


# ZR-9 Series Fixed High Profile Balanced-9


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

Product name: <b>ALPEN 925 High Performance Fixed</b>				Center-of-glass properties				
ASHRAE/IECC /DOE North American Climate Zone	North, East, West - facing	South-facing						
			Alpen HPP 925-9L No Grids					
Climate specific recommendations:			Whole-window installed U-value		Ucog-Value			
			W/m2K	BTU/hr.ft2.F	SHGC	W/m2K	BTU/hr.ft2.F	
8			0.75	0.13	0.333	0.428	0.075	
7			0.75	0.13	0.333	0.427	0.075	
6		✓	0.76	0.13	0.333	0.433	0.076	
5		✓	0.76	0.13	0.333	0.434	0.076	
4		✓	0.76	0.13	0.333	0.437	0.077	
Marine North		✓	0.76	0.13	0.333	0.439	0.077	
Marine South	✓		0.77	0.13	0.333	0.442	0.078	
3	✓		0.76	0.13	0.333	0.440	0.078	
2 West			0.77	0.14	0.333	0.450	0.079	
2 East			0.77	0.14	0.333	0.450	0.079	
ALPEN 925 High Performance Allmetal 250P SST	FRAME				Psi-spacer		Psi-opaque	
	Frame height		U-frame		Ψ		W/mK	
	mm	in	W/m2K	BTU/hr.ft2.F	W/mK	BTU/hr.ft.F		
	Head	72	2.83	0.92	0.16	0.056	0.032	0.126
	Sill	72	2.83	0.92	0.16	0.056	0.032	BTU/hr.ft.F
left jamb	72	2.83	0.92	0.16	0.056	0.033	0.073	
right jamb	72	2.83	0.92	0.16	0.056	0.033	Grade B	

Valid through October 2018

# ZR-9 Series Fixed High Profile HighGain-9


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

Product name: <b>ALPEN 925 High Performance Fixed</b>				Center-of-glass properties				
ASHRAE/IECC /DOE North American Climate Zone		North, East, West - facing South-facing		 Alpen HPP 925-9H No Grids				
Climate specific recommendations:				Whole-window installed U-value		Ucog-Value		
				W/m2K	BTU/hr.ft2.F	SHGC	W/m2K	BTU/hr.ft2.F
8		0.79	0.14	0.478	0.478	0.084		
7		0.80	0.14	0.478	0.482	0.085		
6		0.80	0.14	0.478	0.488	0.086		
5	<input checked="" type="checkbox"/>	0.80	0.14	0.478	0.490	0.086		
4		0.80	0.14	0.478	0.493	0.087		
Marine North		0.81	0.14	0.478	0.495	0.087		
Marine South	<input checked="" type="checkbox"/>	0.81	0.14	0.478	0.495	0.087		
3	<input checked="" type="checkbox"/>	0.81	0.14	0.478	0.497	0.088		
2 West		0.82	0.14	0.478	0.509	0.090		
2 East		0.82	0.14	0.478	0.509	0.090		
ALPEN 925 High Performance Allmetal 250P SST		FRAME				Psi-spacer		Psi-opaque
		Frame height		U-frame		Ψ		W/mK
mm	in	W/m2K	BTU/hr.ft2.F	W/mK	BTU/hr.ft.F			
Head	72	2.83	0.92	0.16	0.055	0.032	0.126	
Sill	72	2.83	0.92	0.16	0.055	0.032	BTU/hr.ft.F	
left jamb	72	2.83	0.92	0.16	0.056	0.032	0.073	
right jamb	72	2.83	0.92	0.16	0.056	0.032	Grade B	

Valid through October 2018

# ZR-9 Series Casement/Awning Balanced-9


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

Product name: <b>ALPEN 925 High Performance Casement</b>				Center-of-glass properties				
ASHRAE/IECC /DOE North American Climate Zone	South- facing	North, East, West - facing						
			Alpen HPP 925-9L No Grids					
<b>Climate specific recommendations:</b>			Whole-window installed U-value		<b>Ucog-Value</b>			
			W/m2K	BTU/hr.ft2.F	<b>SHGC</b>	W/m2K	BTU/hr.ft2.F	
8			0.80	0.14	0.333	0.428		
7			0.80	0.14	0.333	0.427		
6			0.81	0.14	0.333	0.433		
5		✓	0.81	0.14	0.333	0.434		
4		✓	0.81	0.14	0.333	0.437		
Marine North		✓	0.81	0.14	0.333	0.439		
Marine South	✓		0.81	0.14	0.333	0.442		
3	✓		0.81	0.14	0.333	0.440		
2 West			0.82	0.14	0.333	0.450		
2 East			0.82	0.14	0.333	0.450		
<b>ALPEN 925 High Performance Allmetal 250P SST</b>	<b>FRAME</b>				<b>Psi-spacer</b>		<b>Psi-opaque</b>	
	Frame height		U-frame		$\Psi$		W/mK	
	mm	in	W/m2K	BTU/hr.ft2.F	W/mK	BTU/hr.ft.F		
	Head	73	2.86	1.17	0.21	0.054	0.031	0.145
	Sill	73	2.86	1.17	0.21	0.055	0.032	BTU/hr.ft.F
left jamb	73	2.86	1.16	0.21	0.055	0.032	0.084	
right jamb	73	2.86	1.16	0.21	0.055	0.032	Grade B	

Valid through October 2018

# ZR-9 Series Casement/Awning HighGain-9

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

Product name: <b>ALPEN 925 High Performance Casement</b>				Center-of-glass properties					
ASHRAE/IECC /DOE North American Climate Zone		North, East, West - facing South-facing							
				Alpen HPP 925-9H No Grids					
Climate specific recommendations:				Whole-window installed U-value		Ucog-Value			
				W/m2K	BTU/hr.ft2.F	SHGC	W/m2K	BTU/hr.ft2.F	
8				0.84	0.15	0.478	0.478	0.084	
7				0.84	0.15	0.478	0.482	0.085	
6				0.85	0.15	0.478	0.488	0.086	
5				0.85	0.15	0.478	0.490	0.086	
4				0.85	0.15	0.478	0.493	0.087	
Marine North				0.85	0.15	0.478	0.495	0.087	
Marine South		✓		0.85	0.15	0.478	0.495	0.087	
3		✓		0.85	0.15	0.478	0.497	0.088	
2 West				0.86	0.15	0.478	0.509	0.090	
2 East				0.86	0.15	0.478	0.509	0.090	
ALPEN 925 High Performance Allmetal 250P SST		FRAME				Psi-spacer		Psi-opaque	
		Frame height		U-frame		Ψ		W/mK	
		mm	in	W/m2K	BTU/hr.ft2.F	W/mK	BTU/hr.ft.F		
		Head	73	2.86	1.17	0.21	0.053	0.031	0.144
		Sill	73	2.86	1.17	0.21	0.054	0.031	BTU/hr.ft.F
left jamb	73	2.86	1.16	0.20	0.054	0.031	0.083		
right jamb	73	2.86	1.16	0.20	0.054	0.031	Grade B		

Valid through October 2018