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Fine ceramics (advanced ceramics, advanced technical ceramics) - Methods of test for reinforcements - Determination of tensile properties of filaments at ambient temperature (ISO 19630:2017)

EESTI STANDARDI EESSÕNA

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Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
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ICS 81.060.30

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 19630

July 2021

ICS 81.060.30

Supersedes EN 1007-4:2004

English Version

Fine ceramics (advanced ceramics, advanced technical ceramics) - Methods of test for reinforcements - Determination of tensile properties of filaments at ambient temperature (ISO 19630:2017)

Céramiques techniques - Méthodes d'essai pour renforts - Détermination des propriétés en traction du filament à température ambiante (ISO 19630:2017)

Hochleistungskeramik - Verfahren zur Prüfung der Faserverstärkungen - Bestimmung der Zugeigenschaften von Endlosfasern bei Raumtemperatur (ISO 19630:2017)

This European Standard was approved by CEN on 11 July 2021.

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European foreword

The text of ISO 19630:2017 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 19630:2021 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of an identical text or by endorsement, at the latest by January 2022, and conflicting national standards shall be withdrawn at the latest by January 2022.

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This document supersedes EN 1007-4:2004.

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Endorsement notice

The text of ISO 19630:2017 has been approved by CEN as EN ISO 19630:2021 without any modification.

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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.

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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This document was prepared by Technical Committee ISO/TC 206, *Fine ceramics*.

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Fine ceramics (advanced ceramics, advanced technical ceramics) — Methods of test for reinforcements — Determination of tensile properties of filaments at ambient temperature

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1 Scope

This document specifies the conditions for the determination of tensile properties of single filaments of ceramic fibre such as tensile strength, Young modulus and fracture strain. The method applies to continuous ceramic filaments taken from tows, yarns, braids and knittings, which have strain to fracture less than or equal to 5 %.

The method does not apply to carbon fibres that exhibit nonlinear stress-strain curve. The method does not apply to checking the homogeneity of strength properties of fibres, nor to assessing the effects of volume under stress. Statistical aspects of filament failure are not included.

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 7500-1, *Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system*

ISO 19634, *Fine ceramics (advanced ceramics, advanced technical ceramics) — Ceramic composites — Notations and symbols*

ISO 20501, *Fine ceramics (advanced ceramics, advanced technical ceramics) — Weibull statistics for strength data*

EN 1007-1, *Advanced technical ceramics — Ceramic composites — Methods of test for reinforcements — Part 1: Determination of size content*

EN 1007-3, *Advanced technical ceramics — Ceramic composites — Methods of test for reinforcements — Part 3: Determination of filament diameter and cross-section area*

3 Terms, definitions and symbols

For the purposes of this document, the terms, definitions and symbols given in ISO 19634 and the following 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
gauge length
L_0
initial distance between two reference points on the filament

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