ISO 9386-2:2000-11 (E)

Power-operated lifting platform s for persons with impaired mobility - Rules for safety, dimensions and functional operation - Part 2: Powered stairlifts for seated, standing and wheelchair users moving in an inclined plane

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Terms and definitions 2

4 General requirements for stairlifts 6
4.1 Pattern of use 6
4.2 Protection against hazards 7
4.3 General design 7
4.4 Design guidelines particular to the installation 7
4.5 Access for maintenance, repair and inspection 7
4.6 Fire resistance 7
4.7 Rated speed 7
4.8 Rated load 7
4.9 General safety factor 8
4.10 Resistance to operating forces 8
4.11 Protection of equipment against harmful external influences 8
4.12 Suppression of radio and television interference 8
4.13 Guarding 8

5 Guide rails and mechanical stops 9
5.1 Guide rails 9
5.2 Folding guide rails 9
5.3 Stairlift guide rail 9
5.4 Mechanical end stops 9

6 Safety gear and overspeed governor 9
6.1 General 9
6.2 Control 10
6.3 Release 10
6.4 Access for inspection 10
6.5 Electrical checking 10
6.6 Overspeed governor 10
6.7 Rotation monitor unit 11
6.8 Safety nut 11

7 Driving units and drive system 11
7.1 General requirements 11
7.2 Braking system 12
7.3 Emergency/manual operation 12
7.4 Additional requirements for rope suspension drive 13
7.5 Additional requirements for rack and pinion drive 14
7.6 Additional requirements for chain suspension drive 15
7.7 Additional requirements for screw and nut drive 15

7.8 Additional requirements for guided rope and ball drive ... 16
7.9 Additional requirements for worm-toothed segment drive ... 16
7.10 Additional requirements for friction/traction drive ... 16
7.11 Additional requirements for guided chain drive ... 16
7.12 Additional requirements for guided chain drive with bearing rollers and bearing segments ... 17
7.13 Additional requirements for hydraulic drive ... 17

8 Electrical installation and equipment ... 19
8.1 General ... 19
8.2 Drive contactors ... 20
8.3 Motor and brake circuits for stopping the machine and checking its stopped condition ... 20
8.4 Creepage and clearance distances and enclosure requirements ... 21
8.5 Protection against electrical faults ... 21
8.6 Electric safety devices ... 22
8.7 Time delay ... 23
8.8 Protection of the driving motor ... 23
8.9 Electrical wiring ... 23
8.10 Safety circuits ... 24
8.11 Residual current devices ... 24
8.12 Additional requirements for battery-powered operation ... 24
8.13 Cableless controls ... 25
8.14 Operating devices ... 26
8.15 Terminal limit switches and final limit safety switches ... 26
8.16 Emergency alarm devices ... 26

9 Carriage ... 27
9.1 General requirements ... 27
9.2 Chair carriage ... 28
9.3 Carriage with standing platform ... 29
9.4 Carriage with wheelchair platform ... 30

10 Testing, inspection and servicing ... 33
10.1 Test and examination after installation ... 33
10.2 Periodic examinations, tests and servicing ... 34

11 Technical literature ... 34

12 Labels, notices and operating instructions ... 35
12.1 General ... 35
12.2 Information to be displayed ... 35
12.3 Operating instructions ... 36

Annex A (informative) Guidance in selection and purchase of suitable stairlifts ... 42

Annex B (informative) Recommendation for examination and testing before going into service ... 44

Annex C (informative) Recommendations for the provisions and use of specially adapted operating devices, switches and sensors ... 46

Annex D (informative) In-use periodic examination, tests and servicing ... 47

Annex E (informative) Example of certificate of acceptance by purchaser/user after initial tests and examination ... 49

Annex F (normative) Safety circuits -- Requirements for circuit design and component and circuit fault analysis ... 50

Annex G (informative) Summary of different requirements for private/public access ... 54

Bibliography ... 55