

## WOOD AND WOODEN-ALUMINIUM WINDOWS AND DOORS

Established in 1989, AS Lasita Aken is the oldest manufacturer of wood and wooden-aluminium windows in Estonia. The company has professional personnel, uses modern technology and is based 100% on Estonian capital. The factory and head office are both located in Tartu. AS Lasita Aken product line consists of:

- Wood and wooden-aluminium windows and balcony doors
- Wood and wooden-aluminium sliding and folding doors
- Wood and wooden-aluminium entrance doors
- Wood and wooden-aluminium framed glass facades

Main products are one framed inward opening „so called“ German-type windows and balcony, entrance, sliding and folding doors. High-tech CNC equipment assures the supreme accuracy of the wooden parts, that ensures undisturbed functionality of the products for years. Production process is monitored with special attention to guarantee the products accordance to the European quality criterion.

Inward opening German-type products belong to the product family Lasita IV:

- Lasita IV 68
- Lasita IV 78
- Lasita IV 92
- Lasita IV 68\_ALU
- Lasita IV 78\_ALU
- Lasita IV 92\_ALU

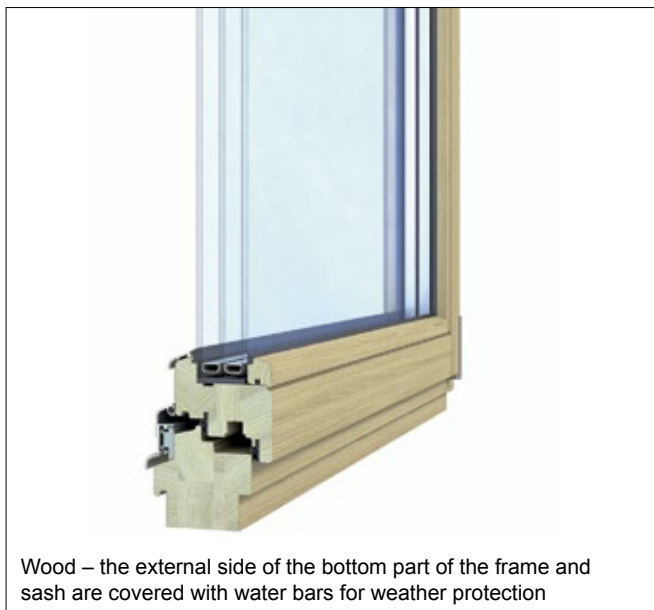


**LASITA IV PRODUCT FAMILY HAS CE-MARK**

Attribute	Lasita IV 68	Lasita IV 78	Lasita IV 92
Type	Wood		
Opening	Inward opening		
Frame and sash depth	68mm	78mm	92mm
Frame seals	Two gaskets		
Glazing bar	With overlay	With overlay	With overlay
Standard glass unit	2k 4-18alu/Ar-4es	3k 4es-18thermo/Ar-4-18thermo/Ar-4es	3k 4es-18thermo/Ar-4-18thermo/Ar-4es
Standard bar inside glass unit	18mm alu	2x14mm thermo	2x18mm thermo
Standard solution windows U-value	1,3 W/m <sup>2</sup> K	0,90 W/m <sup>2</sup> K	0,82 W/m <sup>2</sup> K
Sound insulation Rw	(C;Ctr) 32 (-1;-5)	(C;Ctr) 32 (-1;-5)	(C;Ctr) 34 (-1;-5)
Standard solution frame fitting	Surrounds the frame as whole, one security pin.		
Custom shapes	Cut corners, arcs, circles.		

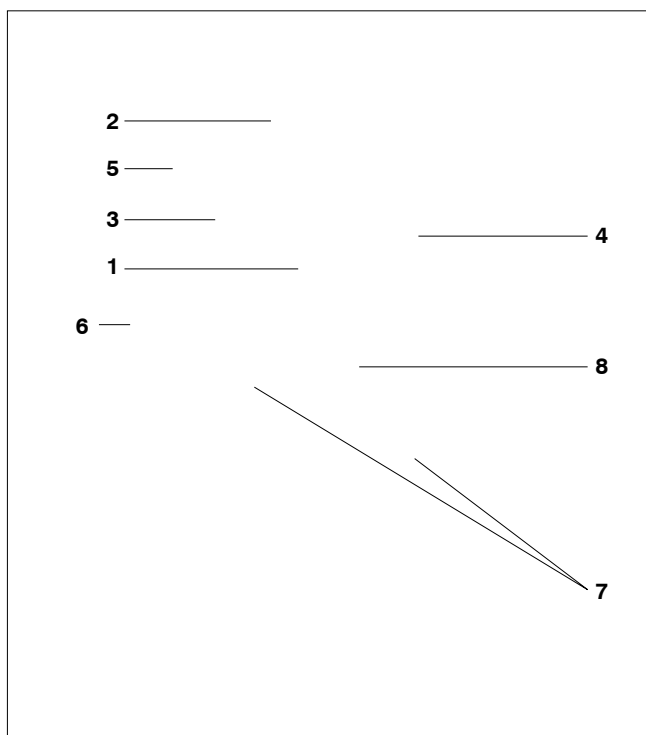
Attribute	Lasita IV 68_ALU	Lasita IV 78_ALU	Lasita IV 92_ALU
Type	Wooden-aluminium		
Opening	Inward opening		
Frame and sash depth	84,5mm	94,5mm	108,5mm
Frame seals	Two gaskets		
Glazing bar	Without overlay		
Standard glass unit	2k 4es-18alu/Ar-4	3k 4es-18thermo/Ar-4-18thermo/Ar-4es	3k 6es-18thermo/Ar-4-18thermo/Ar-4es
Standard bar inside glass unit	18mm alu	2x14mm thermo	2x18mm thermo
Standard solution windows U-value	1,2 W/m <sup>2</sup> K	0,90 W/m <sup>2</sup> K	0,80 W/m <sup>2</sup> K
Sound insulation Rw	(C;Ctr) 32 (-1;-5)	(C;Ctr) 32 (-1;-5)	(C;Ctr) 34 (-1;-5)
Standard solution frame fitting	Surrounds the frame as whole, one security pin.		
Custom shapes	Cut corners, arcs, circles.		

## WOOD AND WOODEN-ALUMINIUM



## TECHNICAL DATA

- The wooden parts (2) are made of solid wood material that is glued together from 3-4 lamellas.
- To avoid cold bridges the wooden part between glass unit and external environment is 18mm (3).
- 20 degree gradients and 1-4mm radiuses.
- To provide UV-resistance the products are finished in 4-layer system: impregnation, primer and two layers of color.
- To provide weatherproofing and watertightness the wooden parts are also covered partly with aluminium waterbars (5, 6) (wooden products) or entirely with aluminium cover profiles (wooden aluminium products).
- For higher security the fitting surrounds the frame as a whole in the fitting groove (8). There is one security pin and micro-ventilation in the standard solution. By adding extra security pins it is possible to achieve safety classes WK1 and WK2.
- Answers to fitting matches are pre-screwed on the sash to ensure precise location of the matches and tight closing.
- Tight closing of the frame is ensured by silicone seals (7) that are made of mixture of silicone and rubber and preserve their reliability even after years of using.
- Glass units are fixated with glazing bars that are with overlay and have a seal (4). Glazing bars are fixated with hidden nails.
- Glass units (2) are tightened with neutral silicone.
- Frames have reliable handles for opening and closing.



## TIMBER

AS Lasita Aken uses mostly pine for production of wooden parts, but also meranti, oak and larch. Other rare wood suitable for window producing is used when requested by the client. To guarantee the stability of wooden parts wooden details are glued together from three or four lamellas. In production finger joint material is always used with longer measures than 3000 mm.

### Quality requirements for timber:

- Moisture content: 12+2/-1%
- Glued with D4 glue, according to standard EN204
- Knot-free from all four sides
- Exterior lamellas are selected and glued considering opposite directions of annual rings in order to avoid bending of material
- Wood defects that are not permitted: rot, blueing, heartwood, fissures, tangential cut (except oak).

## FITTINGS

Windows, balcony-, sliding and folding doors are produced with Europe's leading window hardware manufacturer ROTO's fittings. For windows and balcony doors Roto NT E5 hinges or Roto Designo hidden hinges are used. Sliding and folding door fittings are given in the following chart.




Window and balcony door openings:

- Turn-tilt operation (most used)
- Turn operation
- Tilt operation

	Turn-tilt operation	Turn operation	Tilt operation
Sash width, mm	min 290, max 1600	min 290, max 1600	min 310, max 2400
Sash height, mm	min 280, max 2400	min 280, max 2400	min 290, max 1200
Frame max weight, kg	130	130	80

Sliding and folding door openings:

- Parallel-tilting-sliding opening
- Parallel-lifting-sliding opening
- Folding-sliding opening

Parallel-tilting-sliding	Parallel-lifting-sliding	Folding-sliding
<b>Roto Patio S/Z</b>	<b>GU-Hebeschleibe 934</b>	<b>Roto Patio 6080</b>
Easy to use	Burglary resistant	Stabile rollers
Central locking based on turn-tilting operating fitting	Safe micro-ventilation stance	Adjustable hinges
Treshold same as window profile	Low treshold	Treshold submerged into floor
<b>Sash width,mm</b>		
max 6000	max 6500 (12000)	max 6000
<b>Frame</b>		
Width, mm		
min 636, max 1686	min 760, max 3235	min 486, max 936
Height, mm		
Min 837, max 2436	Min 690, max 2670	Min 837, max 2436
Weight, kg		
100/160	300	80
		

## GLASS UNITS

Glass unit of Lasita IV 68 is double glazed, Lasita IV 78 and 92 glass units are triple glazed. U-value that matches the requirements is achieved with energy saving glasses (es). It is also used glass units where one glass may have several attributes: energy saving, solar control, security, sound insulation and/or self cleaning. For higher sound insulation specific glass units with glasses laminated with sound absorbing film are used.

