
**Textiles — Measurement of water vapour
permeability of textiles for the purpose of
quality control**

*Textiles — Mesurage de la perméabilité à la vapeur d'eau des textiles
dans le but du contrôle qualité*



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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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The main task of technical committees is to prepare International Standards. 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.

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ISO 15496 was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 2, *Cleansing, finishing and water resistance tests*.

Textiles — Measurement of water vapour permeability of textiles for the purpose of quality control

1 Scope

This International Standard describes a comparatively simple method for testing the water vapour permeability of textiles that will provide the manufacturer with a clearly recognized method for quality control within the plant.

The simple test method described in this International Standard is not applicable for classifying the water vapour resistance of textiles against values relating to physiological effects specified in product standards, and particularly not those relating to personal protective equipment.

2 Terms and definitions

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

3.1

water vapour permeability **WVP**

characteristic of a textile material describing the amount of water vapour diffusing through the textile per square metre, per hour and per unit difference of water vapour pressure across the textile

3 Symbols and units

Symbol	Description	Unit
a	Area of the measuring cup opening	m ²
Δt	Measuring time	h
Δm	Change in mass of the measuring cup during the period Δt	g
Δm_{app}	Change in mass of the measuring cup on the specimen holder with only membrane during the period Δt	g
Δp	Partial water vapour pressure difference across the specimen	Pa
p_{sa}	Saturated water vapour pressure at the test room temperature T_{a}	Pa
p_{sb}	Saturated water vapour pressure at the water bath temperature T_{b}	Pa
RH	Relative humidity in equilibrium with saturated potassium acetate solution	%
T_{a}	Temperature in the test room	°C
T_{b}	Temperature of the water bath	°C
WVP	Water vapour permeability of the specimen	g/m ² ·Pa·h
WVP_{app}	Apparatus water vapour permeability	g/m ² ·Pa·h