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Textiles — Water resistance — Rain tests: exposure to a horizontal water spray

Textiles — Résistance à l'eau — Essai d'arrosage: exposition à une pulvérisation horizontale

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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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 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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

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*, Subcommittee SC 2, *Cleansing, finishing and water resistance tests.*

This second edition cancels and replaces the first edition (ISO 22958:2005), which has been technically revised. It also incorporates the Technical Corrigendum ISO 22958:2005/Cor 1:2009.

The main changes compared to the previous edition are as follows:

— Figure 2 b) has been revised to more accurately reflect the relative dimensions of the square specimen;

— editorial changes have been applied throughout for clarity.

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

ISO 9865 is not always accurate when measuring water resistance (penetration) when testing the latest tightly woven or lightly coated fabrics in the market today. The rain test specified in this document is more suitable for measuring relatively low amounts of water penetrating highly water- resistant fabric.

Textiles — Water resistance — Rain tests: exposure to a horizontal water spray

1 Scope

This document specifies a test for measuring the resistance of fabrics to the penetration of water by impact. It can be used to predict the probable rain penetration resistance of textile fabrics.

This document is applicable to any textile fabric, whether or not it has been given a water-resistant or water-repellent finish. It is especially suitable for measuring apparel fabrics. Testing at different intensities of water impact gives a complete picture of the penetration resistance of a single fabric or combination of fabrics. The test is particularly suitable when measuring highly water-resistant fabrics with low amounts of water penetration.

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 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 https://www.electropedia.org/

3.1
water resistance
characteristic indicating the ability to resist wetting and penetration by water

4 Principle

A test specimen, backed by a weighed blotter, is sprayed with water for 5 min under controlled conditions. The blotter is then reweighed to determine the amount of water which has leaked through the specimen during the test.

5 Safety precautions

Good laboratory practice should be followed. Wear safety glasses in all laboratory areas.

WARNING — These safety precautions are for information purposes only. The precautions are ancillary to the test procedures and are not intended to be all-inclusive. It is the user's responsibility to use safe and proper techniques in handling materials used in this document. Manufacturers should be consulted for specific details such as material safety sheets and other manufacturer's recommendations.

6 Apparatus

6.1 Rain Tester[1)] (see Figures 1, 2 and 3).

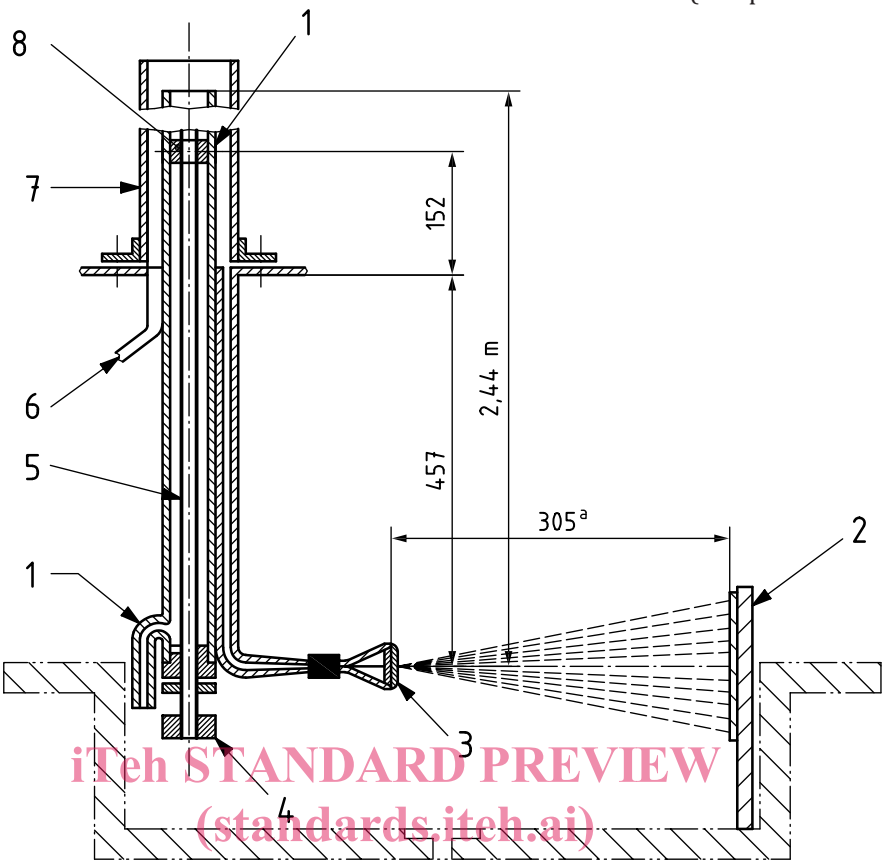
NOTE Typical pressure heads range from 610 mm to 1 830 mm.

Figure 1 — Rain Tester, complete assembly

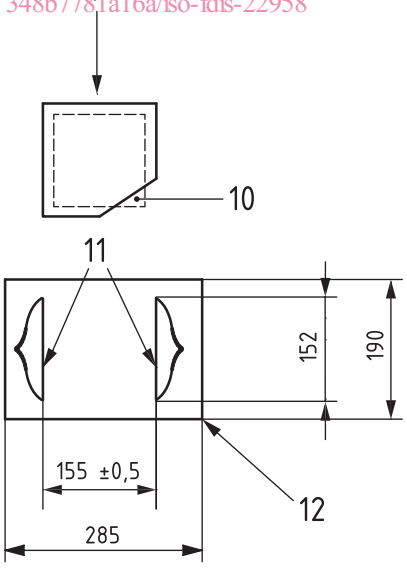
Dimensions in millimetres

1) Rain Tester is the trade-name of a suitable apparatus supplied by AATCC (www.aatcc.org). This information is given for the convenience of users of this International Standard and does not constitute an endorsement by ISO of the apparatus named. Equivalent apparatus may be used if it can be shown to lead to the same results.

(except where otherwise indicated)



a) Side view



b) Details of test specimen holder with typical dimensions

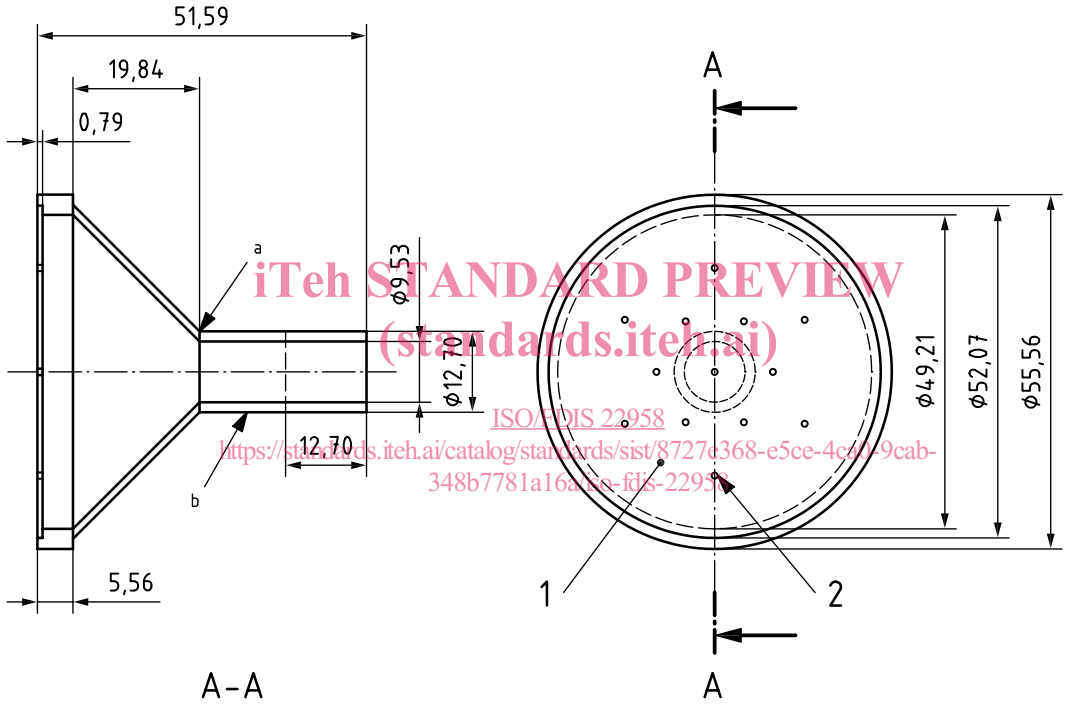
Key

1	overflow	7	glass pipe
2	test specimen holder	8	valve at 0,6 m level
3	nozzle	9	test specimen, (200 × 200) mm
4	valve handle	10	blotter (150 mm ± 3mm) × (150 mm ± 3mm)
5	brass valve stem	11	spring clips (2), 152 mm long
6	water inlet	12	clear plastic or masonite board

a Distance from nozzle to test specimen.

Figure 2 — Rain Tester, structural details

Dimensions in millimetres



Key

1 1 hole in centre, 6 holes on an 18,3 mm diameter circle and 6 holes on a 32,5 mm diameter circle, glued and staked to body

2 13 holes, diameter (1,0 ± 0,01) mm after plating
finish: black-anodized
material: aluminium

a 12,8 mm diameter at this point.

b Tapered.

Figure 3 — Nozzle details

6.2 White textile blotting paper, of approximate thickness 0,7 mm ± 0,1 mm, of approximate surface density (often known in the industry as "weight") 370 g/m^2 ± 36,0 g/m^2 and with an approximate absorbent capacity of 240 %.[2)]

2) White Textile Blotting Paper is the trade-name of a product supplied by AATCC (www.aatcc.org). This information is given for the convenience of users of this International Standard and does not constitute an endorsement by ISO of the product named. Equivalent products may be used if they can be shown to lead to the same results.