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Plastics — Film and sheeting — Determination of blocking resistance

Plastiques — Film et feuille — Détermination du pouvoir bloquant

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Foreword

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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).

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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 61, *Plastics*, Subcommittee SC 11, *Products*.

This second edition cancels and replaces the first edition (ISO 11502:1995), of which it constitutes a minor revision. The changes compared to the previous edition are as follows:

— Clause 2 has been updated;

— the document has been editorially revised.

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.

Plastics — Film and sheeting — Determination of blocking resistance

1 Scope

This document specifies two methods for assessing the tendency of flexible plastic films and sheets to adhere to one another when left in contact for some time, at a specified temperature and under light pressure. One method is qualitative and the other is quantitative.

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 291, *Plastics — Standard atmospheres for conditioning and testing*

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 http://www.electropedia.org/

3.1
blocking
unintentional adherence between materials

4 Method A: Qualitative method

4.1 Principle

Pieces of film or sheeting are kept in contact with one another for a minimum of 24 h at 50 °C under a pressure of 7 kPa. Blocking is considered to have occurred if the surfaces suffer damage when they are separated or if the forte of adherence between them is sufficient to lift a given weight.

Alternative times, temperatures and pressures may be used depending on the nature of the plastic film or sheeting under test and the proposed end use of the material.

4.2 Apparatus

4.2.1 Glass plates, measuring 100 mm × 76 mm and approximately 2 mm thick.

4.2.2 Strips of filter paper, measuring 150 mm × 76 mm.

4.2.3 Oven, capable of being maintained at 50 °C ± 2 °C, with provision for placing the test assemblies on shelves so that they are no less than 50 mm from each other and from the sides of the oven.

4.2.4 Weights, of mass 5,4 kg.

4.2.5 Metal bars, of rectangular cross-section, 15 mm wide × 76 mm long, weighing 50 g and 100 g.

4.2.6 Metal clip, with arms approximately 100 mm long .

4.2.7 Double-sided adhesive tape, approximately 12,5 mm wide.

4.3 Test specimens

4.3.1 Shape and dimensions

The specimens shall consist of strips measuring 150 mm × 76 mm. In the case of film or sheeting with a printed or embossed surface, this side shall be known as the face. The opposite side is called the back. If there is no print or embossing, one side shall be called the face and marked accordingly.

4.3.2 Preparation

Six specimens shall be taken, provided that, for printed or coloured film or sheet, these include all the colours or colour combinations of the print and base sheeting. If this requirement is not satisfied, additional specimens shall be taken. In the case of rolls, all specimens shall be taken at least 100 mm from the edge and more than 1 m from the beginning or the end of the roll. The minimum time between manufacture and testing shall be 16 h.

4.4 Procedure

4.4.1 Condition the specimens, together with the glass plates (4.2.1) and strips of filter paper (4.2.2) in one of the standard atmospheres defined in ISO 291 for a period of 24 h.

4.4.2 Stack two specimens, strips of filter paper and glass plates on top of each other in the following order: glass plate, strip of filter paper, specimen with face uppermost, specimen with face downwards, strip of filter paper, glass plate.

Align the components of the assembly along one of their 76 mm edges so that the specimens and strips of filter paper extend 50 mm beyond the glass plates at the opposite edge, in order to facilitate handling (see Figure 1).

Prepare two more assemblies in the same way, except that in the second the specimens shall be back to back and in the third back to face.

4.4.3 Place each assembly in the oven (4.2.3) and load each with a weight of mass 5,4 kg (4.2.4) to give a uniform pressure of 7 kPa over the area under test. Maintain the oven temperature at 50 °C ± 2 °C for 24 h, after which time the weights shall be removed, and the assemblies taken from the oven and kept at standard atmospheric conditions for not less than 2 h but not more than 24 h.

4.4.4 Carefully remove each pair of specimens from its assembly and lay them flat on a plane horizontal surface.

Attach a metal bar (4.2.5) of mass 50 g or 100 g, depending on the surface of the specimens under test, to the free end of the lower specimen of each pair by double-faced adhesive tape (4.2.7) and allow it to rest freely on the horizontal surface (see Figure 2).

For unprinted surfaces, use a 50 g metal bar.

For printed surfaces, use a 100 g metal bar.

Test sunken or sandwich print sheeting as unprinted surfaces.