SLOVENSKI STANDARD
SIST EN ISO 1716:2010

01-december-2010

Nadomešča:
SIST EN ISO 1716:2002

Preskusi odziva gradbenih proizvodov na ogenj - Ugotavljanje specifične toplote zgorevanja (ISO 1716:2010)

Reaction to fire tests for products - Determination of the gross heat of combustion (calorific value) (ISO 1716:2010)

Prüfungen zum Brandverhalten von Produkten - Bestimmung der Verbrennungswärme (ISO 1716:2010)

Essais de réaction au feu de produits — Détermination du pouvoir calorifique supérieur (valeur calorifique) (ISO 1716:2010)

Ta slovenski standard je istoveten z: **EN ISO 1716:2010**

ICS:

13.220.50	Požarna odpornost gradbenih materialov in elementov	Fire-resistance of building materials and elements

SIST EN ISO 1716:2010

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 1716

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ICS 13.220.50; 91.100.01

Supersedes EN ISO 1716:2002

English Version

Reaction to fire tests for products - Determination of the gross heat of combustion (calorific value) (ISO 1716:2010)

Essais de réaction au feu de produits - Détermination du pouvoir calorifique supérieur (valeur calorifique) (ISO 1716:2010)

Prüfungen zum Brandverhalten von Bauprodukten - Bestimmung der Verbrennungswärme (des Brennwerts) (ISO 1716:2010)

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN ISO 1716:2010) has been prepared by Technical Committee ISO/TC 92 "Fire safety" in collaboration with Technical Committee CEN/TC 127 “Fire safety in buildings” 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of an identical text or by endorsement, at the latest by December 2010, and conflicting national standards shall be withdrawn at the latest by December 2010.

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The text of ISO 1716:2010 has been approved by CEN as a EN ISO 1716:2010 without any modification.

INTERNATIONAL STANDARD

ISO 1716

Third edition
2010-06-15

Reaction to fire tests for products — Determination of the gross heat of combustion (calorific value)

Essais de réaction au feu de produits — Détermination du pouvoir calorifique supérieur (valeur calorifique)

Reference number
ISO 1716:2010(E)

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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.

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.

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ISO 1716 was prepared by Technical Committee ISO/TC 92, *Fire safety*, Subcommittee SC 1, *Fire initiation and growth*.

This third edition cancels and replaces the second edition (ISO 1716:2002), which has been technically revised.

Reaction to fire tests for products — Determination of the gross heat of combustion (calorific value)

WARNING — The attention of all persons concerned with managing and carrying out this test is drawn to the fact that fire testing may be hazardous and that there is a possibility that toxic and/or harmful gases may be evolved during the test. Operational hazards may also arise during the testing of specimens, such as the possibility of an explosion, and during the disposal of test residues.

WARNING — An assessment of all the potential hazards and risks to health should be made and safety precautions should be identified and provided. Written safety instructions should be issued. Appropriate training should be given to relevant personnel. Laboratory personnel should ensure that they follow written instructions at all times.

1 Scope

This International Standard specifies a method for the determination of the gross heat of combustion (Q_{PCS}) of products at constant volume in a bomb calorimeter.

Annex A describes the calculation of the net heat of combustion (Q_{PCI}) when required.

Information on the precision of the test method is given in Annex B.

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 554, *Standard atmospheres for conditioning and/or testing — Specifications*

ISO 13943, *Fire safety — Vocabulary*

EN 13238, *Reaction to fire tests for building products — Conditioning procedures and general rules for selection of substrates*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13943, and the following apply.

3.1
product
material, element or component about which information is required

3.2
material
single basic substance or uniformly dispersed mixture of substances

EXAMPLE Metal, stone, timber, concrete, mineral wool with a uniformly dispersed binder and polymers.

3.3
homogeneous product
product consisting of a single material having uniform density and composition throughout the product

3.4
non-homogeneous product
product that does not satisfy the requirements of a homogeneous product and which is composed of more than one component, substantial and/or non-substantial

3.5
substantial component
material that constitutes a significant part of a non-homogeneous product, and that has a mass/unit area $\geqslant$ 1,0 kg/m^2 or a thickness $\geqslant$ 1,0 mm

3.6
non-substantial component
material that does not constitute a significant part of a non-homogeneous product and that has a layer with a mass/unit area < 1,0 kg/m^2 and a thickness < 1,0 mm

3.7
internal non-substantial component
non-substantial component that is covered on both sides by at least one substantial component

3.8
external non-substantial component
non-substantial component that is not covered on one side by a substantial component

3.9
heat of combustion
calorific value (deprecated)
thermal energy produced by combustion of unit mass of a given substance

NOTE The heat of combustion is expressed in megajoules per kilogram.

[ISO 13943:2008]

3.10
gross heat of combustion
Q_{PCS}
heat of combustion of a substance when the combustion is complete and any produced water is entirely condensed under specified conditions

NOTE The gross heat of combustion is expressed in megajoules per kilogram.

3.11
net heat of combustion
Q_{PCI}
heat of combustion of a substance when the combustion is complete and any produced water is in the vapour state under specified conditions

NOTE 1 The net heat of combustion may be calculated from the gross heat of combustion.

NOTE 2 The net heat of combustion is expressed in megajoules per kilogram.

3.12
latent heat of vaporization of water
q
heat which is required to change water from a liquid to a gas

NOTE The latent heat of vaporization is expressed in megajoules per kilogram.

