

# INTERNATIONAL STANDARD

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## **Furniture — Chairs and stools — Determination of strength and durability**

*Ameublement — Chaises et tabourets — Détermination de la résistance et de la  
durabilité*



Reference number  
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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

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## Contents

	Page
<b>0</b> Introduction .....	1
<b>1</b> Scope and field of application .....	1
<b>2</b> References .....	1
<b>3</b> Definitions .....	1
<b>4</b> Test method .....	2
<b>5</b> General test requirements .....	2
<b>6</b> Test environment and apparatus .....	2
<b>7</b> Test procedures .....	3
<b>7.1</b> Seat static load test .....	3
<b>7.2</b> Back static load test .....	4
<b>7.3</b> Arm and wing sideways static load test .....	4
<b>7.4</b> Arm downwards static load test .....	5
<b>7.5</b> Seat fatigue test .....	5
<b>7.6</b> Back fatigue test .....	5
<b>7.7</b> Leg forward static load test .....	5
<b>7.8</b> Leg sideways static load test .....	7
<b>7.9</b> Diagonal base load test .....	7
<b>7.10</b> Seat impact test .....	7
<b>7.11</b> Back impact test .....	8
<b>7.12</b> Arm impact test .....	8
<b>7.13</b> Drop test .....	10
<b>8</b> Assessment of results .....	10
<b>9</b> Test report .....	11
 <b>Annex</b>	
Determination of seat and back loading positions .....	17

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# Furniture — Chairs and stools — 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.