BS EN ISO 1833-25:2013

BSI Standards Publication

Textiles — Quantitative chemical analysis

Part 25: Mixtures of polyester and certain other fibres (method using trichloroacetic acid and chloroform)

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National foreword

This British Standard is the UK implementation of EN ISO 1833-25:2013.

The UK participation in its preparation was entrusted to Technical Committee TCI/80, Chemical testing of textiles.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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Textiles - Quantitative chemical analysis - Part 25: Mixtures of polyester and certain other fibres (method using trichloroacetic acid and chloroform) (ISO 1833-25:2013)

Textiles - Analyse chimique quantitative - Partie 25: Mélanges de polyester et de certaines autres fibres (méthode à l'acide trichloracétique et au chloroforme) (ISO 1833-25:2013)

Textilien - Quantitative chemische Analysen - Teil 25: Mischungen aus Polyester und einigen anderen Fasern (Trichloressigsäure-/Chloroform-Verfahren) (ISO 1833-25:2013)

This European Standard was approved by CEN on 26 July 2013.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

This document (EN ISO 1833-25:2013) has been prepared by Technical Committee ISO/TC 38 "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of an identical text or by endorsement, at the latest by February 2014, and conflicting national standards shall be withdrawn at the latest by February 2014.

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Endorsement notice

The text of ISO 1833-25:2013 has been approved by CEN as EN ISO 1833-25:2013 without any modification.

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Foreword

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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. www.iso.org/directives

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The committee responsible for this document is ISO/TC 38, *Textiles*.

ISO 1833 consists of the following parts, under the general title *Textiles — Quantitative chemical analysis*:

— *Part 1: General principles of testing*

— *Part 2: Ternary fibre mixtures*

— *Part 3: Mixtures of acetate and certain other fibres (method using acetone)*

— *Part 4: Mixtures of certain protein and certain other fibres (method using hypochlorite)*

— *Part 5: Mixtures of viscose, cupro or modal and cotton fibres (method using sodium zincate)*

— *Part 6: Mixtures of viscose or certain types of cupro or modal or lyocell and cotton fibres (method using formic acid and zinc chloride)*

— *Part 7: Mixtures of polyamide and certain other fibres (method using formic acid)*

— *Part 8: Mixtures of acetate and triacetate fibres (method using acetone)*

— *Part 9: Mixtures of acetate and triacetate fibres (method using benzyl alcohol)*

— *Part 10: Mixtures of triacetate or polylactide and certain other fibres (method using dichloromethane)*

— *Part 11: Mixtures of cellulose and polyester fibres (method using sulfuric acid)*

— *Part 12: Mixtures of acrylic, certain modacrylics, certain chlorofibres, certain elastanes and certain other fibres (method using dimethylformamide)*

— *Part 13: Mixtures of certain chlorofibres and certain other fibres (method using carbon disulfide/acetone)*

— *Part 14: Mixtures of acetate and certain chlorofibres (method using acetic acid)*

— *Part 15: Mixtures of jute and certain animal fibres (method by determining nitrogen content)*

— *Part 16: Mixtures of polypropylene fibres and certain other fibres (method using xylene)*

— *Part 17: Mixtures of chlorofibres (homopolymers of vinyl chloride) and certain other fibres (method using sulfuric acid)*

— *Part 18: Mixtures of silk and wool or hair (method using sulfuric acid)*

— *Part 19: Mixtures of cellulose fibres and asbestos (method by heating)*

— *Part 20: Mixtures of elastane and certain other fibres (method using dimethylacetamide)*

— *Part 21: Mixtures of chlorofibres, certain modacrylics, certain elastanes, acetates, triacetates and certain other fibres (method using cyclohexanone)*

— *Part 22: Mixtures of viscose or certain types of cupro or modal or lyocell and flax fibres (method using formic acid and zinc chloride)*

— *Part 24: Mixtures of polyester and certain other fibres (method using phenol and tetrachloroethane)*

— *Part 25: Mixtures of polyester and certain other fibres (method using trichloroacetic acid and chloroform)*

— *Part 26: Mixtures of melamine and cotton or aramid fibres (method using hot formic acid)*

The following part is cancelled:

— *Part 23: Mixtures of polyethylene and polypropylene (method using cyclohexanone)*

Introduction

Chloroform is said to be harmful for operators. Safety shall be secured by strict operation according to safety regulations or precautions. However, alternative methods intended for the dissolution of polyester are included in the Bibliography.

INTERNATIONAL STANDARD ISO 1833-25:2013(E)

Textiles — Quantitative chemical analysis —

Part 25: Mixtures of polyester and certain other fibres (method using trichloroacetic acid and chloroform)

WARNING — This part of ISO 1833 calls for the use of substances/procedures that may be injurious to the health/environment if appropriate conditions are not observed. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety/environment at any stage.

1 Scope

This part of ISO 1833 specifies a method using trichloroacetic acid and chloroform to determine the percentage of polyester fibres after removal of non-fibrous matter, in textiles made of binary mixtures of polyester fibres with other fibres, except one type of aramid (polyamide imide), polyamide, chlorofibre and modacrylic.

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

3 Principle

The polyester fibre is dissolved out from a known dry mass of the mixture, with a reagent composed of trichloroacetic acid and chloroform. The residue is collected, washed, dried and weighed; its mass, corrected if necessary, is expressed as a percentage of the dry mass of the mixture. The percentage of polyester is found by difference.

4 Reagents

Use the reagents described in ISO 1833-1, together with those specified in 4.1, 4.2 and 4.3.

4.1 Solution of crystallized trichloroacetic acid/chloroform reagent, prepared at a mass ratio 1:1.

SAFETY PRECAUTIONS — The harmful effects of this reagent shall be borne in mind, and full precautions shall be taken during use.

4.2 Solution of 15 g of trichloroacetic acid filled up to 100 g with chloroform.

4.3 Chloroform.

5 Apparatus

Use the apparatus described in ISO 1833-1, together with that described in 5.1.

5.1 Conical flask, of minimum capacity of 200 ml, glass stoppered.

6 Test procedure

Follow the general procedure described in ISO 1833-1, and then proceed as follows.

6.1 Place the specimen in the conical flask.

6.2 Add 50 ml of trichloroacetic acid/chloroform reagent (4.1) per gram of specimen.

6.3 Stopper the conical flask and shake it vigorously.

6.4 Allow the flask and contents to remain for 15 min, shaking it during this time at intervals.

6.5 Decant the liquid through the weighed filter crucible with suction.

6.6 Pour 100 ml of trichloroacetic acid/chloroform reagent (4.1) into the conical flask, decant the liquid through the filter crucible, and then transfer any residual fibres to the crucible by washing out the conical flask with the trichloroacetic acid/chloroform solution (4.2) followed by chloroform (4.3).

6.7 Drain the crucible with suction. Do not apply suction until the washing liquor has drained under gravity.

6.8 Finally, drain the crucible with suction, dry the crucible and residue, cool and weigh them.

6.9 Check the residue under a microscope to see if the treatment completely eliminated the soluble fibre.

7 Calculation and expression of results

Calculate the results as described in the general instructions of ISO 1833-1.

The value of the correction factor of variation in mass of insoluble component in the reagent (d) is 1,02 and 1,00 for cotton and aramid, respectively.

Bibliography

[1] ISO 1833-24, *Textiles — Quantitative chemical analysis — Part 24: Mixtures of polyester and certain other fibres (method using phenol and tetrachloroethane)*

[2] AATCC *Fiber Analysis: Quantitative*

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