DIN EN 1932:2013-09 (E)

External blinds and shutters - Resistanc e to wind loads - Method of testing and performance criteria

Contents

Page

Foreword 4

1 Scope 6

2 Normative references 6

3 Terms and definitions 6

4 Test conditions 7
4.1 General 7
4.2 Dimensions of test samples 7
4.2.1 General 7
4.2.2 Characterisation of height H 8
4.2.3 Characterisation of width L 8
4.3 Positioning of test samples 9
4.4 Laboratory conditions 9

5 Methods of loading 10
5.1 General 10
5.2 Method N°1: use of suspended weights 10
5.3 Method N°2: use of a uniformly distributed weight 10
5.4 Method N°3: use of a pneumatic device 11

6 Test loads 13

7 External blinds and awnings 14
7.1 Folding arm and treillis arm awnings 14
7.1.1 Method of loading 14
7.1.2 Test loads 14
7.1.3 Positioning and dimensions of sample 14
7.1.4 Measurement of vertical displacements 14
7.1.5 Test sequence 14
7.1.6 Performance criteria 16
7.2 Projecting awning and marquisolette 16
7.2.1 Method of loading 16
7.2.2 Test loads 16
7.2.3 Positioning and dimensions of sample 16
7.2.4 Measurement of vertical displacements 17
7.2.5 Test sequence 17
7.2.6 Performance criteria 19
7.3 Awnings with lateral guiderail without fabric running into the lateral rails and without tension system 19
7.3.1 General 19
7.3.2 Method of loading 19
7.3.3 Test load 19
7.3.4 Positioning and dimensions of sample 19
7.3.5 Test sequence 20
7.3.6 Performance criteria 21
7.4 Awnings with lateral guiderail with fabric running into the lateral rails without tension system 22
7.4.1 General 22

7.4.2 Method of loading 22
7.4.3 Test load 22
7.4.4 Positioning and dimensions of sample 22
7.4.5 Test sequence 22
7.4.6 Performance criteria 26
7.5 Awning with lateral guiderail with tension system 26
7.5.1 General 26
7.5.2 Method of loading 26
7.5.3 Test load 26
7.5.4 Positioning and dimensions of sample 26
7.5.5 Test sequence 26
7.5.6 Performance criteria 27
7.6 Pergola awning 28
7.6.1 General 28
7.6.2 Method of loading 28
7.6.3 Test load 28
7.6.4 Positioning and dimensions of sample 28
7.6.5 Test sequence 29
7.6.6 Performance criteria 30

8 Shutters 31
8.1 Roller shutter, wing shutter, venetian shutter, flat closing concertina shutter, concertina shutter, sliding panel shutter 31
8.1.1 Method of loading 31
8.1.2 Test loads 31
8.1.3 Positioning and dimensions of sample 31
8.1.4 Test sequence 31
8.1.5 Performance criteria 34
8.2 External venetian blind (EVB) 34
8.2.1 Method of loading 34
8.2.2 Test loads 34
8.2.3 Positioning and dimensions of sample 34
8.2.4 Measurement of horizontal displacement 34
8.2.5 Test sequence 35
8.2.6 Verification of permanent deformation 39
8.2.7 Verification of loss of tension of the guiding cable(s) 39
8.2.8 Performance criteria 39
8.3 Resistance of projection systems 40
8.3.1 General 40
8.3.2 Method of loading 40
8.3.3 Test loads 40
8.3.4 Positioning and dimensions of sample 40
8.3.5 Test sequence 40
8.3.6 Performance criteria 42

9 Test report 43

Annex A (informative) Example of a test apparatus for the method of loading N°3 44