

Australian/New Zealand Standard™

Furniture—Fixed height chairs

Part 2: Determination of strength and durability

[Modified and including the full text of ISO 7173:1989]

AS/NZS 4688.2:2000

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Australia Post
Australian Chamber of Commerce and Industry
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Ergonomics Society of Australia
Furntech, Australia
National Furnishing Industry Association of Australia
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PREFACE

This Standard was prepared by the Standards Australia/Standards New Zealand Committee CS/88, Commercial Furniture. The Standard is an adoption with national modifications and has been reproduced from, ISO 7173:1989 *Furniture—Chairs and stools—Determination of strength and durability*. The modifications comprise the addition of a test level (6) for the simulation of extra heavy use and a test for the swivelling mechanism.

The objective of this Standard is to provide specifiers and manufacturers with a Standard for the determination of strength and durability of chairs and stools and enables purchasing authorities, retailers and users to use these criteria to assist in selection and evaluation.

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

Appendix ZZ lists the Australian/New Zealand variations to ISO 7173. In the text of this Standard, marginal bars are added to the text wherever the requirements of the Standard have been varied to meet Australian/New Zealand requirements.

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

- (a) Its number appears on the cover and title page while the International Standard number appears only on the cover.
- (b) In the source text, 'this International Standard' should read 'this Australian/New Zealand Standard'.
- (c) A full point substitutes for a comma when referring to a decimal marker.

This Standard is Part 2 of a series for testing fixed height chairs. Other Parts in this series are as follows:

Part 1: Ergonomic and general requirements

Part 3: Determination of stability—Upright chairs

Part 4: Determination of stability—Chairs with tilting or reclining mechanisms when fully reclined, and rocking chairs.

For chair types not covered by this Standard refer to AS/NZS 4438, *Height adjustable swivel chairs* and AS/NZS 3813, *Plastic monobloc chairs*.

None of the documents referenced in this Standard have been adopted as Australian or Australian/New Zealand Standards.

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AUSTRALIAN/NEW ZEALAND STANDARD

Furniture—Fixed height chairs

Part 2. Determination of strength and durability

0 Introduction

This International Standard is one of a series being prepared on the strength, durability and stability of furniture. The series currently consists of the following:

ISO 7170, *Furniture — Storage units — Determination of strength and durability.*

ISO 7171, *Furniture — Storage units — Determination of stability.*

ISO 7172, *Furniture — Tables — Determination of stability.*

ISO 7173, *Furniture — Chairs and stools — Determination of strength and durability.*

ISO 7174-1, *Furniture — Chairs — Determination of stability — Part 1: Upright chairs and stools.*

ISO 7174-2, *Furniture — Chairs — Determination of stability — Part 2: Chairs with tilting or reclining mechanism.*

ISO 8019, *Furniture — Tables — Determination of strength and durability.*

1 Scope and field of application

This International Standard describes test methods for determining the strength and durability of all types of chairs, easy chairs and stools. Additional tests may be required for certain types of chairs and for chairs for specific fields of use. Such test methods will be described in future International Standards.

NOTE — For the purposes of this International Standard, pouffes are considered as stools.

Assessment of ageing and degradation is not included. The tests are not intended to assess the durability of stuffing materials, upholstery fabrics or foam cushions.

This International Standard does not include tests for reclining or tilted chairs in the reclined or tilted position.

The tests are designed to be applied to an article of furniture that is fully assembled and ready for use.

Forces and dimensions in the tests are applicable to chairs and stools intended for adult persons.

The tests consist of the application, to various parts of the item, of loads or forces simulating normal functional use, as well as misuse that might reasonably be expected to occur.

The tests are designed to evaluate properties without regard to materials, design/construction or manufacturing processes.

The test results are only valid for the article tested. When the test results are intended to be applied to other similar articles, the test specimen should be representative of the production model.

In the case of designs not catered for in the test procedures, the test should be carried out as far as possible as described, and deviations from the test procedure recorded in the test report.

Tests carried out according to this International Standard are intended to demonstrate the ability of the item to give satisfactory service in its intended environment. It should be understood that such tests do not ensure that structural failure will not eventually occur as a result of habitual misuse or after an excessively long period of service, or more than occasional use by persons weighing more than 100 kg.

2 References

ISO 48, *Vulcanized rubbers — Determination of hardness (Hardness between 30 and 85 IRHD).*

ISO 554, *Standard atmospheres for conditioning and/or testing — Specifications.*

ISO 2439, *Polymeric materials, cellular flexible — Determination of hardness (indentation technique).*

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 Strength tests (see 7.1 to 7.4 and 7.7 to 7.13)

3.1.1 static tests: Test consisting of heavy loads being applied a few times to ensure that the furniture has sufficient strength to perform its function under the highest levels of loading that might reasonably be expected to occur.

3.1.2 impact tests: Test to assess the strength of the article under the rapid rates of loading that occasionally occur.