



NSAI
Standards

Irish Standard
I.S. EN ISO 14705:2021

Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for hardness of monolithic ceramics at room temperature (ISO 14705:2016)

I.S. EN ISO 14705:2021

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National Foreword

I.S. EN ISO 14705:2021 is the adopted Irish version of the European Document EN ISO 14705:2021, Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for hardness of monolithic ceramics at room temperature (ISO 14705:2016)

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EUROPEAN STANDARD

EN ISO 14705

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2021

ICS 81.060.30

English Version

Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for hardness of monolithic ceramics at room temperature (ISO 14705:2016)

Céramiques techniques - Méthode d'essai de dureté des céramiques monolithiques à température ambiante (ISO 14705:2016)

Hochleistungskeramik - Härteprüfung von monolithischer Keramik bei Raumtemperatur (ISO 14705:2016)

This European Standard was approved by CEN on 20 December 2020.

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EN ISO 14705:2021 (E)

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European foreword

The text of ISO 14705:2016 has been prepared by Technical Committee ISO/TC 206 "Fine ceramics" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 14705:2021 by Technical Committee CEN/TC 184 "Advanced technical ceramics" the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by July 2021, and conflicting national standards shall be withdrawn at the latest by July 2021.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.

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Endorsement notice

The text of ISO 14705:2016 has been approved by CEN as EN ISO 14705:2021 without any modification.

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**INTERNATIONAL
STANDARD**

**ISO
14705**

Third edition
2016-12-15

**Fine ceramics (advanced ceramics,
advanced technical ceramics) — Test
method for hardness of monolithic
ceramics at room temperature**

*Céramiques techniques — Méthode d'essai de dureté des céramiques
monolithiques à température ambiante*



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ISO 14705:2016(E)

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).

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For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 206, *Fine ceramics*.

This third edition cancels and replaces the second edition (ISO 14705:2008), which has been technically revised.

Fine ceramics (advanced ceramics, advanced technical ceramics) — Test method for hardness of monolithic ceramics at room temperature

1 Scope

This document specifies a test method for determining the Vickers and Knoop hardness of monolithic fine ceramics at room temperature.

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 4545-1, *Metallic materials — Knoop hardness test — Part 1: Test method*

ISO 4545-2, *Metallic materials — Knoop hardness test — Part 2: Verification and calibration of testing machines*

ISO 4545-4, *Metallic materials — Knoop hardness test — Part 4: Table of hardness values*

ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method*

ISO 6507-2, *Metallic materials — Vickers hardness test — Part 2: Verification and calibration of testing machines*

3 Terms and definitions

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

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

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

3.1

Vickers hardness

value obtained by dividing the applied force by the surface area of the indentation computed from the mean of the measured diagonals of the indentations, assuming that the indentation is an imprint of the undeformed indenter

Note 1 to entry: Vickers hardness may be expressed in two different units:

- a) with unit GPa, obtained by dividing the applied force in N by the surface area of the indentation in mm²;
- b) Vickers hardness number, obtained by dividing the applied force in kgf by the surface area of the indentation in mm².

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