

Validation of the Software „GLASGLOBAL“

The Chair for Building Construction and Building Physics at the University of German Armed Forces Munich was commissioned to validate the software GLASGLOBAL Version 7.2026 for the structural analysis and computation of glass structures according to the parts 1 to 6 of the DIN 18008 ([1] – [6]). The validation was conducted via comparative computations using the finite element method or, as far as possible, analytical approximation formulae for a total of 13 reference structures comprising linearly and point-fixed laminated and insulating glazings with different types of glass setups, cf. Table 1.

Table 1: Reference Glass Setups and Validation Computations

Nr.	Setup [mm]	Glass	Size [mm]	Support	Angle	Loading	Special Loads
1	4/16/4/16/4	Float Glass	1000X1000	allside line	90°	Climate Load + Windzone 2	Ballustrade 1,0 kN/m
2	4/16/4/16/4	Float Glass	1000X1000	twoside line	90°	Climate Load + Windzone 2	
3	6/1,52/6	Toughened Safety Glass	1500x1500	point fixings	0°	Windzone 2	
4	4/16/4	Float Glass	1000x1000	allside line	90°	Climate Load + Windzone 2	Membrane Action
5	6/1,52/6	Heat Strengthened Glass	1500x1500	point fixings	90°	Windzone 2	
6	4/0,76/4	Glass Laminate	1000x2000	allside line	90°	Windzone 2	Fall Protection Kat.C1
7	6+0,76+6/16/5+ 0,76+5+0,76+5	Glass Laminate	1000x1000	allside line	0°	Climate Load + Windzone 1 + Snowloadzone 2	Point Load
8	6+0,76+6+0,76+ 6	Heat Strengthened as laminated	1500x1500	allside line	0°	Windzone 1 + Snowloadzone 2	Point Load
9	8/1,52/8	Toughened Safety Glass as laminated	1500x1500	point fixings	90°	Windzone 2	Ballustrade 0,50 kN/m
10	4/16/4	Float Glass	1000x1000	allside line	0°	Windzone 2 + Snowloadzone 1a	Membrane Action
11	4/0,76/8	Glass Laminate	1000x2000	allside line	90°	Windzone 2	Fall Protection Kat.C1
12	6/20/4/16/8	Float Glass	1000X1000	allside line	90°	Climate Load + Windzone 2	Ballustrade 1,0 kN/m
13	6/1,52/10	Heat Strengthened Glass	1500x1500	point fixings	90°	Windzone 2	

The reference glass setups were selected in such a way that requirements with respect to fall protection as well as walk-on requirements were also considered as load cases. The Chair for Building Construction and Building Physics at the University of German Armed Forces Munich was provided with an executable version of the GLASGLOBAL computation program in version 7.2026 for this purpose. The validation is based on the DIN 18008 with parts 1 to 6.


The results of the validation computations with the two software programs mentioned in Section 1 of this report were compared load-case-wise by load for the stresses and deformations and utilisations. GLASGLOBAL's calculations are on the safe side for stresses, deformations and utilisation ratios.

The agreement of the computations with respect to the valid standard according to parts 1 to 6 of DIN 18008 for laminated and insulation glasses can be confirmed. This validation report refers exclusively to the described validation program and the tested functionalities.

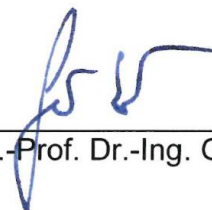
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This declaration is valid for 3 years, after which it must be clarified whether conformity with the then valid testing and assessment principles and norms is still ensured.

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