

Textiles and textile products - Microplastics from textile sources - Part 1: Determination of material loss from fabrics during washing (ISO 4484-1:2023)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 4484-1:2023 sisaldab Euroopa standardi EN ISO 4484-1:2023 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 4484-1:2023 consists of the English text of the European standard EN ISO 4484-1:2023.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
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English Version

Textiles and textile products - Microplastics from textile sources - Part 1: Determination of material loss from fabrics during washing (ISO 4484-1:2023)

Textiles et produits textiles - Microplastiques
d'origines textiles - Partie 1: Détermination des pertes
de matière des étoffes pendant le lavage (ISO 4484-
1:2023)

Textilien und textile Erzeugnisse - Mikroplastik aus
textilen Quellen - Teil 1: Bestimmung des
Materialverlusts von textilen Flächengebilden beim
Waschen (ISO 4484-1:2023)

This European Standard was approved by CEN on 28 December 2022.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

This document (EN ISO 4484-1:2023) 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of an identical text or by endorsement, at the latest by August 2023, and conflicting national standards shall be withdrawn at the latest by August 2023.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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Endorsement notice

The text of ISO 4484-1:2023 has been approved by CEN as EN ISO 4484-1:2023 without any modification.

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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).

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This document was prepared by Technical Committee ISO/TC 38, *Textiles*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC248, *Textiles and textile products*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

A list of all parts in the ISO 4484 series can be found on the ISO website.

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Introduction

There is significant evidence that during laundering of textiles, release of fragments can occur. The purpose of this document is to provide a method of assessment, to be used in laboratories, of the degree to which different fabrics shed fibres and fibre fragments of all types. The results obtained by using this document should enable manufacturers of textile articles to make an informed choice about the type of fabric to use to reduce/minimize shedding as well as to test different methods of manufacture that minimize material loss during laundering.

Textiles and textile products — Microplastics from textile sources —

Part 1: Determination of material loss from fabrics during washing

1 Scope

This document describes a method for systematically collecting material loss from fabrics under laundering test conditions to achieve comparable and accurate results. There is no direct correlation to material loss during domestic and commercial laundering. The method is designed to assess material loss of all types.

NOTE In this document, any collected debris is assumed to be fibre fragments. For the identification of the nature/composition of this debris, the method described in ISO 4484-2 can be used.

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 3696:1987, *Water for analytical laboratory use — Specification and test methods*

ISO 4915, *Textiles — Stitch types — Classification and terminology*

ISO 4916, *Textiles — Seam types — Classification and terminology*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Principle

The test specimen is subjected to an accelerated laundering process under conditions of temperature, time, and mechanical action. The resultant wash liquor is vacuum filtered. Material loss is assessed gravimetrically to approximate material loss during simulated domestic laundering. The ratio of the mass of the material loss by the test specimen mass is then reported.

Note Consideration on detergent can be found in [A.1](#).

5 Reagents

5.1 Water, distilled or grade 3 according to ISO 3696.