AS/NZS 1301.550:2017
ISO 11475:2017

AS/NZS 1301.550:2017

Australian/New Zealand Standard™

Methods of test for pulp and paper

Method 550: Determination of CIE whiteness, D65/10° (outdoor daylight)

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AS/NZS 1301.550:2017

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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.

The objective of this Standard is to specify the procedure to be used for determining the whiteness of papers and boards. The values obtained correspond to the visual appearance of white papers and boards with or without fluorescent whitening agents when they are viewed under the CIE D65 daylight standard illuminant. This Standard is based on reflectance data obtained over the full visible spectral range (VIS) in contrast to the measurement of ISO brightness which is limited to the blue region of VIS.

This Standard is identical with, and has been reproduced from, ISO 11475:2017, *Paper and board — Determination of CIE whiteness, D65/10° (outdoor daylight).*

As this document has been reproduced from an International Standard, a full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms 'normative' and 'informative' are used in Standards to define the application of the appendices or annexes to which they apply. A 'normative' appendix or annex is an integral part of a Standard, whereas an 'informative' appendix or annex is only for information and guidance.

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 6, *Paper, board and pulps*.

This third edition cancels and replaces the second edition (ISO 11475:2004), which has been technically revised. The major change is to allow for calculations to use ASTM E308 for instruments that have bandpass correction and still maintain the non-bandpass-correction procedure. This third edition also includes Precision Data.

Australian/New Zealand Standard

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Method 550: Determination of CIE whiteness, D65/10° (outdoor daylight)

1 Scope

This document specifies the procedure to be used for determining the whiteness of papers and boards. The values obtained correspond to the visual appearance of white papers and boards with or without fluorescent whitening agents when they are viewed under the CIE D65 daylight standard illuminant. It is based on reflectance data obtained over the full visible spectral range (VIS) in contrast to the measurement of ISO brightness which is limited to the blue region of VIS.

In addition, it specifies a method for adjustment of the UV content to correspond to the CIE D65 daylight illuminant[10][11], insofar as results obtained when fluorescent whitening agents are present are dependent upon the UV content of the radiation falling upon the sample. It is specific for white fluorescent paper samples where the emission due to the fluorescent whitening agent (FWA) occurs in the blue region of the visible spectrum.

This method is not applicable to coloured papers containing fluorescent dyes.

This document should be read in conjunction with ISO 2469.

NOTE 1 This document is based on the CIE whiteness formula, published in CIE 15.3-2004[9].

NOTE 2 A related International Standard, ISO 11476, specifying the procedure for obtaining values corresponding to the appearance of these products under indoor illumination, has also been published.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 2469:2014, *Paper, board and pulps — Measurement of diffuse radiance factor (diffuse reflectance factor)*

ISO 4094, *Paper, board and pulps — International calibration of testing apparatus — Nomination and acceptance of standardizing and authorized laboratories*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at http://www.iso.org/obp
- IEC Electropedia: available at http://www.electropedia.org/

NOTE The symbols used here are selected to maintain consistency, wherever possible, with Reference [8].