carbon-containing refractories*

— *Part 4: Determination of permeability to gases*

— *Part 5: Determination of cold crushing strength*

— *Part 6: Determination of modulus rupture, ambient temperatures*

— *Part 7: Determination of modulus of rupture, elevated temperatures*

— Part 8: Determination of refractoriness-under-load – withdrawn – replaced by *EN ISO 1893*

— *Part 9: Determination of creep in compression*

— *Part 10: Determination of permanent change in dimensions on heating*

— *Part 11: Determination of resistance to thermal shock (ENV)*

— *Part 12: Determination of pyrometric cone equivalent*

— *Part 13: Specification for pyrometric cones*

— Part 14: Determination of thermal conductivity (hot wire, cross-array) – withdrawn – replaced by *EN ISO 8894-1*

— *Part 15: Determination of thermal conductivity (hot wire, parallel)*

— *Part 16: Determination of resistance to acids*

— *Part 17: Determination of bulk density of granular material (mercury method)*

— *Part 18: Determination of bulk density of granular material (water method)*

— *Part 19: Determination of thermal expansion by a differential method*

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