

Hoists for the transfer of disabled persons — Requirements and test methods

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British Standard

ICS 11.180

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National foreword

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- monitor related international and European developments and promulgate them in the UK.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN ISO title page, pages 2 to 24 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

This British Standard, having been prepared under the direction of the Health and Environment Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 December 1998

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Descriptors: Disabled persons, lifting equipment, specifications, safety, accident prevention, definitions, ergonomics, performance evaluation, mechanical properties, mechanical strength, stability, control devices, routine verification, marking

English version

Hoists for the transfer of disabled persons — Requirements and test methods

(ISO 10535:1998)

Lève-personnes pour transférer des personnes handicapées — Exigences et méthodes d'essai
(ISO 10535:1998)

Lifter — Anforderungen und Prüfverfahren
(ISO 10535:1998)

This European Standard was approved by CEN on 27 May 1998.

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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.

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CEN

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Foreword

The text of EN ISO 10535:1998 has been prepared by Technical Committee CEN/TC 293 “Technical aids for disabled persons”, the secretariat of which is held by SIS, in collaboration with Technical Committee ISO/TC 173 “Technical systems and aids for disabled or handicapped persons”.

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 April 1999, and conflicting national standards shall be withdrawn at the latest by April 1999.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex Z, which is an integral part of this standard.

This standard provides one means to demonstrate that hoists for the transfer of disabled persons, which are also medical devices, conform to the essential requirements outlined in general terms in Annex 1 of the EU Directive 93/42 EEC. It is not intended to provide a means to show conformity with the requirements of any other directive.

There are three levels of European Standards dealing with technical aids for disabled persons. These are as follows, with level 1 being the highest:

Level 1: General requirements for technical aids

Level 2: Particular requirements for families of technical aids

Level 3: Specific requirements for types of technical aids.

Where standards for particular aids or groups of aids exist (level 2 or 3), the requirements of lower level standards take precedence over higher level standards. Therefore, to address all requirements for a particular aid, it is necessary to start with standards of the lowest available standard.

This is a combined level 2- and 3-standard (lowest possible) for hoists for the transfer of disabled persons, as specified in the scope.

Clause 4 of this standard contains requirements and test methods applicable to all relevant types of hoists.

Clause 5 contains additional requirements and test methods for mobile hoists.

Clause 6 contains additional requirements and test methods for stationary hoists.

Clause 7 contains additional requirements and test methods for non rigid body supports units.

Clause 8 contains additional requirements and test methods for rigid body supports units

Clause 9 contains additional and modified requirements and test methods for hoists that are intended to be free standing within the bathtub.

NOTE 1 Clause 9 is under consideration.

Annex A is included to offer information regarding the periodic examination and inspection of hoist equipment.

Annex B is included to assist the manufacturer and purchaser with regard to the category into which certain hoists can fall.

Annex C is included to give specific requirements and testing for hydraulics and pneumatics.

Annex Z is included to show the parts of this European Standard which addresses the essential requirements of EU Directive 93/43/EEC.

NOTE 2 This standard is valid as a combined level 2/3-standard within the 3-level system used in the European standardization for medical devices concerning technical aids for disabled persons. This standard is an International Standard as well (ISO 10535). The use or the status as an International Standard is not affected by the European 3-level system.

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

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Introduction

It appears from studies that the nursing and caring profession involves many physically burdening factors in the caring for and nursing of disabled persons. A hoist may constitute a useful means for preventing overloading of the attendant and the disabled person.

1 Scope

This European standard specifies requirements and test methods only for hoists and body support units intended for the transfer of disabled persons as classified in EN ISO 9999:1998:

- 12 36 03 Wheeled hoists with sling seats
- 12 36 06 Wheeled hoists with solid seats
- 12 36 09 Hoist trolleys
- 12 36 12 Stationary hoists fixed to the wall/walls, floor and/or ceiling
- 12 36 15 Stationary hoists fixed to, mounted in or on another product
- 12 36 18 Stationary free standing hoists
- 12 36 21 Body-support units for hoists

This standard does not apply to devices that transports persons between two levels (floors) of a building.

This standard does not include methods for determination of ageing or corrosion of such hoists and units.

The requirements of this standard are formulated with regard to the needs of both the disabled persons being hoisted and the attendant using the hoist.

2 Normative references

This European standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 292, *Safety of machinery. Basic concepts, general principles for design — Part 1: Basic terminology, methodology — Part 2: Technical principles and specification.*

EN 614-1, *Safety of machinery. Ergonomic principles — Part 1: Terminology and general principles.*

EN 853, *Rubber hoses and hose assemblies — Wire braid reinforced hydraulic type — Specification.*

EN 854, *Rubber hoses and hose assemblies — Textile reinforced hydraulic type — Specification.*

EN 980, *Graphical symbols for the use in the labelling of medical devices.*

EN 1021-1:1993, *Assessment of the ignitability of upholstered furniture — Part 1: Ignition source: Smouldering cigarette.*

EN 1041, *Information supplied by the manufacturer with medical devices.*

EN 1441, *Medical devices — Risk analysis.*

EN ISO 9999:1998, *Technical aids for disabled persons — Classification.*

EN 60601-1, *Medical electrical equipment — Part 1: General requirements for safety.*

EN 60601-1-2, *Electromagnetic compatibility — Requirements and tests.*

prEN 12182:1997, *Technical aids for disabled persons — General requirements and test methods.*

ISO 3741:1988, *Acoustics — Determination of sound power levels of noise sources — Precision methods for broad band sources in reverberation rooms.*

ISO 3744:1988, *Acoustics — Determination of sound power levels of noisesources — Methods for free field conditions over a reflecting plane.*

ISO 3758, *Textiles — Care labelling code using symbols.*

DIN 2413, *Steel pipes — Part 1: Design of steel pressure pipes — Part 2: Design of elbows and bends for steel pressure pipes.*

3 Definitions

For the purposes of this standard the following definitions apply:

3.1

adverse condition

the condition in which failure is most likely to occur and which is based on continual trial and error

3.2

attendant

the person who operates the hoist if not the lifted person

3.3

backrest

the part of the body support unit that supports the back of the person being lifted, moved or transferred (e.g. sling, seat, stretcher etc.) along with the associated attachment structure

3.4

backwards

180° to the forwards direction of travel