

**Plastid. Tõmbeomaduste määramine. Osa 5:
Orienteerimata kiudarmatuuriga plastkomposiitide
katsetingimused**

Plastics - Determination of tensile properties - Part 5: Test conditions for unidirectional fibre-reinforced plastic composites

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 527-5:2010 sisaldab Euroopa standardi EN ISO 527-5:2009 ingliskeelset teksti.

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Standard on kättesaadav Eesti standardiorganisatsioonist.

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EUROPEAN STANDARD

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English Version

Plastics - Determination of tensile properties - Part 5: Test conditions for unidirectional fibre-reinforced plastic composites (ISO 527-5:2009)

Plastiques - Détermination des propriétés en traction - Partie 5: Conditions d'essai pour les composites plastiques renforcés de fibres unidirectionnelles (ISO 527-5:2009)

Kunststoffe - Bestimmung der Zugeigenschaften - Teil 5: Prüfbedingungen für unidirektional faserverstärkte Kunststoffverbundwerkstoffe (ISO 527-5:2009)

This European Standard was approved by CEN on 13 June 2009.

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Foreword

This document (EN ISO 527-5:2009) 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of an identical text or by endorsement, at the latest by January 2010, and conflicting national standards shall be withdrawn at the latest by January 2010.

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Endorsement notice

The text of ISO 527-5:2009 has been approved by CEN as a EN ISO 527-5:2009 without any modification.

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Plastics — Determination of tensile properties —

Part 5:

Test conditions for unidirectional fibre-reinforced plastic composites

1 Scope

1.1 This part of ISO 527 specifies the test conditions for the determination of the tensile properties of unidirectional fibre-reinforced plastic composites, based upon the general principles given in Part 1.

1.2 See ISO 527-1:1993, Subclause 1.2.

1.3 The test method is suitable for all polymer matrix systems reinforced with unidirectional fibres and which meet the requirements, including failure mode, set out in this part of ISO 527.

The method is suitable for composites with either thermoplastic or thermosetting matrices, including preimpregnated materials (prepregs). The reinforcements covered include carbon fibres, glass fibres, aramid fibres and other similar fibres. The reinforcement geometries covered include unidirectional (i.e. completely aligned) fibres and rovings and unidirectional fabrics and tapes.

The method is not normally suitable for multidirectional materials composed of several unidirectional layers at different angles (see ISO 527-4).

1.4 The method is performed using one of two different types of test specimen, depending on the direction of the applied stress relative to the fibre direction (see Clause 6).

1.5 See ISO 527-1:1993, Subclause 1.5.

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 527-1:1993, *Plastics — Determination of tensile properties — Part 1: General principles*

ISO 527-4, *Plastics — Determination of tensile properties — Part 4: Test conditions for isotropic and orthotropic fibre-reinforced plastic composites*

ISO 1268 (all parts), *Fibre-reinforced plastics — Methods of producing test plates*

ISO 2818, *Plastics — Preparation of test specimens by machining*

ISO 3534-1, *Statistics — Vocabulary and symbols — Part 1: General statistical terms and terms used in probability*