Irish Standard
I.S. EN ISO 20743:2013

Textiles - Determination of antibacterial activity of textile products (ISO 20743:2013)

I.S. EN ISO 20743:2013

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English Version

Textiles - Determination of antibacterial activity of textile products (ISO 20743:2013)

Textiles - Détermination de l'activité antibactérienne des produits textiles (ISO 20743:2013)

Textilien - Bestimmung der antibakteriellen Wirkung antibakteriell behandelter Erzeugnisse (ISO 20743:2013)

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Foreword

This document (EN ISO 20743:2013) 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of an identical text or by endorsement, at the latest by January 2014, and conflicting national standards shall be withdrawn at the latest by January 2014.

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The text of ISO 20743:2013 has been approved by CEN as EN ISO 20743:2013 without any modification.

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I.S. EN ISO 20743:2013

INTERNATIONAL STANDARD

ISO 20743

Second edition
2013-07-15

Textiles — Determination of antibacterial activity of textile products

Textiles — Détermination de l'activité antibactérienne des produits textiles

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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. www.iso.org/directives

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

The committee responsible for this document is ISO/TC 38, *Textiles*.

This second edition cancels and replaces the first edition (ISO 20743:2007), which has been technically revised.

Introduction

Speciality products of antibacterial-treated textiles have been introduced in the market and are expanding year by year in various applications. Those textiles certainly meet the consumer's requirement to seek prevention and protection from the negative effects caused by bacteria and to secure the quality of life.

In this situation, the test methods to determine the antibacterial activity for antibacterial textile products were expected to be established in order to address the substantial need for an International Standard.

The test method for antibacterial activity was developed as ISO 20645 which was a qualitative test method. There are no testing standards for the quantitative method which gives more objective information for the antibacterial activity of the textile products.

There are several practical test methods to determine the quantitative antibacterial activity specified in this International Standard. The test methods are composed of 2 major steps, such as inoculation of bacteria and quantitative measurement of bacteria.

The methods for the inoculation of bacteria specified in this International Standard are the absorption method, transfer method and printing method.

The methods of the quantitative measurement of bacteria specified in this International Standard are colony plate count method and ATP luminescence methods.

Although there are 6 ways for the combination of inoculation methods and quantitative measurements to execute this test, the choice of the ways depends on the user's availability and consensus between the concerned parties.

Textiles — Determination of antibacterial activity of textile products

1 Scope

This International Standard specifies quantitative test methods to determine the antibacterial activity of all antibacterial textile products including nonwovens.

This International Standard is applicable to all textile products, including cloth, wadding, thread and material for clothing, bedclothes, home furnishings and miscellaneous goods, regardless of the type of antibacterial agent used (organic, inorganic, natural or man-made) or the method of application (built-in, after-treatment or grafting).

Based on the intended application and on the environment in which the textile product is to be used and also on the surface properties of the textile properties, the user can select the most suitable of the following three inoculation methods on determination of antibacterial activity:

a) absorption method (an evaluation method in which the test bacterial suspension is inoculated directly onto specimens);

b) transfer method (an evaluation method in which test bacteria are placed on an agar plate and transferred onto specimens);

c) printing method (an evaluation method in which test bacteria are placed on a filter and printed onto specimens).

The colony plate count method and the ATP (ATP = Adenosine Tri-phosphate) luminescence method are also specified for measuring the enumeration of bacteria.

2 Normative references

The following referenced documents are indispensable for the application 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 6330, *Textiles — Domestic washing and drying procedures for textile testing*

3 Terms and definitions

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

3.1
control fabric
fabric used to validate the growth condition of test bacteria and validate the test

Note 1 to entry: The same fabric as the fabric to be tested but without antibacterial treatment or a 100 % cotton fabric without fluorescent brighteners or other finish can be used.

3.2
antibacterial agent
product designed to prevent or mitigate the growth of bacteria, to reduce the number of bacteria or to kill bacteria