

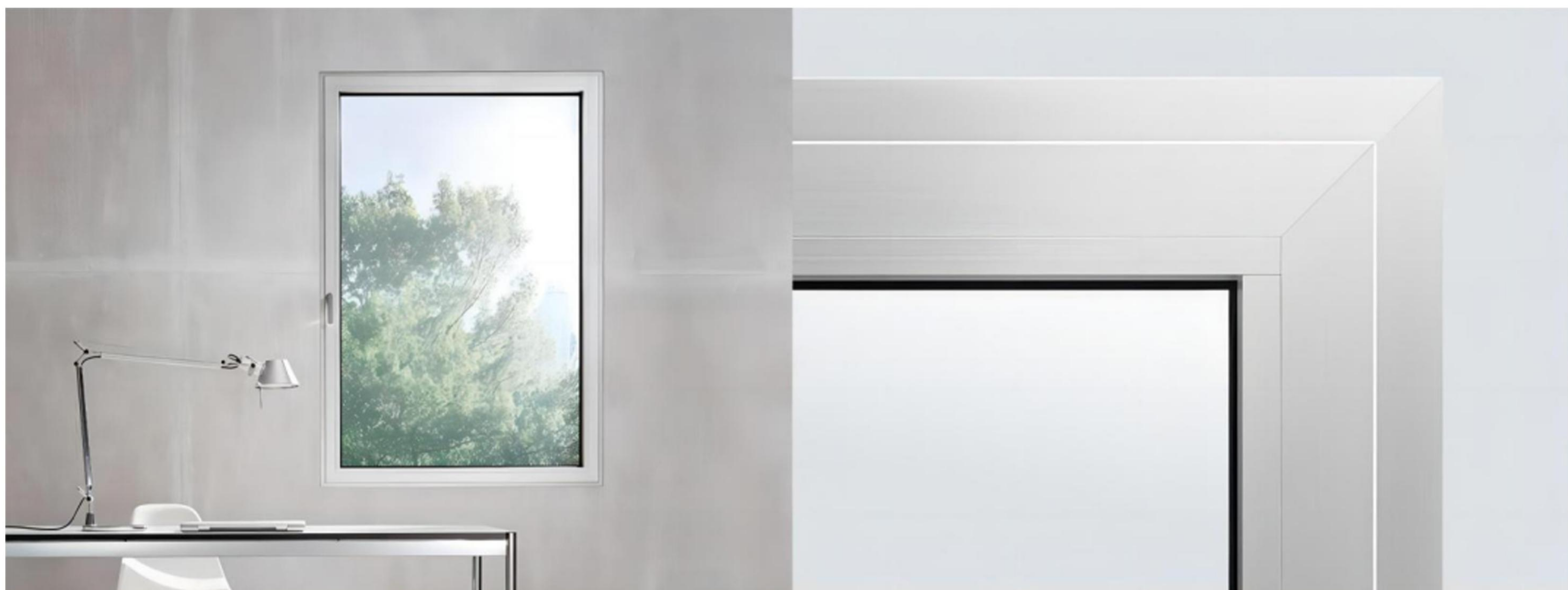
## **SAINTY Tilt and Turn Window**

Full name :Tilt and Turn Window with Germany Hardware



- Sash weight up to 150 kg
- Dimensions up to 1600 mm wide and 2000 mm high.

Very narrow profiles and larger glass areas are possible because all hardware components are concealed. The system can be fabricated very efficiently due to the intelligent 3D adjustment and the high degree of preassembly.



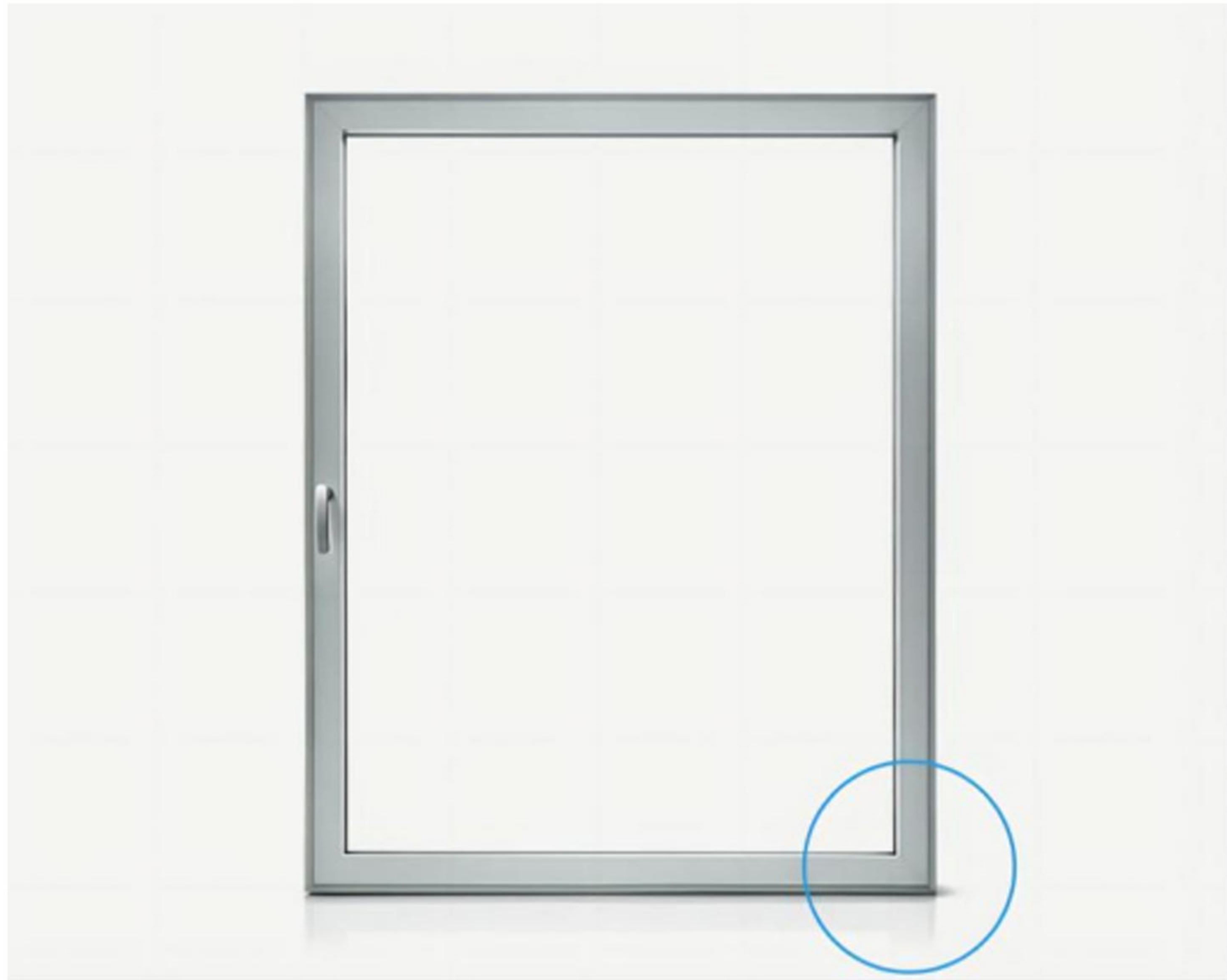
## ● Clear design – clear production benefits.

It is the key to a contemporary window design, in which the hardware is fully concealed, and to considerably higher efficiency. As usual, this is based on the clever ALU modular system with the components to be ordered and the high degree of preassembly. With the hardware, the profile face width becomes narrower, the glazed surface larger and even the operation of large elements is durably safe and smooth-running. The high load capacity of up to 150 kg sash weight provides the necessary safety margins.



## ● Window hinge side and top stay

- Quick and easy assembly: Small number of clampable compact components for left/right application with high degree of preassembly.
- 3D adjustability for compensating production and assembly tolerances.
- 150 kg load capacity without additional load-bearing rods: High safety margins for a long-lasting high and safe level of ease of use.
- Application in frame grooves from 10 to 14 mm.
  - Snap-in top stay locking function in the tilt position.



- Completely concealed pivots for a perfect window design
- Extremely narrow profile face widths are possible: 210 mm for turning sashes and 380 mm for turn-and-tilt sashes
- Large opening angle of 110° in the turning position
- Lasting surface protection due to non-corrosive materials
- Intruder resistance up to RC3 is possible



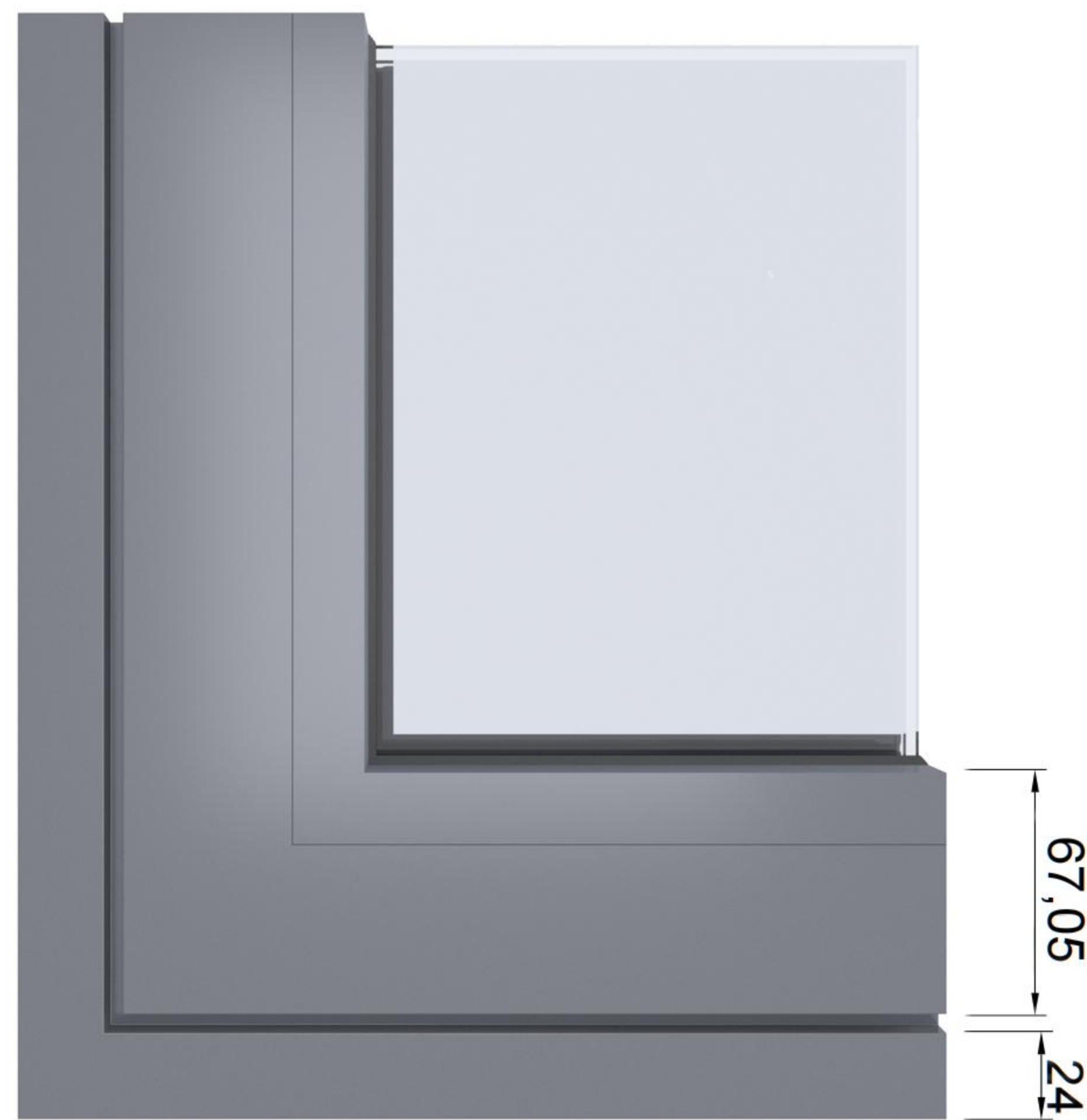
- The continuous action of the opening restrictor increases the ease of use and the operational reliability of the window
- All components are manufactured from rustproof materials, ensuring a surface finish that lasts
- To enable fast and easy assembly, the restrictors are clamped in the sash and frame groove
- Maintenance-free



- Certified by CE/AAMA/CSA

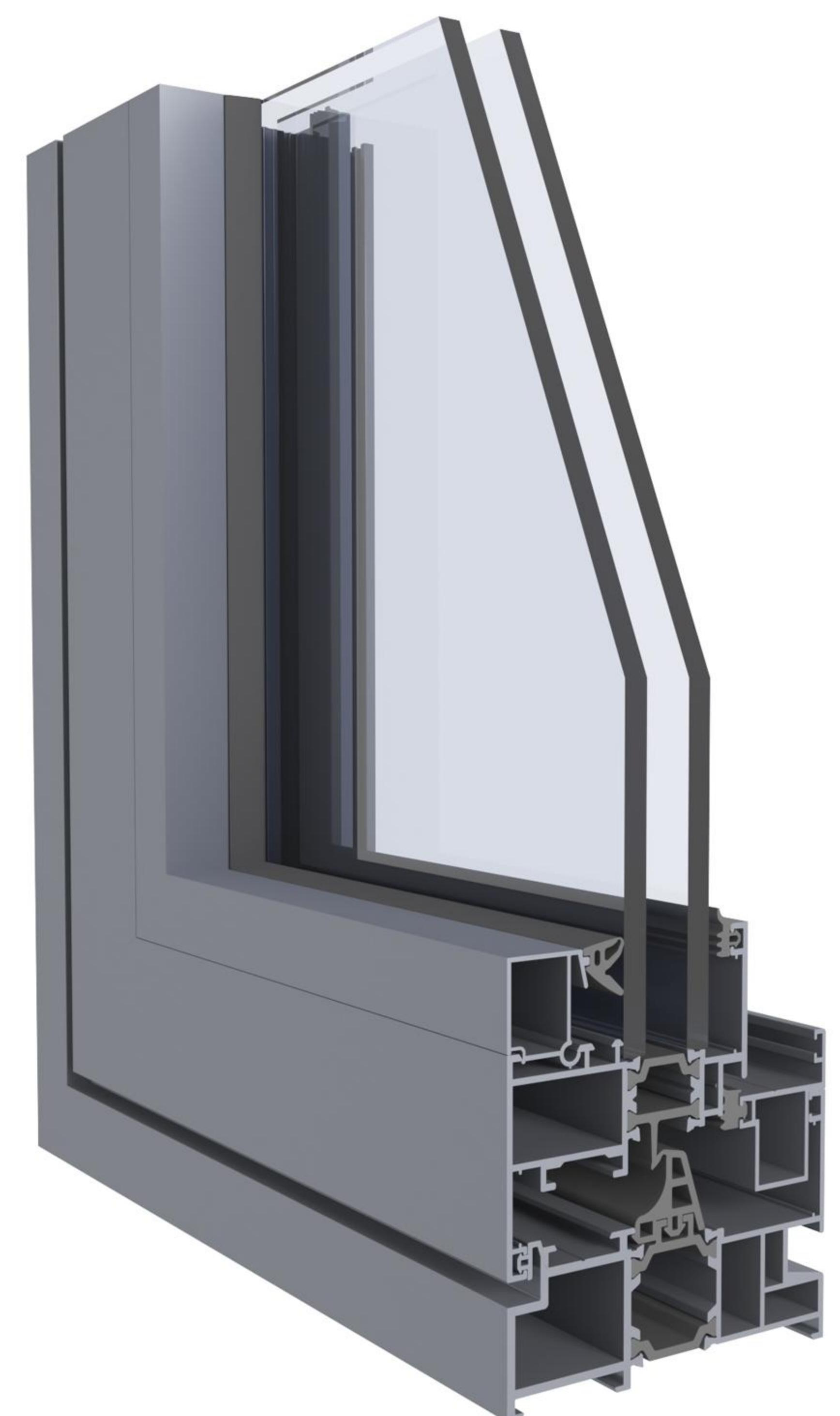
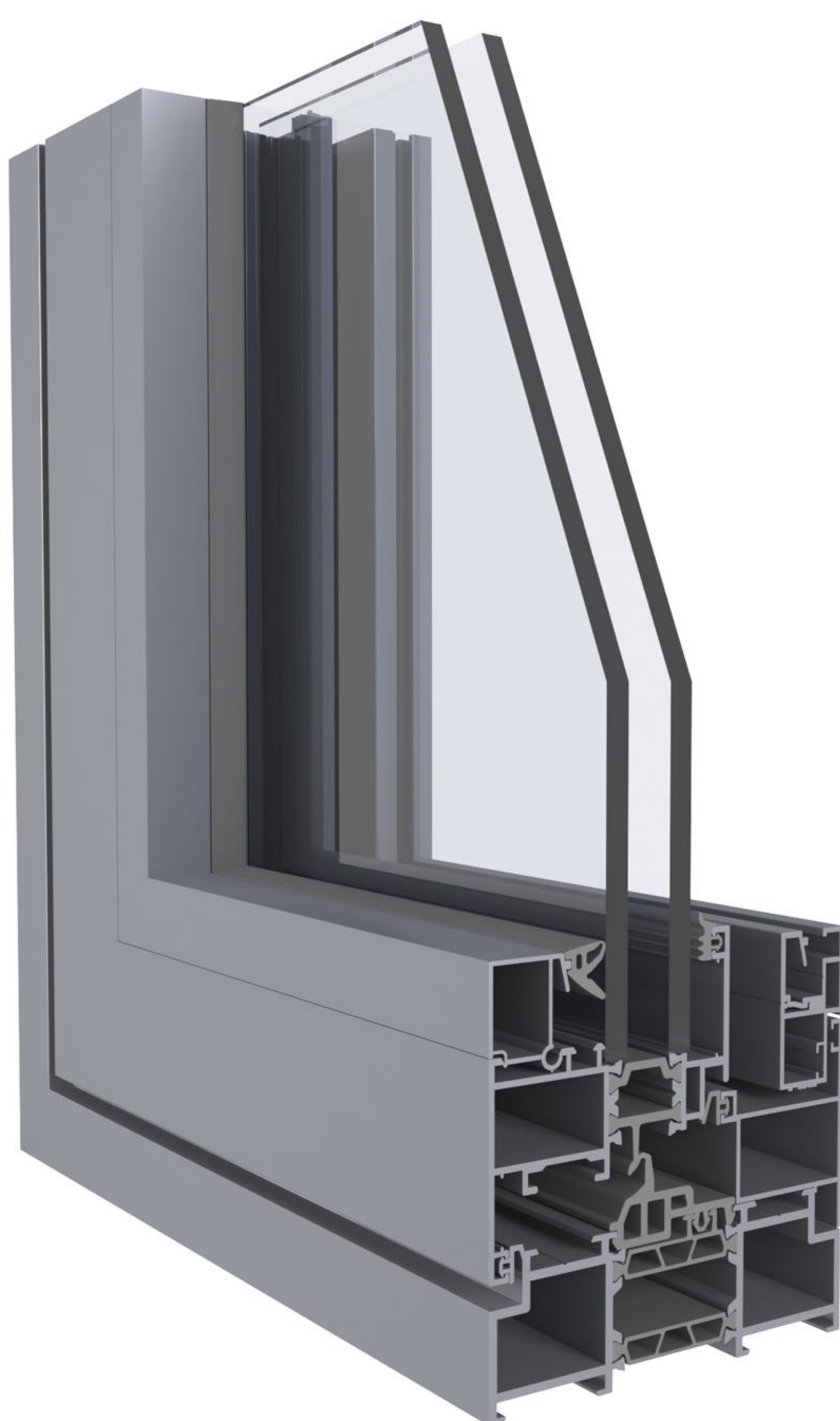
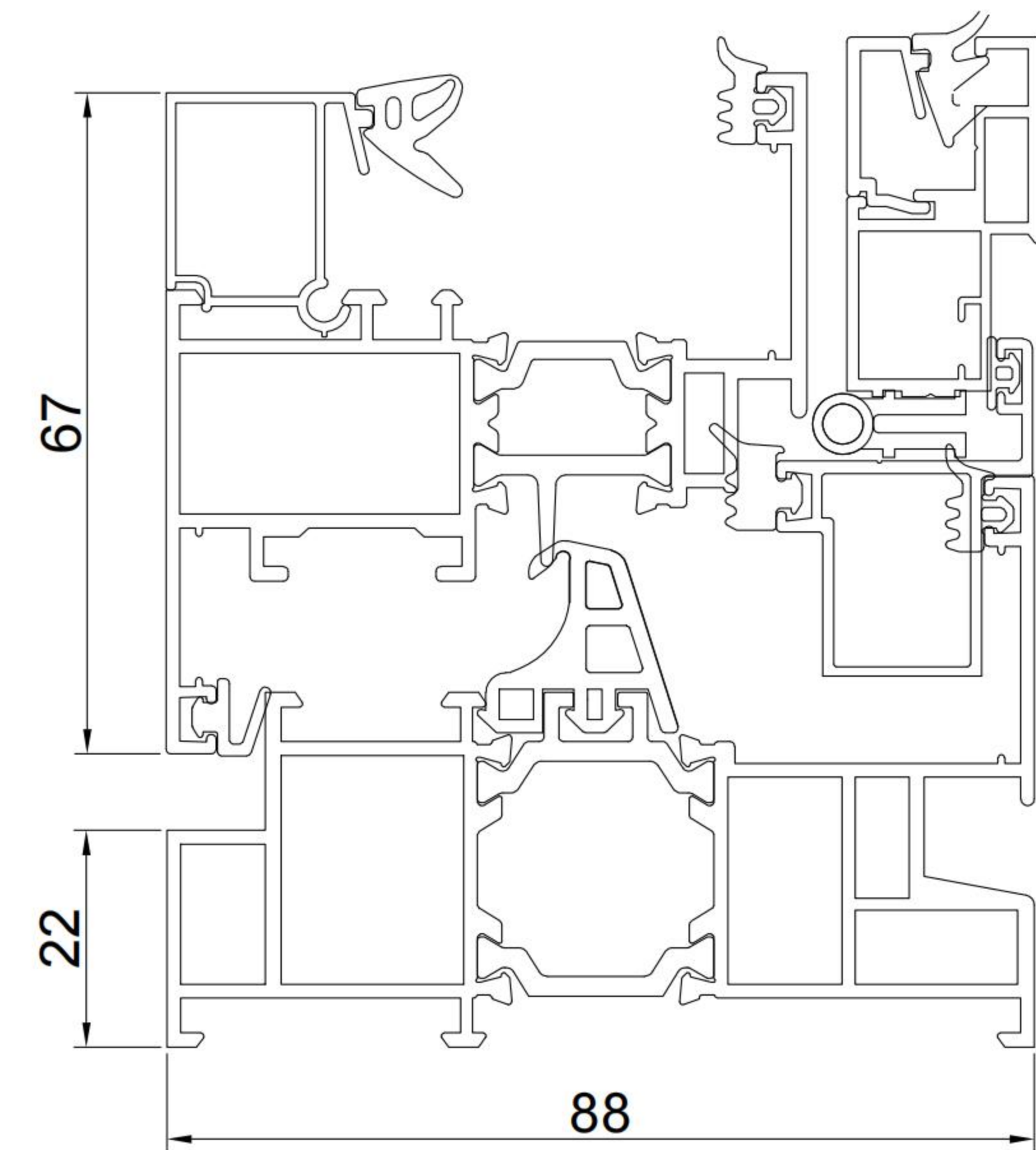
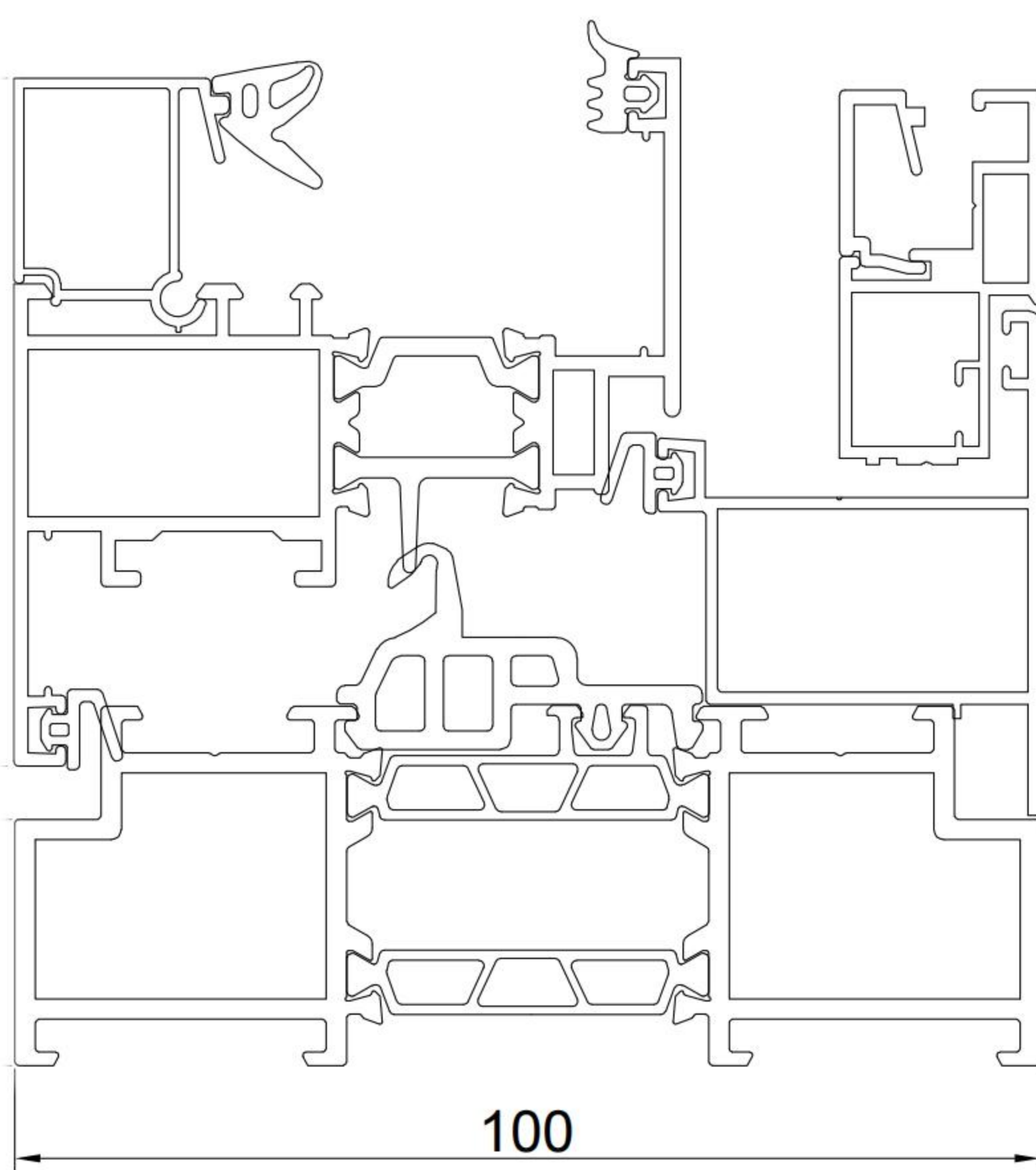


Test Description	Requirements		Results		Verdict
Air Leakage Resistance Test AAMA/WDMA/CSA1 01/I.S.2/A440-17, Clause 9.3.2 ASTM E283/E283M-2019	Maximum air leakage at +75 Pa (1.57 psf)	No Requirement	Air leakage at +75 Pa (1.57 psf)	0.14 L/s·m2 (0.03 cfm/ft2)	Pass
	Maximum air leakage at -75 Pa (1.57 psf)	0.50 L/s·m2 (0.10 cfm/ft2)	Air leakage at -75 Pa (1.57 psf)	0.20 L/s·m2 (0.04 cfm/ft2)	
Air Leakage Resistance Test AAMA/WDMA/CSA1 01/I.S.2/A440-17, Clause 9.3.2 ASTM E283/E283M-2019	Maximum air leakage at +300 Pa (6.27 psf)	0.50 L/s·m2 (0.10 cfm/ft2)	Air leakage at +300 Pa (6.27 psf)	0.27 L/s·m2 (0.05 cfm/ft2)	Pass
	Maximum air leakage at -300 Pa (6.27 psf)	No Requirement	Air leakage at -300 Pa (6.27 psf)	0.39 L/s·m2 (0.08 cfm/ft2)	
Water Penetration Resistance Test AAMA/WDMA/CSA1 01/I.S.2/A440-17, Clause 9.3.3 ASTM E547-2000(R2016) & ASTM E331-2000(R2016)	Minimum water pressure	380 Pa (7.94 psf)	Test Pressure	380 Pa (7.94 psf)	Pass
			After water sprayed for four cycles in 24 minutes per ASTM E547 and then sprayed for 15 minutes per ASTM E331 at 380 Pa (7.94 psf), there was no water penetration.		
Uniform Load Deflection Test AAMA/WDMA/CSA1 01/I.S.2/A440-17, Clause 9.3.4.2 ASTM E330/E330M-2014(R2021)	Minimum Design Pressure (DP)	1920 Pa (40.10 psf)	Design Pressure (DP)	1920 Pa (40.10 psf)	Pass
			Maximum deflection at Stile	0.2 mm (0.01 in.)	
			Maximum deflection at Rail at handle side	0.1 mm (<0.01 in.)	
Uniform Load Structural Test AAMA/WDMA/CSA1	Minimum Structural Pressure (STP)	2880 Pa (60.15 psf)	Structural Pressure (STP)	2880 Pa (60.15 psf)	Pass
			No significant breakage or damage		



**100 series option**

**88 series option**



## Double Glass With Blind Shutter Option



## Smart Switchable Glass Option

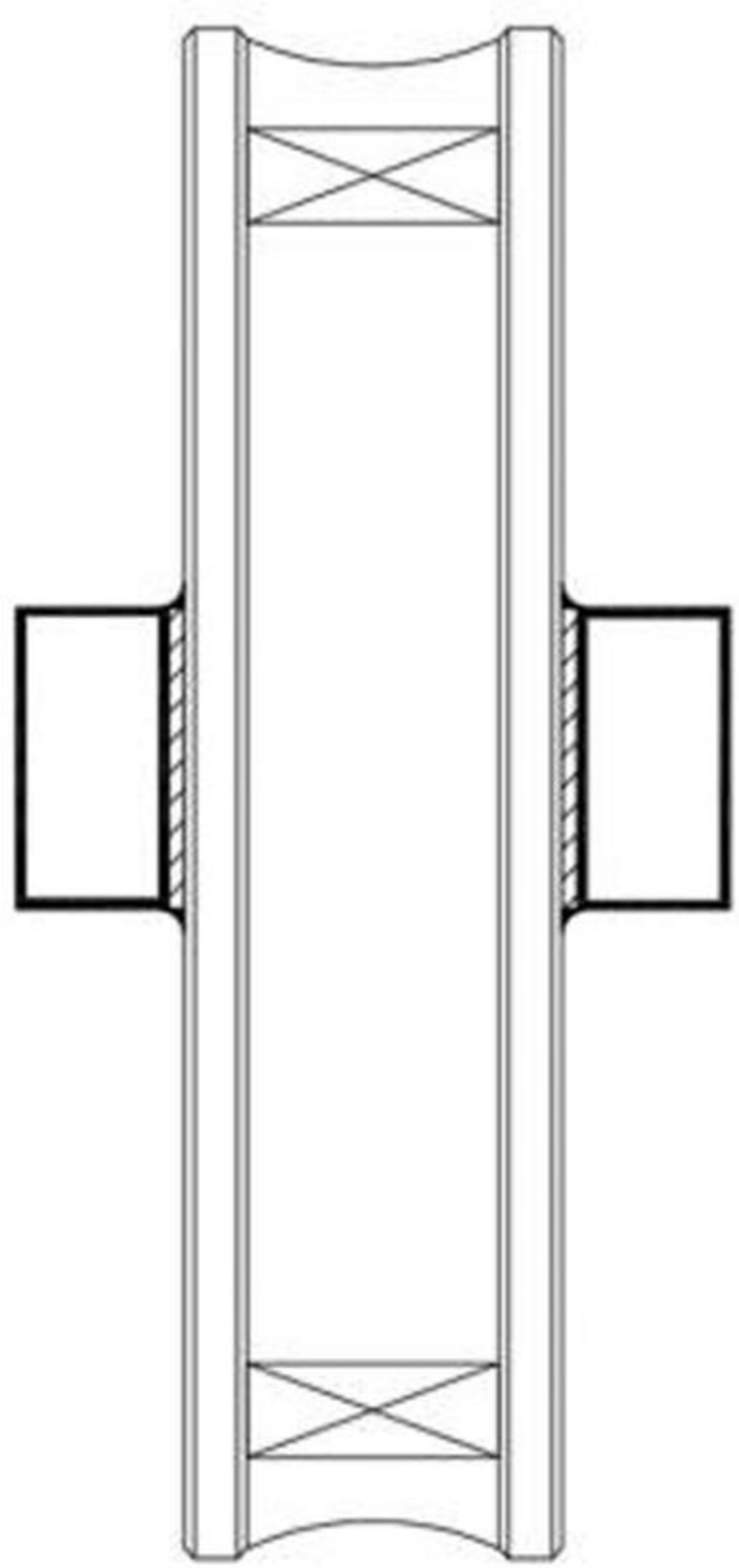


**Safety Notice**  
The converter has converted the voltage into a safe voltage of 36 V  
The voltage is used by the interior film, and the glass itself is already an insulator.  
So it is 100% safety.

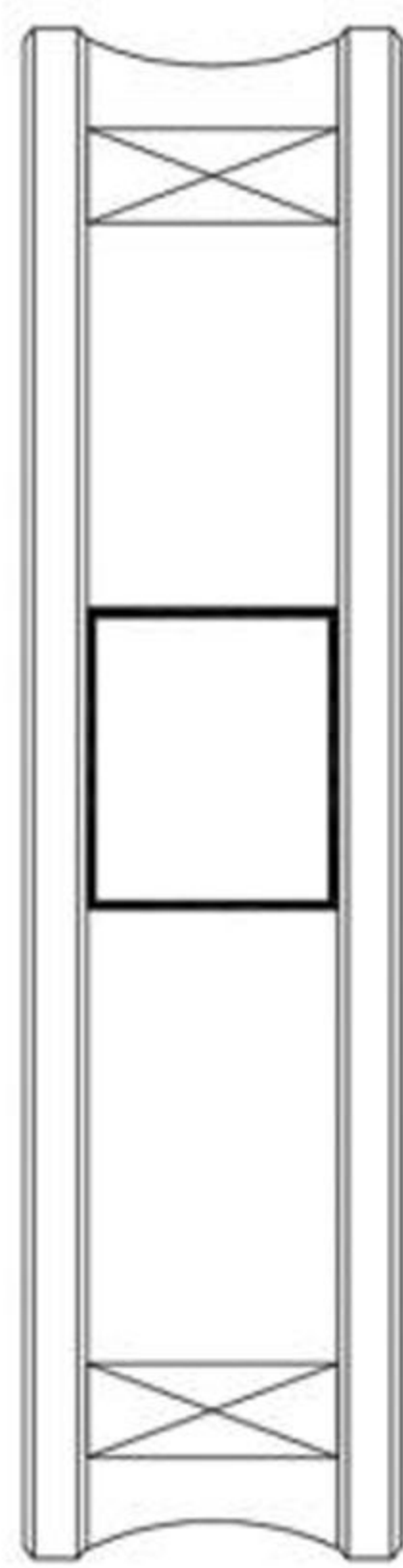




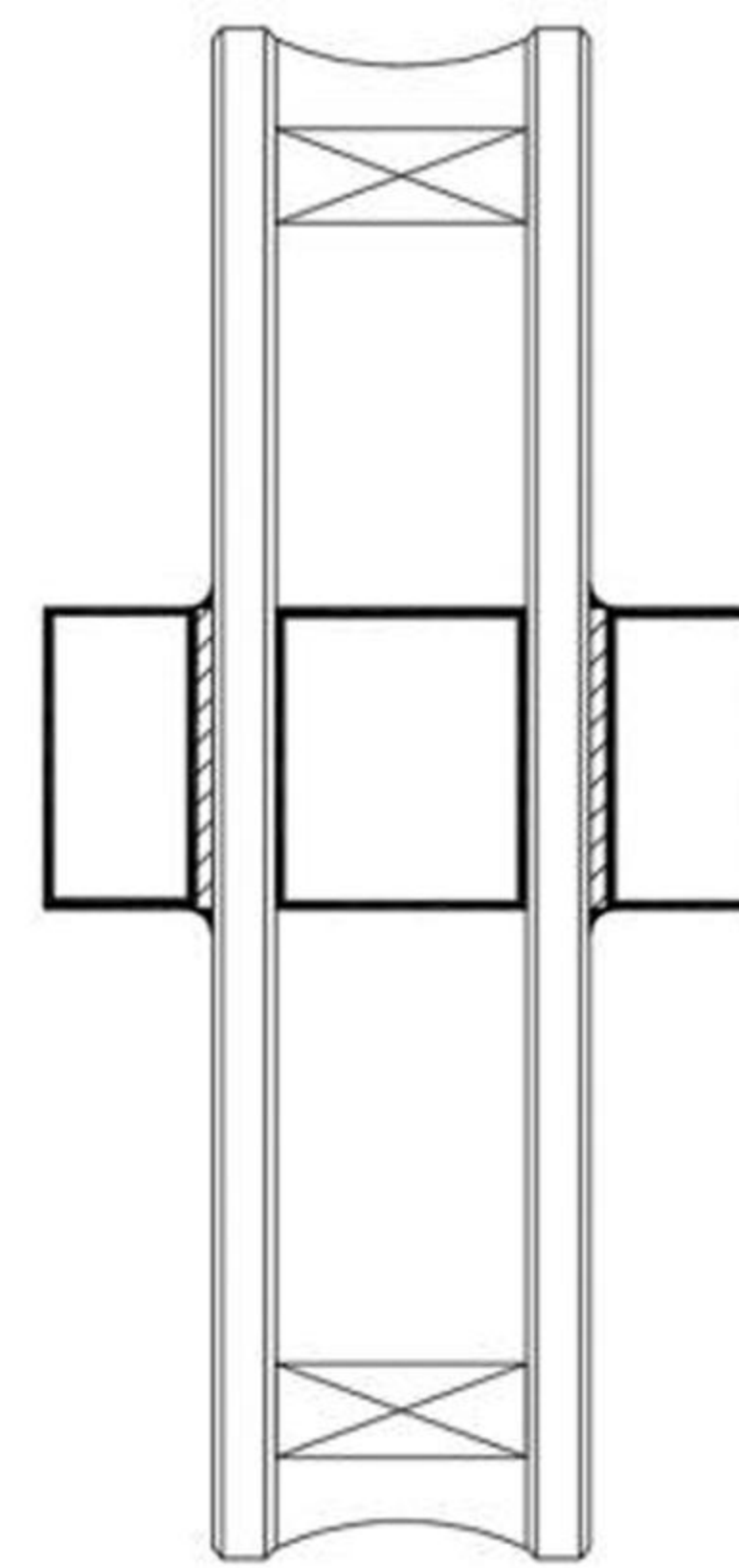
### Double Glass Grille Option



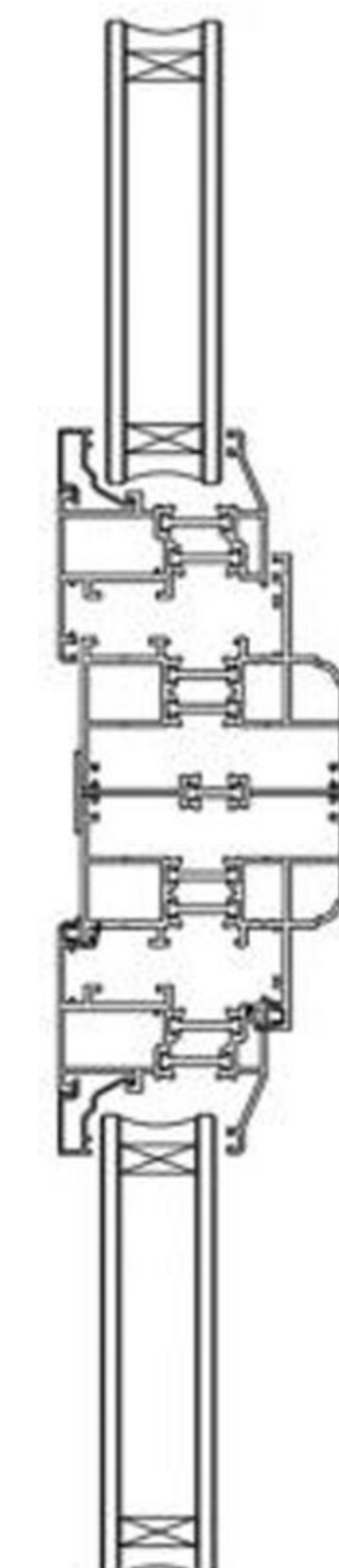
Grille outside the glass



Grille inside the glass

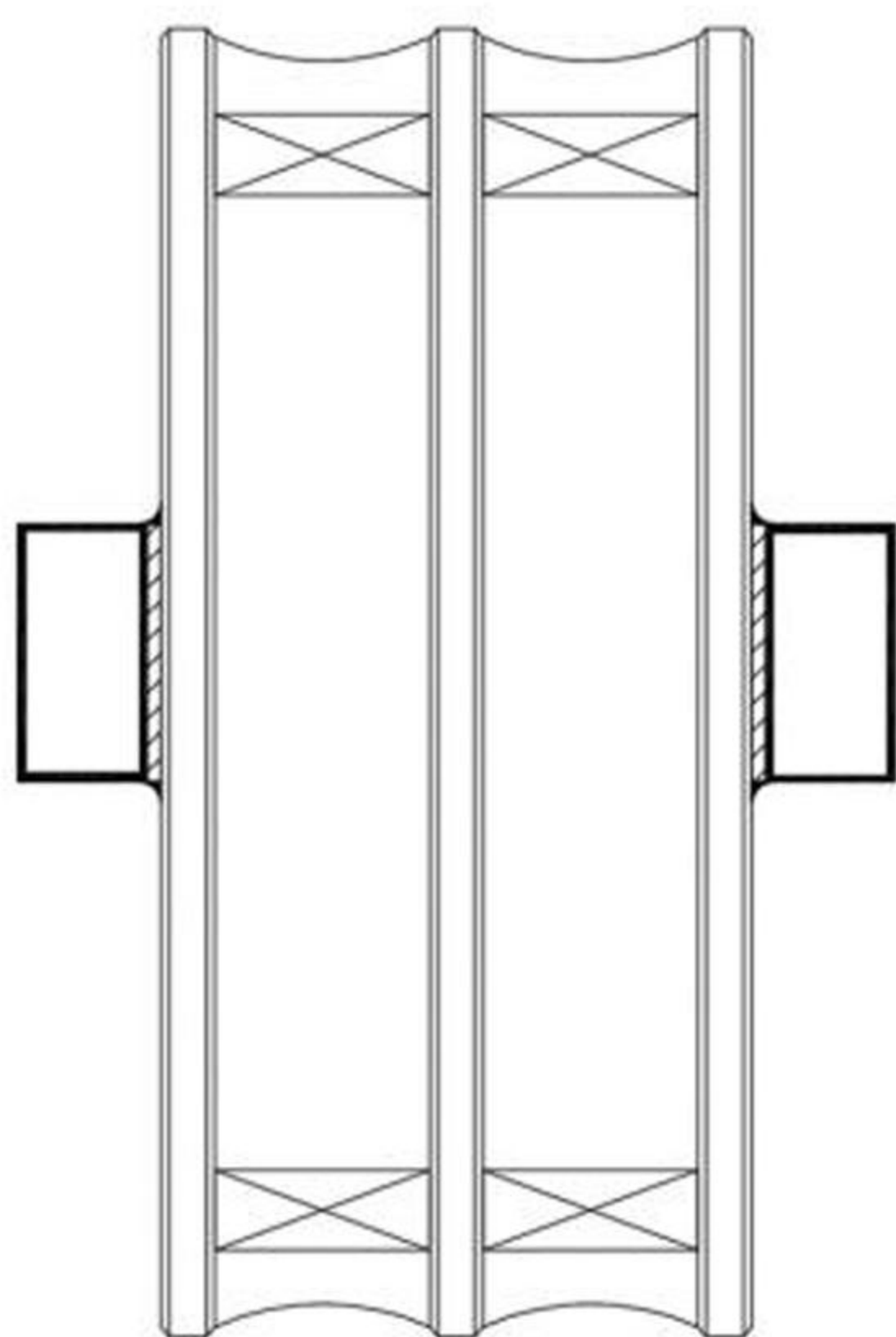


Grille both insde and outside

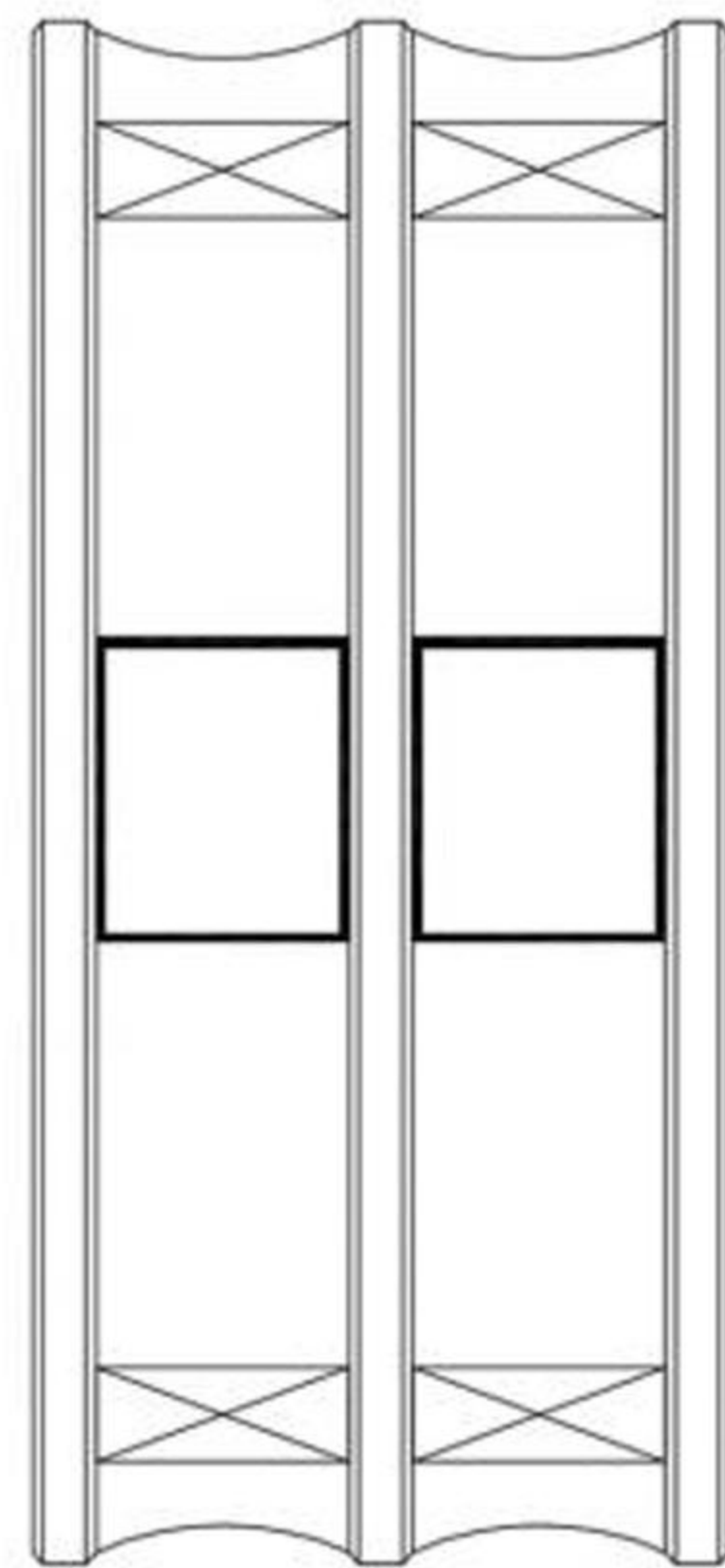


Grille between the glass

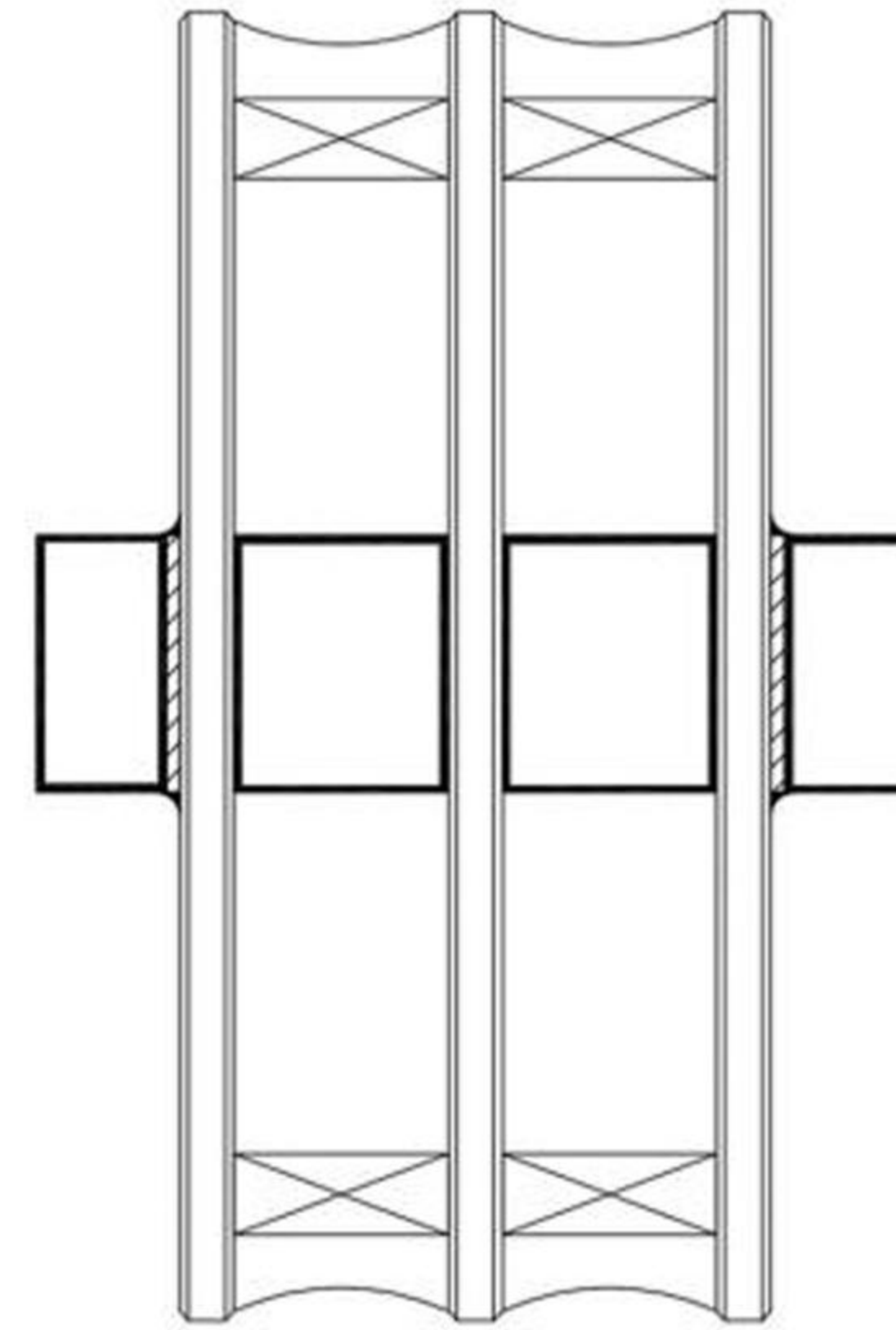
### Triplex Glass Grille Option



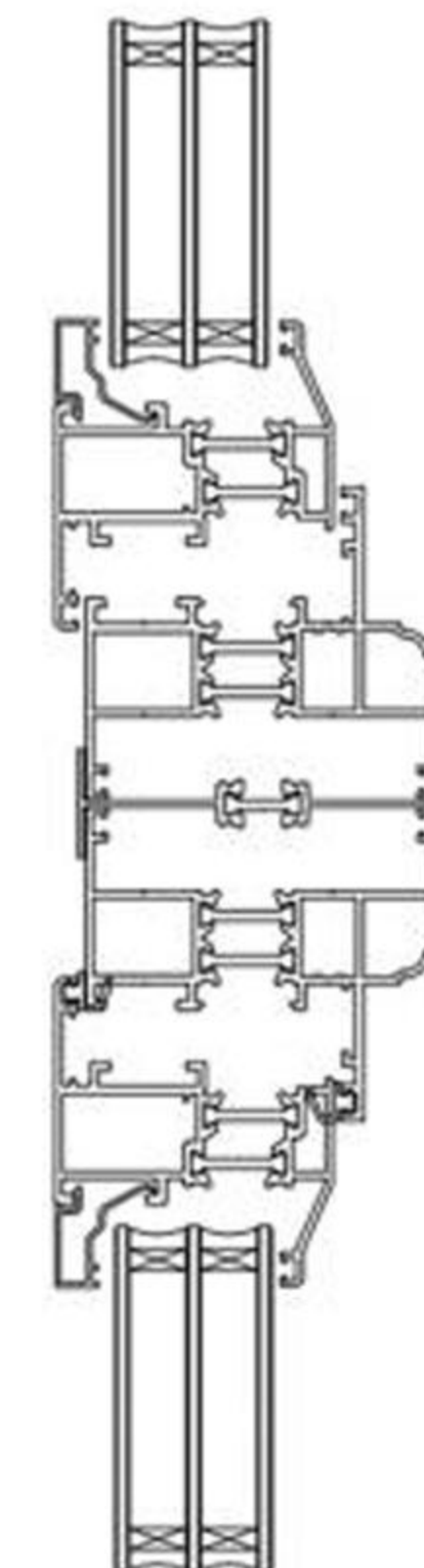
Grille outside the glass



Grille inside the glass



Grille both insde and outside



Grille between the glass

## Opening types



Rectangular turn-tilt element



2-sash rectangular turn-tilt/turn element



Rectangular turn element



2-sash rectangular turn/turn element



Rectangular tilt-element



Round arch turn-tilt element



Double sash, round arch turn-tilt/turn element



Segmental arch turn-tilt element



Double sash, segmental arch turn-tilt/turn element



Pitched window turn-tilt element



