



SLOVENSKI STANDARD SIST EN ISO 527-4:2022

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Polimerni materiali - Določanje nateznih lastnosti - 4. del: Preskusni pogoji za izotropne in ortotropne z vlakni ojačene polimerne kompozite (ISO 527-4:2021)

Plastics - Determination of tensile properties - Part 4: Test conditions for isotropic and orthotropic fibre-reinforced plastic composites (ISO 527-4:2021)

Kunststoffe - Bestimmung der Zugeigenschaften - Teil 4: Prüfbedingungen für isotrop und anisotrop faserverstärkte Kunststoffverbundwerkstoffe (ISO 527-4:2021)

Plastiques - Détermination des propriétés en traction - Partie 4 : Conditions d'essai pour les composites plastiques renforcés de fibres isotropes et orthotropes (ISO 527-4:2021)

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Ta slovenski standard je istoveten z: EN ISO 527-4:2021

ICS:

83.120 Ojačani polimeri Reinforced plastics

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 527-4

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Supersedes EN ISO 527-4:1997

English Version

Plastics - Determination of tensile properties - Part 4: Test conditions for isotropic and orthotropic fibre-reinforced plastic composites (ISO 527-4:2021)

Plastiques - Détermination des propriétés en traction -
Partie 4 : Conditions d'essai pour les composites
plastiques renforcés de fibres isotropes et orthotropes
(ISO 527-4:2021)

Kunststoffe - Bestimmung der Zugeigenschaften - Teil
4: Prüfbedingungen für isotrop und anisotrop
faserverstärkte Kunststoffverbundwerkstoffe (ISO
527-4:2021)

This European Standard was approved by CEN on 4 October 2021.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN ISO 527-4:2021) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with Technical Committee CEN/TC 249 "Plastics" the secretariat of which is held by NBN.

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 June 2022, and conflicting national standards shall be withdrawn at the latest by June 2022.

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 ISO 527-4:1997.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 527-4:2021 has been approved by CEN as EN ISO 527-4:2021 without any modification.

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INTERNATIONAL
STANDARD

ISO
527-4

Second edition
2021-12

**Plastics — Determination of tensile
properties —**

Part 4:

**Test conditions for isotropic and
orthotropic fibre-reinforced plastic
composites**

Plastiques — Détermination des propriétés en traction —

*Partie 4: Conditions d'essai pour les composites plastiques renforcés
de fibres isotropes et orthotropes*

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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).

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 61, *Plastics*, Subcommittee SC 13, *Composites and reinforcement fibres*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 249, *Plastics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 527-4:1997), which has been technically revised.

The main changes compared to the previous edition are as follows:

- specimen type 4 (tapered tensile specimen) especially for testing of multidirectional, continuous fibre-reinforced thermoplastic composites has been implemented;
- gripping force or pressure (e.g. via torque or manometer depending on gripping system used) has been adjusted;
- the following new annexes have been added:
 - [Annex C](#) (Unbonded tabs or gripping condition without tabs using fine grip faces),
 - [Annex B](#) (Testing with tapered tensile specimen geometry without tabs), and
 - [Annex E](#) (Failure location related calculation of tensile strength for type 4 specimens).

A list of all parts in the ISO 527 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.

Introduction

This document introduces a new test specimen, type 4, with a tapered geometry for use without end tabs. The geometry has been developed to overcome difficulties with bonding end-tabbed test specimens, especially when testing materials based on a thermoplastic matrix.

Guidance on gripping, including grip face design, is also added.

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