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SIST EN 15373:2007

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English Version

Furniture - Strength, durability and safety - Requirements for non-domestic seating

Mobilier - Résistance, durabilité et sécurité - Exigences applicables aux sièges à usage non domestique

Möbel - Festigkeit, Dauerhaltbarkeit und Sicherheit - Anforderungen an Sitzmöbel für den Nicht-Wohnbereich

This European Standard was approved by CEN on 15 March 2007.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Contents

Page

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Test sequence	5
5 Safety requirements	5
5.1 General.....	5
5.2 Shear and squeeze points	5
5.2.1 Shear and squeeze points when setting up and folding	5
5.2.2 Shear and squeeze points under influence of powered mechanisms	5
5.2.3 Shear and squeeze points during use	5
5.3 Stability	6
5.3.1 General.....	6
5.3.2 Swivelling chairs.....	6
5.3.3 Non swivelling chairs	6
5.4 Rolling resistance of the unloaded chair	6
6 Strength and durability	7
6.1 General.....	7
6.2 Strength and durability requirements.....	9
7 Information for use	9
8 Test report	9
Annex A (normative) Tests for special types of seating and components	10
A.1 Vertical upwards static load on arm rests	10
A.1.1 Seating which may be moved when occupied	10
A.1.2 Stacking seating	10
A.2 Vertical load on back rests	10
A.3 Auxiliary writing surface static load test.....	10
A.4 Auxiliary writing surface fatigue test.....	11
A.5 Foot rail fatigue test.....	11
Annex B (informative) Additional tests	12
B.1 Drop test for stacking seating	12
B.2 Backward fall test	13
B.3 Drop test from the height of a table	13
Annex C (informative) Test Severity in Relation to Applications	15

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SIST EN 15373:2007

[https://standards.iteh.ai/catalog/standards/sist/e8dcd543-39e5-4f60-ac77-](https://standards.iteh.ai/catalog/standards/sist/e8dcd543-39e5-4f60-ac77-06ed314118cd/sist-en-15373-2007)

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Foreword

This document (EN 15373:2007) has been prepared by Technical Committee CEN/TC 207 “Furniture”, the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2007, and conflicting national standards shall be withdrawn at the latest by October 2007.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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1 Scope

This European standard specifies requirements for the safety, strength and durability of all types of non-domestic seating for adults.

It does not apply to ranked seating, office work chairs, office visitors chairs, chairs for educational institutions, outdoor seating and to links for linked seating for which European standards or drafts exist.

It does not include requirements for the durability of upholstery materials, castors, reclining and tilting mechanisms and seat height adjustment mechanisms.

The test requirements contained within this standard are based on use by persons weighing up to 110 kg.

It does not include requirements for resistance to ageing, degradation and flammability.

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.

EN 1022:2005, *Domestic furniture – Seating – Determination of stability*

EN 1335-1:2000, *Office furniture – Office work chair – Part 1 : Dimensions – Determination of dimensions*

EN 1335-3:2000, *Office furniture – Office work chair – Part 3 : Safety test methods*

EN 1728:2000, *Domestic furniture - Seating - Test methods for the determination of strength and durability*
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3 Terms and definitions

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

3.1 accessible parts
parts to which access can easily be gained by the user when the seating is in its intended configuration of use and for which the probability of unintentional user contact is high

3.2 parts accessible during setting up and folding
parts to which access can only be gained when setting up and folding the furniture

3.3 shear and squeeze points
shear and squeeze points exist if the distance between two accessible parts moving relative to each other can be less than 18 mm or more than 7 mm in any position during movement

3.4 castor type H
castors with rigid wheels, i.e. hard treads

NOTE 1 The wheel is of one colour over the entire surface

NOTE 2 These castors are suitable for carpeted floors.

3.5

castor type W

castors with resilient tyred wheels, i.e. soft treads

NOTE 1 This is clearly a different colour to the wheel centre

NOTE 2 These castors are suitable for hard stone, wooden or tiled floors or those featuring non-textiled covering.

4 Test sequence

The tests shall be carried out in the order in which they are listed in this Standard.

5 Safety requirements

5.1 General

The seating shall be designed so as to minimise the risk of injury to the user.

All parts of the seating with which the user comes into contact during intended use, shall be designed so that physical injury and damage are avoided.

This requirement is met when:

1. Edges of the seat, back rest and arm rests which are in contact with the user when sitting in the seating are rounded or chamfered and all other edges accessible during use are free from burrs and/or sharp edges.
2. Ends of hollow components are closed or capped.

Movable and adjustable parts shall be designed so that injuries and inadvertent operation are avoided.

It shall not be possible for any load bearing part of the seating to come loose unintentionally.

All parts that are lubricated to assist sliding shall be designed to protect users from lubricant stains when in normal use.

5.2 Shear and squeeze points

5.2.1 Shear and squeeze points when setting up and folding

Unless 5.2.2 or 5.2.3 are applicable, shear and squeeze points that are created only during setting up and folding, including tipping seat actions, are acceptable, because the user can be assumed to be in control of his/her movements and able to cease applying the force immediately upon experiencing pain.

The edges of parts moving relative to each other and creating shear and squeeze points shall be as specified in 5.1.

5.2.2 Shear and squeeze points under influence of powered mechanisms

With the exception of tipping seats there shall be no shear and squeeze points created by parts of the seating operated by powered mechanisms, e.g. springs and gas lifts.

5.2.3 Shear and squeeze points during use

There shall be no shear and squeeze points created by forces applied during normal use, see Table 1.

There shall be no shear and squeeze points if a hazard is created by the weight of the user during normal movements and actions, e.g. attempting to move the seating by lifting the seat or by adjusting the backrest.

NOTE This hazard is best prevented by the use of automatic locking mechanisms.

5.3 Stability

5.3.1 General

The seating shall not overturn under the following conditions by:

- a) pressing down on the front edge of the seat surface in the most adverse position;
- b) leaning sideways on a seat with or without arm rests;
- c) leaning against the back rest;
- d) sitting on the front edge of the seat;
- e) loading the foot rail/foot rest.

5.3.2 Swivelling chairs

The first requirement, 5.3.1 a) is fulfilled if the seating does not overturn when tested in accordance with 5.1 of EN 1335-3:2000.

The second and fourth requirements 5.3.1 b) and 5.3.1 d) are fulfilled if the seating does not overturn when tested in accordance with 5.2 and 5.3 of EN 1335-3:2000.

The third requirement 5.3.1 c) is fulfilled if either the:

1. seating has at least five supporting points and the maximum offset [m] of the back rest of the chair is smaller than or equal to $1,34 \times [t]$ (stability dimension [t], see 6.18 of EN 1335-1:2000) when tested in accordance with 5.4.1 of EN 1335-3:2000; or
2. seating does not overturn when tested in accordance with 5.4.2 and 5.4.3 of EN 1335-3:2000.

The fifth requirement 5.3.1 e) is satisfied if the seating fulfils the requirement of EN 1022:2005, Clause 6.3.

5.3.3 Non swivelling chairs

The first and fourth requirement 5.3.1 a) and 5.3.1 d) are satisfied if the seating fulfils the requirement of EN 1022:2005, clause 6.2.

The second requirement 5.3.1 b) is satisfied if the seating fulfils the requirement of EN 1022:2005, clause 6.4 or 6.5.

The third requirement 5.3.1 c) is satisfied if the seating fulfils the requirement of EN 1022:2005, clause 6.6 or clause 7.

The fifth requirement 5.3.1 (e) is satisfied if the seating fulfils the requirement of EN 1022:2005, Clause 6.3.

5.4 Rolling resistance of the unloaded chair

This clause is only applicable to single seating units fitted with castors or wheels.

The unloaded seating shall not roll unintentionally.

This requirement is met when the rolling resistance is ≥ 15 N with castor type H or ≥ 12 N with castor type W when tested in accordance with 6.1 of EN 1335-3:2000. The castors shall all be of identical construction.

6 Strength and durability

6.1 General

Seating shall be tested for strength and durability according to Table 1 and following the order listed in Table 1.

When choosing the loads and cycles for each test, this shall be carried out with due respect to the end use of the product (See Annex C).

It shall be noted that some end uses may be covered by more than one requirement depending on the severity of the expected use, e.g. restaurants, cafes, cinemas, concert halls.

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