
**Textiles — Quantitative chemical
analysis —**

Part 15:

**Mixtures of jute with certain animal
fibres (method by determining
nitrogen content)**

Textiles — Analyse chimique quantitative —

*Partie 15: Mélanges de jute avec certaines fibres animales (méthode
par détermination de la teneur en azote)*

ISO 1833-15:2019

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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).

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).

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

For an explanation of 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 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 1833-15:2006), which has been technically revised. The main changes compared to the previous edition are as follows:

- the title has been changed from “Mixtures of jute **and** certain animal fibres (method by determining nitrogen content)” to “Mixtures of jute **with** certain animal fibres (method by determining nitrogen content)”;
- in [Clause 2](#), reference to ISO 5089 for sampling principle has been added;
- the mandatory [Clause 3](#), “Terms and definitions”, has been added;
- in [Clause 9](#), [Formula \(1\)](#) has been corrected.

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

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.

Textiles — Quantitative chemical analysis —

Part 15:

Mixtures of jute with certain animal fibres (method by determining nitrogen content)

1 Scope

This document specifies a method, by determining the nitrogen content, to calculate the proportion of each component, after the removal of non-fibrous matter, in textiles made of mixtures of

— jute

with

— animal fibres.

The animal-fibre component can consist solely of hair or wool, or of any mixtures of the two.

This document is not applicable to products in which dyestuffs or finishes contain nitrogen.

NOTE Because this method differs in principle from the general method based on selective solubility set out in ISO 1833-1, it is given in a form that is complete in itself.

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*

ISO 5089, *Textiles — Preparation of laboratory test samples and test specimens for chemical 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 nitrogen content of the mixture is determined, and from this and the known or assumed nitrogen contents of the two components, the proportion of each component is calculated.

5 Reagents

All reagents shall be of recognized analytical reagent quality.

ISO 1833-15:2019(E)

5.1 Toluene.

5.2 Methanol.

5.3 Sulfuric acid, $\rho = 1,84$ g/ml at 20 °C.

5.4 Potassium sulfate.

5.5 Selenium dioxide.

5.6 Sodium hydroxide solution, 400 g/l.

Dissolve 400 g of sodium hydroxide in 400 ml to 500 ml of water, and dilute to 1 l with water.

5.7 Mixed indicator.

Dissolve 0,1 g of methyl red in 95 ml of ethanol and 5 ml of water, then mix with 0,5 g of bromocresol green dissolved in 475 ml of ethanol and 25 ml of water.

5.8 Boric acid solution.

Dissolve 20 g of boric acid in 1 l of water.

5.9 Sulfuric acid, 0,01 mol/l standard volumetric solution.

6 Apparatus

Use the apparatus described in ISO 1833-1 together with those given in [6.1](#), [6.2](#) and [6.3](#).

6.1 Kjeldahl digestion flask, capacity 200 ml to 300 ml.

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6.2 Kjeldahl distillation apparatus with steam injection, including a distillation flask.

6.3 Titration apparatus, allowing a precision of 0,05 ml.

7 Sampling and pre-treatment of laboratory test sample

7.1 Sampling

Take a laboratory test sample that is representative of the laboratory bulk sample, as described in ISO 5089, and sufficient to provide all the test specimens, each of about 1 g, that are required. Treat the laboratory test sample as described in [7.2](#).

7.2 Pre-treatment of laboratory test sample

Extract the air-dry sample in a Soxhlet apparatus with a mixture of 1 volume of toluene and 3 volumes of methanol for 4 h at a minimum rate of 5 cycles per hour.

Allow the solvent to evaporate from the sample in air, and remove the last traces in an oven at (105 ± 3) °C. Extract the sample in water (50 ml per gram of sample) by boiling under reflux for 30 min. Filter, return the laboratory test sample to the flask and repeat the extraction with a similar volume of new water.