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SIST EN 14073-2:2004

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Office furniture - Storage furniture - Part 2: Safety requirements

Mobilier de bureau - Meubles de rangement - Partie 2 :
Exigences de sécurité

Büromöbel - Büroschränke - Teil 2: Sicherheitstechnische
Anforderungen

This European Standard was approved by CEN on 27 May 2004.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Foreword

This document (EN 14073-2:2004) 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of an identical text or by endorsement, at the latest by February 2005, and conflicting national standards shall be withdrawn at the latest by February 2005.

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

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EN 14073-2:2004 (E)**1 Scope**

This document specifies safety requirements for office storage furniture.

This document does not apply to high density mechanized filing systems, rotary filing systems or plan files.

It should be understood that fulfilling the specified requirements does not ensure that failure will not occur as a result of habitual misuse or after an excessively long period of service.

Safety depending on structure of the building is not included e.g.: the strength of wall hanging cabinets includes only the cabinet and its parts. The wall and wall attachment are not included.

Assessment of ageing is not included.

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 14073-3:2004 *Office furniture - Storage furniture - Part 3: Test methods for the determination of stability and strength of the structure*

EN 14074:2004 *Office furniture – Tables and desks and storage furniture - Test methods for the determination of strength and durability of moving parts.*

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3 Safety Requirements

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3.1 Principles

Storage furniture shall be designed so as to minimise the risk of injury in normal use.

The following safety requirements are based upon the knowledge that office storage furniture and its parts are likely to cause injury only when they are heavy and fall through a significant distance. This is possible if floor standing units overbalance, wall or screen mounted units become detached, or heavy parts become detached from units.

Therefore, the test sequence and the safety requirements specified in clause 3.5 and 3.6 are applicable:

- When the height of the centre of gravity of the unit, or any part is > 650mm above the floor and the total mass is > 10kg
- When the potential energy is > 65 Nm and the distance from the floor to the lowest edge of the unit or any part is > 300mm

The potential energy is the multiplication of the total mass of the unit, or the part, and the height above the floor in meter (m) to the centre of gravity.

3.2 Determination of the centre of gravity

The centre of gravity of a part or unit shall be taken as the geometric centre of the useable volume of drawers and units, and as the geometric centre of doors, flaps and shelves.

The height of the centre of gravity above the floor shall be measured for units or their parts when installed according to the manufacturer's instructions. Floor levelling devices shall be set at their middle position.

Storage units that can be positioned at alternative heights shall be placed in their highest position.

All wall or top-mounted units, or parts thereof, are considered to have their centre of gravity more than 650mm above the floor, unless specific restrictions are made by the manufacturer.

3.3 Determination of total mass

The total mass is the mass of the part or unit plus the mass supported by it.

Unless conspicuously and durably marked by the manufacturer with a maximum allowable contents load, the mass of the contents shall be determined according to Table 1, which specifies load per unit area for shelves, load per unit volume for extension elements and load per unit length for clothes rails.

The volume of extension elements shall be taken as the area of its bottom multiplied by the clear height. The clear height is the distance between the top of the extension element bottom and the lower edge of the extension element above, or the structure of the unit.

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Table 1 — Loads on storage parts

| | | |
|---|---------------------|-----|
| Shelves | kg/dm ² | 1,5 |
| Clothes rails | kg/dm | 5,0 |
| Extension elements | kg/dm ³ | 0,5 |
| Suspended pocket files | kg/dm ^{a)} | 4,0 |
| a) Measured perpendicular to the plane of the pocket files. | | |

3.4 General safety requirements

Accessible edges and corners shall be free from burrs and rounded or chamfered. There shall be no open ended tubes.

All moveable parts accessible during normal use shall have safety distances in any position during movement of $\leq 8\text{mm}$ or $\geq 25\text{mm}$. This applies to any two elements moving relatively to each other, with the exception of doors (incl. hinges), flaps (incl. hinges) and extension elements (incl. runners). The safety distances also apply to the distance between handles and other parts.

Adjustable parts shall be such as to prevent inadvertent operation or release.

If there is a risk of injury, vertically sliding roll fronts shall not close by themselves from any position higher than 200mm measured from the closed position.

Extension elements shall have effective open stops, i.e. they shall resist being pulled out of the carcass once by a horizontal force of 200 N applied to the handle of the loaded extension element.

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3.5 Floor standing units - free standing or attached to the building

3.5.1 Test sequence for floor standing units – free standing or attached to the building

The safety tests listed in Table 2 shall be carried out according to EN 14073-3 and EN 14074.

It is accepted that the safety tests from EN 14073-3 and EN 14074 (see the table below) are part of a total test sequence, where all relevant tests according to EN 14073-3 and EN 14074 (also those which are not safety tests) are carried out.

Table 2 – Test sequence for floor standing units – free standing or attached to the building

| Test n° | Test | Reference |
|--|--|-------------------------------------|
| 1 | Pull out of shelves | EN 14073-3:2004, 5.3.1 |
| 2 | Strength of shelf supports | EN 14073-3:2004, 5.3.2 |
| 3 | Strength of top surfaces | EN 14073-3:2004, 5.4 |
| 4 | Strength of extension elements | EN 14074:2004, 6.2.1 |
| 5 | Slam open of extension elements | EN 14074:2004, 6.2.3 |
| 6 | Interlock test | EN 14074:2004, 6.2.4 |
| 7 | Vertical load on pivoted door | EN 14074:2004, 6.3.1 |
| 8 | Slam shut/open of sliding doors and horizontal roll fronts | EN 14074:2004, 6.4.2 |
| 9 | Strength of flaps | EN 14074:2004, 6.6.1 |
| 10 | Floor standing units attached to the building | EN 14073-3:2004, 5.7 |
| 11 | Stability ^a | EN 14073-3:2004, 5.5.1 and 5.5.2 |
| <p>^a In the case of units, which might not fulfil the stability requirements before carrying out any tests, the applicable stability tests may be carried out before starting the sequence of tests specified in the table.</p> | | |

3.5.2 Safety requirements

After carrying out the tests specified in clause 3.5.1 there shall be no fracture, other damage or change of function that affects the safety. This also implies that after testing there shall be no sharp edges, sharp points etc.

Additional requirements after the testing in accordance with:

- 5.3.1 of EN 14073-3:2004, the shelf shall remain in the unit.
- 5.2 of EN 14073-3:2004, if one unit is intended to stand upon another, it shall not slide under the applied force.
- 6.3.1 of EN 14074:2004, the door shall remain attached to the unit.
- 6.2.3 of EN 14074:2004, the extension element shall not fall out of the unit.
- 6.2.4 of EN 14074:2004, the extension element shall remain closed.
- 5.7 of EN 14073-3:2004, the unit shall remain attached to the building.
- 5.5.1 and 5.5.2 of EN 14073-3:2004, the unit shall not overturn.

3.6 Screen and wall hanging units

3.6.1 Test sequence for screen and wall hanging units

All tests listed in table 3 shall be carried out with the unit hanging on the screen or wall.

Table 3 – Test sequence for screen and wall hanging units

| Test n° | Test | Reference |
|---------|--|------------------------|
| 1 | Dislodgement of screen and wall mounted units | EN 14073-3:2004, 5.6.2 |
| 2 | Pull out of shelves | EN 14073-3:2004, 5.3.1 |
| 3 | Strength of shelf supports | EN 14073-3:2004, 5.3.2 |
| 4 | Strength of top surfaces | EN 14073-3:2004, 5.4 |
| 5 | Strength of extension elements | EN 14074:2004, 6.2.1 |
| 6 | Slam open of extension elements | EN 14074:2004, 6.2.3 |
| 7 | Interlock test | EN 14074:2004, 6.2.4 |
| 8 | Vertical load on pivoted door | EN 14074:2004, 6.3.1 |
| 9 | Slam shut/open of sliding doors and horizontal roll fronts | EN 14074:2004, 6.4.2 |
| 10 | Strength of flaps | EN 14074:2004, 6.6.1 |
| 11 | Strength of screen and wall attachment devices | EN 14073-3:2004, 5.6.4 |