INTERNATIONAL STANDARD

ISO 20920

First edition
2018-09

Textiles — Man-made fibres — Determination of dye uptake of cationic dyeable modified polyester fibres

Textiles — Fibres fabriquées — Détermination de l'absorption des colorants par les fibres de polyester à pression normale

Reference number
ISO 20920:2018(E)

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Published in Switzerland

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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.

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This document was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 23, *Fibres and yarns*.

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.

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Introduction

Typical polyester fibres as sold on the market can be dyed at temperatures above 100 °C and high pressures by using disperse dye. As part of the highly modified polyester products, cationic dyeable polyester (CDP) can be dyed at lower temperatures by using cationic dye. For some modified species in particular, easy cationic dyeable polyester (ECDP) can be dyed under 100 °C at normal pressure. Due to this key improvement, cationic dyeable modified polyester fibres are becoming more and more popular on the market. This test method is used to evaluate the dye uptake rate of cationic dyeable modified polyester fibres by using cationic dye.

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Textiles — Man-made fibres — Determination of dye uptake of cationic dyeable modified polyester fibres

WARNING — The use of this document can involve hazardous materials, operations, and equipment. It does not purport to address all of the safety risks associated with its use.

1 Scope

This document specifies a method for determining the dye uptake of cationic dyeable modified polyester fibres by using cationic dye.

It is applicable to cationic dyeable modified polyester fibres, including staple fibres and filament yarns.

It is not applicable to polyester partially oriented yarns.

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-C10, *Textiles — Tests for colour fastness — Part C10: Colour fastness to washing with soap or soap and soda*

ISO 139, *Textiles — Standard atmospheres for conditioning and testing*

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

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
cationic dyeable modified polyester fibre
polyester fibre modified with third monomer or fourth monomer copolymerization which can be dyed by using cationic dyestuffs

EXAMPLE Cationic dyeable polyester (CDP) and easy cationic dyeable polyester (ECDP).

Note 1 to entry: The third monomer, such as a sulfonic acid group, is applied as a modifying agent to polymerize CDP.

Note 2 to entry: The third monomer, such as a sulfonic acid group, and the fourth monomer, such as carboxylic acid groups or other flexible groups, are applied as modifying agents to polymerize ECDP.

3.2
dye uptake
ratio of dye absorption into the specimen in both chemical and physical ways

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