DIN 18650-1:2010-06 (E)

Powered pedestrian doors - Part 1: Product requirements and test methods

Contents

Page

Foreword 4

1 Scope 5

2 Normative references 5

3 Terms and definitions 6

4 Classification 11
4.1 Coding system 11
4.2 Type of drive (first digit) 11
4.3 Drive durability (second digit) 11
4.4 Type of door (third digit) 12
4.5 Suitability for use as a fire door (fourth digit) 12
4.6 Drive safety devices (fifth digit) 12
4.7 Special requirements for drives/functions/fittings (sixth digit) 12
4.8 Safety of powered door system -- Construction/installation (seventh digit) 13
4.9 Ambient temperature (eighth digit) 13
4.10 Example of classification 13

5 Requirements 13
5.1 General 13
5.2 Product information 14
5.2.1 For installation, operation and maintenance 14
5.2.2 For initial type testing (type examination) 14
5.3 Drive system 14
5.3.1 General 14
5.3.2 Devices for stopping the leaf movement 15
5.3.3 Activation of the drive 15
5.3.4 Electrical equipment 15
5.3.5 Hydraulic or pneumatic equipment (if fitted) 16
5.4 Door leaf (leaves) 16
5.4.1 Materials 16
5.4.2 Shape of leaves 16
5.4.3 Leaf travel limiting device 16
5.5 Manual operation 16
5.6 Tracks 17
5.7 Avoidance of danger points and safeguarding at danger points 17
5.7.1 General 17
5.7.2 Safety distances 17
5.7.3 Limitation of leaf forces 17
5.7.4 Protective devices 19
5.7.5 Guards/barriers 19
5.8 Additional requirements 20
5.8.1 Additional requirements for revolving doors 20
5.8.2 Additional requirements for doors in escape routes and emergency exits 21
5.9 Additional requirements for powered doors used as fire doors 24
5.10 Electromagnetic compatibility 24

6 Test methods 25
6.1 General 25
6.2 Test conditions 25

6.2.1 General ... 25
6.2.2 Measuring equipment ... 26
6.3 Documentation required for testing ... 26

7 Test procedures ... 26
7.1 Durability test ... 26
7.1.1 General ... 26
7.1.2 Testing under normal conditions ... 26
7.1.3 Testing under extreme temperatures ... 27
7.1.4 Additional test for doors with a break-out system ... 27
7.1.5 Additional test for doors without a break-out system ... 27
7.2 Test for electromagnetic compatibility ... 27
7.2.1 General ... 27
7.2.2 Test for unwanted electromagnetic emissions ... 27
7.2.3 Test for electromagnetic immunity ... 27
7.3 Special tests for danger points on revolving doors (except for doors as in 3.9 (low-energy powered doors)) ... 27
7.3.1 Danger point: main closing edge/opposing closing edge ... 27
7.3.2 Danger point: secondary closing edge/floor ... 28
7.3.3 Danger point: main closing edge/inside wall ... 28
7.4 Tests for further requirements ... 28
7.5 Test results ... 30

8 Marking ... 31

9 Evaluation of conformity ... 31
9.1 General ... 31
9.1.1 Evaluation of conformity for level 0 requirements for drive systems ... 31
9.1.2 Evaluation of conformity for all other levels of requirements for drive systems ... 31
9.2 Initial type test (type examination) ... 31
9.3 Factory production control ... 32
9.3.1 Documentation ... 32
9.3.2 Routine tests during manufacture ... 32
9.3.3 Treatment of non-conforming products ... 32

Annex A (informative) Illustration of some essential terms for various types of door ... 33

Annex B (normative) Measuring points ... 34

Annex C (normative) Tests for presence detection devices ... 38

Annex D (normative) Electrical equipment ... 45

Annex E (informative) List of potential hazards ... 47

Annex F (informative) Additional terms and definitions ... 51

Annex G (informative) Emergency break-out sign ... 56

Bibliography ... 57