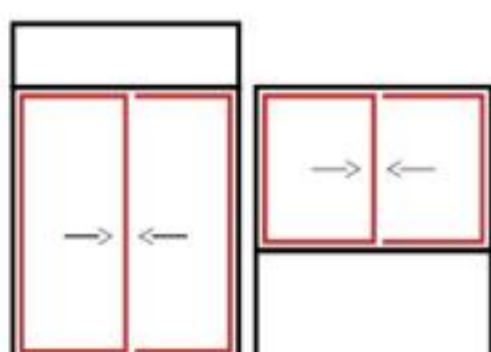
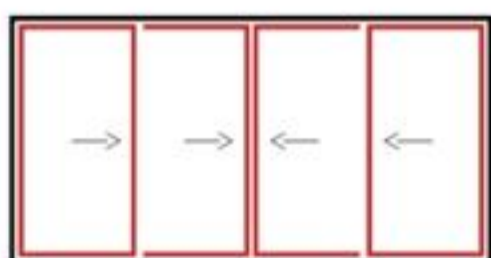
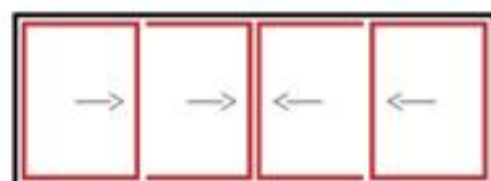
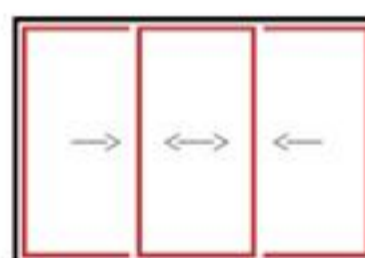
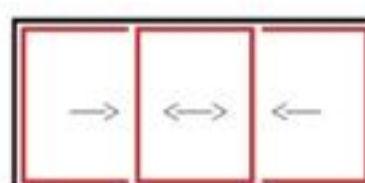
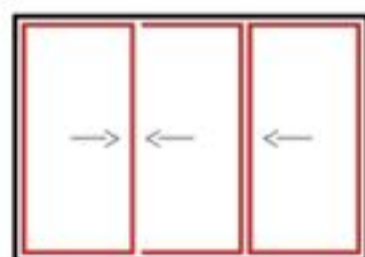
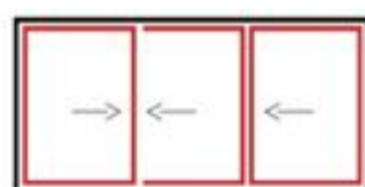
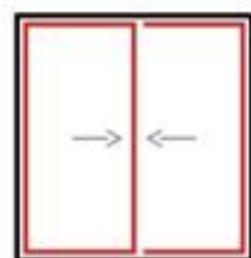
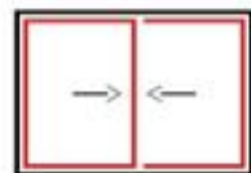


Product concept GXi



OUTER FRAME

■ Thermal-break:

Achieved using glass fibre reinforced double polyamide strip crimped onto 2 aluminium profiles (9mm-wide break).

■ Profiles:

Tubular peripheral rails with or without guttering:

- 2 rails: 52mm module
- 3 rails: 101mm module

■ Assembly:

- Mitre-cut, using pin or crimp corner cleats
- Concealed lower rail drainage through machined holes (Perfopack tool) with weep hole covers.

■ Options:

- Outer frame with integrated architrave
- Groove-free outer frames.
- Stainless roller tracking.

OPENING FRAME

■ Thermal-break:

Centrally, a polyamide profile mounted on each central mullion profile acts as a thermal shield. Glass fibre reinforced double polyamide strips crimped onto 2 aluminium profiles ensure break on transoms (9mm-wide break) and on side mullions (10mm-wide break).

■ Profiles:

32.6mm transom and 39.5mm mullion. Standard mullion for window (45mm depth), reinforced 81mm mullion for patio door, outer frame central mullion overall width 41mm for optimal sight lines.

■ Assembly:

Square cut. transoms slotting into mullions. Stainless screws.

■ Infill volumes:

Marine quality EPDM U gaskets. 14-24mm double glazing.

Weathering: double barrier consisting of brush gaskets with reinforced central blade.

■ Weathering:

Drainage by lower transom drilling.

■ Options:

- Baffle for multi-leaved modules
- Intermediate transom. Rebated drip mould profile for exposed sites, acoustic gasket.

ACCESSORIES

■ Rollers:

- Polyamide-hooped rollers mounted on needle bearings for leaf loads of up to 100kg (single roller) or 200kg (double roller)
- Single or double polyamide-flanged rollers, standard or adjustable.
- Rollers can be changed without dismantling leaves.

■ Closing mechanisms:

- Half-moon 1-point closing mechanism with pull handle.
- Manual closing mechanism with mullion-integrated thumb pull and foolproofing mechanism.
- Single inside thumb pull closing mechanism.
- Double inside/outside thumb pull closing mechanism.
- Double keyed thumb pull closing mechanism (outside cylinder)
- Automatic thumb pull closing mechanism.

■ Options:

- Open/close thumb pull.
- Filled or open pull handle. Pass-keyed closing mechanisms.
- 2 and 3-point security closing mechanisms.

INSTALLATION

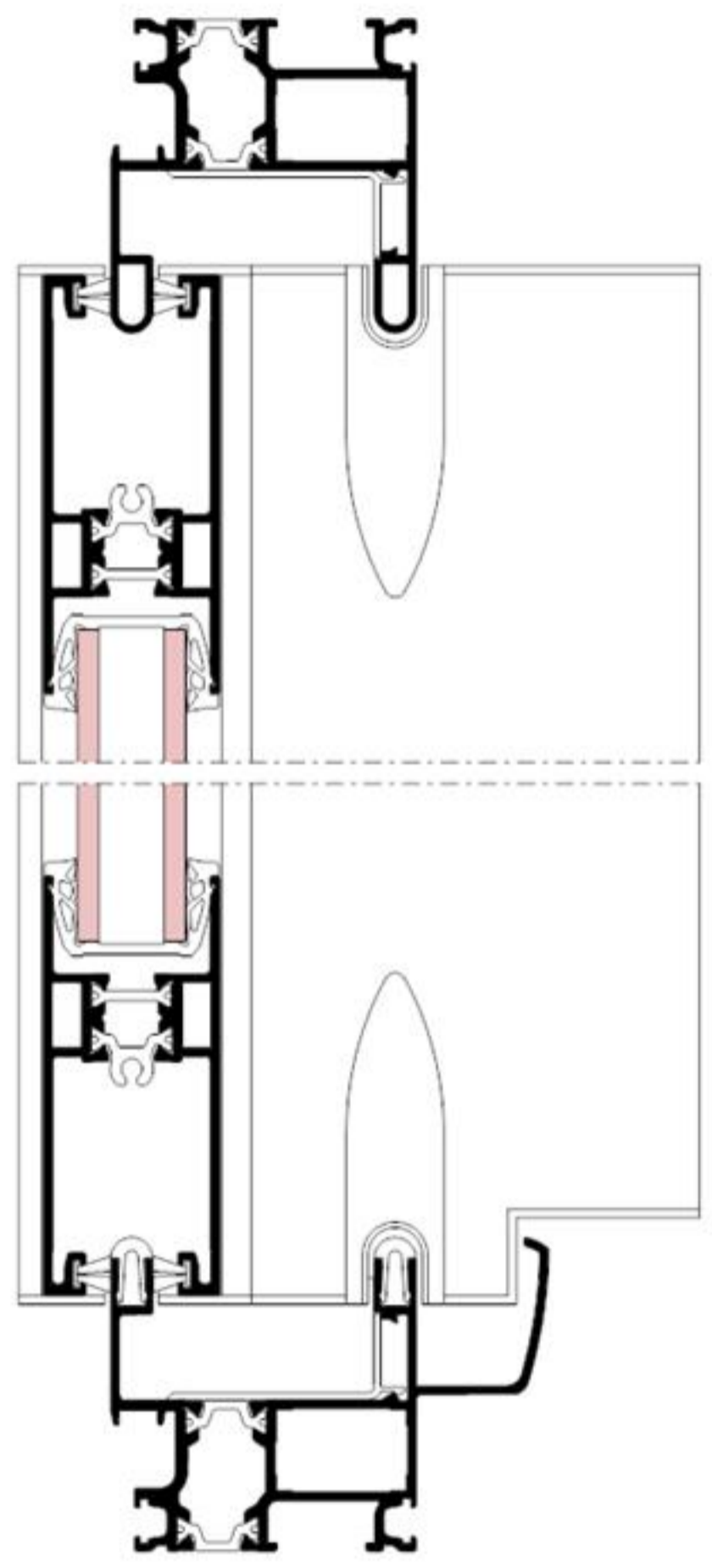
Adjustable jack screws.

- Flashing to accommodate 80-160mm lining
- Single-piece inside sill for offset sill-mounted 100mm and 120mm lining.

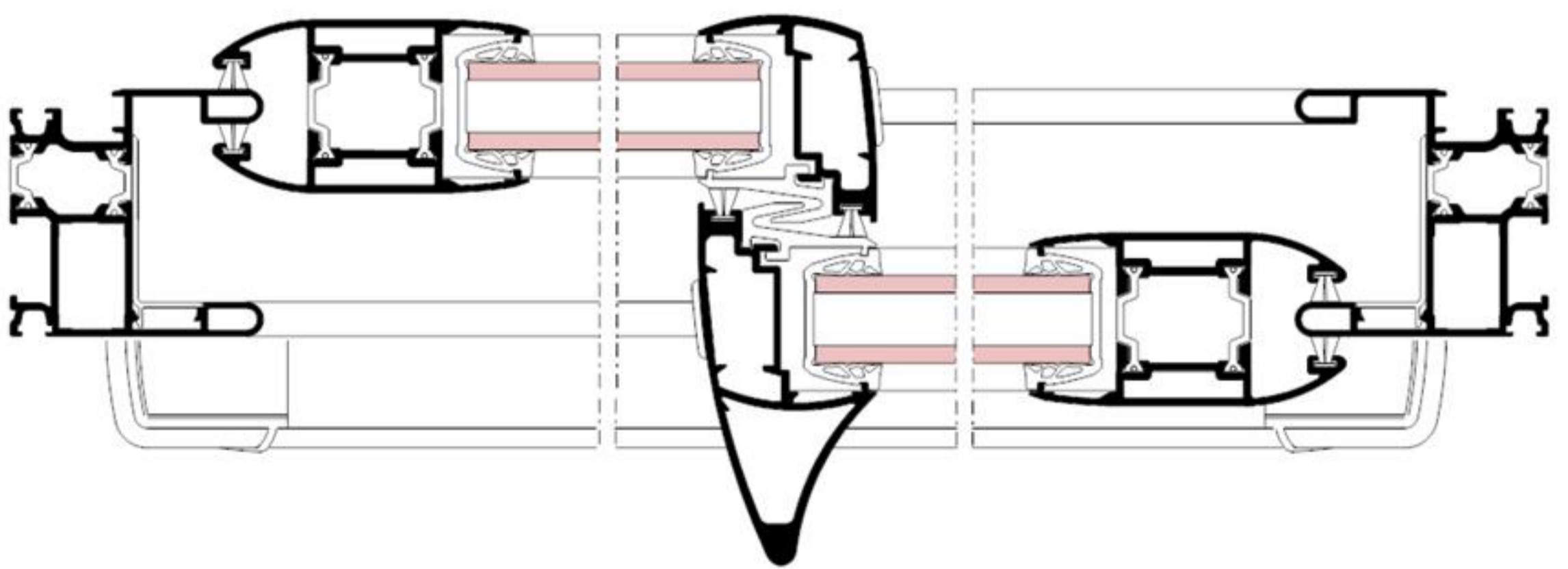
TOOLS

- 1 Perfopack for outer frame punching.
- 1 Perfopack for drainage machining
- 1 Perfopack for jamb machining

Vertical section 1/2 scale



Horizontal section 1/2 scale



■ **GXi Weathering performance (wind, air and water):**

A.E.V.: **A** = Air permeability EN12207
 E = Water permeability EN12208
 V = Wind resistance EN12210

Type	Test report n°	Classification
2-leaf window H = 1.42 W = 1.41	CEBTP certificate E213.8.076	A3 - EE - VE
2-leaf window H = 1.42 W = 1.41	CEBTP certificate E223.01.011	A* ₃ - E* _{A7} - V* _{C4}
2-leaf patio door H = 2.15 W = 1.80	CEBTP certificate E223.01.023	A* ₃ - E* _{A6} - V* _{B3}
Patio door with 3 independent leaves H = 2.25 W = 3.00	Internal test 0298/24	A3 - E3 - V2
Patio door with 3 leaves and 3 rails H = 2.25 W = 3.00	Internal test 0298/29	A3 - E3 - V2
Composite GXi/Fxi H = 2.15 W = 1.65	CEBTP certificate E223.01.012	A* ₃ - E* _{A6} - V* _{C4}
Composite GXi/Fxi H = 2.40 W = 1.50	Internal test 0298/20	A3 - E3 - V2

■ **GXi Acoustic performance:**

Measures taken using standards NF S31-051 – EN ISO 140 - EN ISO 717

2-leaf window frame dimensions H= 1480 x W = 1470

Applications	Glass	Gaskets	Alternative	Test report n°	Sound insulation Results dB		
					Surrounding sound R _{A, tr}	Sound Traffic R _A	R _W
Standard outer frame	38-23	Sliding	Weathering set	PV n° 625273	34	33	34
Standard outer frame	35-20	Sliding	Weathering set	PV n° 625274	34	32	33
Standard outer frame	4-12-4	Sliding	Weathering set	PV n° 625275	30	29	31
Standard outer frame	4-12-4	Brush	Weathering set	PV n° 625276	30	29	30
Standard outer frame	4-12-4	Brush		PV n° 625277	29	28	30
Styled outer frame	38-23	Sliding	Weathering set	PV n° 625278	35	33	35
Styled outer frame	35-20	Sliding	Weathering set	PV n° 625280	34	33	34
Styled outer frame	4-12-4	Sliding	Weathering set	PV n° 625281	31	30	32

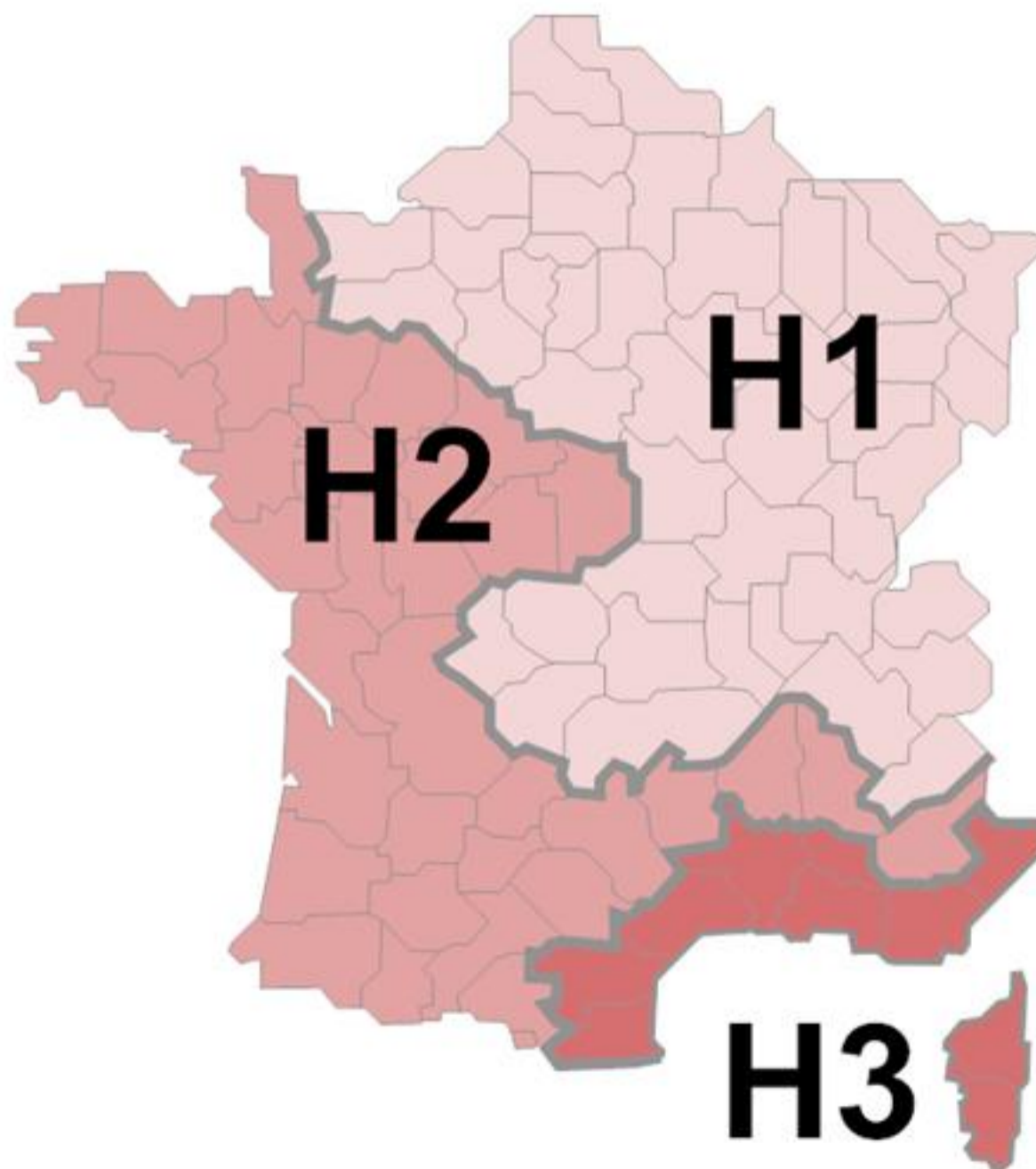
Performance

Thermal performance

■ Regulations

New building and renovations with planning permission		H1 - H2 Zone	H3 Zone
Reference values for window only	Uw	2.4	2.6
Reference values for window with shutter	Ujn	2.0	2.3
Maximum authorised values	Uw	2.9	
Maximum authorised values with compensation (walls, floors, roofing)	Uw Ujn	Acceptable thermal performance lies between reference values and 2.9	

Uw and Ujn values certified by the CSTB: study ELT/HTO 2001-388



■ Glass values

Glass	Ug-values according to glazing components Vertical glazing – certified emissivity according to ThU 2000 (EN 673)						Glazing solar factors		
	Emissivity	airspace thickness (mm)	Glazing U value with AIR airspace		Glazing Ug-value with 85% ARGON 15% AIR airspace		g		
			Glass thickness				Glass thickness		
<i>Note: no certified emissivity < 0.05 at end 2001</i>			4+4	4+10	4+4	4+10	4+4	6+6	
Clear standard	0.89	6	3.3				2.8	0.76	0.72
		8	3.1						
		10	2.9						
		12	2.8						
		14							
		16	2.7						
Sunergy (Glaverbel)	0.28	6	2.8	2.8	2.5	2.5	0.54	0.52	
		8	2.5	2.5	2.2	2.2			
		10	2.3	2.3	2.1	2.1			
		12	2.2	2.2	2.0	1.9			
		14	2.1	2.0	1.9	1.8			
		16	2.0	2.0	1.8	1.8			
		18	2.0	2.0	1.8	1.8			
20	2.0	2.0	1.9	1.8					
Eko Plus (SGG) K Glass (Pilkington) Planibel K Glass (Glaverbel)	0.16	6	2.7	2.6	2.3	2.3	0.69	0.65	
		8	2.3	2.3	2.0	2.0			
		10	2.1	2.1	1.8	1.8			
		12	1.9	1.9	1.7	1.7			
		14	1.8	1.8	1.6	1.6			
		16	1.7	1.7	1.5	1.5			
Luxguard low e 1.1 Luxguard low e 1.3	0.10	6	2.6	2.5	2.2	2.2	0.65	0.65	
		8	2.2	2.2	1.9	1.9			
		10	2.0	2.0	1.7	1.7			
		12	1.8	1.8	1.5	1.5			
		14	1.7	1.6	1.4	1.4			
		16	1.6	1.6	1.4	1.4			
Planitherm (SGG) Planibel Plus (Glaverbel)	0.09	6	2.6	2.5	2.2	2.1	0.64	0.61	
		8	2.2	2.2	1.9	1.8			
		10	2.0	1.9	1.6	1.6			
		12	1.8	1.8	1.5	1.5			
		14	1.6	1.6	1.4	1.4			
		16	1.6	1.5	1.3	1.3			
Planitherm Futur N (SGG) Planistar (SGG) Planibel Top N Thermo Plus Energy (Glaverbel) Optitherm (Pilkington) i Plus (Interpane)	0.05	6	2.5	2.5	2.1	2.1	0.62	0.60	
		8	2.1	2.1	1.8	1.7			
		10	1.9	1.9	1.5	1.5			
		12	1.7	1.7	1.4	1.4			
		14	1.5	1.5	1.2	1.2			
		16	1.4	1.4	1.2	1.2			
18	1.4	1.4	1.2	1.2					
20	1.5	1.4	1.2	1.2					

list given for example purposes, other glass available

list given for example purposes, other glass available

■ Shutter values

ΔR-values by shutter type according to ThU 2000 (EN 13125)	ΔR m ² .K/W
- Accordion-type shutter, adjustable-louver shutter including all-metal external venetian blinds, swing shutters or fixed-louvred shutters.	0.08
- Shutter without louvres in deployed position, aluminium roller shutters.	0.14
- PVC roller shutter (thickness < or = 12 mm) - Sliding louvred shutter or PVC swing shutter, wooden swing shutter (thickness < 22mm)	0.19
- Sliding fixed-louvred PVC shutter and wooden swing shutter (thickness > 22 mm) - PVC roller shutter (thickness > 12mm)	0.25
- TECHNAL ref V303 40 mm PVC roller louver blind	0.22
- TECHNAL ref V303 60 mm PVC roller louver blind	0.26

Performance

Thermal performance

■ Values for sliders

	Ug value of glass unit centre pane (W/m ² .K)	Uw value of window only (W/m ² .K)	Ujn (W/m ² .K) for complementary thermal resistance ΔR (m ² .K/W) of: (see table of shutter types)					
			0.08	0.14	0.19	0.22	0.25	0.26
			2 leaves window					
1.1	1.1	2.2	2.0	1.9	1.9	1.8	1.8	1.8
1.2	1.2	2.4	2.2	2.1	2.0	2.0	2.0	1.9
1.3	1.3	2.5	2.3	2.2	2.1	2.1	2.0	2.0
1.4	1.4	2.5	2.3	2.2	2.1	2.1	2.0	2.0
1.5	1.5	2.6	2.4	2.3	2.2	2.1	2.1	2.1
1.6	1.6	2.7	2.5	2.3	2.2	2.2	2.2	2.1
1.7	1.7	2.7	2.5	2.3	2.2	2.2	2.2	2.1
1.8	1.8	2.8	2.5	2.4	2.3	2.3	2.2	2.2
1.9	1.9	2.8	2.5	2.4	2.3	2.3	2.2	2.2
2.0	2.0	2.9	2.6	2.5	2.4	2.3	2.3	2.3
2.1	2.1	3.0	2.7	2.6	2.5	2.4	2.4	2.3
2.2	2.2	3.0	2.7	2.6	2.5	2.4	2.4	2.3
2.3	2.3	3.1	2.8	2.6	2.5	2.5	2.4	2.4
2.4	2.4	3.2	2.9	2.7	2.6	2.5	2.5	2.5
2.5	2.5	3.2	2.9	2.7	2.6	2.5	2.5	2.5
2.6	2.6	3.3	3.0	2.8	2.7	2.6	2.6	2.5
2 leaves patio-door								
1.1	1.1	2.1	1.9	1.9	1.8	1.8	1.7	1.7
1.2	1.2	2.2	2.0	1.9	1.9	1.8	1.8	1.8
1.3	1.3	2.3	2.1	2.0	2.0	1.9	1.9	1.9
1.4	1.4	2.4	2.2	2.1	2.0	2.0	2.0	1.9
1.5	1.5	2.4	2.2	2.1	2.0	2.0	2.0	1.9
1.6	1.6	2.5	2.3	2.2	2.1	2.1	2.0	2.0
1.7	1.7	2.6	2.4	2.3	2.2	2.1	2.1	2.1
1.8	1.8	2.6	2.4	2.3	2.2	2.1	2.1	2.1
1.9	1.9	2.7	2.5	2.3	2.2	2.2	2.2	2.1
2.0	2.0	2.8	2.5	2.4	2.3	2.3	2.2	2.2
2.1	2.1	2.9	2.6	2.5	2.4	2.3	2.3	2.3
2.2	2.2	2.9	2.6	2.5	2.4	2.3	2.3	2.3
2.3	2.3	3.0	2.7	2.6	2.5	2.4	2.4	2.3
2.4	2.4	3.1	2.8	2.6	2.5	2.5	2.4	2.4
2.5	2.5	3.1	2.8	2.6	2.5	2.5	2.4	2.4
2.6	2.6	3.2	2.9	2.7	2.6	2.5	2.5	2.5

Low-emissivity layer must be situated on side 2 to reduce risk of thermal breakage of glass.
Lapped edge finishing is recommended according to glass type.

Joinery prohibited

Sg glazing solar factor (including any solar protection)	Sw solar factor Default value α according to joinery colour			
	0.4 white. yellow. orange. light red	1.0 black. dark brown. dark blue	0.4 white. yellow. orange. light red	1.0 black. dark brown. dark blue
2-leaf window WxH=1.85m x 1.48m				
0,1	0,08	0,11	0,09	0,14
0,2	0,14	0,17	0,16	0,20
0,3	0,21	0,23	0,22	0,26
0,4	0,27	0,30	0,28	0,33
0,5	0,33	0,36	0,35	0,39
0,6	0,40	0,42	0,41	0,45
0,7	0,46	0,49	0,47	0,52
0,8	0,52	0,55	0,54	0,58
2-leaf patio door WxH=1.85m x 2.18m				
0,1	0,08	0,10	0,09	0,13
0,2	0,15	0,17	0,16	0,20
0,3	0,22	0,24	0,23	0,27
0,4	0,29	0,31	0,30	0,33
0,5	0,35	0,38	0,36	0,40
0,6	0,42	0,44	0,43	0,47
0,7	0,49	0,51	0,50	0,54
0,8	0,56	0,58	0,57	0,60

■ Values for composite sliders

	Ug value of glass unit centre pane (W/m ² .K)	Ug value of window only (W/m ² .K)	Ujn (W/m ² .K) for complementary thermal resistance ΔR (m ² .K/W) of: (see table of shutter types)					
			0.08	0.14	0.19	0.22	0.25	0.26
2-leaf window with non-insulated opening frames	1.1	2.8	2.5	2.4	2.3	2.3	2.2	2.2
	1.2	2.8	2.5	2.4	2.3	2.3	2.2	2.2
	1.3	2.9	2.6	2.5	2.4	2.3	2.3	2.3
	1.4	3.0	2.7	2.6	2.5	2.4	2.4	2.3
	1.5	3.0	2.7	2.6	2.5	2.4	2.4	2.3
	1.6	3.1	2.8	2.6	2.5	2.5	2.4	2.4
	1.7	3.2	2.9	2.7	2.6	2.5	2.5	2.5
	1.8	3.2	2.9	2.7	2.6	2.5	2.5	2.5
	1.9	3.3	3.0	2.8	2.7	2.6	2.6	2.5
	2.0	3.4	3.0	2.9	2.7	2.7	2.6	2.6
	2.1	3.4	3.0	2.9	2.7	2.7	2.6	2.6
	2.2	3.5	3.1	2.9	2.8	2.7	2.7	2.7
	2.3	3.6	3.2	3.0	2.9	2.8	2.7	2.7
2.4	3.6	3.2	3.0	2.9	2.8	2.7	2.7	
2.5	3.7	3.3	3.1	2.9	2.9	2.8	2.8	
2.6	3.8	3.4	3.1	3.0	2.9	2.9	2.9	
Porte-fenêtre 2 vantaux avec ouvrants non isolés	1.1	2.6	2.4	2.3	2.2	2.1	2.1	2.1
	1.2	2.6	2.4	2.3	2.2	2.1	2.1	2.1
	1.3	2.7	2.5	2.3	2.2	2.2	2.2	2.1
	1.4	2.8	2.5	2.4	2.3	2.3	2.2	2.2
	1.5	2.8	2.5	2.4	2.3	2.3	2.2	2.2
	1.6	2.9	2.6	2.5	2.4	2.3	2.3	2.3
	1.7	3.0	2.7	2.6	2.5	2.4	2.4	2.3
	1.8	3.0	2.7	2.6	2.5	2.4	2.4	2.3
	1.9	3.1	2.8	2.6	2.5	2.5	2.4	2.4
	2.0	3.2	2.9	2.7	2.6	2.5	2.5	2.5
	2.1	3.3	3.0	2.8	2.7	2.6	2.6	2.5
	2.2	3.3	3.0	2.8	2.7	2.6	2.6	2.5
	2.3	3.4	3.0	2.9	2.7	2.7	2.6	2.6
2.4	3.5	3.1	2.9	2.8	2.7	2.7	2.7	
2.5	3.5	3.1	2.9	2.8	2.7	2.7	2.7	
2.6	3.6	3.2	3.0	2.9	2.8	2.7	2.7	

Low-emissivity layer must be situated on side 2 to reduce risk of thermal breakage of glass.
Lapped edge finishing is recommended according to glass type.

Joinery prohibited

Sg glazing solar factor (including any solar protection)	Sw solar factor Default value α according to joinery colour			
	0.4 white. yellow. orange. light red	1.0 black. dark brown. dark blue	0.4 white. yellow. orange. light red	1.0 black. dark brown. dark blue
2-leaf window WxH=1.85m x 1.48m				
0,1	0,09	0,13	0,11	0,17
0,2	0,16	0,20	0,17	0,23
0,3	0,22	0,26	0,24	0,30
0,4	0,29	0,33	0,30	0,36
0,5	0,35	0,39	0,37	0,43
0,6	0,42	0,46	0,43	0,50
0,7	0,48	0,52	0,50	0,56
0,8	0,55	0,59	0,56	0,63
2-leaf patio door WxH=1.85m x 2.18m				
0,1	0,09	0,13	0,10	0,16
0,2	0,16	0,19	0,17	0,23
0,3	0,23	0,26	0,24	0,30
0,4	0,30	0,33	0,31	0,37
0,5	0,37	0,40	0,38	0,43
0,6	0,44	0,47	0,45	0,50
0,7	0,51	0,54	0,52	0,57
0,8	0,58	0,61	0,59	0,64