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Irish Standard
I.S. EN ISO 12625-7:2014

Tissue paper and tissue products - Part 7: Determination of optical properties - Measurement of brightness and colour with D65/10° (outdoor daylight) (ISO 12625-7:2014)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 12625-7

May 2014

ICS 85.060

Supersedes EN ISO 12625-7:2007

English Version

Tissue paper and tissue products - Part 7: Determination of optical properties - Measurement of brightness and colour with D65/10° (outdoor daylight) (ISO 12625-7:2014)

Papier tissue et produits tissue - Partie 7: Détermination des propriétés optiques - Mesurage du degré de blancheur et de la couleur avec l'illuminant D65/10° (lumière du jour extérieure) (ISO 12625-7:2014)

Tissue-Papier und Tissue-Produkte - Teil 7: Bestimmung der optischen Eigenschaften - Brightness und Farbmessung mit Lichtart D65/10° (Außentageslicht) (ISO 12625-7:2014)

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Foreword

This document (EN ISO 12625-7:2014) has been prepared by Technical Committee CEN/TC 172 “Pulp, paper and board” the secretariat of which is held by DIN, in collaboration with Technical Committee ISO/TC 6 “Paper, board and pulps“.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2014, and conflicting national standards shall be withdrawn at the latest by November 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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Endorsement notice

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INTERNATIONAL STANDARD

ISO 12625-7

Second edition
2014-05-01

Tissue paper and tissue products —

Part 7: Determination of optical properties — Measurement of brightness and colour with D65/10° (outdoor daylight)

Papier tissue et produits tissue —

Partie 7: Détermination des propriétés optiques — Mesurage du degré de blancheur et de la couleur avec l'illuminant D65/10° (lumière du jour extérieure)

Reference number
ISO 12625-7:2014(E)

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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).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

ISO 12625-7 was prepared by European Committee for Standardization (CEN) Technical Committee CEN/TC 172 *Pulp, paper and board*, in collaboration with Technical Committee ISO/TC 6, *Paper, board and pulps*, Subcommittee SC 2, *Test methods and quality specifications for paper and board*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 12625-7:2007), which has been technically revised.

ISO 12625 consists of the following parts, under the general title *Tissue paper and tissue products*:

— *Part 1: General guidance on terms;*

— *Part 3: Determination of thickness, bulking thickness, apparent bulk density and bulk;*

— *Part 4: Determination of tensile strength, stretch at break and tensile energy absorption;*

— *Part 5: Determination of wet tensile strength;*

— *Part 6: Determination of grammage;*

— *Part 7: Determination of optical properties — Measurement of brightness and colour with D65/10° (outdoor daylight);*

— *Part 8: Water-absorption time and water-absorption capacity; basket-immersion test method;*

— *Part 9: Determination of ball burst strength;*

— *Part 11: Determination of wet ball burst strength;*

— *Part 12: Determination of tensile strength of perforated lines — Calculation of perforation efficiency;*

— *Part 15 Determination of optical properties — Measurement of brightness and colour with C/2° (indoor daylight)*

— *Part 16 Determination of optical properties — Opacity (paper backing) — Diffuse reflectance method*

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Introduction

Brightness and colour measurement may be performed under various illumination and observation conditions. This part of ISO 12625 deals with D65/10° conditions, which refer to an outdoor daylight.

C/2° conditions (indoor daylight) are considered in ISO 12625-15. Although both international standards deal with brightness and colour, results obtained are usually different and do not correlate.

Optical measurement are affected by the geometry of the instruments used and by the texture of the material. The design of the instrument to be used according to this part of ISO 12625, and the routine to be adopted for its calibration, are specified in ISO 2469 and ISO 11475.

The optical properties are related to the visual appearance of the material. Therefore, although optical properties are intrinsic properties of tissue paper, they are not functional properties.

Brightness shall not be confused with the optical property called CIE-whiteness that is based on reflectance data obtained over the full visible spectral range (VIS) in contrast to the measurement of brightness which is limited to the blue region of VIS.

Due to the importance for some countries three different test methods for the determination of optical properties were developed:

— Part 7: *Determination of optical properties — Measurement of brightness and colour with D65/10° (outdoor daylight)*;

— Part 15: *Determination of optical properties — Measurement of brightness and colour with C/2° (indoor) daylight*;

— Part 16: *Determination of optical properties — Opacity (paper backing) — Diffuse reflectance method*;

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Tissue paper and tissue products —

Part 7: Determination of optical properties — Measurement of brightness and colour with D65/10° (outdoor daylight)

1 Scope

This part of ISO 12625 specifies testing procedures for the instrumental determination of brightness and colour of tissue paper and tissue products viewed under outdoor daylight conditions. It also gives specific instructions for the preparation of test pieces (single-ply, multi-ply products) and for the optical measurements of products, where special precautions may be necessary.

NOTE The properties called C/2° brightness and colour are measured with an instrument adjusted to a much lower UV content than that specified in this part of ISO 12625. The measurements of C/2° brightness and colour are described in ISO 12625-15.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 186, *Paper and board — Sampling to determine average quality*

ISO 187, *Paper, board and pulps — Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples*

ISO 2469:2007, *Paper, board and pulps — Measurement of diffuse radiance factor*

ISO 5631-2:2008, *Paper and board — Determination of colour by diffuse reflectance — Part 2: Outdoor daylight conditions (D65/10 degrees)*

ISO 11475, *Paper and board — Determination of CIE whiteness, D65/10 degrees (outdoor daylight)*

3 Terms and definitions

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

3.1
reflectance factor
R
ratio of the radiation reflected by a body to that reflected by the perfect diffuser under the same conditions of illumination and detection

Note 1 to entry: The reflectance factor is expressed as a percentage.

Note 2 to entry: The reflectance factor is influenced by the backing if the body is translucent.

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