



Sommer Informatik GmbH





Add-On GlasGlobal®

**Accessible and fall-through-proof glazing
according to DIN 18008-6**



Functions

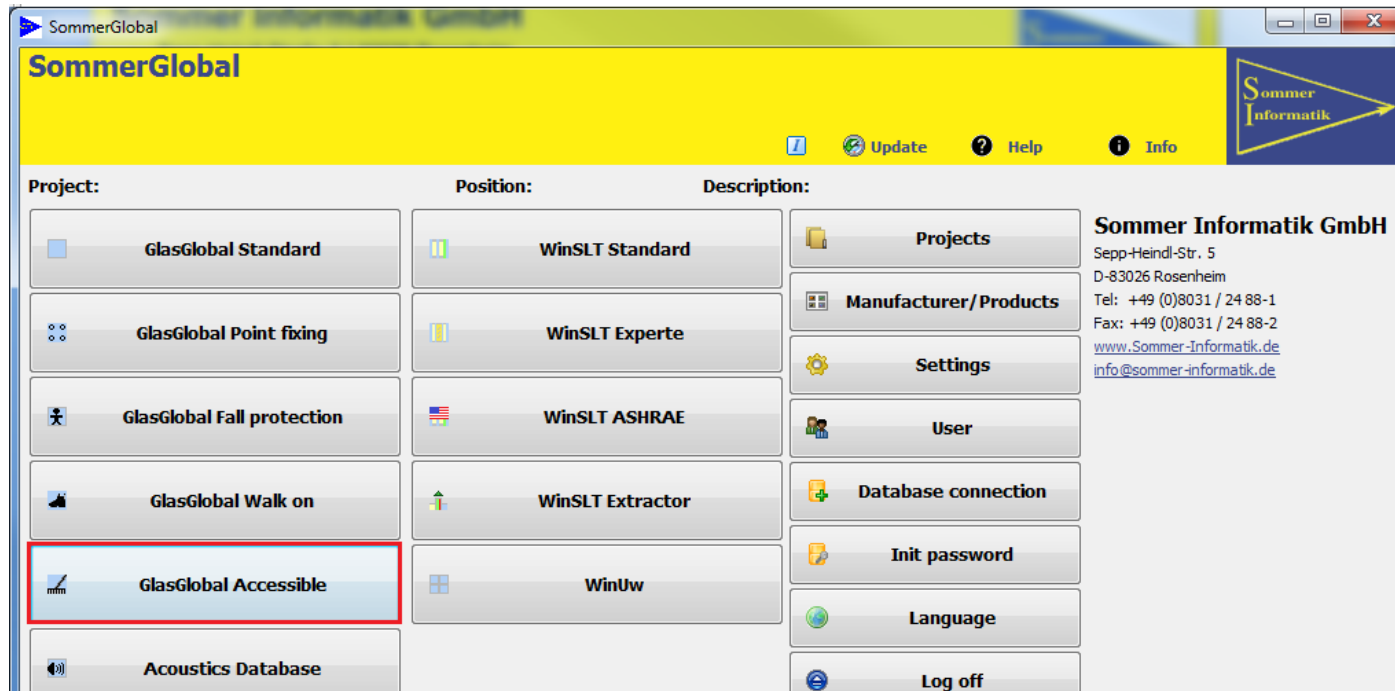
According to DIN 18008-6 the addon "Accessible" was implemented in GlasGlobal. DIN 18008-6 distinguishes between the following types of glazing:

- **Treadable glazing**
Glazing that can be entered for maintenance purposes (e.g. cleaning)
- **Fall-proof glazing**
Non-accessible glazing close to areas that can be entered for maintenance purposes.



Create project

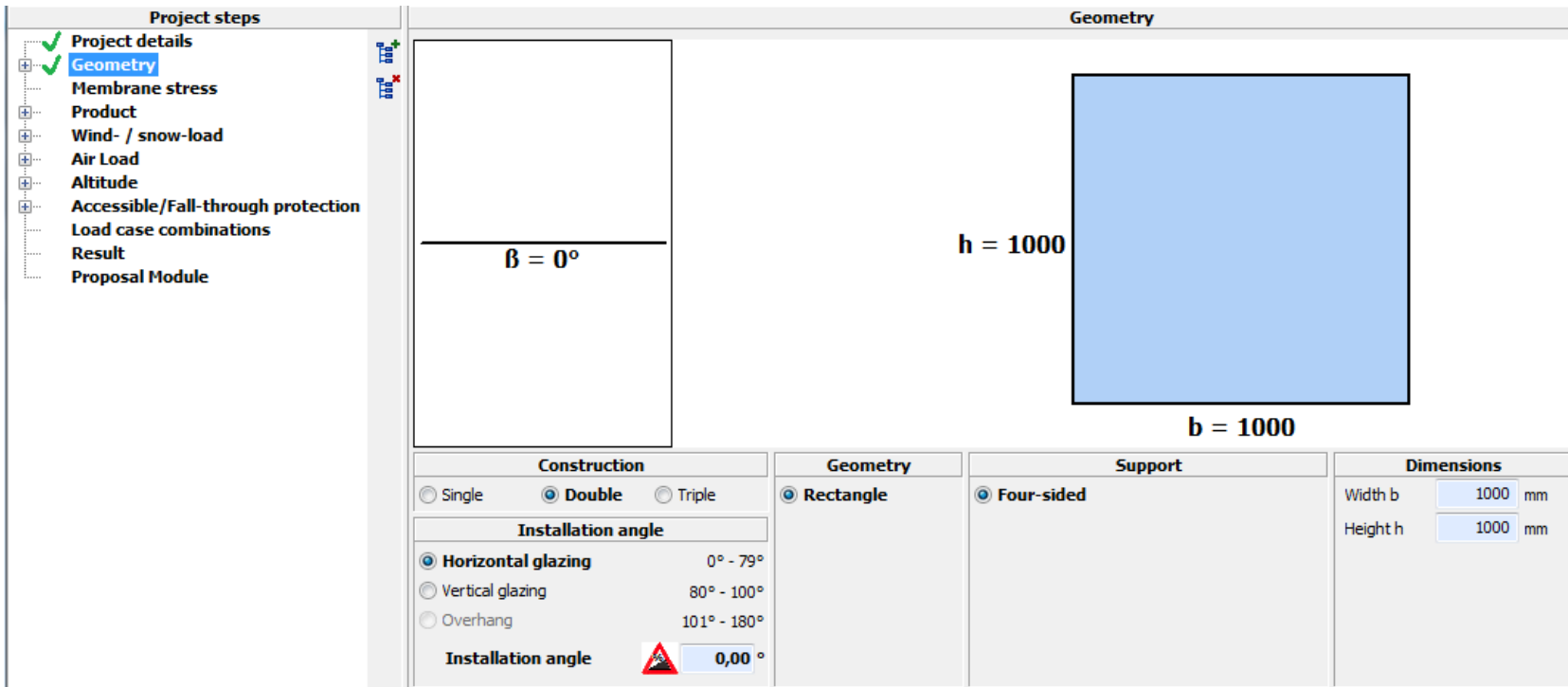
The addon for DIN 18008-6 is called up in the main mask using the following button:



In the following, only inputs that differ from the basic module (18008-1, -2) are described.

Geometry

The geometry is limited to rectangular discs mounted on all sides. According to DIN 18008-6 values of 0° to 100° are possible for the installation angle.



The screenshot displays the software interface for configuring a glazing system. On the left, a 'Project steps' tree shows 'Geometry' as the active step. The main area is divided into a 'Geometry' panel and a 'Dimensions' panel.

Geometry Panel: Shows a diagram of a rectangular disc with an installation angle $\beta = 0^\circ$ and dimensions $h = 1000$ and $b = 1000$.

Dimensions Panel: Shows the following settings:

| Dimensions | |
|------------|---------|
| Width b | 1000 mm |
| Height h | 1000 mm |

Configuration Panels:

- Construction:** Single, Double, Triple
- Installation angle:** Horizontal glazing (0° - 79°), Vertical glazing (80° - 100°), Overhang (101° - 180°). The 'Installation angle' is set to 0,00°.
- Geometry:** Rectangle
- Support:** Four-sided

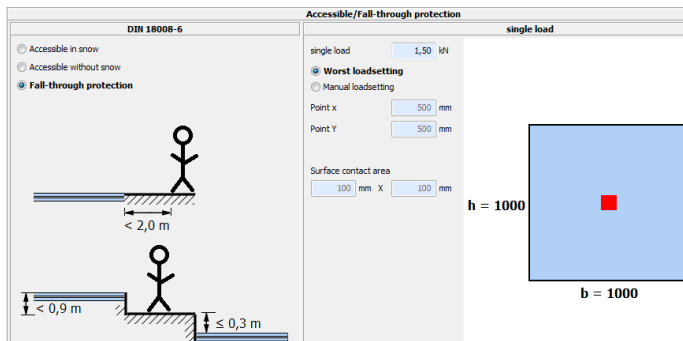


Product

Specifications according to DIN 18008-6:

- The regulations of DIN 18008-2 or 3 apply
- The use of wired glass is excluded
- ESG or VSG must be used for the uppermost pane of multi-pane insulating glass

Accessible/ fall-through proof



Accessible with snow

Glazing should also be walked on in snow. Single load is superimposed with snow load when the load bearing capacity is verified ($\Psi_0 = 1,00$)

Accessible without snow

Glazing should not be walked on in snow. Single load is not superimposed with snow load when the load capacity is verified

Crash-proof

Non-accessible glazing close to areas that can be entered for maintenance purposes.

Concentrated load

In accordance with DIN 18008-6, the static proof for a person equivalent load of 1.5 kN distributed over a contact area of 100 mm x 100 mm must also be provided



Printout

Inputs

Inputs for walk-through or fall-through-proof glazing are made on the first page:

| | | | |
|---|---------|--------------------------------------|---|
| Accessible/Fall-through protection | | DIN 18008-6: Fall-through protection | |
| single load | 1,50 kN | Point | x = 500 y = 500 (Surface contact area 100 x 100 mm) |

Proof of load-bearing capacity

After the standard load cases, the load cases for the individual loads are displayed.

Proof of suitability for use is not required here

| | | | | | | | | | |
|---|--------|-------|-----|-------|--------|--------|-------|------|----|
| Nr. 20: Weight (1.00 * 1.00), Low installation (1.35 * 1.00), Climate winter (1.50 * 0.60), Wind suction (1.50 * 0.60) | | | | | | | | | |
| HSG 4.00 | -2.94 | 10.00 | OK | 12.01 | (1.00) | -6.61 | 46.67 | 14 % | OK |
| HSG 4.00 | -6.93 | 10.00 | OK | | (1.00) | -15.09 | 46.67 | 32 % | OK |
| Nr. 21: Weight (1.00 * 1.00), High installation (1.35 * 1.00), Climate summer (1.50 * 0.60), Wind suction (1.50 * 0.60) | | | | | | | | | |
| HSG 4.00 | -7.25 | 10.00 | OK | 20.63 | (1.00) | -15.65 | 46.67 | 34 % | OK |
| HSG 4.00 | -2.62 | 10.00 | OK | | (1.00) | -6.05 | 46.67 | 13 % | OK |
| Nr. 22: Weight (1.00 * 1.00), Low installation (1.35 * 1.00), Climate winter (1.50 * 0.60), Wind suction (1.50 * 1.00) | | | | | | | | | |
| HSG 4.00 | -6.25 | 10.00 | OK | 12.06 | (1.00) | -13.90 | 46.67 | 30 % | OK |
| HSG 4.00 | -10.19 | 10.00 | >>f | | (1.00) | -22.27 | 46.67 | 48 % | OK |



Printout

Proof of impact resistance and residual load capacity

The verification is in accordance with DIN 18008-6, Appendix B. If the computational proof has not been provided, the result text refers to the necessity of an experimental component test.

Proof OK (max. utilization: 53.19 %)

max. chord shortening 0.04 mm (Load case 11)

max. Load case: Nr. 16: Weight (1.35 * 1.00), Low installation (1.35 * 1.00), Climate winter (1.50 * 1.00), Wind pressure (1.50 * 0.60)

The results of the verification according to Annex B can be found at the end of the printout.

In the case of multi-pane insulating glass, only the lower pane must be detected.



Printout

Accessible glazing

Proof of impact resistance and residual load capacity DIN 18008-6, attachment B

LSG inside; Point Load (200 x 200 mm); $\beta = 1,00$; Middle; Gamma = 1; full bond; Without Membrane stress
 decisive impact site: Middle; $k(\text{glass plate } 15.00 \text{ mm}) = 1909799 \text{ N/m}$ / $k(\text{pendulum}) = 400000 \text{ N/m} \rightarrow 4.77 > 1$

| | dw* (mm) | ds* (mm) | Ed (Stress N/mm ²) | Rd | Utilisation |
|--|----------|----------|-----------------------------------|---------------|----------------|
| LSG (HSG) 3 x 5.00 -> Intact glazing; P = 12.7 kN | 15.00 | 15.00 | 68.59 | 119.00 | 58 % OK |
| LSG (HSG) 2 x 5.00 -> Top glass broken; P = 8.5 kN | 10.00 | 10.00 | 103.29 | 119.00 | 87 % OK |

Lower washer

→ Intact glazing: P = 12.7 kN (basic energy 225 Nm)

→ Uppermost pane broken: P = 8.5 kN (basic energy 100 Nm)

Printout

Crash-proof glazing

Proof of impact resistance and residual load capacity DIN 18008-6, attachment B

LSG inside; Point Load (200 x 200 mm); $\beta = 1,00$; Middle; Gamma = 1; full bond; Without Membrane stress
 decisive impact site: Middle; $k(\text{glass plate } 15.00 \text{ mm}) = 1909799 \text{ N/m}$ / $k(\text{pendulum}) = 400000 \text{ N/m} \rightarrow 4.77 > 1$
 $10.0 \text{ mm} / 15.0 \text{ mm} = 0.7 \leq 1,5 \rightarrow 50\% \text{ base energy}$

| | dw* (mm) | ds* (mm) | Ed (Stress N/mm ²) | Rd | Utilisation |
|---|----------|----------|-----------------------------------|--------|-------------|
| LSG (HSG) 3 x 5.00 -> Installation angle = 0.0°; P = 9.0 kN | 15.00 | 15.00 | 48.74 | 119.00 | 41 % OK |

Lower washer

- All laminated safety glass layers are applied
- P (basic energy 225 Nm) for installation angle = 0° (horizontal)
- P (basic energy 100 Nm) for installation angle 90° ± 10° (vertical)
- Intermediate values (0° to 80°) are interpolated linearly
- Multi-pane insulating glass, ratio thickness upper to lower pane
 - ≤ 1.5: point load with 50% of the base energy
 - > 1.5: point load with 100% of the basic energy



More information

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