



BSI Standards Publication

Textiles — Determination of antifungal activity of textile products

Part 1: Luminescence method

National foreword

This British Standard is the UK implementation of ISO 13629-1:2025.

The UK participation in its preparation was entrusted to Technical Committee TCI/100, Co-ordination of activities in textiles and clothing.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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**International
Standard**

ISO 13629-1

**Textiles — Determination of
antifungal activity of textile
products —**

**Part 1:
Luminescence method**

*Textiles — Détermination de l'activité antifongique des produits
textiles —*

Partie 1: Méthode par luminescence

**Second edition
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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 document 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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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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

This second edition cancels and replaces the first edition (ISO 13629-1:2012), which has been technically revised.

The main changes are as follows:

- in [subclause 8.4.6](#), the adenosine phosphate deaminase content has been corrected from 46 international units/ml to 4,6 international units/ml;
- in [subclause 13.1](#):
 - new steps h) and i) have been added to the absorption method;
 - a new [Formula \(2\)](#) have been added and subsequent formulae have been renumbered;
- in [subclause 13.2](#), new steps h) and i) have been added to the transfer method;
- figures have been updated;
- in [Table A.1](#), the fungal type *cladosporium cladosporioides* has been corrected to *cladosporium sphaerospermum*.

A list of all parts in the ISO 13629 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.

Introduction

Speciality products of antimicrobial-treated textiles have been increasing year by year in various applications and they certainly contribute to the prevention of a material's deterioration and to the improvement of the environment and quality of life.

For these reasons, ISO/TC 38 developed ISO 20743 in 2007, and is continuing to study a test method on the antifungal activity of textile products for a series of International Standards.

This document adopts an adenosine triphosphate (ATP) luminescence method as a basis for the quantitative determination of antifungal activity.

Characteristics of the luminescence method are as follows:

- extremely small margin of error compared to the colony count method;
- elimination of the culturing time for colony formation, enabling a shorter testing time;
- simplification of testing operation.

Textiles — Determination of antifungal activity of textile products —

Part 1: Luminescence method

1 Scope

This document specifies a test method for the quantitative determination of the antifungal activity by measuring the intensity of luminescence produced by an enzymatic reaction [adenosine triphosphate (ATP) method].

This document is applicable to various kinds of textile products, such as fibres, yarns, fabrics, clothing, bedclothes, home furnishings and other miscellaneous goods.

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-F02, *Textiles — Tests for colour fastness — Part F02: Specification for cotton and viscose adjacent fabrics*

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 <https://www.electropedia.org/>

3.1 control specimen

specimen used to validate the growth condition of test fungus

Note 1 to entry: The control specimen can be taken from the same textile products as the textile products to be tested, but without antifungal treatment. If this is not available, a 100 % cotton specimen without fluorescent brighteners or other finish, conforming with the requirements of ISO 105-F02, is used as the control specimen, after 10 cycles of washing for 10 min at a temperature of 60 °C without detergents or any brighteners and rinsing twice for 5 min in accordance with ISO 6330.

3.2 antifungal agent

substance which prevents or mitigates the growth of fungus or to reduce the number of fungus

3.3 spore suspension

liquid with evenly dispersed fungal spores in sterilized water containing an anionic surfactant