

Australian/New Zealand Standard™

Methods of test for pulp and paper

**Method 565: Determination of
transmittance by diffuse reflectance
measurement**



AS/NZS 1301.565:2016

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 20 January 2016 and on behalf of the Council of Standards New Zealand on 17 December 2015.
This Standard was published on 4 March 2016.

The following are represented on Committee PK-019:

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This Standard was issued in draft form for comment as DR AS/NZS 1301.565:2015.

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First published as AS/NZS 1301.565:2016.

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Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, Private Bag 2439, Wellington 6140.

ISBN 978 1 76035 425 1

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee PK-019, Methods of Test for Pulp and Paper.

The objective of this Standard is to provide a method for determining the transmittance of paper by diffuse reflectance measurement.

This Standard is identical with, and has been reproduced from ISO 22891:2013, *Paper—Determination of transmittance by diffuse reflectance measurement*.

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	
		1301	Method of test for pulp and paper
186	Paper and board—Sampling to determine average quality	1301.417s	Method 417s: Sampling to determine average quality
2469	Paper, board and pulps—Measurement of diffuse radiance factor	1301.436	Method 436: Measurement of diffuse radiance factor

Only normative references that have been adopted as Australian or Australian/New Zealand Standards have been listed.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annex to which they apply. A ‘normative’ annex is an integral part of a Standard, whereas an ‘informative’ annex is only for information and guidance.

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INTRODUCTION

This International Standard presents a method of determining the transmittance indirectly from reflectance factor data obtained by measurement under specified conditions. The equation used to calculate the transmittance is based on the Kubelka-Munk theory of light scattering and light absorption, and the equation can therefore only be strictly applied if measurements are made on materials which scatter light sufficiently to justify the application of this theory.

The reflectance 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 and ISO 2471.

The transmittance value obtained by this method is a single value compatible with the opacity value determined according to ISO 2471, since all measurements are related to the luminance factor calculated with respect to the CIE illuminant C.

The method described in this International Standard gives only the total transmittance and does not distinguish between regular transmittance and diffuse transmittance. It does not provide a direct measure of the ability to distinguish, for example, written text through a transparent medium. This can be assessed only if the ratio of the regular to the diffuse transmittance is known.

It is emphasized that this method is for the determination not of the transmittance by direct measurement but of the transmittance obtained indirectly from reflectance factor measurements. Under ideal conditions, they are the same, but in practice, it can be necessary to emphasize the difference.