Concept Wall® 50 is a façade and roof system that offers unlimited design freedom and allows maximum transparency. As such, CW 50 meets all requirements of contemporary architecture. Innovative solutions contribute towards the tendency of big, heavy and thick glass panes. CW 50 supports up to 700 kg in various glass support configurations. Even more glass weight can be offered in bespoke solutions.

The system is available in several design and glazing variants, like steel beam look, standard pressure plates, structurally glazed and structurally clamped solutions. Specified levels of fire-resistance, burglar proof classes and thermal insulation, down to $U_f = 0.56 \text{W/m}^2\text{K}$, are provided by different technical variants.

In addition to that, dedicated opening types can also be seamlessly integrated; a parallel opening window, a top hung window, a hidden vent turn and tilt window, but also an attic window for integration in roof applications of CW 50.

The CW 50 stands for an extensive range of profiles, gaskets, accessories and tools. It is specially developed for easy fabrication and installation.
3. Hidden vent turn and tilt window - HV-TUTI:
A special type of Inward Opening Window, also known as the hidden vent, is a structural sealed glazing solution which can be applied in a standard curtain wall façade or in a structurally clamped façade. It’s main advantage is that the exterior doesn’t differ from a fixed glazing panel in the façade. Therefore it doesn’t affect the façade geometry. From the inside, this system uses a half mullion, resulting in a minimal visible width. Water tightness is assured by the use of a central gasket.

4. Attic Window - AW:
The Attic Window is fully reviewed to meet today’s standards to provide a perfect water tight and high insulating solution for open elements in glass roofs. Different glazing options are available for glazing: either a cost efficient glazing bead version for standard glass, or a more aesthetic version with stepped glass. Both glass variants can be combined to create a zero water threshold on the bottom side to allow inclinations down to 5°. The superior High Insulation variant assures an increased insulation by using additional gaskets and smart insulation strips including low-e foil. The possibility to integrate 62 mm glass in this HI version further enhances thermal efficiency. A motor-operated version is especially convenient within building management systems or in roof windows in hard-to-reach places. The Attic window can be applied together with CW 50-RA, CW 60-RA and the CR 120 conservatory system.

5. Integration of Reynaers window and door systems
Several aesthetical connection profiles allow a concealed integration of other Reynaers window and door systems.
The extensive range of CW 50 profiles meets all requirements of contemporary architecture. With regard to the thermal performance, the system offers solutions in different levels, allowing the use of triple glazing and making the system even applicable for passive house or low energy buildings.

In addition to that, dedicated opening types can also be seamlessly integrated:

**Description opening types***:

1. **Top Hung Window – THW:**
   The Top Hung Window allows integrating opening elements with large opening spans, which can be operated manually or automatically. The design choice between the solution with glazing bead or structural silicone glazing (SSG) characterises the total appearance of the façade. This THW can be integrated in the overall strategy of the building’s Smoke & Heat Exhaust Ventilation Systems (SHEVS).

2. **Parallel Opening Window – POW:**
   The opening concept, Parallel Opening Window, allows an ultimate airflow for small or tall windows. This results in a better natural ventilation, improving the indoor air quality, thermal comfort and healthy indoor climate for building users. Aesthetically, this parallel way of opening gives a uniform impression: the reflection of the building remains the same for opened or closed vents. An additional advantage of this opening type is that it realises ventilation without creating unwanted access to the building (e.g. night ventilation). Furthermore, the POW can be used for big opening elements, operated both manually or automatically, and is suited to be integrated in Smoke & Heat Exhaust Ventilation Systems. The glazing of the window can be done with glazing beads or with structural sealed glazing (SSG).
CW 50-HI is certified by the German notified body ift Rosenheim for passive house applications. This certification requires an overall insulation value of max. 0.7 W/m²K using glass with Ug 0.7 W/m²K and a panel with Up of 0.25 W/m²K. With the CW 50-HI profiles, the curtain wall system achieved the overall insulation value of 0.66 W/m²K.

### TECHNICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Style variants</th>
<th>CW 50</th>
<th>CW 50-HI</th>
<th>CW 50-FP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>functional</td>
<td>ultimate thermal comfort</td>
<td>Fire proof; E 15, EW 20, EI 15, E 30, EW 30, EI 30, E 60, EW 60 &amp; EI 60</td>
</tr>
<tr>
<td>Interior visible width</td>
<td>50 mm</td>
<td>50 mm</td>
<td>50 mm</td>
</tr>
<tr>
<td>Exterior visible width</td>
<td>50 mm</td>
<td>50 mm</td>
<td>50 mm</td>
</tr>
<tr>
<td>Depth mullions</td>
<td>from 42 mm to 300 mm</td>
<td>from 42 mm to 300 mm</td>
<td>from 63 mm to 105 mm</td>
</tr>
<tr>
<td>Depth transoms</td>
<td>from 5 mm to 193 mm</td>
<td>from 5 mm to 193 mm</td>
<td>from 67 mm to 109 mm</td>
</tr>
<tr>
<td>Inertia mullions (lx: wind load)</td>
<td>min 14 cm³ to max 2690 cm³</td>
<td>min 14 cm³ to max 2690 cm³</td>
<td>min 38 cm³ to max 123 cm³</td>
</tr>
<tr>
<td>Inertia transoms (lx: wind load)</td>
<td>min 4 cm³ to max 612 cm³</td>
<td>min 4 cm³ to max 612 cm³</td>
<td>min 34 cm³ to max 124 cm³</td>
</tr>
<tr>
<td>Inertia transoms (ly: glass load)</td>
<td>min 8 cm³ to max 59 cm³</td>
<td>min 8 cm³ to max 59 cm³</td>
<td>min 20 cm³ to max 29 cm³</td>
</tr>
<tr>
<td>Exterior face caps</td>
<td>different shapes available</td>
<td>different shapes available</td>
<td>different shapes available</td>
</tr>
<tr>
<td>Glazing</td>
<td>fixing by pressure plates</td>
<td>fixing by pressure plates</td>
<td>fixing by pressure plates</td>
</tr>
<tr>
<td>Rebate height</td>
<td>20 mm</td>
<td>20 mm</td>
<td>20 mm</td>
</tr>
<tr>
<td>Glass thickness</td>
<td>from 6 mm to 61 mm</td>
<td>from 22 mm to 61 mm</td>
<td>35 mm / 45 mm to 48 mm</td>
</tr>
<tr>
<td>Opening types (see: description)*</td>
<td>1 - 2 - 3 - 4 - 5</td>
<td>1 - 2 - 3 - 4 - 5</td>
<td>CS 77-FP door</td>
</tr>
<tr>
<td>Roof application</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>

### TECHNICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Style variants</th>
<th>CW 50-SL</th>
<th>CW 50 ALU ON STEEL</th>
<th>CW 50-TT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>slender appearance</td>
<td>designed for steel structure</td>
<td>rationalized system</td>
</tr>
<tr>
<td>Interior visible width</td>
<td>15/50 mm</td>
<td>50 mm</td>
<td>50 mm</td>
</tr>
<tr>
<td>Exterior visible width</td>
<td>50 mm</td>
<td>50 mm</td>
<td>50 mm</td>
</tr>
<tr>
<td>Depth mullions</td>
<td>from 126 mm to 168 mm</td>
<td>51 mm</td>
<td>-</td>
</tr>
<tr>
<td>Depth transoms</td>
<td>from 88 mm to 173 mm</td>
<td>from 5 mm to 58 mm</td>
<td>from 84 mm to 231 mm</td>
</tr>
<tr>
<td>Inertia mullions (lx: wind load)</td>
<td>not applicable</td>
<td>not applicable</td>
<td>-</td>
</tr>
<tr>
<td>Inertia transoms (lx: wind load)</td>
<td>min 73 cm³ to max 436 cm³</td>
<td>min 4 cm³ to max 16 cm³</td>
<td>min 74 cm³ to max 937 cm³</td>
</tr>
<tr>
<td>Inertia transoms (ly: glass load)</td>
<td>min 9 cm³ to max 24 cm³</td>
<td>min 8 cm³ to max 13 cm³</td>
<td>min 23 cm³ to max 68 cm³</td>
</tr>
<tr>
<td>Exterior face caps</td>
<td>different shapes available</td>
<td>different shapes available</td>
<td>different shapes available</td>
</tr>
<tr>
<td>Glazing</td>
<td>fixing by pressure plates / clamped</td>
<td>fixing by pressure plates / clamped</td>
<td>fixing by pressure plates / clamped</td>
</tr>
<tr>
<td>Rebate height</td>
<td>20 mm</td>
<td>20 mm</td>
<td>20 mm</td>
</tr>
<tr>
<td>Glass thickness</td>
<td>from 6 mm to 61 mm</td>
<td>from 6 to 61 mm</td>
<td>from 6 mm to 64 mm</td>
</tr>
<tr>
<td>Opening types (see description)*</td>
<td>1 - 2 - 3 - 4 - 5</td>
<td>1 - 2 - 3 - 4 - 5</td>
<td>1 - 2 - 5</td>
</tr>
<tr>
<td>Roof application</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>
## Overview exterior looks

### TECHNICAL CHARACTERISTICS

**Style variants**
- CW 50-SL
- CW 50 ALU ON STEEL
- CW 50-TT

**Interior visible width**
- CW 50-SL: 50 mm
- CW 50 ALU ON STEEL: 50 mm
- CW 50-TT: 50 mm

**Exterior visible width**
- CW 50-SL: 50 mm
- CW 50 ALU ON STEEL: 50 mm
- CW 50-TT: 50 mm

**Depth mullions**
- From 126 mm to 168 mm
- From 5 mm to 58 mm
- From 84 mm to 231 mm

**Depth transoms**
- From 8 mm to 193 mm
- From 5 mm to 58 mm
- From 84 mm to 231 mm

**Inertia mullions (lx: wind load)**
- Min 160 cm$^4$ to max 381 cm$^4$
- Not applicable
- Min 38 cm$^4$ to max 123 cm$^4$

**Inertia transoms (lx: wind load)**
- Min 73 cm$^4$ to max 436 cm$^4$
- Min 4 cm$^4$ to max 16 cm$^4$
- Min 74 cm$^4$ to max 937 cm$^4$

**Inertia transoms (ly: glass load)**
- Min 9 cm$^4$ to max 24 cm$^4$
- Min 8 cm$^4$ to max 13 cm$^4$
- Min 23 cm$^4$ to max 68 cm$^4$

**Exterior face caps**
- Different shapes available
- Different shapes available
- Not applicable

**Glazing fixing**
- By pressure plates
- Continuously clamped and locally clamped solution
- Structural glazing glued on cassettes

**Rebate height**
- 20 mm

**Glass thickness**
- From 6 mm to 61 mm
- From 22 mm to 61 mm
- 35 mm / 45 mm to 48 mm

**Opening types**
- 1 - 2 - 3 - 4 - 5

**Roof application**
- Yes

### CW 50-SC
- Structural clamped glazing
- 50 mm
- Joint: 20 mm
- Depth mullions: from 5 mm to 58 mm
- Depth transoms: from 84 mm to 231 mm
- Inertia mullions (lx: wind load): min 14 cm$^4$ to max 2690 cm$^4$
- Inertia transoms (lx: wind load): min 4 cm$^4$ to max 612 cm$^4$
- Inertia transoms (ly: glass load): min 8 cm$^4$ to max 59 cm$^4$
- Exterior face caps: different shapes available
- Glazing fixing: by pressure plates
- Rebate height: 20 mm
- Glass thickness: from 6 mm to 61 mm
- Opening types: 1 - 2 - 3 - 4 - 5
- Roof application: yes

### CW 50-HL
- Aesthetical horizontal lining
- 50 mm
- Vertical: 20 mm
- Horizontal: 50 mm
- Joint: 20 mm
- Depth mullions: from 5 mm to 193 mm
- Depth transoms: from 42 mm to 193 mm
- Inertia mullions (lx: wind load): min 14 cm$^4$ to max 2690 cm$^4$
- Inertia transoms (lx: wind load): min 4 cm$^4$ to max 612 cm$^4$
- Inertia transoms (ly: glass load): min 8 cm$^4$ to max 59 cm$^4$
- Exterior face caps: different shapes available
- Glazing fixing: by pressure plates
- Rebate height: 20 mm
- Glass thickness: from 6 mm to 61 mm
- Opening types: 1 - 2 - 3 - 4 - 5
- Roof application: yes

### CW 50-VL
- Aesthetical vertical lining
- 50 mm
- Vertical: 50 mm
- Horizontal: 20 mm
- Joint: 50 mm
- Depth mullions: from 42 mm to 300 mm
- Depth transoms: from 42 mm to 193 mm
- Inertia mullions (lx: wind load): min 14 cm$^4$ to max 2690 cm$^4$
- Inertia transoms (lx: wind load): min 4 cm$^4$ to max 612 cm$^4$
- Inertia transoms (ly: glass load): min 8 cm$^4$ to max 59 cm$^4$
- Exterior face caps: different shapes available
- Glazing fixing: by pressure plates
- Rebate height: 20 mm
- Glass thickness: from 6 mm to 61 mm
- Opening types: 1 - 2 - 3 - 4 - 5
- Roof application: yes

### CW 50-SG
- Structural sealed glazing
- 50/88 mm
- Vertical: continuously clamped and locally clamped solution
- Horizontal: fixation by pressure plate
- Structural glazing glued on cassettes
- Depth mullions: from 42 mm to 300 mm
- Depth transoms: from 5 mm to 193 mm
- Inertia mullions (lx: wind load): min 14 cm$^4$ to max 2690 cm$^4$
- Inertia transoms (lx: wind load): min 4 cm$^4$ to max 612 cm$^4$
- Inertia transoms (ly: glass load): min 8 cm$^4$ to max 59 cm$^4$
- Exterior face caps: different shapes available
- Glazing fixing: continuously clamped and locally clamped solution
- Rebate height: 20 mm
- Glass thickness: from 6 mm to 64 mm
- Opening types: 1 - 2 - 3 - 5
- Roof application: yes
### PERFORMANCES

<table>
<thead>
<tr>
<th></th>
<th>DESCRIPTION</th>
<th>REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENERGY</strong></td>
<td>Thermal insulation</td>
<td>EN 12631:2012</td>
</tr>
<tr>
<td></td>
<td>Uf value down to 0.56 W/m²K, depending on the profile combination</td>
<td></td>
</tr>
<tr>
<td><strong>COMFORT</strong></td>
<td>Acoustic performance</td>
<td>EN ISO 10140-2; EN ISO 717-1</td>
</tr>
<tr>
<td></td>
<td>RW (C;Ctr) = 33 (-1; -4) dB / 60 (-2; -6) dB, depending on glazing or panel type</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Air tightness</td>
<td>EN 12153, EN 12152</td>
</tr>
<tr>
<td></td>
<td>Water tightness</td>
<td>EN 12155, EN 12154</td>
</tr>
<tr>
<td></td>
<td>R4 (150 Pa)</td>
<td>R5 (300 Pa)</td>
</tr>
<tr>
<td></td>
<td>Wind load resistance, max. test pressure</td>
<td>EN 12179, EN 13116</td>
</tr>
<tr>
<td></td>
<td>2000 Pa</td>
<td>2400 Pa</td>
</tr>
<tr>
<td></td>
<td>Resistance against impact</td>
<td>EN 12600, EN 14019</td>
</tr>
<tr>
<td></td>
<td>I3 / E5</td>
<td>I5 / E5</td>
</tr>
<tr>
<td><strong>SAFETY</strong></td>
<td>Fire Resistance</td>
<td>EN 1364-3, EN 13501-2</td>
</tr>
<tr>
<td></td>
<td>EI 15</td>
<td>EW 30</td>
</tr>
<tr>
<td></td>
<td>Burglar Resistance</td>
<td>EN 1627 + EN 1630</td>
</tr>
<tr>
<td></td>
<td>WK1 / RC1</td>
<td>WK2 / RC2</td>
</tr>
</tbody>
</table>

This table shows classes and values of performances, which can be achieved for specific configurations and opening types.

1. The Uf-value measures the heat flow. The lower the Uf-value, the better the thermal insulation of the curtain wall.
2. The sound reduction index (Rw) measures the capacity of the sound reduction performance of the curtain wall.
3. The air tightness test measures the volume of air that would pass through a curtain wall at a certain air pressure.
4. The water tightness testing involves applying a uniform water spray at increasing air pressure until water penetrates the curtain wall.
5. The wind load resistance is a measure of the profile’s structural strength and is tested by applying increasing levels of air pressure to simulate the wind force.
6. The fire resistance is defined by exposing the curtain wall to direct fire in order to determine the stability, thermal insulation and radiation insulation over a certain amount of time.
7. The burglar resistance is tested by static and dynamic loads, as well as by stimulated attempts to break in using specific tools. This variant requires specific burglar resistance accessories and processing techniques.