



LIFT AND
SLIDING DOOR

Vizus **LS ATHi**

Losing boundaries with preservation
of the single details in the exterior and interior



Lift and slide systems LS ATHi / residential building, Užička, Belgrade

Design features

Connecting the interior and exterior space whilst preserving the internal comfort is the basic task of the Vizus LSATHi system

Large sliding doors are a logical consequence of the development of modern architecture. The desire to progressively expose the interior space to the exterior ambient while preserving comfort has resulted in presenting the new design tasks to the window and door designers. After having analyzed the chronology of the development of modern architecture and taking heed of potential weaknesses in terms of qualitative characteristics of windows and doors of past times, Vizus has developed a composite system of lift and slide doors made of aluminum and timber, Vizus LSATHi (Lift and Slide Aluminum Timber High insulation).

The lift and slide systems are widely available on the market, however, several important design features places Vizus LSATHi in the group which offers solutions for the majority of architectonic requirements.

Losing boundaries with preservation of the single details in the exterior and interior

Losing boundaries was rendered possible by the option of integration of the opening lights into the facade system. In this way, the interior is dominated by timber posts and horizontal beams of equal dimensions, creating an impression of uniformity, in this manner easily attaining harmony of the modular rhythm with other architectonic elements. A special flush doorstep detail provides the same height of the internal and external floor, while there is a visual distinction of the lower details of the fixed door section and of the façade.



Choice of materials is made according to their characteristics and culture, as a consequence of its application in architecture and immanence in human life.

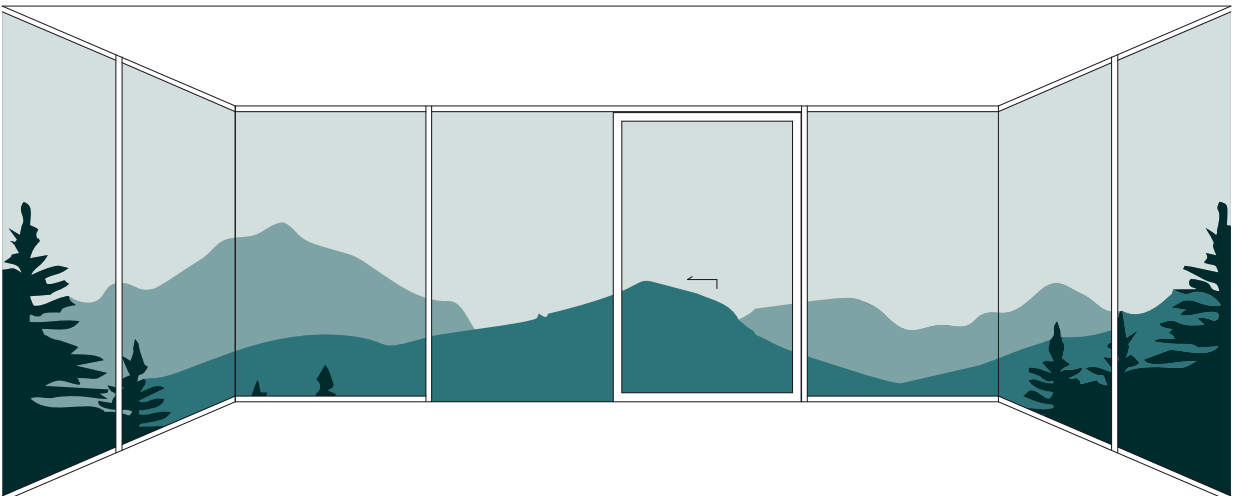
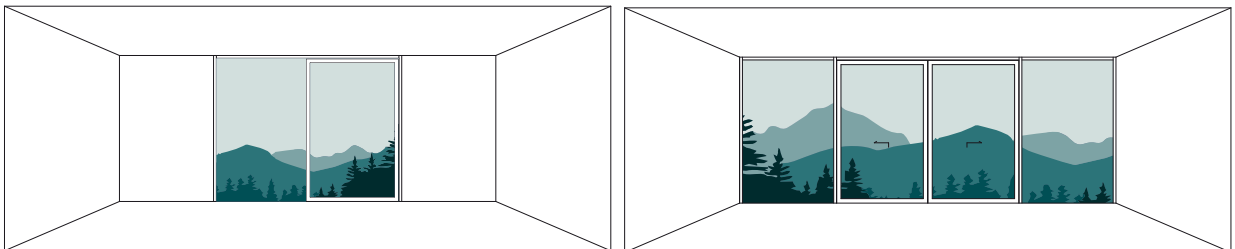
The propensity of Vizus for using aluminum and wood is based on the long-lasting observation of architectonic trends in this field. –Similar to other Vizus systems, the synergy of properties of these two materials resulted in significant results in terms of the quality properties. However, contrary to other systems, the main structural roles in the Vizus LSATHi system are assumed by the laminated timber posts, while the aluminum profile doubled by thermal break assumes the structural properties of a movable sash. The use of massive timber posts and beams in the interior contributes to the comfort realized through the tactile and intrinsic qualities of timber.

Vizus has been adamant in favor of the use of a high quality hardware for decades.

Lift-slide mechanism manufactured by Maco provides for the functioning of the movable sash with completely secure locking and sealing features, which plays an important role in achieving important thermal characteristics and safety. The fiberglass threshold creates an excellent thermal and waterproofing barrier in the lower zone of the door, while preserving the continuity of the interior and external floor level.

Reduced energy losses contribute to comfort

The use of aluminum profiles with the thermal break made of polyamide profiles filled with styrodur and laminated wood contributes to thermal insulation of the position. Also, by choosing the high strength lift-slide hardware allowed for fitting of triple thermal insulation glass which considerably reduces the thermal conductivity coefficient, of the entire position.





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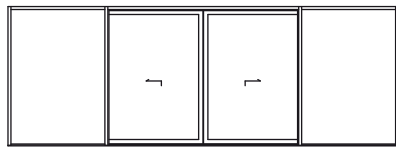
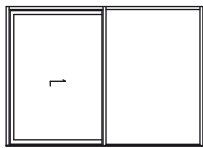
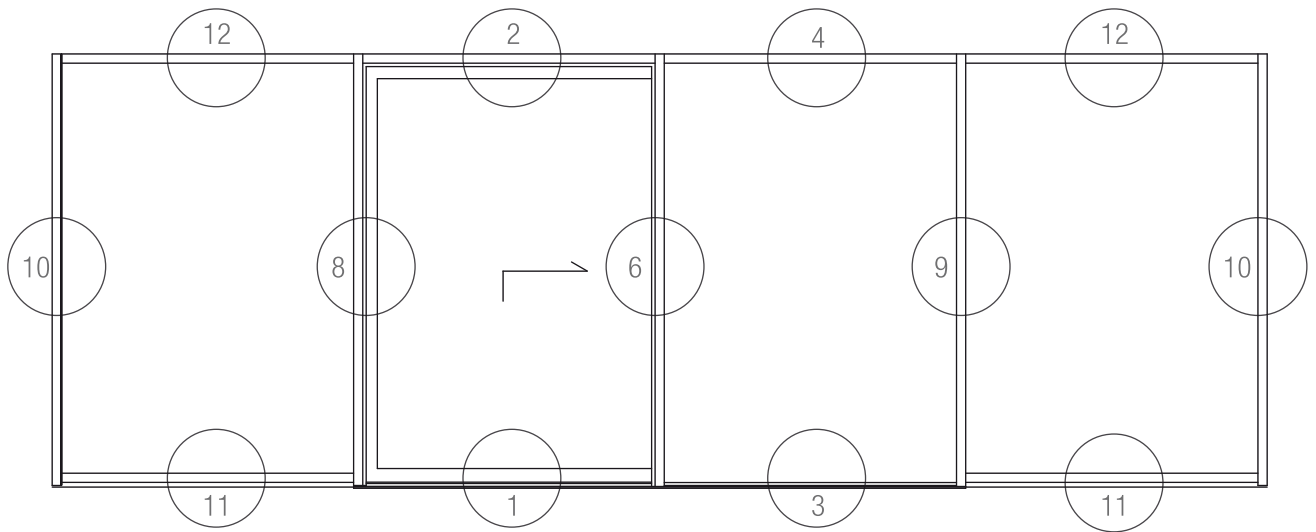
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LS ATHi

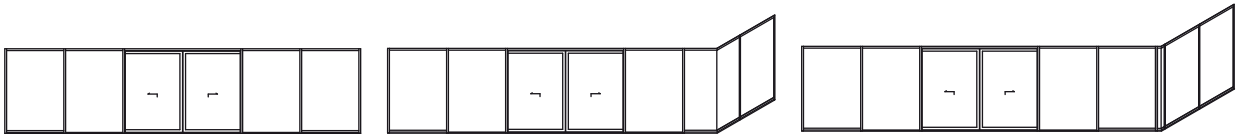
Illustration of one of many possible schemes of the position shows single sash lift-slide door integrated into the timber and aluminum façade. The supporting elements of the façade are laminated timber posts of fixed dimensions, 60x185mm. The static design to the given wind loads and proposed static scheme provides the widths of the glazed lights. The height of the position is prescribed by the manufacturer of hardware, as mx2.8m.



Basic door schemes

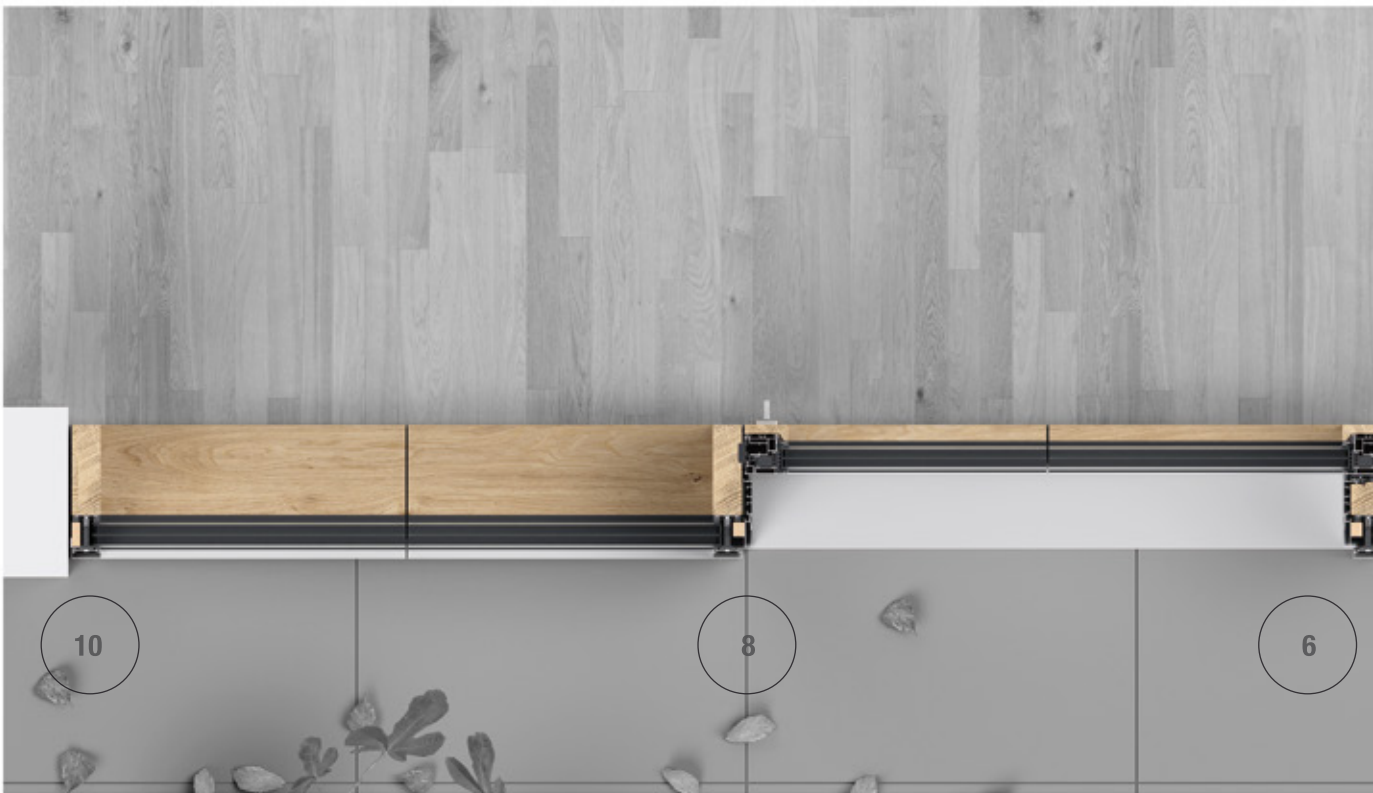
Façade integration schemes

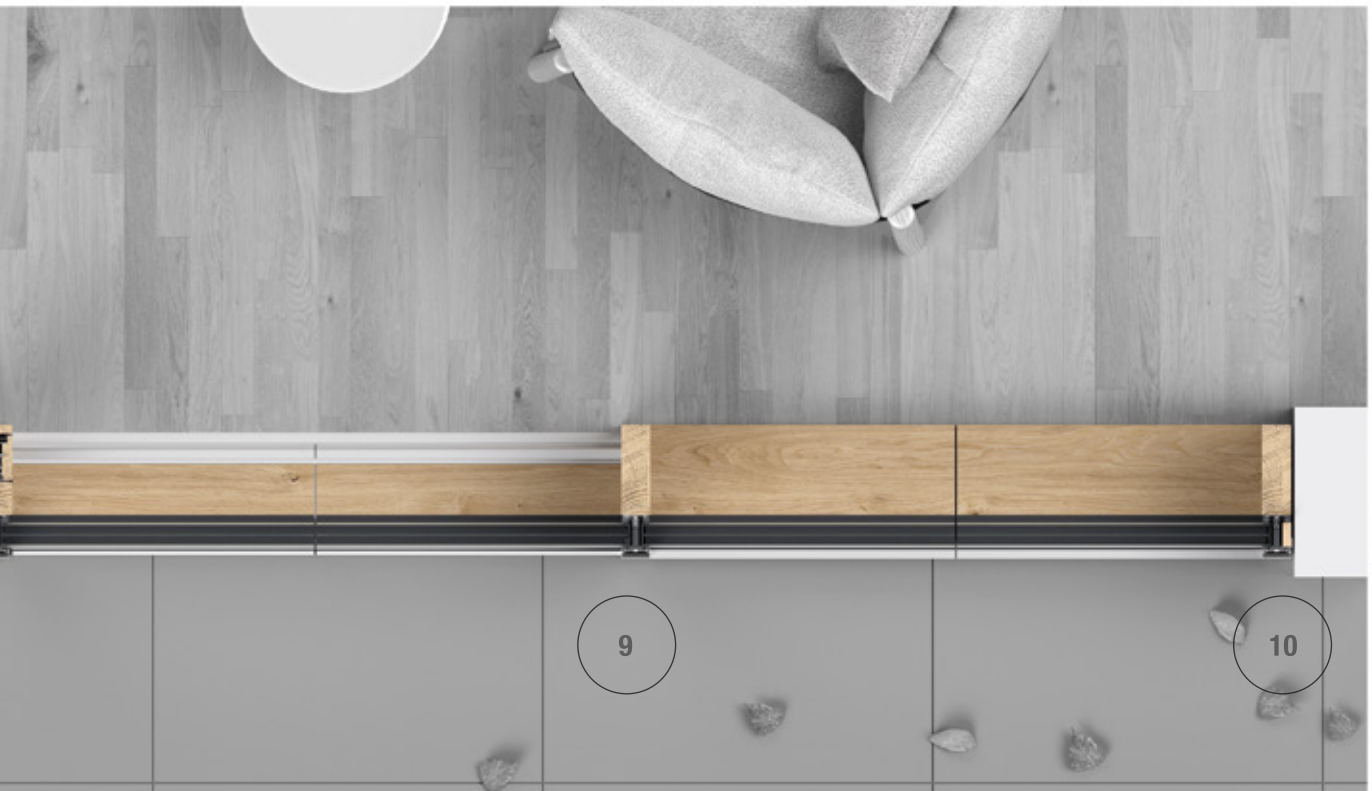
The developmental horizontal scheme /potential for integration of basic schemes into a continuous line of timber and aluminum façade in one or several vertical planes. The corners can be constructed with double verticals and aluminum sheets or by a glass to glass joint.



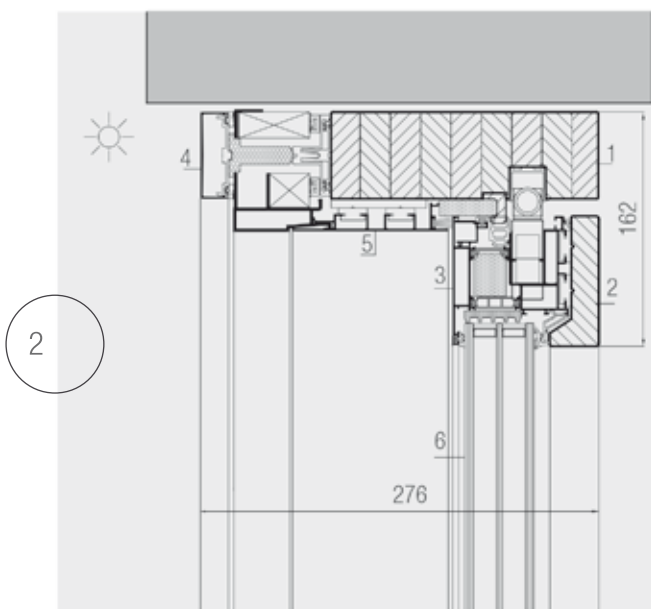
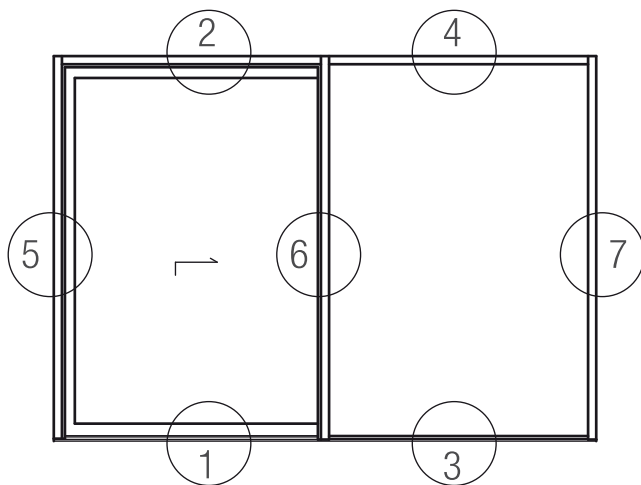
The developmental horizontal and vertical scheme /potential for integration of basic schemes into a continuous line of timber and aluminum façade in one or several vertical planes. The corners can be constructed with double verticals and aluminum sheets or by a glass to glass joint.







Characteristic details



1 Horizontal beam of laminated oak wood tone colored as specified by the customer, with the finish layer of water-based varnish with a desired sheen percentage

2 Oak wood tone colored as specified by the customer, with the finish layer of water-based varnish with a desired sheen percentage

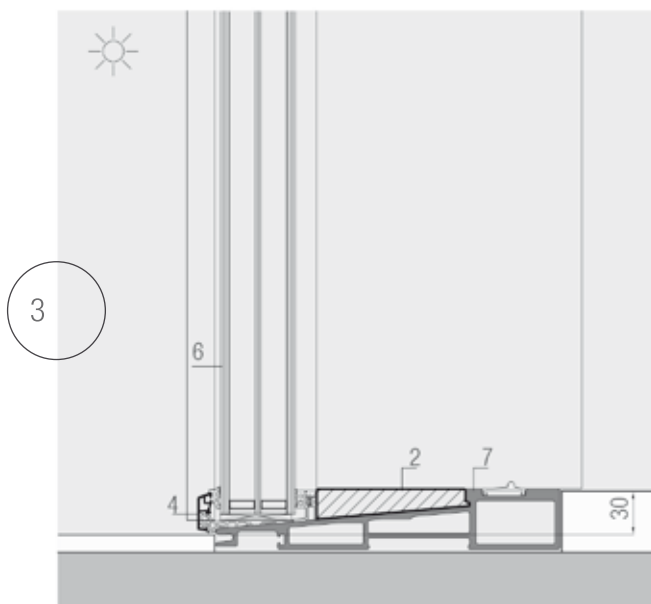
3 Aluminum profiles of the frame and the sash doubled with polyamide profiles, anodized or plastic coated in optional colors

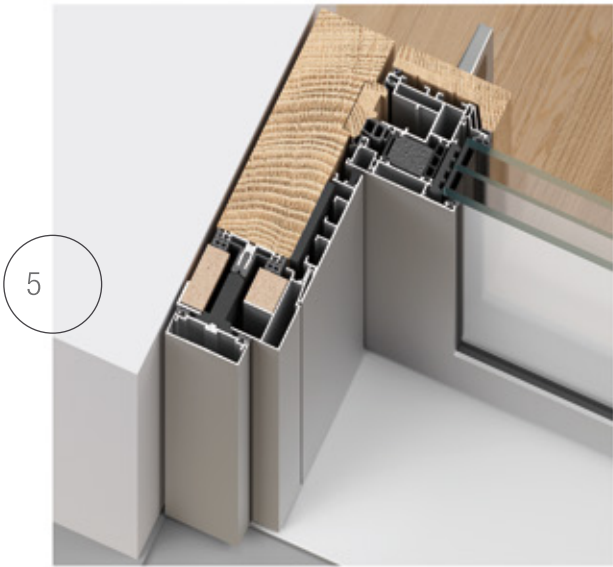
4 Aluminum profile anodized or plastic coated in optional colors

5 Aluminum profile anodized or plastic coated in optional colors

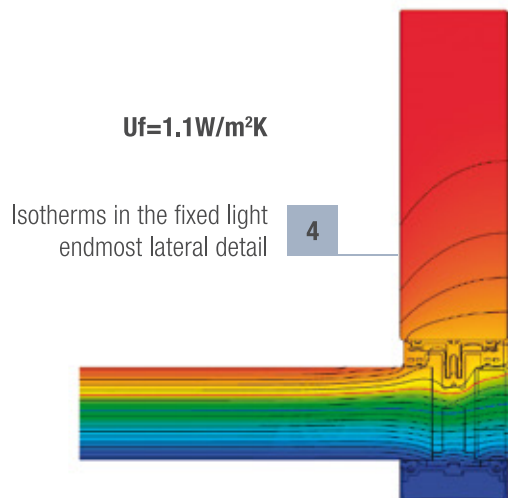
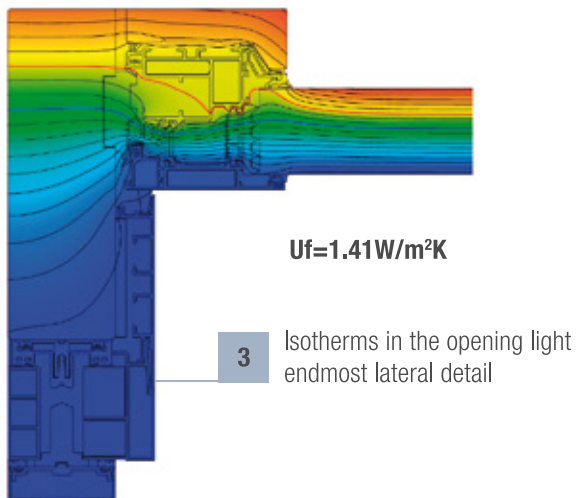
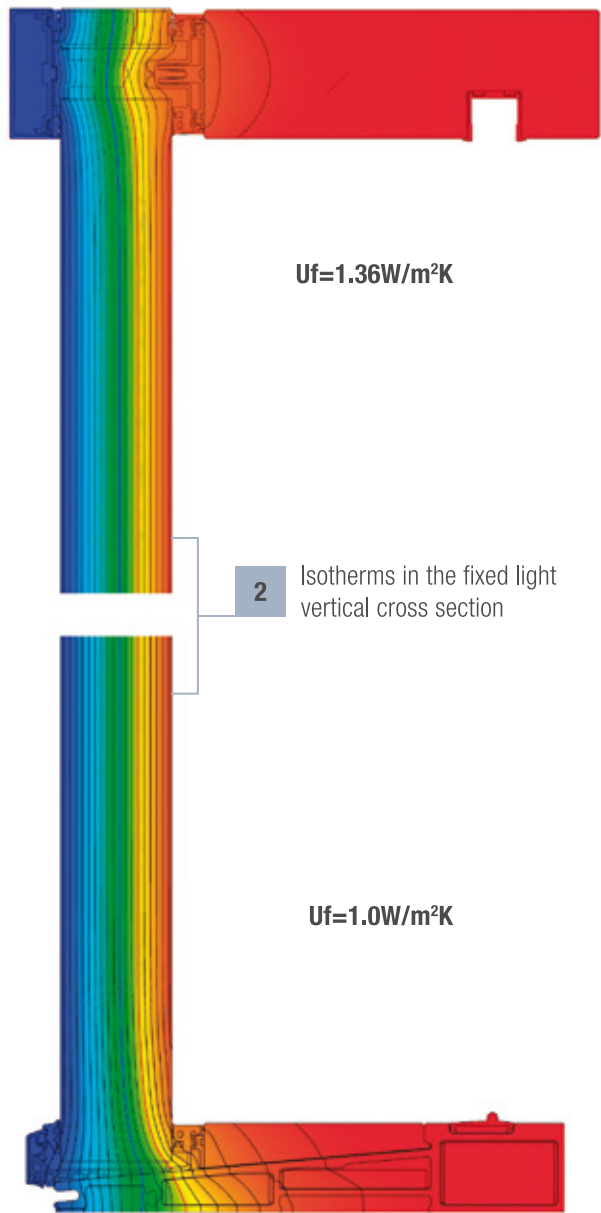
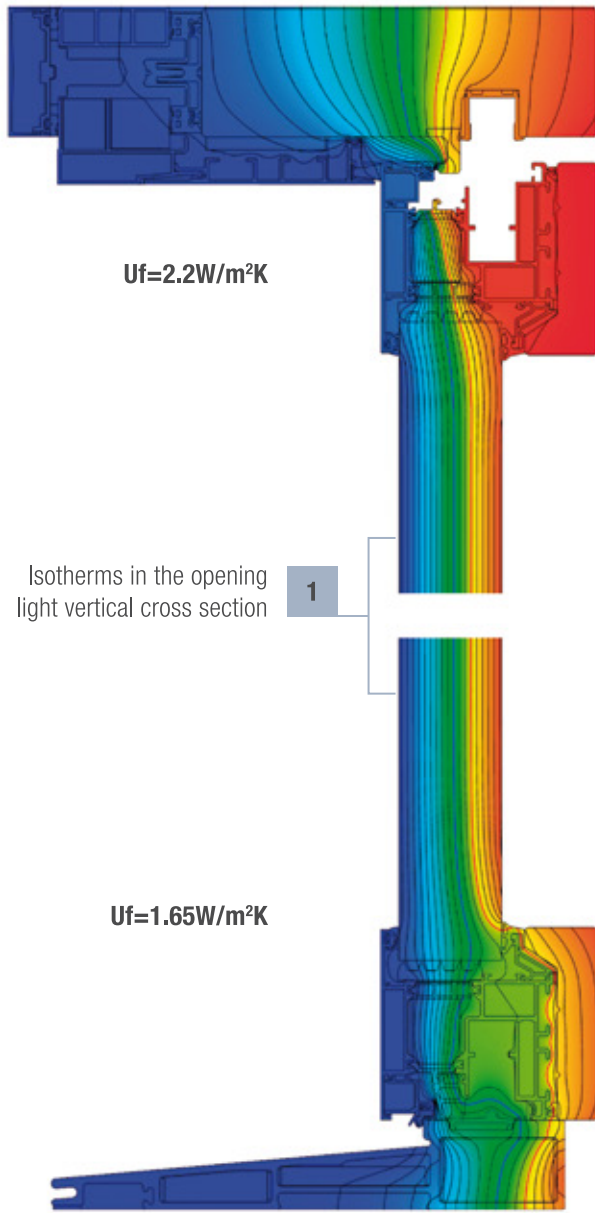
6 Triple thermal insulation glass, optional in terms of thickness, quality, color and reflection from the market assortment

7 Threshold profile made of fiberglass

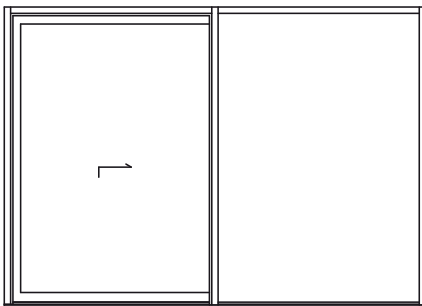




Thermal characteristics



Door scheme 1



Thermal conductivity coefficient U_w on the positions of specified dimensions with triple thermal insulation

$U_g=0.5W/m^2K$ with We spacer bars

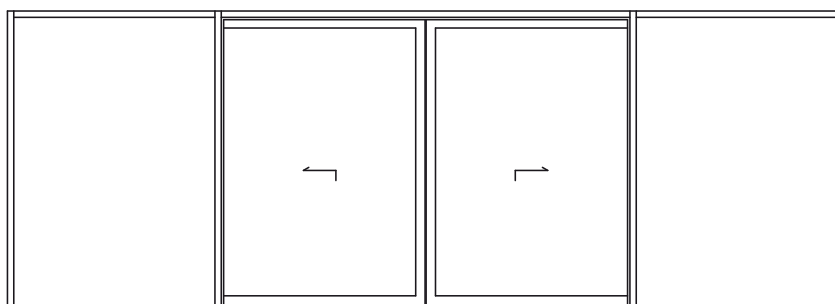
U_w (W/m^2K)		Height (mm)			
		2000	2200	2500	2800
Width (mm)	2000	0.85	0.85	0.85	0.85
	2500	0.81	0.81	0.81	0.80
	3000	0.78	0.78	0.78	0.77
	3500	0.76	0.77	0.76	0.75

Thermal conductivity coefficient U_w on the positions of specified dimensions with triple thermal insulation

$U_g=0.6W/m^2K$ with We spacer bars

U_w (W/m^2K)		Height (mm)			
		2000	2200	2500	2800
Width (mm)	2000	1.05	1.04	1.03	1.03
	2500	0.98	0.97	0.96	0.96
	3000	0.94	0.93	0.92	0.91
	3500	0.90	0.89	0.88	0.88

Door scheme 2



Thermal conductivity coefficient U_w on the positions of specified dimensions with triple thermal insulation

$U_g=0.5W/m^2K$ with We spacer bars

U_w (W/m^2K)		Height (mm)			
		2000	2200	2500	2800
Width (mm)	4000	1.03	1.02	1.01	1.00
	5000	0.98	0.97	0.95	0.94
	6000	0.94	0.93	0.91	0.90
	7000	0.91	0.90	0.89	0.87

Thermal conductivity coefficient U_w on the positions of specified dimensions with triple thermal insulation

$U_g=0.6W/m^2K$ with We spacer bars

U_w (W/m^2K)		Height (mm)			
		2000	2200	2500	2800
Width (mm)	4000	1.22	1.21	1.21	1.17
	5000	1.14	1.13	1.11	1.09
	6000	1.09	1.07	1.05	1.04
	7000	1.05	1.04	1.01	1.00

Wood color chart

Full wood

Interior wooden frames are firstly joined and then surfaced, color toned and finished with water based varnish. Color tones are chosen from the enclosed Vizus color chart, or according to a sample supplied by the customer.



Notes



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