
**Rigid cellular plastics — Determination of
water vapour transmission properties**

*Plastiques alvéolaires rigides — Détermination des caractéristiques de
transmission de la vapeur d'eau*



Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 1663 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 10, *Cellular plastics*.

This second edition cancels and replaces the first edition (ISO 1663:1981), which has been technically revised.

Annex A forms a normative part of this International Standard. Annex B is for information only.

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1 Scope

This International Standard specifies a method of determining the water vapour transmission rate, water vapour permeance, water vapour permeability and water vapour diffusion resistance index for rigid cellular plastics.

The scope of this method provides for the testing of rigid cellular materials that have thicknesses from 10 mm upwards and which may, as an integral part of the material, contain natural skins or adhered facings of some different material.

Three different sets of temperature and humidity conditions are provided, as follows:

- a) 38 °C and a relative-humidity gradient of 0 % to 88 %;
- b) 23 °C and a relative-humidity gradient of 0 % to 85 %;
- c) 23 °C and a relative-humidity gradient of 0 % to 50 %;

The results obtained by this method are suitable for design purposes and production control, and for inclusion in product specifications.

The method is suitable for materials which have water vapour transmission rates in the range 3 mg/(m²·s) to 200 mg/(m²·s).

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 291:1997, *Plastics — Standard atmospheres for conditioning and testing*.

ISO 483:1988, *Plastics — Small enclosures for conditioning and testing using aqueous solutions to maintain relative humidity at constant value*.

ISO 1923:1981, *Cellular plastics and rubbers — Determination of linear dimensions*.

3 Terms and definitions

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