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**Tekstilije in tekstilni izdelki - Mikroplastika iz tekstilnih virov - 4. del: Kvantitativna termična ali gravimetrična analiza nekaterih sintetičnih snovi, ki se med pranjem sproščajo iz tkanin (ISO/DIS 4484-4:2026)**

Textiles and textile products - Microplastics from textile sources - Part 4: Quantitative thermal or gravimetric analysis of certain synthetic materials released from fabrics during washing (ISO/DIS 4484-4:2026)

Textilien und textile Erzeugnisse - Mikroplastik aus textilen Quellen - Teil 4: Quantitative thermische oder gravimetrische Analyse bestimmter synthetischer Materialien, die beim Waschen aus textilen Flächengebilden freigesetzt werden (ISO/DIS 4484-4:2026)

Textiles et produits textiles - Microplastiques d'origines textiles - Partie 4: Titre manque (ISO/DIS 4484-4:2026)

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|           |                                                        |                                               |
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| 13.020.40 | Onesnaževanje, nadzor nad onesnaževanjem in ohranjanje | Pollution, pollution control and conservation |
| 59.080.01 | Tekstilije na splošno                                  | Textiles in general                           |

**oSIST prEN ISO 4484-4:2026**

**en,fr,de**

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# DRAFT International Standard

## ISO/DIS 4484-4

### Textiles and textile products — Microplastics from textile sources —

#### Part 4: Quantitative thermal or gravimetric analysis of certain synthetic materials released from fabrics during washing

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## ISO/DIS 4484-4:2026(en)

## Foreword

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

A list of all parts in the ISO 4484 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](http://www.iso.org/members.html).

**ISO/DIS 4484-4:2026(en)****Introduction**

The purpose of this document is to outline laboratory methods for assessing the emission of microplastics from fabrics with known fibre compositions, including polyester, polyamide, acrylic, elastane, polypropylene, and polyethylene. The methods involve identification by microscopic observation and quantitative analysis using thermal analysis and gravimetric analysis.

Thermal method can identify and quantify several types of microplastics. its high sensitivity and precision allow for the detection of even trace amounts of microplasticss, making it a fast and efficient method.

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# Textiles and textile products — Microplastics from textile sources —

## Part 4:

## Quantitative thermal or gravimetric analysis of certain synthetic materials released from fabrics during washing

### 1 Scope

This document specifies a method for identifying microplastics, using microscopic observation, whether the size of captured fibre fragments released from fabrics under washing test conditions.

It also specifies a thermal method and a gravimetric method for the quantitative determination of microplastics made of certain synthetic fibres: polyester (PES), polyamide (PA), acrylic (PAN), elastane (EL), polypropylene (PP), and polyethylene (PE).

- The thermal methods such as pyrolysis-gas chromatography-mass spectrometry (Py-GC-MS) and thermo extraction desorption-gas chromatography - mass spectrometry (TED-GC-MS) are applicable to PES, PAN, PA, and EL.
- The gravimetric method is applicable to PP and PE, including blended fabrics, provided that non-PP/PE components are dissolved by appropriate solvents so that PP and PE are isolated for quantification.

These thermal and gravimetric methods are applicable to fabrics composed of these six synthetic fibres, either alone or in blends with other fibres (e.g., natural or non-target synthetic fibres).

Gravimetric method does not apply to:

- solvent-insoluble components (e.g., aramids) composed with polypropylene and/or polyethylene

### 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 105-F03, *Textiles — Tests for colour fastness — Part F03: Specification for polyamide adjacent fabric*

ISO 105-F04, *Textiles — Tests for colour fastness — Part F04: Specification for polyester adjacent fabric*

ISO 105-F05, *Textiles — Tests for colour fastness — Part F05: Specification for acrylic adjacent fabric*

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

ISO 4484-1, *Textiles and textile products — Microplastics from textile sources — Part 1: Determination of material loss from fabrics during washing*

ISO/TR 11827, *Textiles — Composition testing — Identification of fibres*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.