

# DIN EN 1932:2013-09 (E)

## External blinds and shutters - Resistance to wind loads - Method of testing and performance criteria

---

Contents	Page
<b>Foreword .....</b>	<b>4</b>
<b>1 Scope .....</b>	<b>6</b>
<b>2 Normative references .....</b>	<b>6</b>
<b>3 Terms and definitions .....</b>	<b>6</b>
<b>4 Test conditions .....</b>	<b>7</b>
<b>4.1 General .....</b>	<b>7</b>
<b>4.2 Dimensions of test samples .....</b>	<b>7</b>
<b>4.2.1 General .....</b>	<b>7</b>
<b>4.2.2 Characterisation of height H .....</b>	<b>8</b>
<b>4.2.3 Characterisation of width L .....</b>	<b>8</b>
<b>4.3 Positioning of test samples .....</b>	<b>9</b>
<b>4.4 Laboratory conditions .....</b>	<b>9</b>
<b>5 Methods of loading .....</b>	<b>10</b>
<b>5.1 General .....</b>	<b>10</b>
<b>5.2 Method N°1: use of suspended weights .....</b>	<b>10</b>
<b>5.3 Method N°2: use of a uniformly distributed weight .....</b>	<b>10</b>
<b>5.4 Method N°3: use of a pneumatic device .....</b>	<b>11</b>
<b>6 Test loads .....</b>	<b>13</b>
<b>7 External blinds and awnings .....</b>	<b>14</b>
<b>7.1 Folding arm and trellis arm awnings .....</b>	<b>14</b>
<b>7.1.1 Method of loading .....</b>	<b>14</b>
<b>7.1.2 Test loads .....</b>	<b>14</b>
<b>7.1.3 Positioning and dimensions of sample .....</b>	<b>14</b>
<b>7.1.4 Measurement of vertical displacements .....</b>	<b>14</b>
<b>7.1.5 Test sequence .....</b>	<b>14</b>
<b>7.1.6 Performance criteria .....</b>	<b>16</b>
<b>7.2 Projecting awning and marquisolette .....</b>	<b>16</b>
<b>7.2.1 Method of loading .....</b>	<b>16</b>
<b>7.2.2 Test loads .....</b>	<b>16</b>
<b>7.2.3 Positioning and dimensions of sample .....</b>	<b>16</b>
<b>7.2.4 Measurement of vertical displacements .....</b>	<b>17</b>
<b>7.2.5 Test sequence .....</b>	<b>17</b>
<b>7.2.6 Performance criteria .....</b>	<b>19</b>
<b>7.3 Awnings with lateral guiderail without fabric running into the lateral rails and without tension system .....</b>	<b>19</b>
<b>7.3.1 General .....</b>	<b>19</b>
<b>7.3.2 Method of loading .....</b>	<b>19</b>
<b>7.3.3 Test load .....</b>	<b>19</b>
<b>7.3.4 Positioning and dimensions of sample .....</b>	<b>19</b>
<b>7.3.5 Test sequence .....</b>	<b>20</b>
<b>7.3.6 Performance criteria .....</b>	<b>21</b>
<b>7.4 Awnings with lateral guiderail with fabric running into the lateral rails without tension system .....</b>	<b>22</b>
<b>7.4.1 General .....</b>	<b>22</b>

7.4.2	<b>Method of loading .....</b>	22
7.4.3	<b>Test load .....</b>	22
7.4.4	<b>Positioning and dimensions of sample .....</b>	22
7.4.5	<b>Test sequence .....</b>	22
7.4.6	<b>Performance criteria .....</b>	26
7.5	<b>Awning with lateral guiderail with tension system .....</b>	26
7.5.1	<b>General .....</b>	26
7.5.2	<b>Method of loading .....</b>	26
7.5.3	<b>Test load .....</b>	26
7.5.4	<b>Positioning and dimensions of sample .....</b>	26
7.5.5	<b>Test sequence .....</b>	26
7.5.6	<b>Performance criteria .....</b>	27
7.6	<b>Pergola awning .....</b>	28
7.6.1	<b>General .....</b>	28
7.6.2	<b>Method of loading .....</b>	28
7.6.3	<b>Test load .....</b>	28
7.6.4	<b>Positioning and dimensions of sample .....</b>	28
7.6.5	<b>Test sequence .....</b>	29
7.6.6	<b>Performance criteria .....</b>	30
8	<b>Shutters .....</b>	31
8.1	<b>Roller shutter, wing shutter, venetian shutter, flat closing concertina shutter, concertina shutter, sliding panel shutter .....</b>	31
8.1.1	<b>Method of loading .....</b>	31
8.1.2	<b>Test loads .....</b>	31
8.1.3	<b>Positioning and dimensions of sample .....</b>	31
8.1.4	<b>Test sequence .....</b>	31
8.1.5	<b>Performance criteria .....</b>	34
8.2	<b>External venetian blind (EVB) .....</b>	34
8.2.1	<b>Method of loading .....</b>	34
8.2.2	<b>Test loads .....</b>	34
8.2.3	<b>Positioning and dimensions of sample .....</b>	34
8.2.4	<b>Measurement of horizontal displacement .....</b>	34
8.2.5	<b>Test sequence .....</b>	35
8.2.6	<b>Verification of permanent deformation .....</b>	39
8.2.7	<b>Verification of loss of tension of the guiding cable(s) .....</b>	39
8.2.8	<b>Performance criteria .....</b>	39
8.3	<b>Resistance of projection systems .....</b>	40
8.3.1	<b>General .....</b>	40
8.3.2	<b>Method of loading .....</b>	40
8.3.3	<b>Test loads .....</b>	40
8.3.4	<b>Positioning and dimensions of sample .....</b>	40
8.3.5	<b>Test sequence .....</b>	40
8.3.6	<b>Performance criteria .....</b>	42
9	<b>Test report .....</b>	43
	<b>Annex A (informative) Example of a test apparatus for the method of loading N°3 .....</b>	44