

Tissue paper and tissue products - Part 15:
Determination of optical properties - Measurement of
brightness and colour with C/2° (indoor daylight)
illuminant (ISO 12625-15:2022)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 12625-15:2022 sisaldab Euroopa standardi EN ISO 12625-15:2022 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 12625-15:2022 consists of the English text of the European standard EN ISO 12625-15:2022.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
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English Version

**Tissue paper and tissue products - Part 15: Determination
of optical properties - Measurement of brightness and
colour with C/2° (indoor daylight) illuminant (ISO 12625-
15:2022)**

Papier tissue et produits tissue - Partie 15:
Détermination des propriétés optiques - Mesurage du
degré de blancheur et de la couleur avec l'illuminant
C/2° (lumière du jour à l'intérieur) (ISO 12625-
15:2022)

Tissue-Papier und Tissue-Produkte - Teil 15:
Bestimmung von optischen Eigenschaften - Messung
von Brightness und Farbe unter Lichtart C/2°
(Tageslichtbedingungen in Innenräumen) (ISO 12625-
15:2022)

This European Standard was approved by CEN on 7 October 2022.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

This document (EN ISO 12625-15:2022) has been prepared by Technical Committee ISO/TC 6 "Paper, board and pulps" in collaboration with Technical Committee CEN/TC 172 "Pulp, paper and board" the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by April 2023, and conflicting national standards shall be withdrawn at the latest by April 2023.

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

This document supersedes EN ISO 12625-15:2015.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 12625-15:2022 has been approved by CEN as EN ISO 12625-15:2022 without any modification.

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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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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 6, *Paper, board and pulps*, Subcommittee SC 2, *Test methods and quality specifications for paper and board*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 172, *Pulp, 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 12625-15:2015), which has been technically revised.

The main changes are as follows:

- removed alternative formulae in [11.2.1](#) because they are not relevant for tissue paper;
- updated tables in [Annex A](#) to include data to 0,01 and corrected errors in the tables;
- changed C/2° Brightness to ISO Brightness.

A list of all parts in the ISO 12625 series can be found on the ISO website.

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.

Introduction

Brightness and colour measurement can be performed under various illumination and observation conditions. This document deals with C/2° conditions, which refer to an indoor daylight.

D65/10° conditions (outdoor daylight) are considered in ISO 12625-7. Although both International Standards deal with brightness and colour, results obtained are usually different and do not correlate.

Optical measurements are affected by the geometry of the instruments used and by the texture of the material.

The optical properties are related to the visual appearance of the material in a specified illumination condition. Although optical properties are intrinsic properties of tissue paper, they are not functional properties.

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

As preferences for the properties specified can vary by country/market, two other test methods for the determination of optical properties were developed in addition to this document: ISO 12625-7 and ISO 12625-16.

Tissue paper and tissue products —

Part 15:

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

1 Scope

This document specifies testing procedures for the instrumental determination of brightness and colour of tissue paper and tissue products viewed in indoor 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 can be necessary.

NOTE The properties called D65 brightness and colour are measured with an instrument adjusted to a much higher UV content than that specified in this document.

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 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, *Paper, board and pulps — Measurement of diffuse radiance factor (diffuse reflectance factor)*

ISO 2470-1:2016, *Paper, board and pulps — Measurement of diffuse blue reflectance factor — Part 1: Indoor daylight conditions (ISO brightness)*

ISO 2470-2, *Paper, board and pulps — Measurement of diffuse blue reflectance factor — Part 2: Outdoor daylight conditions (D65 brightness)*

ISO/CIE 11664-4, *Colorimetry — Part 4: CIE 1976 L*a*b* colour space*

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>