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English Version

Office furniture - Office work chair - Part 2: Safety requirements

Mobilier de bureau - Sièges de travail de bureau - Partie 2:
Exigences de sécurité

Büromöbel - Büro-Arbeitsstuhl - Teil 2:
Sicherheitsanforderungen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 207.

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SIST EN 1335-2:2010

<https://standards.iteh.ai/catalog/standards/sist/0184b20b-609e-4862-a136-076bfb09128d/sist-en-1335-2-2010>

Foreword

This document (prEN 1335-2:2007) has been prepared by Technical Committee CEN/TC 207 "Furniture", the secretariat of which is held by UNI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 1335-2:2000.

This series consist of following parts:

- EN 1335-1, *Office furniture — Office work chair — Part 1: Dimensions, determination of dimensions*;
- EN 1335-2, *Office furniture — Office work chair — Part 2: Safety requirements*;
- EN 1335-3, *Office furniture — Office work chair — Part 3: Test methods*.

European experts decided in 2006 to review the EN 1335-series, taking into account the present state of the art. It was decided to revise EN 1335-3:2000 in line with ISO/FDIS 21015:2007, *Office furniture — Office work chairs — Test methods for the determination of stability, strength and durability*, which has been prepared by ISO/TC 136 "Furniture". Additionally it was decided to revise EN 1335-2:2000 according to the new EN 1335-3:2007.

This part of prEN 1335 specifies the safety requirements for office work chairs which have to be tested according to prEN 1335-3. The former EN 1335-2:2000 was based and related to the former EN 1335-3:2000. Taking into account that the present prEN 1335-3:2007 is based on ISO/FDIS 21015:2007 some test methods are no longer included. Therefore these safety requirements had to be deleted in prEN 1335-2:2007.

Technical experts in Europe are recommended to compare the safety requirements and the corresponding test methods in prEN 1335-2:2007 and prEN 1335-3:2007 and to submit appropriate comments during CEN Enquiry, especially

- leaning against back rest (compare EN 1335-3:2000, 5.4.1 with prEN 1335-3:2007 and prEN 1335-2:2007, 4.3);
- rolling resistance of the unloaded chair (compare EN 1335-3:2000, 6.1 with prEN 1335-2:2007, 4.4);
- strength and durability (compare EN 1335-3:2000, 5.3.2, 8 and 9.2.1. with prEN 1335-3:2007 and prEN 1335-2:2007, 4.5).

1 Scope

This part of EN 1335 specifies the safety requirements for office work chairs.

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 1335-1:2000, *Office furniture — Office work chair — Part 1: Dimensions, determination of dimensions*

prEN 1335-3:2007, *Office furniture — Office work chair — Part 3: Test methods*

3 Terms and definitions

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

3.1

castor Type H

castor with rigid wheels, i.e. hard tread

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

NOTE 2 These castors are suitable for carpeted floors.

3.2

castor Type W

castor with resilient tired wheels, i.e. soft tread

NOTE 1 The colour is clearly different to the wheel centre.

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

4 Safety requirements

4.1 General design requirements

4.1.1 Corners and edges, trapping, pinching and shearing

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

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

These requirements are met when:

- the safety distance of accessible movable parts is either ≤ 8 mm or ≥ 25 mm in any position during movement;
- accessible corners are rounded with minimum 2 mm radius;

- the edges of the seat, back rest and arm rests which are in contact with the user when sitting in the chair are rounded with minimum 2 mm radius;
- the edges of handles are rounded with minimum 2 mm radius in the direction of the force applied;
- all other edges are free from burrs and rounded or chamfered;
- the ends of hollow components are closed or capped.

4.1.2 Adjusting devices

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

It shall be possible to operate the adjusting devices from sitting position in the chair.

4.1.3 Connections

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

4.1.4 Avoidance of soiling

All parts which are lubricated to assist sliding (greasing, lubricating, etc.) shall be designed to protect users from lubricant stains when in normal use.

4.2 Test sequence

The chair shall be tested in the following sequence of tests of EN 1335-3.

- stability tests (optional);
- test of rolling resistance (optional);
- tests of seat and back rest;
- additional test of rotatable back rest;
- fatigue test of arm rests;
- static load test of arm rests (functional load);
- stability tests (before testing the sideways overbalancing for chairs with arm rests, the arm rests shall be allowed to recover for up to 4 h);
- static load test of arm rests (overload);
- test of rolling resistance.

4.3 Stability during use

The chair shall not overbalance under the following conditions:

- a) by pressing down on the front edge of the seat surface in the most adverse position;
- b) by leaning out over the arm rests;
- c) by leaning against the back rest;
- d) by sitting on the front edge.

The first requirement is fulfilled if the chair does not overbalance when tested according to 7.1.1 of prEN 1335-3:2007 with the forces and numbers of cycles according to Table A1.

The second and fourth requirement are fulfilled if the chair does not overbalance when tested according to 7.1.2, 7.1.4 and 7.1.5 of prEN 1335-3:2007 with the forces and numbers of cycles according to Table A1.

The third requirement is fulfilled if the chair does not overbalance when tested according to 7.1.6 or 7.1.7 of prEN 1335-3:2007 with the forces and numbers of cycles according to table A1.

4.4 Rolling resistance of the unloaded chair

The unloaded chair shall not roll unintentionally.

This requirement is met when the castors are of identical construction.

4.5 Strength and durability

The chair shall be constructed to ensure that it does not create a risk of injury to the user of the chair under the following conditions:

- a) sitting on the seat, both centrally and off-centre;
- b) moving forward, backwards, and sideways while sitting in the chair;
- c) leaning over the arm rests;
- d) pressing down on the arm rests while getting up from the chair.

These requirements are fulfilled when after the tests specified in 7.3.1 and 7.3.2 of prEN 1335-3:2007 with the forces and numbers of cycles according to Table A2:

- there are no fractures of any member, joint or component,
- there is no loosening of joints intended to be rigid,
- no major structural element is significantly deformed,
- the chair fulfils its functions after removal of the test loads

and when:

- after the test in 7.2.3 of prEN 1335-3:2007 with the forces and numbers of cycles according to Table A2 the arm rests show no fracture.

5 Information for use

Each chair shall be accompanied by information for use in the language of the country in which it will be delivered to the end user. It shall contain at least the following details:

- a) Information regarding the intended use;
- b) Information regarding possible adjustments and chair type (see EN 1335-1:2000);
- c) Instruction for operating the adjusting mechanisms;
- d) Instruction for the care and maintenance of the chair;
- e) Information regarding adjustment of the seat and back rest;
- f) in case of chairs with seat height adjustments with energy accumulators, an additional note is required pointing out, that only trained personnel may replace or repair seat height adjustment components with energy accumulators;
- g) Information on the choice of castors in relation to the floor surface.

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Annex A (normative)

Safety requirements

Table A.1 — Forces and numbers of cycles for stability tests

Clause	Test	Force	Cycles
7.1.1	Front edge overturning	Mass: 27 kg	1
7.1.2	Forward overturning	Downward force F_1 : 600 N Horizontal force F_2 : 20 N	1
7.1.4	Sideways overturning for chairs without arm rests	Downward force F_1 : 600 N Horizontal force F_2 : 20 N	1
7.1.5	Sideways overturning for chairs with arm rests	Downward force F_1 : 250 N Downward force F_2 : 350 N Horizontal force F_3 : 20 N	1
7.1.6	Rearwards overturning of chairs without back rest inclination	Downward force F_1 : 600 N Horizontal force F_2 : 192 N	1
7.1.7	Rearwards overturning of chairs with back rest inclination	Number of discs (5.9): 13	1

Table A.2 — Forces and numbers of cycles for strength and durability tests

Clause	Test	Force	Cycles
7.2.3	Arm rest downward static load test – central	Force: 900 N	5
7.3.1	Seat and back durability	Point A: 1 500 N Point B: 320 N Point C: 1 200 N Point D: 1 100 N Point E: 320 N Point F: 1 200 N Point G: 1 100 N Point H: 320 N Point J: 1 200 N	120 000 80 000 80 000 20 000 20 000 20 000 20 000 20 000 20 000
7.3.2	Arm rest durability	Force: 400 N	60 000