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**Textiles — Quantitative chemical  
analysis —**

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

*Textiles — Analyse chimique quantitative —*

*Partie 20: Mélanges d'élasthane avec certaines autres fibres  
(méthode au diméthylacétamide)*



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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)).

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](http://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 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*.

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](http://www.iso.org/members.html).

This second edition cancels and replaces the first edition (ISO 1833-20:2009), which has been technically revised. The main changes compared to the previous edition are as follows:

- the title has been changed from “Mixtures of elastanes **and** certain other fibres...” to “Mixtures of elastane **with** certain other fibres...”;
- in [Clause 1](#), references to other possible methods have been added;
- the date of publication for ISO 1833-1 has been removed;
- in [Clause 8](#), “percentage point” has been 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 20:

## Mixtures of elastane with certain other fibres (method using dimethylacetamide)

### 1 Scope

This document specifies a method using dimethylacetamide to determine the mass percentage of elastane, after removal of non-fibrous matter, in textiles made of mixtures of:

— certain elastane fibres

with

— cotton, viscose, cupro, modal, lyocell, polyamide, polyester or wool fibres.

This method is not applicable when acrylic fibres are present.

It is also possible to analyse mixtures containing certain elastane fibres by using the test methods described in ISO 1833-12 or ISO 1833-21.

### 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 elastane fibre is dissolved out from a known dry mass of the mixture with dimethylacetamide (DMA). 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 elastane is found by difference.

### 5 Reagents

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

#### 5.1 Dimethylacetamide (DMA).

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

## 6 Apparatus

Use the items of apparatus described in ISO 1833-1, together with those described in [6.1](#) and [6.2](#).

**6.1 Conical flask**, of minimum capacity 250 ml, glass stoppered.

**6.2 Heating apparatus**, suitable for maintaining the temperature of the flask within the limits 60 °C to 65 °C.

## 7 Test procedure

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

- Place the specimen in the conical flask.
- Add 150 ml of DMA per gram of specimen.
- Insert the stopper. Shake to wet out the specimen.
- Leave it for at least for 30 min in the double boiler at 60 °C, shaking at intervals.
- Filter the contents of the conical flask through a weighted filter crucible and transfer any residual fibres to the crucible by washing out the conical flask with DMA.
- Drain the crucible using suction and wash the residue with water. Do not apply suction until the washing liquor has drained under gravity.
- Finally, drain the crucible with suction, dry the crucible and residue, cool and weigh them.

## 8 Calculation and expression of results

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

The value of  $d$  is 1,00, except for wool, for which  $d$  is 1,01; and for cotton, for which  $d$  is 1,02.

## 9 Precision

On a homogeneous mixture of textile materials, the confidence limits of the results obtained by this method are not greater than  $\pm 1$  % percentage point for a confidence level of 95 %.