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STANDARD

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**Textiles — Determination of water repellency of
fabrics by the Bundesmann rain-shower test**

*Textiles — Hydrophobicité de tissus à l'aide d'un essai d'arrosage
suivant la méthode Bundesmann*



Reference number
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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 9865 was prepared by Technical Committee ISO/TC 38, *Textiles*.

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Textiles — Determination of water repellency of fabrics by the Bundesmann rain-shower test

1 Scope

This International Standard describes a method for the determination of the water repellency of textile fabrics by a rain-shower test known as the Bundesmann method.

The test may be used to assess the effectiveness of finishing procedures for rendering textile fabrics water-repellent.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 139:1973, *Textiles — Standard atmospheres for conditioning and testing*.

3 Definition

For the purposes of this International Standard, the following definition applies.

3.1 water repellency: The resistance of textile fabrics to absorb rain shower water. The criterion is the amount of water absorbed following the effects of a defined artificial rain shower for a specific duration. In addition, the amount of water penetrating the textile fabrics and the water run-off may be recorded.

4 Principle

Test specimens of textile fabrics are mounted on cups and then exposed to an artificial rain shower under defined conditions. The water repellency is assessed by visual comparison of the wet specimens with reference photographs. The water absorbed by the specimens during the test is weighed. The water penetrating the specimens is also collected in the cups and recorded.

5 Apparatus and materials

NOTE 1 The rain shower equipment produces an artificial rain shower defined by water flow, drop size and drop fall height. The rain shower equipment may have one or more devices for holding the specimens. To remove excess water from the specimens, a centrifuge for horizontal rotation at a specific speed is used.

5.1 Rain shower equipment,¹⁾ comprising a system of 300 identical drop-forming devices, e.g. nozzles or jets, equally distributed over a circular horizontal surface (area $\approx 1\,300\text{ cm}^2$) of 406 mm diameter.

The approximate diameter of the drop produced by each drop former is 4 mm. Water emerging from the drop former produces a drop of approximately 0,07 ml. The water flow of the rain shower equipment can be varied so that the time-related flow of water prescribed for the test can be set to $(100 \pm 5)\text{ ml/min}$ for a rain shower surface area of 100 cm^2 . The drop fall height, i.e. the vertical distance between the drop former and the centre of the specimen surface, is 1 500 mm. For the rain shower test, normal tap water is used which is passed through a mechanical filter to remove coarse contamination. The water temperature is $(20 \pm 3)\text{ }^\circ\text{C}$ or $(27 \pm 2)\text{ }^\circ\text{C}$ (the latter for tropical countries).

Water temperature, water hardness and pH value shall be measured and recorded in the test report.

1) For details of the source of supply of the rain shower equipment, apply to national standards institutions.