

**Tissue paper and tissue products - Part 3:
Determination of thickness, bulking
thickness and apparent bulk density**

Tissue paper and tissue products - Part 3:
Determination of thickness, bulking thickness and
apparent bulk density

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 12625-3:2005 sisaldab Euroopa standardi EN ISO 12625-3:2005 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 22.06.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 12625-3:2005 consists of the English text of the European standard EN ISO 12625-3:2005.</p> <p>This document is endorsed on 22.06.2005 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This part of EN ISO 12625 specifies a test method for the determination of thickness, bulking thickness and the calculation of apparent bulk density of tissue papers and tissue products under a pressure of 2,0 kPa</p>	<p>Scope:</p> <p>This part of ISO 12625 specifies a test method for the determination of thickness and bulking thickness, and the calculation of apparent bulk density, of tissue paper and tissue products under a pressure of 2,0 kPa.</p>
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ICS 85.080

Võtmesõnad:

English version

**Tissue paper and tissue products - Part 3: Determination of
thickness, bulking thickness and apparent bulk density (ISO
12625-3:2005)**

Papier tissu et produits en tissu - Partie 3: Détermination
de l'épaisseur, de l'épaisseur moyenne d'une feuille en
liasse et de la masse volumique moyenne (ISO 12625-
3:2005)

Tissue-Papier und Tissue-Produkte - Teil 3: Bestimmung
der Dicke, der Blattdicke im Stapel und der scheinbaren
Stapeldichte (ISO 12625-3:2005)

This European Standard was approved by CEN on 15 March 2005.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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

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Foreword

This document (EN ISO 12625-3:2005) 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 October 2005, and conflicting national standards shall be withdrawn at the latest by October 2005.

This document supersedes EN 12625-3:1999.

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

Tissue paper and tissue products —

Part 3:

**Determination of thickness, bulking
thickness and apparent bulk density**

Papier tissu et produits en tissu —

*Partie 3: Détermination de l'épaisseur, de l'épaisseur moyenne d'une
feuille en liasse et de la masse volumique moyenne*



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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.

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 12625-3 was prepared by the 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 first edition cancels and replaces EN 12625-3:1999, which has been technically revised.

With regard to EN 12625-3:1999, the following changes have been made:

- a) more precise definitions;
- b) more precise description of the apparatus;
- c) preparation of test pieces more precisely described;
- d) editorial updating.

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 and apparent bulk density*
- *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*
- *Part 8: Water absorption time and water absorption capacity, basket immersion test method*
- *Part 9: Determination of ball burst strength*

Introduction

Thickness is an important property of tissue paper and tissue products.

In the tissue industry, thickness-related parameters, such as the roll diameter of rolled products (kitchen towel) or the stack height of folded products (paper towels) are often measured. However, the fact that not only end-use tissue products, but also the base tissue paper from which these products are made, is the subject of trade between companies and countries, means that there is a genuine need for a consistent measure of thickness that can be applied to tissue products at any stage of their manufacture.

The thickness of tissue paper and tissue products is known to be dependent on the pressure applied to the material at the time of measurement. Several different loading pressures, pressure-foot diameters and loading speeds have been used within the tissue industry. This part of ISO 12625 has been prepared by harmonising those standards applicable to tissue and tissue products currently in use. It specifies a single loading pressure, foot diameter and loading speed to be used for all thickness measurements of tissue and tissue products.

Tissue paper and tissue products —

Part 3:

Determination of thickness, bulking thickness and apparent bulk density

1 Scope

This part of ISO 12625 specifies a test method for the determination of thickness and bulking thickness, and the calculation of apparent bulk density, of tissue paper and tissue products under a pressure of 2,0 kPa.

NOTE This part of ISO 12625 has been developed to provide a consistent test method for the determination of thickness and density of tissue paper and tissue products. Corresponding test methods for paper and board in general are covered in ISO 534.

It is expressly stated that the detection of impurities and contraries in tissue paper and tissue products should be applied according to ISO 15755.

For the determination of moisture content in tissue paper and tissue products, ISO 287 should be applied.

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 12625-1, *Tissue paper and tissue products — Part 1: General guidance on terms*

ISO 12625-6, *Tissue paper and tissue products — Part 6: Determination of grammage*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12625-1 and the following apply.

3.1

single-ply thickness

distance between the two principal surfaces of a single ply of tissue paper measured under the applied static load specified in this part of ISO 12625

NOTE A “ply” of tissue is an un laminated tissue, like that made directly from a tissue machine.