

# DIN EN 14351-1:2016-12 (E)

## Windows and doors - Product standard, performance characteristics - Part 1: Windows and external pedestrian doorsets (includes Amendment A2:2016)

---

<b>Contents</b>		<b>Page</b>
European foreword.....		6
<b>[A1]</b> Introduction <b>[A1]</b> .....		8
<b>1</b> Scope .....		9
<b>2</b> Normative references .....		10
<b>2.1</b> Classification standards.....		10
<b>2.2</b> Test and calculation standards .....		10
<b>2.3</b> Other standards .....		12
<b>3</b> Terms and definitions .....		13
<b>4</b> Performance characteristics and special requirements.....		14
<b>4.1</b> General .....		14
<b>4.2</b> Resistance to wind load .....		14
<b>4.3</b> Resistance to snow and permanent load .....		15
<b>4.4</b> Fire characteristics .....		15
<b>4.4.1</b> Reaction to fire .....		15
<b>4.4.2</b> External fire performance.....		15
<b>4.5</b> Watertightness.....		15
<b>4.6</b> Dangerous substances.....		15
<b>4.7</b> Impact resistance .....		15
<b>4.8</b> Load-bearing capacity of safety devices.....		15
<b>4.9</b> Height and width of doorsets and French windows .....		16
<b>4.10</b> Ability to release.....		16
<b>4.11</b> Acoustic performance.....		16
<b>4.12</b> Thermal transmittance .....		16
<b>4.13</b> Radiation properties.....		17
<b>4.14</b> Air permeability.....		17
<b>4.15</b> Durability .....		17
<b>4.15.1</b> General.....		17
<b>4.15.2</b> Durability of certain characteristics .....		17
<b>4.16</b> Operating forces .....		18
<b>4.17</b> Mechanical strength.....		18
<b>4.18</b> Ventilation .....		18
<b>4.19</b> Bullet resistance .....		18
<b>4.20</b> Explosion resistance .....		18
<b>4.20.1</b> Shock tube.....		18
<b>4.20.2</b> Range test.....		19
<b>4.21</b> Resistance to repeated opening and closing .....		19
<b>4.22</b> Behaviour between different climates .....		19
<b>4.23</b> Burglar resistance.....		19
<b>4.24</b> Special requirements.....		19
<b>4.24.1</b> Unframed glass doorsets .....		19
<b>4.24.2</b> Power operated windows.....		19
<b>5</b> Classification and designation.....		19
<b>6</b> Handling, installation, maintenance and care .....		24
<b>7</b> <b>[A1]</b> Evaluation of conformity.....		25

7.1	General.....	25
7.2	Initial Type Testing (ITT).....	25
7.2.1	General.....	25
7.2.2	Further type testing.....	26
7.2.3	Sampling.....	26
7.2.4	Test report.....	27
7.2.5	Cascading ITT.....	27
7.3	Factory Production Control (FPC).....	28
7.3.1	General.....	28
7.3.2	Personnel.....	29
7.3.3	Equipment.....	29
7.3.4	Raw materials and components.....	29
7.3.5	Production process.....	29
7.3.6	Product testing and evaluation.....	29
7.3.7	Traceability and marking.....	30
7.3.8	Non-conforming products.....	30
7.3.9	Corrective action.....	30
7.4	Initial inspection of factory and FPC.....	30
7.5	Continuous surveillance, assessment and approval of FPC.....	30
7.6	Testing of samples taken at the factory in accordance with a prescribed plan $\triangleleft A_1 \right\rangle$ .....	31
8	Labelling and marking.....	31
Annex A (informative) Interdependence between characteristics and components.....		32
A.1	General.....	32
Annex B (normative) Determination of sound insulation of windows.....		34
B.1	General.....	34
B.2	Determination of sound insulation by testing.....	34
B.3	Determination of sound insulation of single windows with IGUs using tabulated values.....	34
B.3.1	Sound insulation of single windows based on IGU sound insulation data and window construction criteria.....	34
B.3.2	General conditions for use of procedure in B.3.3.....	34
B.3.3	Procedure for determination of window $R_w$ (C; $C_{tr}$ ) based on IGU data.....	35
B.4	Test results and tabulated values – Range of application.....	37
Annex C (informative) Standards and draft standards on glass.....		38
Annex D (informative) Examples of performance and requirement profiles of a roof window.....		39
Annex E (normative) Determination of characteristics.....		41
E.1	Separate determination of characteristics for windows.....	41
E.2	Separate determination of characteristics for external pedestrian doorsets.....	44
Annex F (informative) Optional selection of representative test specimens for windows.....		47
F.1	Guidelines for an optional selection of representative test specimens.....	47
Annex G (informative) Examples of test sequences for optional combined determination of characteristics for windows.....		49
G.1	Optional test sequences.....	49
Annex H (normative) $\triangleleft A_1 \right\rangle$ Selection, preparation, mounting and fixing of test specimen for testing roof windows in accordance with EN 13823 and EN ISO 11925-2 and field of direct application.....		51
H.1	EN 13823 (SBI test).....	51
H.2	EN ISO 11925-2 (Single flame test).....	52
H.3	Field of direct application $\triangleleft A_1 \right\rangle$ .....	53

<b>Annex I (normative) [A1] Classification of air permeability of products with described product characteristics [A1]</b> .....	<b>54</b>
<b>Annex J (normative) [A1] Thermal transmittance for windows with bars [A1]</b> .....	<b>55</b>
<b>Annex ZA (informative) [A1] Clauses of this European Standard addressing the provisions of the EU Construction Product Directive [A1]</b> .....	<b>57</b>
<b>Annex ZB (informative) [A1] Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC [A1]</b> .....	<b>72</b>
<b>Annex ZC (informative) [A1] Relationship between this European Standard and the Essential Requirements of EU Directive 2006/95/EC [A1]</b> .....	<b>73</b>
<b>Annex ZD (informative) [A1] Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC [A1]</b> .....	<b>74</b>
<b>Bibliography</b> .....	<b>75</b>

## Figures

<b>Figure 1 — Relationship between various standards</b> .....	<b>7</b>
<b>Figure H.1 — Test specimen and SBI test rig</b> .....	<b>52</b>
<b>Figure J.1 — Attached bar(s)</b> .....	<b>55</b>
<b>Figure J.2 — Single cross bar in the IGU with or without attached bars</b> .....	<b>55</b>
<b>Figure J.3 — Multiple cross bars in the IGU with or without attached multiple bars</b> .....	<b>56</b>
<b>Figure J.4 — Glazing bar (Georgian bar)</b> .....	<b>56</b>
<b>Figure ZA.1 — Example CE marking information for roof window</b> .....	<b>69</b>
<b>Figure ZA.2 — Example CE marking information for external pedestrian doorset - Example 1</b> .....	<b>70</b>
<b>Figure ZA.3 — Example of CE marking information for external pedestrian doorset - Example 2</b> .....	<b>71</b>

## Tables

<b>Table 1 — Classification of characteristics for windows</b> .....	<b>21</b>
<b>Table 2 — Classification of characteristics for external pedestrian doorsets</b> .....	<b>23</b>
<b>Table A.1 — Interdependence between characteristics and components</b> .....	<b>32</b>
<b>Table B.1 — <math>R_w</math> for window based on <math>R_w</math> for IGU</b> .....	<b>36</b>
<b>Table B.2 — <math>R_w + C_{tr}</math> for window based on <math>R_w + C_{tr}</math> for IGU</b> .....	<b>37</b>
<b>Table B.3 — Extrapolation rules for different window sizes</b> .....	<b>37</b>
<b>Table D.1 — Examples of performance and requirement profiles of a roof window</b> .....	<b>39</b>
<b>Table E.1 — Separate determination of characteristics for windows</b> .....	<b>42</b>
<b>Table E.2 (concluded)</b> .....	<b>46</b>
<b>Table F.1 — Optional selection of representative test specimens for windows</b> .....	<b>47</b>
<b>Table G.1 — Examples of optional test sequences for combined determination of characteristics for windows</b> .....	<b>50</b>

<b>Table I.1 — Air permeability, classification of products with described product characteristics .....</b>	<b>54</b>
<b>Table J.1 — Thermal transmittance for windows with bars .....</b>	<b>55</b>
<b>Table ZA.1 — Relevant clauses (performance characteristics) .....</b>	<b>58</b>
<b>Table ZA.2 — System(s) of attestation of conformity (AoC) for external pedestrian doorsets and windows (including roof windows) .....</b>	<b>60</b>
<b>Table ZA.3a — Assignment of evaluation of conformity tasks for products under AoC system 1 .....</b>	<b>62</b>
<b>Table ZA.3b — Assignment of evaluation of conformity tasks for products under AoC system 3 .....</b>	<b>64</b>
<b>Table ZA.3c — Assignment of evaluation of conformity tasks for products under AoC system 4 .....</b>	<b>65</b>