





Eco System® 50 is a well-insulated system for windows and doors, that combines aesthetic design and energy efficiency with a moderate price. The system's HI+ variant achieves Uf values down to 1.6 W/m²K. The Uf of a frame/vent section with 86 mm visible width is 2.3 W/m²K.

The system's limited built-in depth allows its application in many constructions, even with reduced wall thicknesses. Design wise, ES 50 offers, next to the functional design frames, special block profiles resembling wooden frames. The use of invisible fittings results in an even more elegant look, since hinges are no longer in sight.

In addition, ES 50 can comply with burglar resistance class 2, offering a safe and secure solution both for residential constructions and utility buildings.





ES 50



Min. visible width inward opening window Frame Vent 48 mm Min. visible width outward opening window Frame 21 mm Min. visible width inward opening flush door Frame 67 mm Min. visible width outward opening flush door Frame 42 mm Min. visible width outward opening flush door Frame 42 mm Vent 99 mm Min. visible width T-profile 70 mm Overall system depth window Frame 50 mm Overall system depth flush door Overall system depth flush door To mm			l .
Min. visible width inward opening window Vent 30 mm Frame 21 mm Vent 87 mm Min. visible width inward opening flush door Min. visible width inward opening flush door Min. visible width outward opening flush door Min. visible width outward opening flush door Min. visible width T-profile Overall system depth window Overall system depth flush door Frame Vent 59 mm Vent 59 mm Vent 50 mm Vent 50 mm Glass thickness Up to 32 mm Glazing method Thermal insulation Overall system insulation Overagl system depth flush door Overagl system depth door Overagl system depth flush do	TECHNICAL CHARACTERISTICS		
Vent 30 mm	Min visible width inward energing window	Frame	48 mm
Min. visible width outward opening window Vent Vent Frame 67 mm Vent 74 mm Frame 42 mm Vent 99 mm Min. visible width outward opening flush door Went 70 mm Frame Overall system depth window Frame Vent Frame 50 mm Vent 59 mm Frame To mm Vent 59 mm Frame To mm Vent 59 mm Frame To mm Trame Tram	Mili. Visible width illward opening window	Vent	30 mm
Min. visible width inward opening flush door Frame 67 mm Min. visible width outward opening flush door Frame 42 mm Min. visible width T-profile 70 mm Min. visible width T-profile 70 mm Overall system depth window Frame 50 mm Overall system depth flush door Frame 50 mm Overall system depth flush door Frame 50 mm Rebate height 22 mm Glass thickness up to 32 mm Glazing method dry glazing with EPDM or neutral silicones Thermal insulation omega-shaped fibreglass reinforced polyamide strips (frame 26.3 mm - vent 22 mm)	Min. visible width outward opening window	Frame	21 mm
Min. visible width inward opening flush door Vent 74 mm Frame 42 mm Vent 99 mm Min. visible width T-profile 70 mm Overall system depth window 70 mm Frame 50 mm Overall system depth flush door 70 mm Frame 50 mm Vent 59 mm Frame 50 mm Overall system depth flush door 70 mm Frame 70 mm Frame 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Overall system depth flush door 70 mm Frame 70 mm Overall system depth flush door 70 mm Overall system depth flush door 70 mm Overall system depth flush door 70 mm Overall		Vent	87 mm
Went 74 mm Frame 42 mm Vent 99 mm Min. visible width outward opening flush door Min. visible width T-profile 70 mm Overall system depth window Overall system depth flush door Frame 50 mm Vent 59 mm Frame 50 mm Vent 50 mm Vent 50 mm Glass thickness up to 32 mm Glazing method dry glazing with EPDM or neutral silicones Omega-shaped fibreglass reinforced polyamide strips (frame 26.3 mm - vent 22 mm)	Min. visible width inward opening flush door	Frame	67 mm
Min. visible width outward opening flush door Vent 99 mm Min. visible width T-profile 70 mm Overall system depth window Overall system depth flush door Frame 50 mm Vent 59 mm Frame 50 mm Vent 50 mm Vent 50 mm Glass thickness up to 32 mm Glazing method dry glazing with EPDM or neutral silicones Omega-shaped fibreglass reinforced polyamide strips (frame 26.3 mm - vent 22 mm)		Vent	74 mm
Vent 99 mm Min. visible width T-profile 70 mm Overall system depth window Frame 50 mm Overall system depth flush door Frame 50 mm Vent 50 mm Vent 50 mm Rebate height 22 mm Glass thickness up to 32 mm Glazing method dry glazing with EPDM or neutral silicones Thermal insulation omega-shaped fibreglass reinforced polyamide strips (frame 26.3 mm - vent 22 mm)	Min. visible width outward opening flush door	Frame	42 mm
Overall system depth window Frame Vent 59 mm Frame 50 mm Overall system depth flush door Frame Frame 50 mm Vent 60 ass thickness up to 32 mm Glazing method dry glazing with EPDM or neutral silicones omega-shaped fibreglass reinforced polyamide strips (frame 26.3 mm - vent 22 mm)		Vent	99 mm
Overall system depth window Vent Frame Frame 50 mm Vent 50 mm Vent 50 mm Rebate height 22 mm Glass thickness Glazing method Thermal insulation Vent 50 mm Vent 60 mm Vent 60 mm Comparison Glazing method Comparison Comparison	Min. visible width T-profile		70 mm
Vent 59 mm Overall system depth flush door Frame 50 mm Rebate height 22 mm Glass thickness up to 32 mm Glazing method dry glazing with EPDM or neutral silicones Thermal insulation omega-shaped fibreglass reinforced polyamide strips (frame 26.3 mm - vent 22 mm)	Overall system depth window	Frame	50 mm
Overall system depth flush door Vent 50 mm Rebate height 22 mm Glass thickness up to 32 mm Glazing method dry glazing with EPDM or neutral silicones Thermal insulation omega-shaped fibreglass reinforced polyamide strips (frame 26.3 mm - vent 22 mm)		Vent	59 mm
Vent 50 mm Rebate height 22 mm Glass thickness up to 32 mm Glazing method dry glazing with EPDM or neutral silicones Thermal insulation omega-shaped fibreglass reinforced polyamide strips (frame 26.3 mm - vent 22 mm)	Overall system death flush deer	Frame	50 mm
Glass thickness up to 32 mm Glazing method dry glazing with EPDM or neutral silicones Thermal insulation omega-shaped fibreglass reinforced polyamide strips (frame 26.3 mm - vent 22 mm)	Overall system depth hush door	Vent	50 mm
Glazing method dry glazing with EPDM or neutral silicones Thermal insulation omega-shaped fibreglass reinforced polyamide strips (frame 26.3 mm - vent 22 mm)	Rebate height		22 mm
Thermal insulation omega-shaped fibreglass reinforced polyamide strips (frame 26.3 mm - vent 22 mm)	Glass thickness		up to 32 mm
Thermal insulation (frame 26.3 mm - vent 22 mm)	Glazing method		dry glazing with EPDM or neutral silicones
High Insulation Plus variant (HI+)	Thermal insulation		
	High Insulation Plus variant (HI+)	Available	

PERFORMANCES														
	ENERGY													
	Thermal Insulation (1) EN 10077-2	Uf-value down to 1.6 W/m²K depending on the frame/vent combination and the glass thickness												
	COMFORT													
	Acoustic performance ⁽²⁾ EN ISO 140-3; EN ISO 717-1	Rw (C; Ctr) = 35 (-1; -4) dB / 39 (-1; -3) dB, depending on glazing type												
	Air tightness, max. test pressure (3) EN 1026; EN 12207	1 (150 Pa)			2 (300 Pa)			3 (600 Pa)			4 (600 Pa)		a)	
	Water tightness ⁽⁴⁾ EN 1027; EN 12208	1A (0 Pa)	2A (50 Pa)	(100		4A (150 Pa)	5A (200 Pa)	6A (250 Pa)	7A (300 Pa)	8 (450	· ·	9 A 00 Pa)	E (750 Pa)	
	Wind load resistance, max. test pressure (5) EN 12211; EN 12210	1 (400 Pa)			2 0 Pa)	3 (1200 Pa)		4 (1600 Pa)		5 (2000 Pa)		Exxx (> 2000 Pa)		
	Wind load resistance to frame deflection ⁽⁵⁾ EN 12211; EN 12210	A (\$1/150)					B (≤1/200)				C (≤1/300)			
	SAFETY													
%	Burglar resistance ⁽⁶⁾ ENV 1627 - ENV 1630	RC 1					RC 2 (windows & doors)				RC 3			

This table shows classes and values of performances, which can be achieved for specific configurations and opening types.

- The Uf-value measures the heat flow. The lower the Uf-value, the better the thermal insulation of the frame.
 The sound reduction index (Rw) measures the capacity of the sound reduction performance of the frame.
 The air tightness test measures the volume of air that would pass through a closed window at a certain air pressure.
 The water tightness testing involves applying a uniform water spray at increasing air pressure until water penetrates the window.
 The wind load resistance is a measure of the profile's structural strength and is tested by applying increasing levels of air pressure to simulate the wind force. There are up to five levels of wind resistance (I to 5) and three deflection classes (A,B,C). The higher the number, the better the performance.
 The burden resistance is the stand diversible leafers will be five involved attempts to break in wind secretified tools.
- (6) The burglar resistance is tested by static and dynamic loads, as well as by simulated attempts to break in using specified tools.

