

Australian Standard™

**Castors and wheels**

**Part 2: Test methods and apparatus**

This Australian Standard was prepared by Committee ME-031, Industrial Castors. It was approved on behalf of the Council of Standards Australia on 27 September 2004.  
This Standard was published on 15 October 2004.

---

The following are represented on Committee ME-031:

Australian Chamber of Commerce and Industry  
Australian Industry Group  
Commercial Furniture Industry Association of Australia  
Furntech  
Wheel manufacturing interests

---

### **Keeping Standards up-to-date**

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Web Shop at [www.standards.com.au](http://www.standards.com.au) and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Global Standard*, has a full listing of revisions and amendments published each month.

Australian Standards™ and other products and services developed by Standards Australia are published and distributed under contract by SAI Global, which operates the Standards Web Shop.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at [mail@standards.org.au](mailto:mail@standards.org.au), or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

---

*This Standard was issued in draft form for comment as DR 03431.*

Australian Standard™

**Castors and wheels**

**Part 2: Test methods and apparatus**

Originated as AS 1961—1977.  
Revised and redesignated in part as AS 1961.2—2004.

**COPYRIGHT**

© Standards Australia International

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia International Ltd GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 6316 2

## PREFACE

This Standard was prepared by the Standards Australia Committee ME-031, Industrial Castors, to supersede in part AS 1961—1977, *Industrial wheels and castors (dimensions and capacities)*.

This Standard is identical with and has been reproduced from ISO 22878:2004, *Castors and wheels—Test methods and apparatus*.

The objective of this Standard is to provide test methods and apparatus to be used when assessing castors and wheels for compliance with product specifications.

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.

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 Standard’.
- (c) A full point substitutes for a comma when referring to a decimal marker.

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

<i>Reference to International Standard or other publication</i>	<i>Australian Standard</i>
ISO	AS
22877 Castors and wheels—Vocabulary, symbols and multilingual terminology	1961 Castors and wheels 1961.1 Part 1: Vocabulary, symbols and multilingual terminology

## CONTENTS

Page

<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>1</b>
<b>3</b>	<b>Terms, definitions and symbols .....</b>	<b>1</b>
<b>4</b>	<b>Test methods .....</b>	<b>1</b>
<b>4.1</b>	<b>General requirements .....</b>	<b>1</b>
<b>4.2</b>	<b>Wheel play test .....</b>	<b>2</b>
<b>4.3</b>	<b>Swivel play test .....</b>	<b>3</b>
<b>4.4</b>	<b>Electrical resistance test .....</b>	<b>4</b>
<b>4.5</b>	<b>Fatigue test for braking and/or locking device .....</b>	<b>5</b>
<b>4.6</b>	<b>Efficiency check of wheel braking and/or locking device .....</b>	<b>5</b>
<b>4.7</b>	<b>Efficiency check of swivel braking and/or locking device .....</b>	<b>6</b>
<b>4.8</b>	<b>Dynamic test .....</b>	<b>8</b>
<b>4.9</b>	<b>Static test .....</b>	<b>12</b>
<b>4.10</b>	<b>Contact pressure test .....</b>	<b>12</b>
<b>4.11</b>	<b>Performance test for chair castor brake .....</b>	<b>13</b>
<b>4.12</b>	<b>Impact test .....</b>	<b>15</b>
<b>4.13</b>	<b>Dynamic test for castors for furniture and swivel chairs only .....</b>	<b>15</b>
<b>4.14</b>	<b>Long distance running test .....</b>	<b>18</b>
<b>4.15</b>	<b>Rolling resistance test .....</b>	<b>19</b>
<b>4.16</b>	<b>Swivel resistance test .....</b>	<b>20</b>
<b>4.17</b>	<b>Stem retention test .....</b>	<b>21</b>
	<b>Annex A (normative) Combined list of symbols .....</b>	<b>22</b>
	<b>Bibliography .....</b>	<b>24</b>

## INTRODUCTION

Castors and wheels are used in many applications and environments.

For many of these, specific requirements are needed. Thus the need arose for an International Standard on testing of castors and wheels suitable for users, original equipment manufacturers and testing houses.

# AUSTRALIAN STANDARD

## Castors and wheels

### Part 2: Test methods and apparatus

#### 1 Scope

This International Standard specifies the test methods and apparatus to be used to check the performance of castors and wheels.

The tests to be used for specific types of castor and wheel, and the relevant acceptance criteria, values and applicability are given in ISO 22879 to ISO 22884.

#### 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 22877, *Castors and wheels — Vocabulary, symbols and multilingual terminology*

#### 3 Terms, definitions and symbols

For the purposes of this document, the terms and definitions given in ISO 22877 apply. The symbols are listed in the individual tests, and a combined list of symbols is given in Annex A.

#### 4 Test methods

##### 4.1 General requirements

###### 4.1.1 Test sequence

Tests shall be carried out in a predefined sequence to allow repeatability of testing conditions.

###### 4.1.2 Test sample

All tests within the sequence shall be made with the same castor(s) or wheel(s), unless otherwise specified in the appropriate standard. Castors and wheels shall not be artificially cooled during testing.

###### 4.1.3 Application of test load

The test load shall always be applied directly so that its centre of gravity lies central to the mounting plane of the castor(s), or the centre of the test frame (where required) on which the sample(s) under test are mounted (see Figures 3 and 7). Unless otherwise specified, the test load shall be a real weight.