



NSAI
Standards

Irish Standard
I.S. EN ISO 5270:2012

Pulps - Laboratory sheets - Determination of physical properties (ISO 5270:2012)

© CEN 2012

No copying without NSAI permission except as permitted by copyright law.

I.S. EN ISO 5270:2012

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

<i>This document replaces:</i> EN ISO 5270:1999	<i>This document is based on:</i> EN ISO 5270:2012 EN ISO 5270:1999	<i>Published:</i> 22 October, 2012 22 September, 1999
This document was published under the authority of the NSAI and comes into effect on: 22 October, 2012		ICS number: 85.040
NSAI 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie	Sales: T +353 1 857 6730 F +353 1 857 6729 W standards.ie
Údarás um Chaighdeáin Náisiúnta na hÉireann		

English Version

**Pulps - Laboratory sheets - Determination of physical properties
(ISO 5270:2012)**

Pâtes - Feuilles de laboratoire - Détermination des
propriétés physiques (ISO 5270:2012)

Faserstoff - Laborblätter- Bestimmung der physikalischen
Eigenschaften (ISO 5270:2012)

This European Standard was approved by CEN on 30 September 2012.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....3

Foreword

This document (EN ISO 5270:2012) 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 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.

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.

This document supersedes EN ISO 5270:1999.

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

Endorsement notice

The text of ISO 5270:2012 has been approved by CEN as a EN ISO 5270:2012 without any modification.

This page is intentionally left BLANK.

I.S. EN ISO 5270:2012
**INTERNATIONAL
STANDARD**

**ISO
5270**

Third edition
2012-10-01

**Pulps — Laboratory sheets —
Determination of physical properties**

Pâtes — Feuilles de laboratoire — Détermination des propriétés physiques



Reference number
ISO 5270:2012(E)

© ISO 2012



COPYRIGHT PROTECTED DOCUMENT

© ISO 2012

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from 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

Published in Switzerland

Contents		Page
Foreword		iv
Introduction		v
1 Scope		1
2 Normative references		1
3 Principle		2
4 Apparatus		2
5 Trimmed laboratory sheets		2
5.1 Selection of laboratory sheets		2
5.2 Conditioning of laboratory sheets		2
5.3 Optical properties		3
5.4 Determination of grammage, bulking thickness and apparent bulk density		3
5.5 Preparation of test pieces		3
6 Procedures for physical properties (“low grammage” sheets)		4
6.1 General		4
6.2 Tensile properties		5
6.3 Tear index		5
6.4 Burst index		5
6.5 Air permeance		5
6.6 Folding endurance		5
7 Procedures for physical properties (“high grammage” sheets)		6
7.1 General		6
7.2 Bending resistance index		6
7.3 Flat crush resistance index after laboratory fluting		6
7.4 Ring crush resistance index		6
7.5 Short span compression index		6
7.6 Z-directional tensile strength		7
8 Test report		7
Bibliography		8

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 5270 was prepared by Technical Committee ISO/TC 6, *Paper, board and pulps*, Subcommittee SC 5, *Test methods and quality specifications for pulps*.

This third edition cancels and replaces the second edition (ISO 5270:1998), which has been technically revised. The list of relevant International Standards for paper and board, to be used for testing the physical properties of laboratory sheets, has been updated and new standards, such as ISO 1924-3 and ISO 15754, have been included. The option to determine air permeance, using the Bendtsen method (ISO 5636-3) or the Sheffield method (ISO 5636-4) has been inserted, as well as the option to measure optical properties.

Introduction

This International Standard includes the determination of physical properties of both “low grammage” sheets and “high grammage” sheets, prepared in accordance with ISO 5269-1, ISO 5269-2 or ISO 5269-3. The oven-dry grammage of the “low grammage” sheets is (60 ± 2) g/m² using the conventional sheet former, as described in ISO 5269-1 and ISO 5269-3, or (75 ± 2) g/m² using the Rapid-Köthen sheet former, as described in ISO 5269-2 and ISO 5269-3. The oven-dry grammage of the “high grammage” sheets is 140 g/m², with a tolerance of 3 % using the conventional and the Rapid Köthen sheet formers, except for the z-directional tensile strength where the grammage is ≥ 90 g/m².

For determination of physical properties, ISO 5270 refers to the relevant International Standards for paper and board for the description and calibration of the required equipment, and for the calculation and reporting of results. This International Standard, however, specifies the procedures for testing laboratory sheets where the amount of material is limited, compared to testing of paper and board to which the relevant International Standards referred to are applicable, and for that reason there may be a discrepancy.

Pulps — Laboratory sheets — Determination of physical properties

1 Scope

This International Standard specifies the relevant International Standards to be used for the determination of physical properties of laboratory sheets made of all kind of pulps. It is applicable to laboratory sheets prepared in accordance with ISO 5269-1, ISO 5269-2 or ISO 5269-3.

In this International Standard, it is left to the pulp producer and the pulp user to agree upon which properties are relevant to be tested. The results are, if applicable, reported in index form.

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 187:1990, *Paper, board and pulps — Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples*

ISO 534, *Paper and board — Determination of thickness, density and specific volume*

ISO 536, *Paper and board — Determination of grammage*

ISO 1924-2, *Paper and board — Determination of tensile properties — Part 2: Constant rate of elongation method (20 mm/min)*

ISO 1924-3, *Paper and board — Determination of tensile properties — Part 3: Constant rate of elongation method (100 mm/min)*

ISO 1974, *Paper — Determination of tearing resistance — Elmendorf method*

ISO 2493-1, *Paper and board — Determination of bending resistance — Part 1: Constant rate of deflection*

ISO 2493-2, *Paper and board — Determination of bending resistance — Part 2: Taber-type tester*

ISO 2758, *Paper — Determination of bursting strength*

ISO 5269-1, *Pulps — Preparation of laboratory sheets for physical testing — Part 1: Conventional sheet-former method*

ISO 5269-2, *Pulps — Preparation of laboratory sheets for physical testing — Part 2: Rapid-Köthen method*

ISO 5269-3, *Pulps — Preparation of laboratory sheets for physical testing — Part 3: Conventional and Rapid-Köthen sheet formers using a closed water system*

ISO 5626, *Paper — Determination of folding endurance*

ISO 5636-3, *Paper and board — Determination of air permeance (medium range) — Part 3: Bendtsen method*

ISO 5636-4, *Paper and board — Determination of air permeance (medium range) — Part 4: Sheffield method*

ISO 5636-5, *Paper and board — Determination of air permeance (medium range) — Part 5: Gurley method*

ISO 7263, *Corrugating medium — Determination of the flat crush resistance after laboratory fluting*

ISO 9895, *Paper and board — Compressive strength — Short-span test*

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-