
**Textiles — Quantitative chemical
analysis —**

Part 16:

**Mixtures of polypropylene fibres
with certain other fibres (method
using xylene)**

Textiles — Analyse chimique quantitative —

*Partie 16: Mélanges de fibres de polypropylène avec certaines autres
fibres (méthode au xylène)*

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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).

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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.

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

This second edition cancels and replaces the first edition (ISO 1833-16:2006), which has been technically revised. The main changes compared to the previous editions are as follows:

- the title has been changed from “Mixtures of polypropylene fibres **and** certain other fibres...” to “Mixtures of polypropylene fibres **with** certain other fibres...”;
- in [Clause 1](#), some remaining fibres have been added;
- [Clause 3](#), Terms and definitions, has been added and the subsequent clauses have been renumbered;
- in [Clause 6](#) (former [Clause 5](#)), a heating mantle device has been added;
- in [Clause 7](#) (former [Clause 6](#)), some precise details have been added in the test procedure;
- in [Clause 8](#) (former [Clause 7](#)), a specific *d* factor for melamine and polyacrylate has been added;
- in [Clause 9](#) (former [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.

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 16:

Mixtures of polypropylene fibres with certain other fibres (method using xylene)

1 Scope

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

— polypropylene fibres

with

— wool, animal hair, silk, cotton, viscose, cupro, modal, lyocell, acetate, triacetate, polyamide, polyester, acrylic, glass fibres, elastomultiester, melamine and polyacrylate.

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 polypropylene fibre is dissolved from a known dry mass of the mixture with boiling xylene. 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 polypropylene is found by the difference.

5 Reagents

Use the reagent described in ISO 1833-1 as light petroleum together with that given in 5.1.

5.1 Xylene, boiling range from 136 °C to 145 °C.

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 apparatus described in ISO 1833-1 together with those given in 6.1, 6.2 and 6.3.

6.1 Round bottom flasks, of minimum capacity 200 ml, glass stoppered.

6.2 Reflux condenser, suitable for liquids of high boiling point, fitting the round bottom flasks.

6.3 Heating mantle device, suitable for the round bottom flask (6.1) and for boiling point of xylene (5.1).

7 Test procedure

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

Preheat the filter crucible through which the xylene is to be filtered in the oven at 105°C.

To the specimen contained in the round bottom flask, add 100 ml of the xylene per gram of specimen. Attach the condenser and boil the contents for 3 min.

Alternatively, hot extraction apparatus, (e.g. as described in ISO 1833-21) using the appropriate procedures, giving identical results, may be used. See for example, the apparatus described in Reference [2].

Immediately decant the hot liquid through the hot weighed filter crucible.

Repeat this treatment twice more, each time using a fresh 50 ml portion of solvent.

Wash the residue remaining in the flask successively with 30 ml of boiling xylene (twice).

After the treatment with boiling xylene, ensure that the flask containing the residue is cooled sufficiently before the light petroleum is introduced.

Then wash the residue remaining in the flask with 75 ml of the light petroleum (twice).

After the second wash with light petroleum, filter the residue through the filter crucible and allow it to drain.

Finally, dry the crucible and residue, then cool and weigh them.

8 Calculation and expression of results

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

The value of d is 1,00 except for melamine and polyacrylate, for which " d " is 1,01.

9 Precision

For homogeneous mixtures of textile materials, the confidence limits of results obtained by this method are not greater than ± 1 percentage point for the confidence level of 95 %.