

Australian/New Zealand Standard™

Methods of test for pulp and paper

**Part 525: Determination of opacity
(paper backing)—Diffuse reflectance
method**



AS/NZS 1301.525:2016

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee PK-019, Methods of Test for Pulp and Paper. It was approved on behalf of the Council of Standards Australia on 13 December 2015 and on behalf of the Council of Standards New Zealand on 11 December 2015.

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Appita
Australian Forest Products Association
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Part 525: Determination of opacity (paper backing)—Diffuse reflectance method

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee PK-019, Methods of Test for Pulp and Paper, to supersede AS/NZS 1301.454s:2005, *Methods of test for pulp and paper—Determination of opacity (paper backing)—Diffuse reflectance method*.

The objective of this Standard is to provide a method for determining opacity of paper and board.

This Standard is identical with, and has been reproduced from ISO 2471:2008, *Paper and board—Determination of opacity (paper backing)—Diffuse reflectance method*.

As this Standard is reproduced from an International Standard, the following applies:

- (a) In the source text ‘this International Standard’ should read ‘this Australian/New Zealand Standard’.
- (b) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>	<i>Australian/New Zealand Standard</i>
ISO	AS/NZS
2469 Paper, board and pulps—Measurement of diffuse radiance factor (diffuse reflectance factor)	1301 Method of test for pulp and paper 1301.510 Part 510: Measurement of diffuse radiance factor (diffuse reflectance factor)
2470 Paper, board and pulps—Measurement of diffuse blue reflectance factor	1301.515 Part 515: Measurement of diffuse blue reflectance factor—Indoor daylight conditions (ISO brightness)
2470-1 Part 1: Indoor daylight conditions (ISO brightness)	

The term ‘normative’ has been used in this Standard to define the application of the annex to which it applies. A ‘normative’ annex is an integral part of a Standard.

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INTRODUCTION

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 paper which governs the extent to which one sheet visually obscures printed matter on underlying sheets of similar paper. 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.

AUSTRALIAN/NEW ZEALAND STANDARD

Methods of test for pulp and paper

Part 525:

Determination of opacity (paper backing)—Diffuse reflectance method

1 Scope

This International Standard specifies a method for the determination of the opacity (paper backing) of paper by diffuse reflectance.

It can be used to determine the opacity of papers or boards 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 papers or boards 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 2469, *Paper, board and pulps — Measurement of diffuse radiance factor*

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

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 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 The ratio is often expressed as a percentage.