



ambiente

Internorm®
Windows – Doors

HV 450

TIMBER-ALUMINIUM-COMPOSITE WINDOW



CHARACTERISTICS



Thermal insulation (in W/m²K)
U_w up to 0,62



Sound reduction (in dB)
up to 39-46



Security
up to RC1N, RC2



Locking
fully concealed

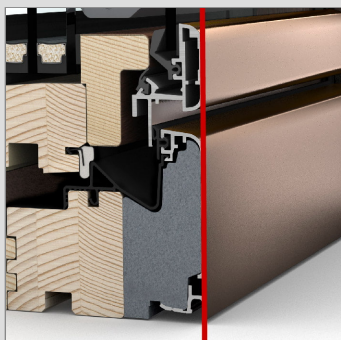
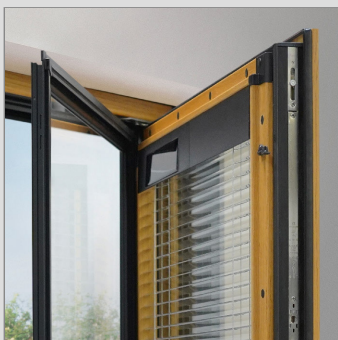


Installation Depth (in mm)
85

I-tec Shading

I-tec Glazing

I-tec Connect

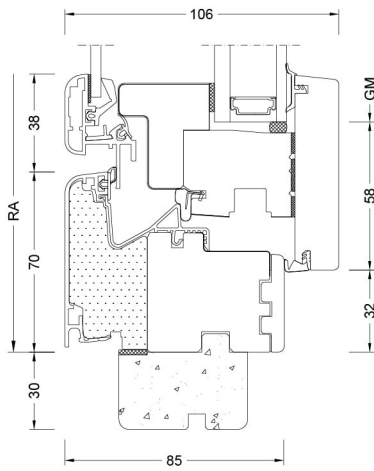


The flush transition from frame to sash and the integrated sun protection between the panes unite the HV 450 into a single unit. Venetian, Roman or black-out Duette® blinds are integrated between accessible panes, and are protected from the weather and dirt. With perfect sun, privacy, thermal and sound protection, you can enjoy quadruple protection in just one window. I-tec Shading with photovoltaic module and battery is completely energy self-sufficient and also offers many useful functions.

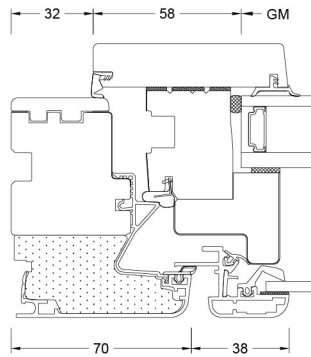


Cuts

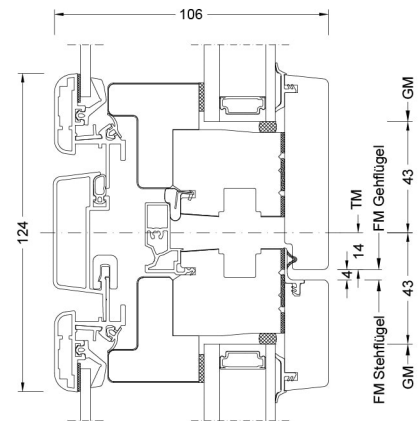
Senkrecht / Vertical



Waagrecht / Horizontal



Stulp / Flying mullion



BM Bestellmaß / Ordering size
 FM G Flügelmaß Gehflügel / Sash size master sash
 FM S Flügelmaß Stehflügel / Sash size slave sash
 FOK Fußbodenoberkante / Finished floor level

GM Glasmaß / Glass size
 RA Rahmenaußenmaß / Outside frame size
 TM Teilungsmaß / Division size

Values

Glass Build Up	GC	Coating	AH	U _g	g	U _f	Psi	U _w	R _w	C	Ctr	Certificate - Thermal Performance	Certificate - Sound
4 // 3bESG/10Kr/2TVG/10Kr/b3ESG	100, 37F	Low-Carbon iplus	Iso Alu	0,6 0,6	56 56	0,94 0,94	0,027 0,04	0,7 0,73	- -	- -	- -	✓ ✓	× ×
4 // 4bESG/12Ar/4/12Ar/b4ESG	100, 3A2	Low-Carbon iplus	Iso Alu	0,7 0,7	55 55	0,92 0,92	0,025 0,041	0,76 0,8	39 39	-2 -2	-8 -8	✓ ✓	✓ ✓
4 // 3bESG/8Ar/3/10Ar/b4	100, 3AF	Low-Carbon iplus	Iso Alu	0,9 0,9	55 55	0,94 0,94	0,023 0,035	0,9 0,93	- -	- -	- -	✓ ✓	× ×
4 // 4ESG/20Ar/b4	100, 2KL	Low-Carbon iplus	Iso Alu	1,1 1,1	64 64	0,94 0,94	0,022 0,036	0,97 1,0	- -	- -	- -	✓ ✓	× ×
4 // 4bESG/12Kr/4/12Kr/b4ESG	100, 3A1	Low-Carbon iplus	Iso Alu	0,5 0,5	55 55	0,92 0,92	0,029 0,046	0,63 0,67	- -	- -	- -	✓ ✓	× ×
4 // 4bESG/10Ar/3/12Ar/b33.2(VSG)	100, 3HP	Low-Carbon iplus	Iso Alu	0,7 0,7	54 54	0,92 0,92	0,028 0,046	0,84 0,88	- -	- -	- -	✓ ✓	× ×
4 // 4bESG/8Kr/4/8Kr/b4	100, 3TV	Low-Carbon iplus	Iso Alu	0,6 0,6	54 54	0,93 0,93	0,029 0,041	0,77 0,8	- -	- -	- -	✓ ✓	× ×
4 // 6/18Ar/b4	100, 2KU	Low-Carbon iplus	Iso Alu	0,9 0,9	63 63	0,94 0,94	0,025 0,04	0,97 1,0	39 39	-2 -2	-8 -8	✓ ✓	✓ ✓



Internorm takes responsibility for the environment and climate

Internorm's use of low-carbon iplus glass saves 10,000 t of CO₂ eq annually

Glass is a fundamental component in window production. As Europe's leading window brand, we take our responsibility seriously, and incorporate low-carbon iplus insulating glazing in our product range as standard.

In order to reduce greenhouse gas emissions, we analysed the entire low-carbon float glass production chain. This included activities before, during and after the actual manufacturing process, right through to delivery to the customer.

The result is a 4 mm thick, low-carbon float glass with a reduced carbon footprint of 5.5 kg CO₂ eq/m² that delivers emission savings of over 45%.

What turns low-carbon iplus glass into thermally insulated glass?

- Use of low-emission raw materials
- Use of highly efficient melting furnaces including electric boosting
- At least 50% recycled content, to conserve valuable raw materials
- Utilisation of renewable energies
- Optimised transport throughout the entire supply chain