

SLOVENSKI STANDARD
oSIST prEN ISO 12625-16:2013
01-december-2013

Tissue papir in proizvodi iz tissue papirja - 16. del: Določevanje optičnih lastnosti - Opaciteta (papirna podlaga) - Metoda razpršene odsevnosti (ISO/DIS 12625-16:2013)

Tissue paper and tissue products - Part 16: Determination of optical properties - Opacity (paper backing) - Diffuse reflectance method (ISO/DIS 12625-16:2013)

Tissue-Papier und Tissue-Produkte - Teil 16: Bestimmung der optischen Eigenschaften - Opazität über Papierstapel - Diffuser Reflexionsfaktor (ISO/DIS 12625-16:2013)

Papier tissue et produits tissus - Partie 16: Détermination des propriétés optiques - Opacité sur fond papier - Méthode par réflexion en lumière diffuse (ISO/DIS 12625-16:2013)

Ta slovenski standard je istoveten z: prEN ISO 12625-16

ICS:

85.080.20	Tissue papir	Tissue paper
-----------	--------------	--------------

oSIST prEN ISO 12625-16:2013	en
-------------------------------------	-----------

DRAFT INTERNATIONAL STANDARD

ISO/DIS 12625-16

ISO/TC 6/SC 2

Secretariat: SIS

Voting begins on:
2013-08-29Voting terminates on:
2014-01-29

Tissue paper and tissue products —

Part 16:

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

Papier tissue et produits tissues —

Partie 16: Détermination des propriétés optiques — Opacité sur fond papier — Méthode par réflexion en lumière diffuse

ICS: 85.060

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

SIST EN ISO 12625-16:2015

<https://standards.iteh.ai/catalog/standards/sist/fac298e8-dc58-47c6-8638-29176e8903a5/sist-en-iso-12625-16-2015>

ISO/CEN PARALLEL PROCESSING

This draft has been developed within the European Committee for Standardization (CEN), and processed under the **CEN lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENT AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.



Reference number
ISO/DIS 12625-16:2013(E)

© ISO 2013

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST EN ISO 12625-16:2015](https://standards.iteh.ai/catalog/standards/sist/fac298c8-dc58-47c6-8638-29176e8903a5/sist-en-iso-12625-16-2015)

<https://standards.iteh.ai/catalog/standards/sist/fac298c8-dc58-47c6-8638-29176e8903a5/sist-en-iso-12625-16-2015>

Copyright notice

This ISO document is a Draft International Standard and is copyright-protected by ISO. Except as permitted under the applicable laws of the user's country, neither this ISO draft nor any extract from it may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, photocopying, recording or otherwise, without prior written permission being secured.

Requests for permission to reproduce should be addressed to either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Reproduction may be subject to royalty payments or a licensing agreement.

Violators may be prosecuted.

Contents

Page

Foreword	iv
Introduction.....	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle.....	3
5 Apparatus	3
5.1 Reflectometer.....	3
5.2 Reference standards	3
5.3 Working standards	3
5.4 Black cavity	3
6 Sampling.....	4
7 Conditioning	4
8 Preparation of test pieces.....	4
9 Procedure	4
10 Calculation	5
11 Test report.....	5
Annex A (normative) Spectral characteristics of reflectometers for measuring luminous factor	6
A.1 Filter colorimeters	6
A.2 Abridged spectrophotometers	6
A.3 Data not available for the full wavelength range 360 nm to 780 nm	6
Annex B (informative) Precision data	9
B.1 General	9
B.2 Opacity.....	10
Bibliography.....	12

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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.

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

ISO 12625-16 was prepared by European Committee for Standardisation (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 for quality specifications for paper and board*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

- *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*

Introduction

Optical measurements 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 is specified in ISO 2469.

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.

The opacity value depends on the principle used for its evaluation, and a method should be chosen which most closely relates to the interpretation to be placed upon the results. The method described in this International Standard is applicable when it is desired to measure that property of a tissue paper or tissue product which governs the extent to which one sheet visually obscures printed matter on underlying sheets of similar tissue paper or tissue product. It should not be confused with methods based on the reduction in a standard contrast by interposition of the paper opacity (white backing), formerly known as contrast ratio, nor with the assessment of the amount and condition of light penetrating a sheet (transparency or translucency).

The calculation of opacity requires luminance-factor data obtained by measurement under specified conditions. The luminance factor depends on the conditions of measurement, and particularly on the spectral and geometric characteristics of the instrument used for its determination. This International Standard should therefore be read in conjunction with ISO 2469.

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST EN ISO 12625-16:2015](https://standards.iteh.ai/catalog/standards/sist/fac298c8-dc58-47c6-8638-29176e8903a5/sist-en-iso-12625-16-2015)

<https://standards.iteh.ai/catalog/standards/sist/fac298c8-dc58-47c6-8638-29176e8903a5/sist-en-iso-12625-16-2015>

Tissue paper and tissue products — Part 16: Determination of optical properties - Opacity (paper backing) - Diffuse reflectance method

1 Scope

This part of ISO 12625 specifies testing procedures for the instrumental determination of opacity paper backing of tissue paper and tissue products by diffuse reflectance.

This part of ISO 12625 also gives specific instructions for the preparation of test pieces (single-ply, multi-ply products), where special precautions may be necessary.

It can be used to determine the opacity of tissue paper and tissue products which contain fluorescent whitening agents, provided the UV content of the radiation incident on the test piece has been adjusted to conform to that in the CIE illuminant C using a fluorescent reference standard provided by an ISO/TC 6 authorized laboratory as described in ISO 2470-1.

This International Standard is not applicable to coloured tissue paper and tissue products which incorporate fluorescent dyes or pigments.

2 Normative references

The following referenced documents are indispensable for the application 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*

ISO 2470-1:2008, *Paper, board and pulps — Measurement of diffuse blue reflectance factor — Part 1: Indoor daylight conditions (ISO brightness)*

ISO 2471, *Paper and board — Determination of opacity (paper backing) — Diffuse reflectance method*

ISO/FDIS 12625-7, *Tissue paper and tissue products — Part 7: Determination of optical properties — Brightness and colour with D65/10° (outdoor daylight)*

3 Terms and definitions

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

ISO/DIS 12625-16

3.1

reflectance factor R

ratio of the radiation reflected by a surface element of a body in the direction delimited by a given cone with its apex at the surface element to that reflected by the perfect reflecting diffuser under the same conditions of irradiation

NOTE 1 to entry [Source ISO 2471:2008].

NOTE 2 to entry The ratio is often expressed as a percentage.

NOTE 3 to entry The reflectance factor is influenced by the backing if the body is translucent.

3.2

luminance factor (C)*luminous reflectance factor* $Y(C/2^\circ)$ -value R_y

reflectance factor or radiance factor defined with reference to the CIE illuminant C and the visual efficiency function (λ)

NOTE 1 to entry The visual efficiency function describes the sensitivity of the eye to light, so that the luminance factor (C) corresponds to the attribute of visual perception of the reflecting surface.

NOTE 2 to entry For computational purposes, the function is identical with the CIE 1931 colour-matching function $\bar{y}(\lambda)$.

NOTE 3 to entry The luminance factor (C) is also known as the $Y(C/2^\circ)$ -value. In previous editions of this International Standard it was referred to as the luminous reflectance factor.

NOTE 4 to entry [Source ISO 2471:2008].

3.3

single-sheet luminance factor (C) R_0

luminance factor (C) of a single sheet of paper with a black cavity as backing

NOTE 1 to entry [Source ISO 2471:2008].

3.4

intrinsic luminance factor (C) R_∞

luminance factor (C) of a layer or pad of material thick enough to be opaque, i.e. such that increasing the thickness of the pad by doubling the number of sheets results in no change in the measured reflectance factor

NOTE 1 to entry [Source ISO 2471:2008].

3.5

opacity (paper backing)

ratio of the single-sheet luminance factor (C), R_0 , to the intrinsic luminance factor (C), R_∞ , of the same sample

NOTE 1 to entry Opacity is expressed as a percentage.

NOTE 2 to entry [Source ISO 2471:2008].