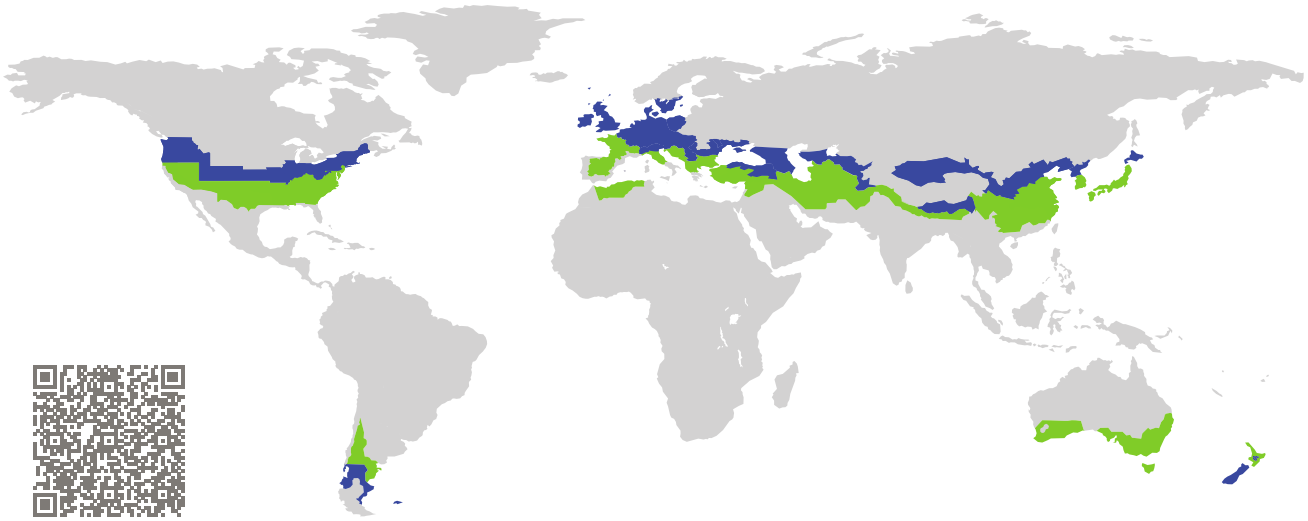
CERTIFICATE

Certified Passive House Component

Component-ID 1270ws03 valid until 31st December 2025

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany



Category:	**Window system**
Manufacturer:	**Wescon Cedar Products Ltd., Duncan, Canada**
Product name:	**106mm Wood-Alu Window**

This certificate was awarded based on the following criteria for the cool, temperate climate zone

Comfort	U_W = 0.80	≤	0.80 W/(m² K)
	$U_{W,\text{installed}}$	≤	0.85 W/(m² K)
	with U_g	=	0.70 W/(m² K)
Hygiene	$f_{Rsi=0.25}$	≥	0.70
Airtightness	Q_{100} = 0.22	≤	0.25 m³/(h m)

cool, temperate climate

phB

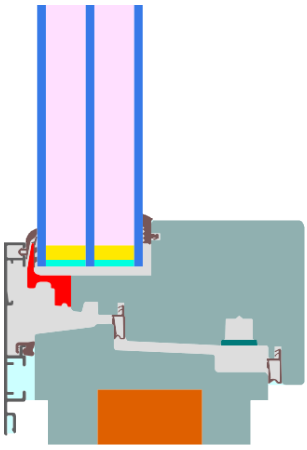
CERTIFIED COMPONENT

Passive House Institute

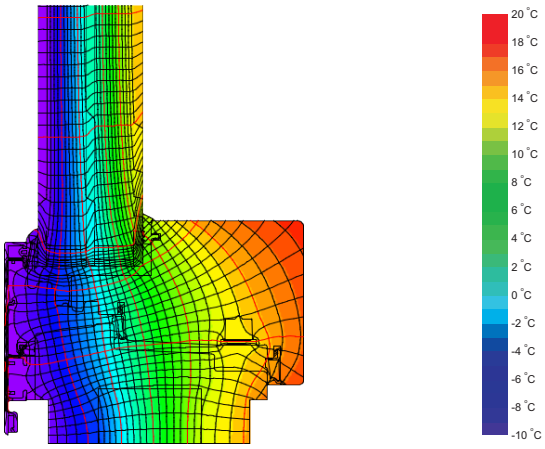
Passive House efficiency class	phE	phD	phC	phB	phA

www.passivehouse.com

Wescon Cedar Products Ltd.
5120 Polkey Road, V9L 6W3 Duncan, Canada
☎ +1-250-748-5234 | ✉ braden@fensturwindows.com | http://www.fensturwindows.com |



Calculation model



Isothermal

Description

Timber-aluminium frame with cork insulation (0,045 W/(mK)). The required temperature factor is not met at the threshold. The airtightness testing was undertaken for a window with two sidelights and toplight (3660mmx 2900mm), as well as for a balcony door (1200mm x 2430mm); the required air tightness standard is not met for the balcony door. Glazing 4/18/4/18/4; glass intersection: 16mm; spacer: Superspacer Premium; secondary seal: butyl.

Explanation

The window U-values were calculated for the test window size of 2.46 m × 1.48 m with U_g = 0.70 W/(m^2 K). If a higher quality glazing is used, the window U-values will improve as follows:

Glazing	U_g =	0.70	0.64	0.58	0.52	W/(m^2 K)
		↓	↓	↓	↓	
Window	U_W =	0.80	0.75	0.71	0.66	W/(m^2 K)

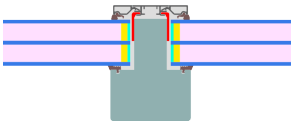
Transparent building components are classified into efficiency classes depending on the heat losses through the opaque part. The frame U-Values, frame widths, thermal bridges at the glazing edge, and the glazing edge lengths are included in these heat losses. A more detailed report of the calculations performed in the context of certification is available from the manufacturer.
The Passive House Institute has defined international component criteria for seven climate zones. In principle, components which have been certified for climate zones with higher requirements may also be used in climates with less stringent requirements. In a particular climate zone it may make sense to use a component of a higher thermal quality which has been certified for a climate zone with more stringent requirements.

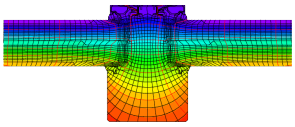
Further information relating to certification
can be found on www.passivehouse.com and passipedia.org.

Frame values		Frame width b_f mm	U-value frame U_f W/(m² K)	Ψ-glazing edge Ψ_g W/(m K)	Temp. Factor $f_{Rsi=0.25}$ [-]
Mullion fixed	(0M1)	84	0.87	0.019	0.74
Transom fixed	(0T1)	84	0.87	0.019	0.74
Mullion 1 casement	(1M1)	135	0.89	0.020	0.71
Transom 1 casement	(1T1)	135	0.89	0.020	0.71
Bottom fixed	(FB1)	82	0.87	0.020	0.71
Top fixed	(FH1)	82	0.85	0.020	0.71
Lateral fixed	(FJ1)	82	0.85	0.020	0.71
Flying Mullion	(FM1)	126	0.92	0.020	0.72
Bottom	(OB1)	102	0.89	0.020	0.71
Top	(OH1)	102	0.86	0.020	0.71
Lateral	(OJ1)	102	0.86	0.020	0.71
Threshold	(OT4)	158	1.30	0.021	0.55
Spacer: Super Spacer Premium				Secondary seal: Butyl	

Mullion
fixed

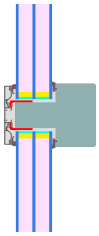
b_f = 84 mm
U_f = 0.87 W/(m² K)
Ψ_g = 0.019 W/(m K)
f_{Rsi} = 0.74

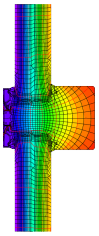




Transom
fixed

b_f = 84 mm
U_f = 0.87 W/(m² K)
Ψ_g = 0.019 W/(m K)
f_{Rsi} = 0.74





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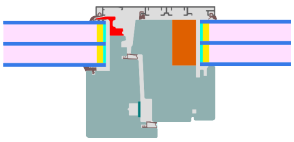
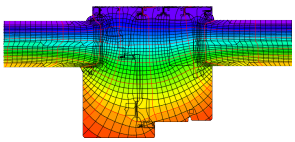
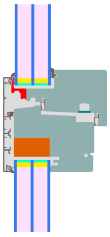
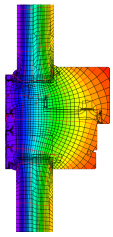
Mullion
1 casement

b_f = 135 mm
U_f = 0.89 W/(m² K)
Ψ_g = 0.020 W/(m K)
f_{Rsi} = 0.71

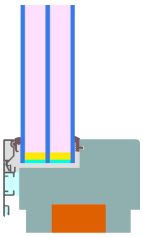
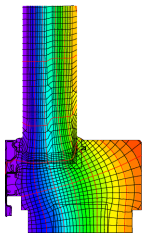
Transom
1 casement

b_f = 135 mm
U_f = 0.89 W/(m² K)
Ψ_g = 0.020 W/(m K)
f_{Rsi} = 0.71

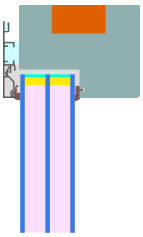
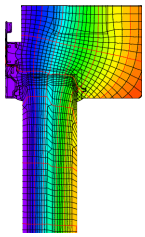
Bottom
fixed

b_f = 82 mm
U_f = 0.87 W/(m² K)
Ψ_g = 0.020 W/(m K)
f_{Rsi} = 0.71

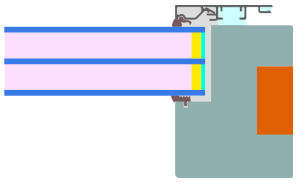
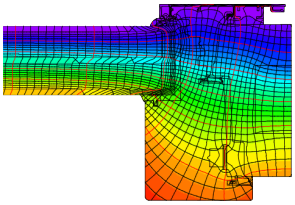
Top
fixed

b_f = 82 mm
U_f = 0.85 W/(m² K)
Ψ_g = 0.020 W/(m K)
f_{Rsi} = 0.71

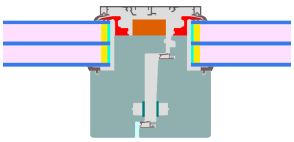
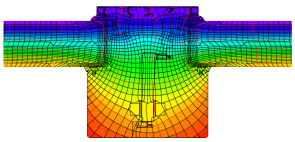
Lateral
fixed

b_f = 82 mm
U_f = 0.85 W/(m² K)
Ψ_g = 0.020 W/(m K)
f_{Rsi} = 0.71

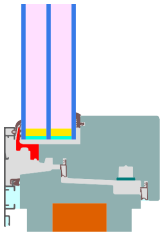
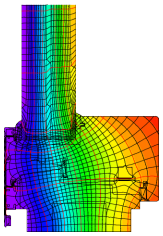
Flying Mullion

b_f = 126 mm
U_f = 0.92 W/(m^2 K)
Ψ_g = 0.020 W/(m K)
f_{Rsi} = 0.72

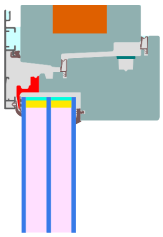
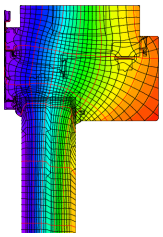
Bottom

b_f = 102 mm
U_f = 0.89 W/(m^2 K)
Ψ_g = 0.020 W/(m K)
f_{Rsi} = 0.71

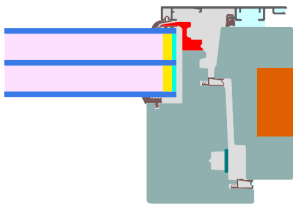
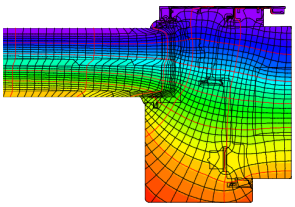
Top

b_f = 102 mm
U_f = 0.86 W/(m^2 K)
Ψ_g = 0.020 W/(m K)
f_{Rsi} = 0.71

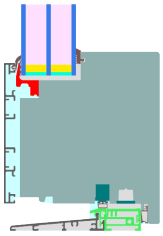
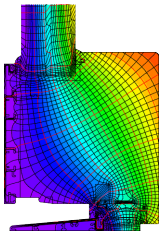
Lateral

b_f = 102 mm
U_f = 0.86 W/(m^2 K)
Ψ_g = 0.020 W/(m K)
f_{Rsi} = 0.71

Threshold

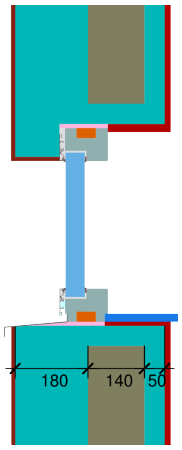
b_f = 158 mm
U_f = 1.30 W/(m^2 K)
Ψ_g = 0.021 W/(m K)
f_{Rsi} = 0.55

Validated installations

Formwork blocks (fixed)

U_{Wall} = 0.15 W/(m² K)

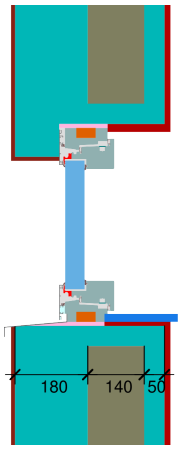


$\Psi_{install}$	W/(m K)
Top	0.002
Left	0.002
Right	0.002
Bottom	0.016

$U_{W,installed}$ = 0.81 W/(m² K)

Formwork blocks (operable)

U_{Wall} = 0.15 W/(m² K)

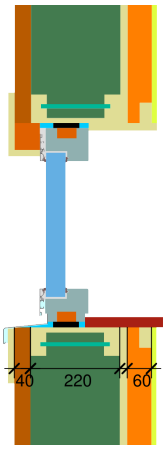


$\Psi_{install}$	W/(m K)
Top	0.003
Left	0.003
Right	0.003
Bottom	0.016

$U_{W,installed}$ = 0.81 W/(m² K)

Lightweight timber (fixed glazed)

U_{Wall} = 0.13 W/(m² K)

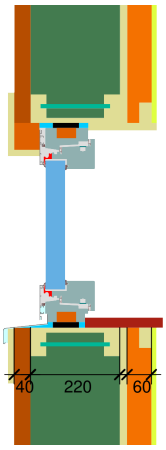


$\Psi_{install}$	W/(m K)
Top	0.014
Left	0.014
Right	0.014
Bottom	0.029

$U_{W,installed}$ = 0.84 W/(m² K)

Lightweight timber (operable)

U_{Wall} = 0.13 W/(m² K)

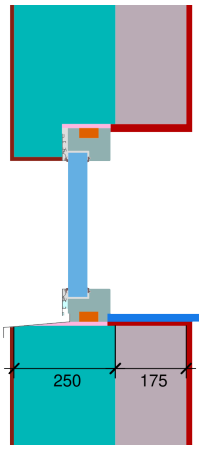


$\Psi_{install}$	W/(m K)
Top	0.015
Left	0.015
Right	0.015
Bottom	0.029

$U_{W,installed}$ = 0.84 W/(m² K)

Exterior insulation and finishing system (EIFS) (fixed glazed)

U_{Wall} = 0.13 W/(m² K)

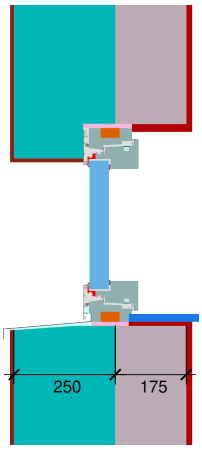


$\Psi_{install}$	W/(m K)
Top	0.000
Left	0.000
Right	0.000
Bottom	0.013

$U_{W,installed}$ = 0.81 W/(m² K)

Exterior insulation and finishing system (EIFS) (operable)

U_{Wall} = 0.13 W/(m² K)

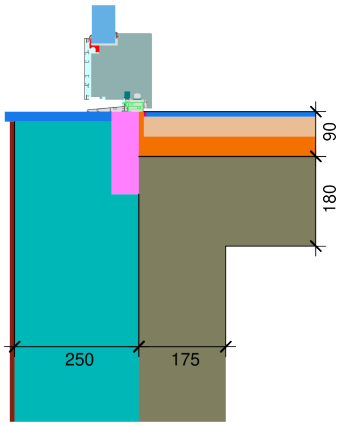


$\Psi_{install}$	W/(m K)
Top	0.011
Left	0.011
Right	0.011
Bottom	0.032

$U_{W,installed}$ = 0.83 W/(m² K)

Exterior insulation and finishing s. (EIFS)
bottom (operable)

U_1 = 0.14 [W/(m^2 K)]



$\Psi_{install}$ = 0.08 W/(m K)

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