

Calculation based on ISO 10077-2, EN 673, EN 410

Product name: **Alpen Tyrol Fixed**

ASHRAE/IECC /DOE North American Climate Zone	North, East, West - facing
South-facing	

Center-of-glass properties



Alpen Balanced-6 No Grids

Climate specific recommendations:

		Whole-window installed U-value	U _{cog} -Value		
		W/m ² K	BTU/hr.ft ² .F	SHGC	BTU/hr.ft ² .F
8		0.92	0.16	0.369	0.644
7		0.90	0.16	0.369	0.617
6		0.90	0.16	0.369	0.614
5		0.90	0.16	0.369	0.616
4		0.90	0.16	0.369	0.620
Marine North	✓	0.91	0.16	0.369	0.623
Marine South	✓	0.91	0.16	0.369	0.628
3	✓	0.91	0.16	0.369	0.625
2 West		0.92	0.16	0.369	0.639
2 East		0.92	0.16	0.369	0.639
					0.113

Alpen Tyrol Fixed
Allmetal 250P Hi-Q Steel

	FRAME				Psi-spacer		Psi-opaque	
	Frame height		U-frame		Ψ	W/mK	BTU/hr.ft.F	W/mK
	mm	in	W/m2K	BTU/hr.ft2.F				
Head	74	2.91	0.88	0.16	0.057	0.033	0.126	
Sill	74	2.91	0.88	0.16	0.057	0.033	BTU/hr.ft.F	
left jamb	74	2.91	0.88	0.16	0.057	0.033	0.073	
right jamb	74	2.91	0.88	0.16	0.057	0.033	Grade B	

Valid through January 2021

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Product name: Alpen Tyrol TT		Center-of-glass properties					
ASHRAE/IECC /DOE North American Climate Zone	North, East, West - facing	PHIUS		Alpen HighGain-6 No Grids			
		Whole-window installed U-value				Ucog-Value	
Climate specific recommendations:		W/m2K	BTU/hr.ft2.F	SHGC		W/m2K	
		8	1.05	0.18	0.526	0.739	0.130
		7	1.04	0.18	0.526	0.722	0.127
		6	1.03	0.18	0.526	0.717	0.126
		5	1.04	0.18	0.526	0.719	0.127
		4	1.04	0.18	0.526	0.724	0.128
		Marine North	1.04	0.18	0.526	0.728	0.128
		Marine South	1.05	0.18	0.526	0.735	0.129
		3	1.04	0.18	0.526	0.731	0.129
		2 West	1.06	0.19	0.526	0.749	0.132
		2 East	1.06	0.19	0.526	0.749	0.132
Alpen Tyrol TT		FRAME				Psi-spacer	
		Frame height		U-frame		Ψ	
		mm	in	W/m2K	BTU/hr.ft2.F		
		Head	115	4.54	0.97	0.066	0.038
		Sill	115	4.54	0.97	0.066	0.038
		left jamb	115	4.54	0.96	0.066	0.038
		right jamb	115	4.54	0.96	0.066	0.038
						Grade C	0.188
						BTU/hr.ft.F	0.109
						W/mK	0.038

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Product name: **Alpen Tyrol Fixed**

ASHRAE/IECC /DOE North American Climate Zone	South-facing	North, East, West - facing
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Center-of-glass properties

Alpen HighGain-6 Pro Krypton No Grids

Climate specific recommendations:

		W/m2K	BTU/hr.ft2.F	SHGC	Ucog-Value	BTU/hr.ft2.F
8		0.94	0.17	0.515	0.670	0.118
7		0.92	0.16	0.515	0.638	0.112
6		0.88	0.15	0.515	0.589	0.104
5		0.87	0.15	0.515	0.575	0.101
4	✓	0.84	0.15	0.515	0.545	0.096
Marine North	✓	0.82	0.15	0.515	0.520	0.092
Marine South		0.79	0.14	0.515	0.478	0.084
3		0.81	0.14	0.515	0.502	0.088
2 West		0.80	0.14	0.515	0.488	0.086
2 East		0.80	0.14	0.515	0.488	0.086

Alpen Tyrol Fixed Allmetal 250P Hi-Q Steel	FRAME				Psi-spacer		Psi-opaque
	Frame height		U-frame		W/mK	BTU/hr.ft.F	W/mK
	mm	in	W/m2K	BTU/hr.ft2.F			
Head	74	2.91	0.88	0.16	0.057	0.033	0.126
Sill	74	2.91	0.88	0.16	0.057	0.033	BTU/hr.ft.F
left jamb	74	2.91	0.88	0.16	0.057	0.033	0.073
right jamb	74	2.91	0.88	0.16	0.057	0.033	Grade B

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Product name: **Alpen Tyrol TT**

ASHRAE/IECC
/DOE North
American
Climate Zone

North,
East,
West -
facing
South-
facing



Center-of-glass properties

Alpen HighGain-6 Pro Krypton No
Grids

Climate specific recommendations:

		Whole-window installed U-value	U _{cog} -Value		
		W/m ² K	BTU/hr.ft ² .F	SHGC	BTU/hr.ft ² .F
8		1.01	0.18	0.515	0.670
7		0.98	0.17	0.515	0.638
6		0.95	0.17	0.515	0.589
5		0.94	0.17	0.515	0.575
4		0.92	0.16	0.515	0.545
Marine North	✓	0.90	0.16	0.515	0.520
Marine South		0.87	0.15	0.515	0.478
3		0.89	0.16	0.515	0.502
2 West		0.88	0.16	0.515	0.488
2 East		0.88	0.16	0.515	0.488

Alpen Tyrol TT
Allmetal 250P Hi-Q Steel

	FRAME				Psi-spacer	Psi-opaque
	Frame height		U-frame		Ψ	W/mK
	mm	in	W/m ² K	BTU/hr.ft ² .F		
Head	115	4.54	0.97	0.17	0.067	0.039
Sill	115	4.54	0.97	0.17	0.067	0.039
left jamb	115	4.54	0.96	0.17	0.067	0.039
right jamb	115	4.54	0.96	0.17	0.067	0.039

Valid through January 2021