Textiles - Quantitative chemical analysis - Part 1: General principles of testing

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 1833-1:2010 sisaldab Euroopa standardi EN ISO 1833-1:2010 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 1833-1:2010 consists of the English text of the European standard EN ISO 1833-1:2010.
Standard on kinnitatud Eesti Standardikeskuse 31.10.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 31.10.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
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Textiles - Quantitative chemical analysis - Part 1: General principles of testing (ISO 1833-1:2006, including Cor 1:2009)

Textiles - Analyse chimique quantitative - Partie 1: Principes généraux des essais (ISO 1833-1:2006, Cor 1:2009 inclus)

Textilien - Quantitative chemische Analysen - Teil 1: Allgemeine Grundlagen der Prüfung (ISO 1833-1:2006, einschließlich Cor 1:2009)

This European Standard was approved by CEN on 12 September 2010.

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Foreword

The text of ISO 1833-1:2006, including Cor 1:2009 has been prepared by Technical Committee ISO/TC 38 “Textiles” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 1833-1:2010 by 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of an identical text or by endorsement, at the latest by April 2011, and conflicting national standards shall be withdrawn at the latest by April 2011.

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Endorsement notice

The text of ISO 1833-1:2006, including Cor 1:2009 has been approved by CEN as a EN ISO 1833-1:2010 without any modification.

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Introduction

In general, the methods described in the different parts of ISO 1833 are based on the selective solution of an individual component. After the removal of a component, the insoluble residue is weighed, and the proportion of soluble component is calculated from the loss in mass. This part of ISO 1833 gives the information which is common to the analyses, by this method, of all fibre mixtures, whatever their composition. This information should be used in conjunction with the other parts of ISO 1833; these parts contain the detailed procedures applicable to particular fibre mixtures. Where, occasionally, an analysis is based on a principle other than selective solution, full details are given in the appropriate part.

Mixtures of fibres during processing and, to a lesser extent, finished textiles may contain fats, waxes or dressings, either occurring naturally or added to facilitate processing. Salts and other water-soluble matter may also be present. Some or all of these substances would be removed during analysis, and calculated as the soluble-fibre component. To avoid this error, non-fibrous matter should be removed before analysis. A method of pre-treatment for removing oils, fats, waxes and water-soluble matter is given in Annex A of this part of ISO 1833.

In addition, textiles may contain resins or other matter added to bond the fibres together or to confer special properties, such as water-repellence or crease-resistance.

Such matter, including dyestuffs in exceptional cases, may interfere with the action of the reagent on the soluble component and/or it may be partially or completely removed by the reagent. This type of added matter may also cause errors and should be removed before the sample is analysed. If it is impossible to remove such added matter, the methods of analysis are no longer applicable. Dye in dyed fibres is considered to be an integral part of the fibre and is not removed.

Most textile fibres contain water, the amount depending on the type of fibre and on the relative humidity of the surrounding air. Analyses are conducted on the basis of dry mass, and a procedure for determining the dry mass of test specimens and residues is given in this part of ISO 1833. The result is therefore obtained on the basis of clean, dry fibres.

Provision is made for recalculating the result on the basis of

a) agreed allowances for moisture content[1)],

b) agreed allowances for moisture and also for

   1) fibrous matter removed in the pre-treatment, and

   2) non-fibrous matter (for example, fibre dressing, processing oil, or size) that can be properly regarded as part of the fibre as an article of commerce.

In some methods, the insoluble component of a mixture may be partially dissolved in the reagent used to dissolve the soluble component. Where possible, reagents have been chosen that have little or no effect on the insoluble fibres. If loss in mass is known to occur during the analysis, the result should be corrected; correction factors for this purpose are given. These correction factors have been determined in several laboratories by treating, in the appropriate reagent as specified in the method of analysis, fibres cleaned by the pre-treatment. These correction factors apply only to undegraded fibres, and different correction factors may be necessary if the fibres have been degraded during processing.

1) The values to use are the conventional conditioning rates for the respective fibres, when rates exist.

The procedures given apply to single determinations; at least two determinations on separate test specimens should be made, but more may be carried out if desired. Before proceeding with any analysis, all the fibres present in the mixture should have been identified. For confirmation, unless it is technically impossible, it is recommended that use be made of alternative procedures whereby the constituent that would be the residue in the standard method is dissolved out first.

If it is practicable to separate the components of a mixture manually, the method described in Annex B should be used in preference to the chemical methods of analysis given in the individual parts of ISO 1833.

Textiles — Quantitative chemical analysis —

Part 1: General principles of testing

1 Scope

This part of ISO 1833 specifies a common method for the quantitative chemical analysis of various binary mixtures of fibres. This method and the methods described in the other parts of ISO 1833 are applicable, in general, to fibres in any textile form. Where certain textile forms are excepted, these are listed in the scope of the appropriate part.

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 5089, *Textiles — Preparation of laboratory test samples and test specimens for chemical testing*

3 Terms and definitions

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

3.1
non-fibrous matter
processing aids such as lubricants and sizes (but excluding jute-batching oils), and naturally occurring non-fibrous substances

4 Principle

After the identification of the components of a mixture, one component is removed, usually by selective solution, the insoluble residue is weighed, and the proportions of soluble component are calculated from the loss in mass. Where relevant, the fibre in the larger proportion is removed first.

5 Reagents

Use only reagents of recognized analytical grade.

5.1 Light petroleum, re-distilled, distilling between 40 °C and 60 °C.

5.2 Distilled or deionized water.