

# DIN 18008-3:2024-12 (E)

## Glass in Building - Design and construction rules - Part 3: Point fixed glazing

---

<b>Contents</b>	<b>Page</b>
Foreword .....	5
<b>1 Scope</b> .....	<b>6</b>
<b>2 Normative references</b> .....	<b>6</b>
<b>3 Terms and definitions, symbols and units</b> .....	<b>7</b>
<b>3.1 Terms and definitions</b> .....	<b>7</b>
<b>3.2 Symbols and units</b> .....	<b>8</b>
<b>3.2.1 Latin capital letters</b> .....	<b>8</b>
<b>3.2.2 Latin small letters</b> .....	<b>9</b>
<b>3.2.3 Greek small letters</b> .....	<b>9</b>
<b>4 Construction products</b> .....	<b>10</b>
<b>5 Conditions of application and design</b> .....	<b>12</b>
<b>6 Effects of actions and verification</b> .....	<b>15</b>
<b>6.1 Verification of load-bearing capacity and serviceability</b> .....	<b>15</b>
<b>6.2 Verification of residual load-bearing capacity</b> .....	<b>15</b>
<b>Annex A (informative) Materials</b> .....	<b>17</b>
<b>A.1 General</b> .....	<b>17</b>
<b>A.2 Material-related calculation parameters</b> .....	<b>17</b>
<b>A.3 Mathematical representation of laminated safety glass</b> .....	<b>17</b>
<b>Annex B (informative) Verifications carried out in the drill hole area using Finite Element models</b> .....	<b>19</b>
<b>B.1 General</b> .....	<b>19</b>
<b>B.2 Discretization in the drill hole area</b> .....	<b>19</b>
<b>Annex C (informative) Simplified method for verification of load-bearing capacity and serviceability of point-supported glazing</b> .....	<b>23</b>
<b>C.1 General</b> .....	<b>23</b>
<b>C.2 Symbols</b> .....	<b>23</b>
<b>C.3 Verification of the ultimate limit state</b> .....	<b>24</b>
<b>C.3.1 Verification in point-fixing area</b> .....	<b>24</b>
<b>C.3.2 Verification at span centre</b> .....	<b>30</b>
<b>C.3.3 Calculation for laminated safety glass</b> .....	<b>30</b>
<b>C.4 Verification of serviceability limit state</b> .....	<b>30</b>
<b>Annex D (normative) Experimental verification for glass fixings and intermediate materials ("Test specifications for point fixings")</b> .....	<b>31</b>
<b>D.1 General</b> .....	<b>31</b>
<b>D.2 Symbols</b> .....	<b>31</b>
<b>D.3 Determination of load-bearing capacity</b> .....	<b>32</b>
<b>D.4 Determining serviceability</b> .....	<b>33</b>
<b>D.5 Determining stiffness values</b> .....	<b>33</b>
<b>D.6 Documentation</b> .....	<b>34</b>
<b>Annex E (normative) Constructions with verified residual load-bearing capacity</b> .....	<b>36</b>
<b>E.1 General</b> .....	<b>36</b>
<b>E.2 Additional rules for overhead glazing</b> .....	<b>36</b>
<b>E.2.1 General</b> .....	<b>36</b>

E.2.2	Supporting with plate-type fastenings .....	36
E.2.3	Combination of support types: linear support and plate-type fastenings .....	37
E.2.4	Linear support and suction disc point fixings.....	38
E.3	Additional rules for vertical glazing.....	38
<b>Annex F (normative) All-glass installations — Additional requirements and simplified verification .....</b>		
	<b>verification .....</b>	<b>39</b>
F.1	General.....	39
F.2	Application conditions.....	40
F.2.1	Glass products .....	40
F.2.2	Installation height.....	40
F.2.3	Glass dimensions and thicknesses.....	40
F.2.4	Support .....	41
F.3	Effects of actions and verification .....	41
F.3.1	General.....	41
F.3.2	Load-bearing capacity verification.....	42
F.3.3	Serviceability verification .....	42
F.3.4	Verification of redundancy.....	42
F.4	Dispensing with verification.....	43
F.5	Maintenance.....	43
Bibliography .....		44

## Figures

Figure 1	— Schematic diagram of angle definition .....	12
Figure 2	— Schematic diagram of plate-type fastening.....	12
Figure 3	— Schematic diagram of countersunk head holder.....	13
Figure 4	— Distances to edge and drill holes for countersunk head holders.....	14
Figure 5	— Distances to edge and drill holes for cylindrical holes.....	14
Figure 6	— Schematic diagram of clamp-type fastenings .....	14
Figure B.1	— Reference case: Flat plate with a centre hole subjected to bending moments at the edge .....	20
Figure C.1	— Example of a simplified point fixing model .....	26
Figure D.1	— Diagram for investigation of normal force load-bearing capacity.....	32
Figure D.2	— Diagram for investigation of shear force load-bearing capacity .....	32
Figure D.3	— Moment load.....	34
Figure E.1	— Inner surfaces in horizontal glazing .....	36
Figure E.2	— Surrounding rectangles for an example of a configuration of three (top row) or four point fixings.....	37
Figure E.3	— Schematic diagram of the combination of linear support and plate-type fastenings .....	38
Figure F.1	— Examples of all-glass installations.....	40

## Tables

Table A.1 — Reference values for the calculational stiffness of separating materials.....	17
Table B.1 — Reference solutions for case 1 and case2 .....	21
Table B.2 — Numerical values for $k_{\text{senk}}$ and $k_{\text{zyl}}$ .....	21
Table C.1 — Symbols, meaning and units.....	23
Table C.2 — Dimensionless stress intensity factors for a reference pane thickness $t_{\text{ref}} = 10 \text{ mm}$ .....	27
Table C.3 — Dimensionless stress intensity factors for a reference pane thickness $t_{\text{ref}} = 10 \text{ mm}$ .....	28
Table C.4 — Stress concentration factors $k_{\text{zyl}}$ for cylindrical drill holes.....	29
Table C.5 — Stress concentration factors $k_{\text{senk,k}}$ for a countersink drill hole with tension at the conical drill hole edge .....	29
Table C.6 — Stress concentration factors $k_{\text{senk,z}}$ for a countersink drill hole with tension at the cylindrical drill hole edge .....	29
Table C.7 — Load distribution factors.....	30
Table D.1 — Symbols, meaning and units .....	31
Table E.1 — Glass configurations with verified residual load-bearing capacity, assuming rectangular support grid.....	37