SLOVENSKI STANDARD
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Table za pisanje za vzgojno-izobraževalne ustanove - Ergonomske, tehniļne in varnostne zahteve ter preskusne metode

Writing boards for educational institutions - Ergonomic, technical and safety requirements and their test methods

Wandtafeln für Bildungseinrichtungen — Ergonomische, technische und sicherheitstechnische Anforderungen und Prüfverfahren

Tableaux pour établissements d'enseignement — Exigences ergonomiques, techniques et de sécurité et méthodes d'essai correspondantes

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Writing boards for educational institutions - Ergonomic, technical and safety requirements and their test methods

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (FprEN 14434:2009) 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 Unique Acceptance Procedure.

This document will supersede EN 14434:2004.

1 Scope

This document specifies ergonomic, technical and safety requirements for wall mounted and free-standing writing boards for use in rooms for educational and training purposes, e.g. classrooms, lecture theatres for schools, universities etc.

It is intended to prevent serious injury through normal functional use, as well as misuse that might reasonably be expected to occur.

This document applies to units after installation. Safety depending on the structure of the building is not included, e.g. the strength of wall mounted boards includes only the board and its parts. The wall and the wall attachment are not included.

Requirements concerning electrical safety are not included.

Annex A (normative) includes an assessment scale for the ability to write and erase.

Annex B (informative) includes terminology for display writing boards.

Annex C (informative) includes significant technical differences between this document and EN 14434:2004.

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 438-2:2005, *High-pressure decorative laminates (HPL) - Sheets based on thermosetting resins (usually called Laminates) - Part 2: Determination of properties*

EN 1023-3:2000, *Office furniture – Screens – Part 3: Test methods*

3 Terms and definitions

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

3.1
board attachment
element by which the board is attached to the rail (see Annex B, Figure B.20)

3.2
chalkboard
writing board with a writing surface to be used for chalk

3.3
fixed board
board or assembly of boards fixed by various means (see Annex B, Figures B.2, B.3 and B.4)

3.4
fixing element
joint by which the rail is mounted to the wall

3.5
flip chart
one-sided board placed or fixed on an easel or a rail with the facility to attach a paper pad (see Annex B, Figure B.16)

3.6
horizontally sliding board
board with or without wing with only horizontal board movements in the same plane, manually or power operated

3.7
map holder
permanent system at the upper part of the board allowing maps, charts or other documents to be temporarily hung in place (see Annex B, Figure B.18)

3.8
mobile board
board or assembly of boards, which may be moved on the floor from one place to another (see Annex B, Figures B.5, B.6 and B.7)

3.9
overall frame
outer frame or structure allowing movement of a sliding board

3.10
pivoting board
two-sided board articulated on its horizontal or vertical axis and standing on braced feet, with or without castors (see Annex B, Figures B.5, B.6)

3.11
rail based board/system
board hanging and/or sliding on horizontally wall mounted rails (see Annex B, Figure B.20)

3.12
roller board (revolving surface board)
assembly with top and bottom horizontal rollers allowing a continuous loop of flexible writing surface to be revolved between rollers.

NOTE These boards may be wall mounted or mobile (see Annex B, Figure B.17).

3.13
sash board
assembly of one or two-sided boards sliding vertically, independent of each other and individually counter-balanced (see Annex B, Figure B.10)

3.14
sliding board
board with horizontal and/or vertical movements in the same plane, manually or power operated.

NOTE It does not include a railed-based system (see Annex B, Figures B.9, B.10, B.11, B.12 and B.13).

3.15
tilting board
manually or power-operated inclinable one-sided board articulated on its lower horizontal edge, e.g. screens for overhead projectors (see Annex B, Figure B.11)

3.16
to and fro system
assembly of one- or two-sided boards sliding vertically, counter-balancing each other in all positions (see Annex B, Figure B.9)

3.17
transmission element
any means to transmit a movement such as to and fro, or sash

3.18
tray
ledge placed at the lower part of the board upon which writing implements may be placed (see Annex B, Figure B.18)

3.19
vertically and horizontally sliding board
board with or without wing with vertical and horizontal movements in the same plane, manually or power operated

3.20
vertically sliding board
board with or without wing, with only vertical movements in the same plane, manually or power operated (see Annex B, Figures B.9, B.10, B.11, B.12 and B.13)

3.21
whiteboard
writing board with a writing surface of a light colour to be used for dry marker pen

3.22
wall mounted board
one-sided board fixed to the wall (see Annex B, Figure B.1)

3.23
wing
two-sided board mounted on a vertically hinged system

3.24
winged board
assembly comprising a one-sided board and one or more wings.

NOTE Double-board, triple-board and book-leaf are examples of winged boards (see Annex B, Figures B.2, B.3 and B.4).

3.25
writing board
board with one or more writing surfaces for the display of information

3.26
writing surface
surface for the display of information by means of writing and/or by other methods.

NOTE The surface is erasable and re-usable.

4 General test conditions

4.1 Preliminary preparation

Before any of the tests are commenced, the item shall be old enough to ensure that it has developed its full strength. In the case of surfaces and glued joints in timber and the like, at least four weeks in normal indoor conditions shall have elapsed between manufacturing and testing.

All boards shall be tested as delivered. If of knock-down type, it shall be assembled according to the instructions supplied with the board. If the board can be assembled or combined in different ways, the most adverse combination shall be used for each test. The same is valid for units that can be combined with other units or components.

The tests shall be carried out in indoor conditions, but if during a test the temperature is outside the range of 15 °C to 25 °C, the maximum and/or minimum temperature shall be recorded in the test report.

Tighten any assembly fittings before testing. Further retightening shall not take place unless it is specifically required by the manufacturer.

4.2 Tolerances

Unless otherwise stated the following tolerances apply:

Masses: ± 0,5 % of the nominal mass;

Dimensions: ± 1,0 mm of the nominal dimension;

Angles: ± 2° of the nominal angle;

Forces: ± 5 % of the nominal force.

4.3 Test installation

For the structural tests in Clause 9, the board shall be installed according to the manufacturer's instructions.

Wall mounted boards shall be mounted to a structure sufficiently strong and stiff to eliminate the possibility of it affecting the results of the tests. The mounting of the structure shall be representative of the service installation.

Where the manner of mounting is ambiguously defined, the manner of mounting shall be recorded in the test report.

5 Test equipment

5.1 Floor surface, rigid, horizontal and flat.

5.2 Wall surface, rigid, vertical and flat.

5.3 Chalk, two types of white chalk:

a) made from calcium carbonate;

b) made from calcium sulphate.

5.4 Pen, red alcohol base, acrylic tipped dry marker.

6 General safety requirements

6.1 All boards

No part of the board shall constitute a risk of injury to the user during normal use. The board shall be such that damages to clothing and soiling are avoided during normal use.

All accessible edges and corners shall be rounded or chamfered and shall have no burrs. Hollow ends shall be capped or otherwise closed.

In order to avoid shearing and pinching, the distance between parts moving relative to each other shall have safety distances, which shall always be less than 8 mm or more than 25 mm in any position during movement.

a) Shear and pinching points, which are held apart by rubber or plastic buffers are exempt from this requirement provided that the gap produced by the buffer is at least 25 mm.

b) For winged boards, the gap between two parts of the board is exempt from this requirement.

c) For vertically sliding boards (sash boards, to and fro boards), where there is a risk of entrapment, the requirement is applicable except between the boards. The gap between the boards shall be at least 25 mm.

NOTE For c) gaps of 50 mm or more are recommended.

For vertically sliding boards (sash boards, to and fro boards), there shall be at least 120 mm from the floor to the board if no front protection is provided.

It shall not be possible to remove detachable parts inclusive end caps without the use of a tool.

No part attached to the rail system shall be detached unintentionally.

Counterweight mechanisms shall not be accessible during normal use.

It shall not be possible to operate controls inadvertently or accidentally.

If castors are provided as means of mobility, at least half of them shall be lockable.

6.2 Stability of mobile boards

This requirement is only applicable to mobile boards.

The board shall not overturn when tested according to EN 1023-3.

7 Surface tests and requirements for whiteboards

7.1 General

There are three performance levels specified in this Clause, Level 1, 2 and 3.

The minimum requirement for the writing surface is Level 1 (see also Clause 13).

The tests shall be carried out as specified in 7.2 to 7.5. Test samples shall have the same constitution as the board to be tested, unless otherwise specified.