

Australian/New Zealand Standard™

Methods of test for pulp and paper

**Part 405s: Grammage of non-creped
paper and board**



AS/NZS 1301.405s:2004

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The following are represented on Committee PK-019:

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CSIRO Forestry and Forest Products
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National Association of Forest Industries
New Zealand Pulp and Paper Industry Association
Printing Industries Association of Australia

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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 1301.405s—1992 and NZS 1301.204rp—1992, *Methods of test for pulp and paper*, Method 405s: *Grammage of non-creped paper and board*.

The objective of this Standard is to provide a method for those concerned with determining the grammage of paper and board.

This Standard is identical with and has been reproduced from ISO 536:1995, *Paper and board—Determination of grammage*.

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

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

- (a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.
- (b) In the source text, ‘this International Standard’ should read ‘this Australian/New Zealand Standard’.
- (c) A full point should be substituted for a comma when referring to a decimal marker.

The references to International Standards should be replaced by references to the following Australian/New Zealand Standards.

<i>Reference to International Standard</i>		<i>Australian/New Zealand Standard</i>	
ISO		AS/NZS	
186	Paper and board—Sampling to determine average quality	1301 1301.417s	Methods of test for pulp and paper Method 417s: Sampling paper, board and pulp for testing
187	Paper, board and pulps—Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples	1301.P414m 1301.415s	Method P414m: Conditioning of paper for testing Method 415s: Standard atmosphere for testing paper and board and procedure for monitoring the atmosphere
287	Paper and board—Determination of moisture content—Oven drying method	1301.457s	Method 457s: Determination of moisture content in paper, board and pulps

AUSTRALIAN/NEW ZEALAND STANDARD

Methods of test for pulp and paper

Method 405s:

Grammage of non-creped paper and board

1 Scope

This International Standard specifies a method of determining the grammage of paper and board.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 186:1994, *Paper and board — Sampling to determine average quality*.

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

ISO 287:1985, *Paper and board — Determination of moisture content — Oven-drying method*.

3 Definition

For the purposes of this International Standard, the following definition applies.

3.1 grammage: Mass of a unit area of paper or board determined by a specific method of test.

Grammage is expressed in grams per square metre.

4 Principle

The area of the test pieces and their masses are determined and the grammage is calculated.

5 Apparatus

5.1 Cutting device, capable of repeatedly cleanly cutting test pieces of the same nominal size whose area falls within $\pm 1,0$ % of a known area. This shall be checked frequently by measurement and, provided that the above accuracy is attained, the mean area obtained in these checks shall be used for calculating grammage.

With certain types of paper and board it will be found, after carrying out this determination of area, that test pieces cannot be cut with the accuracy just defined; in such instances the area of every test piece shall be determined individually.

5.2 Balance, sufficiently accurate, over the range of mass for which it is used, to measure to within 0,5 % of the actual mass. It shall be sensitive enough to detect a change of $\pm 0,2$ % in the mass to be weighed and, if the balance is of the direct-reading type, it shall be graduated so that readings may be taken to this degree of accuracy.

Special sheet-weighing balances, designed to weigh test pieces of a given size and which indicate grammage directly, may be used provided that the above conditions are fulfilled and that the area of each test piece on a single weighing is not less than 500 cm² and not more than 1 000 cm² (see clause 8 and 9.2).

When in use, the balance shall be shielded from air currents.

6 Sampling

The selection of units and sheets and the taking of specimens shall be carried out in accordance with ISO 186. The number of specimens taken (at least five) shall be sufficient for at least 20 test pieces.