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Textiles — Quantitative chemical analysis —

Part 29: Mixtures of polyamide with polypropylene/polyamide bicomponent (method using sulfuric acid)

Textiles — Analyse chimique quantitative —

Partie 29: Mélanges de polyamide avec bicomposant polypropylène/ polyamide (méthode à l'acide sulfurique)

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Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Principle **1**
5 Reagents **2**
6 Apparatus **2**
7 Test procedure **2**
8 Calculation and expression of results **2**
9 Precision **3**
Bibliography **4**

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Foreword

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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/TC 248, *Textiles and textile products*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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Introduction

Mixtures of polyamide with polypropylene/polyamide bicomponent are often used for carpets. Polypropylene is the matrix of the bicomponent which includes polyamide fibrils.

The method described in ISO 1833-18 was found suitable to dissolve polyamide fibres without dissolving the polyamide fibrils inside the bicomponent.

As the scope of ISO 1833-18 is specific to mixtures of silk with protein fibres, a specific part was developed for mixtures of polyamide with polypropylene/polyamide bicomponent, using the same operating conditions.

The method described in ISO 1833-7 was not found suitable as formic acid dissolves all polyamide.

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Textiles — Quantitative chemical analysis —

Part 29: Mixtures of polyamide with polypropylene/polyamide bicomponent (method using sulfuric acid)

1 Scope

This document specifies a method, using sulfuric acid, to determine the mass percentage of polyamide, after removal of non-fibrous matter, in textiles made of binary mixtures of

— polyamide

with

— polypropylene/polyamide bicomponent.

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

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

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/

3.1
bicomponent
two strongly bonded polymers of different chemical and/or physical construction

3.2
polypropylene/polyamide bicomponent
bicomponent (3.1) where between 10 % and 25 % by mass of polyamide fibrils span inside the polypropylene matrix

[SOURCE: ISO 2076:2013, 4.33, modified — The definition has been modified.]

4 Principle

The polyamide is dissolved from a known dry mass of the mixture with 75 % (mass fraction) sulfuric acid. 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 polyamide/polypropylene bicomponent is found by the difference.

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