

TEKSTIILID. KVANTITATIIVNE KEEMILINE ANALÜÜS.  
OSA 11: TEATAVATE TSELLULOOSKIUDUDE SEGUD  
TEATAVATE TEISTE KIUDUDEGA (VÄÄVELHAPPE  
KASUTAMISE MEETOD)

Textiles - Quantitative chemical analysis - Part 11:  
Mixtures of certain cellulose fibres with certain other  
fibres (method using sulfuric acid) (ISO 1833-11:2017)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 1833-11:2017 sisaldab Euroopa standardi EN ISO 1833-11:2017 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 1833-11:2017 consists of the English text of the European standard EN ISO 1833-11:2017.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 13.09.2017.	Date of Availability of the European standard is 13.09.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

**Textiles - Quantitative chemical analysis - Part 11:  
Mixtures of certain cellulose fibres with certain other  
fibres (method using sulfuric acid) (ISO 1833-11:2017)**

Textiles - Analyse chimique quantitative - Partie 11:  
Mélanges de certaines fibres de cellulose avec certaines  
autres fibres (méthode à l'acide sulfurique) (ISO 1833-  
11:2017)

Textilien - Quantitative chemische Analysen - Teil 11:  
Mischungen bestimmter Cellulosefasern mit  
bestimmten anderen Fasern (Schwefelsäure-  
Verfahren) (ISO 1833-11:2017)

This European Standard was approved by CEN on 22 August 2017.

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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  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (EN ISO 1833-11:2017) has been prepared by Technical Committee ISO/TC 48 “Textiles” in collaboration with Technical Committee CEN/TC 248 “Textiles and textile products” 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 March 2018, and conflicting national standards shall be withdrawn at the latest by March 2018.

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 1833-11:2010.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 1833-11:2017 has been approved by CEN as EN ISO 1833-11:2017 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](http://www.iso.org/directives)).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 38, *Textiles*.

This second edition cancels and replaces the first edition (ISO 1833-11:2006), which has been technically revised.

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

- the title was changed from “Mixtures of certain cellulose fibres **and** certain other fibres...” to “Mixtures of certain cellulose fibres **with** certain other fibres”; the subject was extended from “polyester” to “certain other fibres”;
- in [Clause 1](#), some remaining fibres were added;
- in [Clause 8](#), a specific *d* factor for the propylene/polyamide bicomponent was added;
- in [Clause 9](#), “percentage point” was added to avoid confusion.

A list of all parts in the ISO 1833 series can be found on the ISO website.

# Textiles — Quantitative chemical analysis —

## Part 11:

## Mixtures of certain cellulose fibres with certain other fibres (method using sulfuric acid)

### 1 Scope

This document specifies a method, using sulfuric acid, to determine the mass percentage of cellulose fibres, after removal of non-fibrous matter, in textiles made of mixtures of

- natural and man-made cellulose fibres, such as cotton, flax, hemp, ramie, viscose, cupro, modal, lyocell with
- polyester, polypropylene, elastomultiester, elastolefin and polypropylene/polyamide bicomponent.

### 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 1833-1, *Textiles — Quantitative chemical analysis — Part 1: General principles of testing*

### 3 Terms and definitions

No terms and definitions are listed in this document.

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

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

### 4 Principle

The cellulose fibre is dissolved out from a known dry mass of the mixture, with 75 % (mass fraction) sulfuric acid. The residue is collected, washed, dried and weighed; its mass is expressed as a percentage of the dry mass of the mixture. The proportion of cellulose fibre is found by the difference.

### 5 Reagents

Use the reagents described in ISO 1833-1 together with those given in 5.1 and 5.2.

#### 5.1 Sulfuric acid, 75 % (mass fraction).

A suitable reagent can be prepared by adding carefully, while cooling, 700 ml of concentrated sulfuric acid ( $\rho = 1,84$  g/ml at 20 °C) to 350 ml of distilled water. After the solution has cooled to room temperature, dilute it to 1 l with water. The concentration is not critical within the range 73 % to 77 % (mass fraction) sulfuric acid.