

Product Passport

Window system in accordance to EN 14 351-1 +A1



Purso Oy
 Alumiinitie 1
 FI-37200 Siuro, Finland
 Tel. +358 3 3404 111
 Fax +358 3 3404 500
 E-mail purso@purso.fi
 web www.purso.fi

System **LK90eco window**
LK75eco window

Product line Fixed glazing
 Inward opening windows
 Outward opening windows

Materials Aluminium: EN-AW 6063 T5
 Thermal breaks: polyamide + PU
 Gaskets: EPDM

Surface treatment Anodizing
 Powder coating

Glass/ infill panel thickness 14..73 mm

Frame depth 90 and 75 mm

Frame width 44 mm

Product standard (hEN):

EN 14 351-1:2006+A1:2010

Test reports:

11-000253-PB01
 11-000253-PB01
 11-000479-PR01
 11-000479-PR02
 11-000479-PR03
 11-000479-PR04
 11-000479-PR05
 12-002276-PR02
 12-003108-PR01
 12-003108-PR02
 12-003108-PR03
 12-003108-PR04
 12-003108-PR05
 13-003610-PR01
 13-003610-PR02
 12/07-A225-B1
 12/07-A225-K1
 12/07-A225-K2
 12/07-A225-K3
 12/07-A225-K4
 15/11-A466-B1
 H.E-148/10
 H.K-58/10
 L1-10-152
 QP103508
 18-17832-1581
 18-17832-1582

Properties/ Class *)

Resistance to fire (E / EI)	Smoke leakage (S)	Resistance to wind load	Watertightness	Dangerous substances
npd	npd	C5	9A	npd
Load-bearing capacity of safety devices	Acoustic performance R_w (C; C_{tr})	Thermal transmittance (U_w)	Radiation properties (g_w / τ_v)	Air permeability
npd	**) 46 (-1; -4) dB	**) $\geq 0,64$ W/m²K	**)	4
Burglar resistance ***)				
RC2				

*) Only tested/ calculated maximum values of the system for standard size window (1230x 1480 mm)

***) Declared value according to project

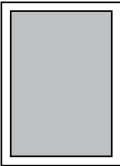
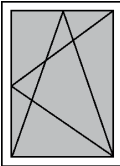
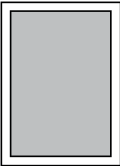
****) Openable window, special construction. Maximum size 810x1000mm
 Is not part of the CE marking. Does not belong in the standard EN 14351-1, table ZA.1.

Product Passport

Window system in accordance to EN 14 351-1 +A1

Purso Oy
 Alumiinitie 1
 FI-37200 Siuro, Finland
 Tel. +358 3 3404 111
 Fax +358 3 3404 500
 E-mail purso@purso.fi
 web www.purso.fi

Summary of system properties:

ref No. for hEN-standard	Name:	LK90eco window		LK75eco window	
		Description:			
Fixed or inward opening window			Outward opening window	Fixed or inward opening window	
-	Resistance to fire (E / EI)	npd		npd	
-	Smoke leakage (S)	npd		npd	
4.2	Resistance to wind load ¹⁾	C5 / B5 (≤1/300 / ≤1/200) (2000 Pa)		C4 / B4 (≤1/300 / ≤1/200) (1600 Pa)	
4.5	Watertightness ²⁾	9A	E1650	9A	
4.6	Dangerous substances	npd		npd	
4.8	Load-bearing capacity of safety devices ¹⁾	npd		npd	
4.11	Acoustic performance ³⁾	R_w 46dB	R_w+C 45dB	R_w+C_{tr} 42dB	R_w 45dB
4.12	Thermal transmittance ³⁾ (U_w)	fixed: ≥ 0,64 W/m ² K openable: ≥ 0,66 W/m ² K		fixed: ≥ 0,71 W/m ² K openable: ≥ 0,71 W/m ² K	
4.13	Radiation properties ³⁾ (g_w / τ_v)	3)		3)	
4.14	Air permeability ²⁾	4 (600 Pa)		4 (600 Pa)	
4.23	Burglar resistance ⁴⁾ EN 1627	RC2	npd	RC2	

NOTE! Values in the table apply for standard size window (1230x 1480 mm)

¹⁾ Element size ≤ 1,8 m²

²⁾ Element size ≤ 2,7 m²

³⁾ Values according to project are declared separately

⁴⁾ Openable window, special construction. Maximum size 810x1000mm

Is not part of the CE marking. Does not belong in the standard EN 14351-1, table ZA.1.

Product Passport

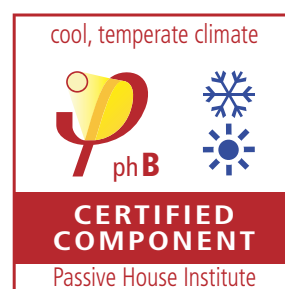
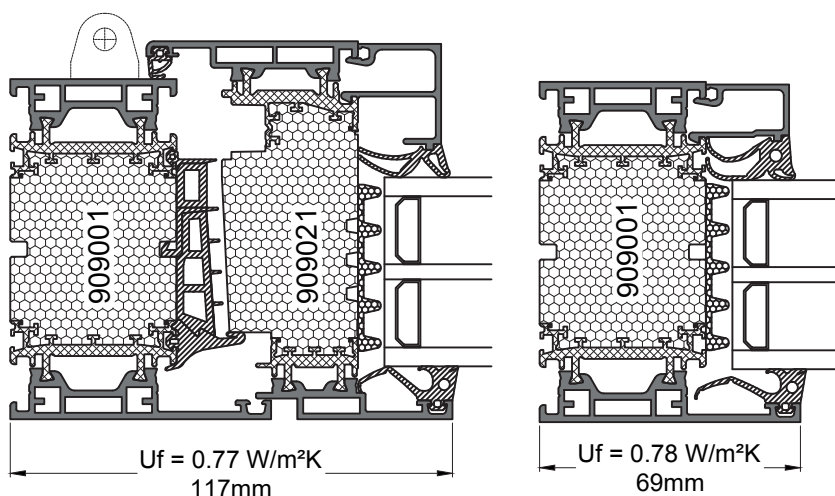
Window system in accordance to EN 14 351-1 +A1

Purso Oy
Alumiinitie 1
FI-37200 Siuro, Finland
Tel. +358 3 3404 111
Fax +358 3 3404 500
E-mail purso@purso.fi
web www.purso.fi

LK90eco window(1230 x1480 mm) U_w -values:

The thermal transmittance of the frames (U_f) are defined according to standard SFS-EN ISO 10077-2:2012

Tabulated U_w -values can be used, when total area of the window $\leq 2,3 \text{ m}^2$. Specific values according to project are declared separately.



Purso LK90eco	U_g [W/m²K]	U_w [W/m²K]
Opening window 3 layer glazing spacerswisspacer ULTIMATE 1230x 1480 mm	1,0	1,0
	0,70	0,80
	0,60	0,73
	0,50	0,66

Purso LK90eco	U_g [W/m²K]	U_w [W/m²K]
Fixed window 3 layer glazing spacers Swisspacer ULTIMATE 1230x 1480 mm	1,0	1,0
	0,70	0,80
	0,60	0,72
	0,50	0,64

Product Passport

Window system in accordance to EN 14 351-1 +A1

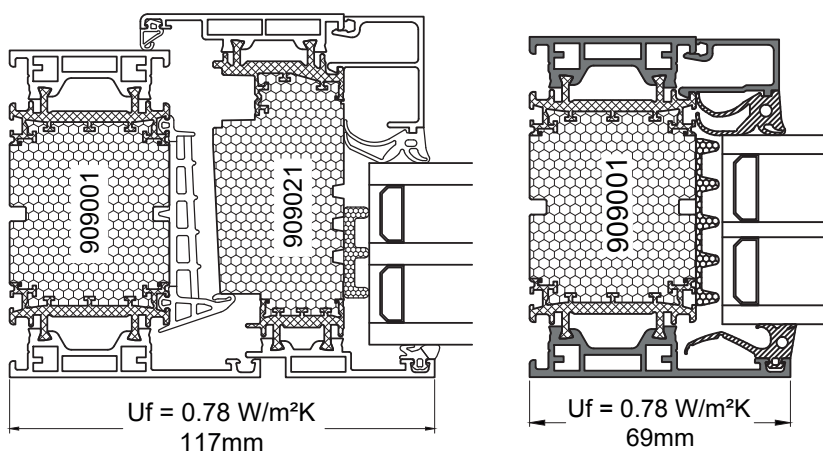
Purso Oy
 Alumiinitie 1
 FI-37200 Siuro, Finland
 Tel. +358 3 3404 111
 Fax +358 3 3404 500
 E-mail purso@purso.fi
 web www.purso.fi

LK90eco window(1230 x1480 mm) U_w -values:

The thermal transmittance of the frames (U_f) are defined according to standard SFS-EN ISO 10077-2:2012

Tabulated U_w -values can be used, when total area of the window $\leq 2,3$ m².

Specific values according to project are declared separately.



Purso LK90eco	U_g [W/m ² K]	U_w [W/m ² K]
Opening window 3 layer glazing TPS spacers 1230x 1480 mm	0,8	0,89
	0,7	0,82
	0,6	0,75
	0,53	0,70
	0,5	0,68
	0,48	0,67

Purso LK90eco	U_g [W/m ² K]	U_w [W/m ² K]
Fixed window 3 layer glazing TPS spacers 1230x 1480 mm	0,8	0,90
	0,7	0,82
	0,6	0,74
	0,53	0,69
	0,5	0,66
	0,48	0,65

Product Passport

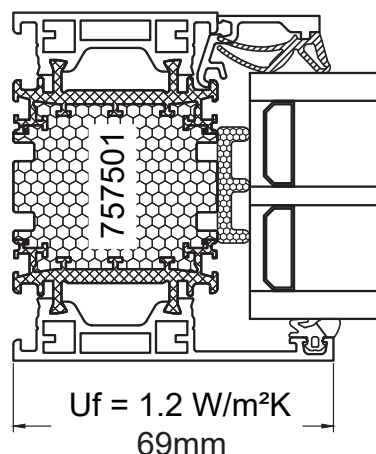
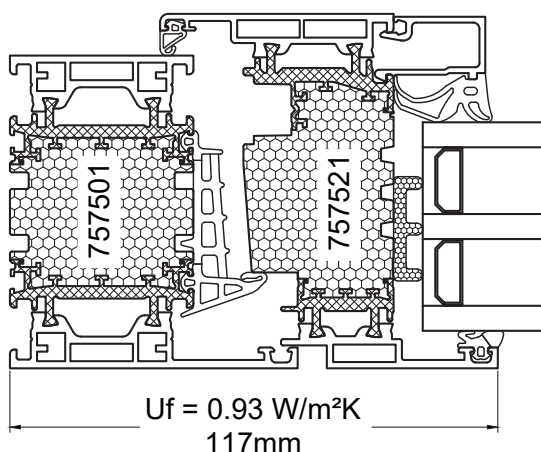
Window system in accordance to EN 14 351-1 +A1

Purso Oy
 Alumiinitie 1
 FI-37200 Siuro, Finland
 Tel. +358 3 3404 111
 Fax +358 3 3404 500
 E-mail purso@purso.fi
 web www.purso.fi

LK75eco window (1230x 1480 mm) U_w -values:

The thermal transmittance of the frames (U_f) are defined according to standard SFS-EN ISO 10077-2:2012

Tabulated U_w -values can be used, when total area of the window $\leq 2,3 \text{ m}^2$. Specific values according to project are declared separately.



Purso LK75eco openable window $U_f = 0,93 \text{ W/m}^2\text{K}$

	Glazing U_g -value [$\text{W/m}^2\text{K}$]					
	0,48	0,5	0,53	0,6	0,7	0,8
IGU spacers	Window U_w -arvo [$\text{W/m}^2\text{K}$]					
Swisspacer ULTIMATE	0,71	0,72	0,74	0,79	0,86	0,93
TPS	0,72	0,73	0,75	0,80	0,87	0,93

Purso LK75eco fixed window $U_f = 1,2 \text{ W/m}^2\text{K}$

	Glazing U_g -value [$\text{W/m}^2\text{K}$]					
	0,48	0,5	0,53	0,6	0,7	0,8
IGU spacers	Window U_w -arvo [$\text{W/m}^2\text{K}$]					
Swisspacer ULTIMATE	0,71	0,73	0,75	0,81	0,89	0,97
TPS	0,73	0,74	0,77	0,82	0,90	0,98

Product Passport

Window system in accordance to EN 14 351-1 +A1



Purso Oy
 Alumiinitie 1
 FI-37200 Siuro, Finland
 Tel. +358 3 3404 111
 Fax +358 3 3404 500
 E-mail purso@purso.fi
 web www.purso.fi

LK90eco and LK75eco Windows
 determination of sound insulation based on IGU data
 according to standard EN 14 351-1 annex B
 (for windows $R_w < 39$ dB or $R_w + C_{tr} < 35$ dB):

Terms:

R_w

Sound reduction index
 (the higher the R_w
 number, the better the
 sound insulation)

$R_w + C$

Jet aircraft noise,
 sounds of fast trains,
 industrial noise (high
 and mid frequency)

$R_w + C_{tr}$

City traffic noise,
 sounds of slow trains,
 industrial noise (low
 and mid frequency)

	IGU R_w [dB]								
	27	28	29	30	32	34	36	38	40
Total area of window	Window R_w [dB]								
$A \leq 2,7$ m ²	30	31	32	33	34	35	36	37	38
$2,7$ m ² < $A \leq 3,6$ m ²	29	30	31	32	33	34	35	36	37
$3,6$ m ² < $A \leq 4,6$ m ²	28	29	30	31	32	33	34	35	36
$4,6$ m ² < A	27	28	29	30	31	32	33	34	35

Window $R_w + C =$ window $R_w - 1$ dB

	IGU $R_w + C_{tr}$ [dB]								
	24	25	26	27	28	30	32	34	36
Total area of window	Window $R_w + C_{tr}$ [dB]								
$A \leq 2,7$ m ²	26	27	28	29	30	31	32	33	34
$2,7$ m ² < $A \leq 3,6$ m ²	25	26	27	28	29	30	31	32	33
$3,6$ m ² < $A \leq 4,6$ m ²	24	25	26	27	28	29	30	31	32
$4,6$ m ² < A	23	24	25	26	27	28	29	30	31

CE-marking example:

Total area of window (A) $1,5$ m x $2,0$ m = $3,0$ m², IGU $R_w = 36$ dB and $R_w + C_{tr} = 32$ dB.

From tabulated data:

Window: $R_w = 35$ dB

$R_w + C = 35$ dB - 1 dB = 34 dB

$R_w + C_{tr} = 31$ dB

CE-marking:

R_w (C; C_{tr})

35 (-1; -4) dB

Product Passport

Window system in accordance to EN 14 351-1 +A1

Purso Oy
 Alumiinitie 1
 FI-37200 Siuro, Finland
 Tel. +358 3 3404 111
 Fax +358 3 3404 500
 E-mail purso@purso.fi
 web www.purso.fi

LK90eco Windows, determination of sound insulation based on sound insulation testing
 (for windows $R_w \geq 39$ dB or $R_w + C_{tr} \geq 35$ dB):

Window type	Tested glazing	IGU performance		R_w [dB]	$R_w + C$ [dB]	$R_w + C_{tr}$ [dB]
		R_w	$R_w + C_{tr}$			
Inward opening	3k 6-14-4-14-4	36 dB	30 dB	38	35	31
Inward opening	3k 8-14-4-14-4	37 dB	31 dB	40	38	34
Inward opening	3k VSG8-14-4-14-6	43 dB	36 dB	43	40	36
Inward opening	3k VSG12-14-6-14 -VSG8	50 dB	44 dB	46	45	42

Values obtained from the tests can be used for window elements with different glazing if the performance of the used IGU is equivalent or better than tested.

Extrapolation of the test results for different size windows:

Properties	Total area of window			
	$A \leq 2,7$ m ²	$2,7$ m ² < $A \leq 3,6$ m ²	$3,6$ m ² < $A \leq 4,6$ m ²	$4,6$ m ² < A
$R_w, R_w + C$ and $R_w + C_{tr}$	- 0 dB	- 1 dB	- 2 dB	- 3 dB

LK75eco Windows, determination of sound insulation based on sound insulation testing
 (for windows $R_w \geq 39$ dB or $R_w + C_{tr} \geq 35$ dB):

Window type	Tested glazing	IGU performance		R_w [dB]	$R_w + C$ [dB]	$R_w + C_{tr}$ [dB]
		R_w	$R_w + C_{tr}$			
Inward opening	3k 6-16-4-16-4	36 dB	30 dB	39	37	32
Inward opening	3k 8-16-4-16-4	37 dB	31 dB	41	39	35
Inward opening	3k 8.2L-16-4-16-6	43 dB	36 dB	42	40	37
Inward opening	2k 14.2L-24-8.2L	52 dB	46 dB	45	44	42

Values obtained from the tests can be used for window elements with different glazing if the performance of the used IGU is equivalent or better than tested.

Extrapolation of the test results for different size windows:

Properties	Total area of window			
	$A \leq 2,7$ m ²	$2,7$ m ² < $A \leq 3,6$ m ²	$3,6$ m ² < $A \leq 4,6$ m ²	$4,6$ m ² < A
$R_w, R_w + C$ and $R_w + C_{tr}$	- 0 dB	- 1 dB	- 2 dB	- 3 dB