



Calculation based on ISO 15099

Product name: Universal Fixed Window Exterior Glazed				Center-of-glass properties		
ASHRAE/IECC /DOE North American Climate Zone	North, East, South- facing West - facing			Cardinal E366/ Arg/ Clear/ Arg/ E180 (6mm) 44,0mm 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		0.89	0.16	0.239	0.710	0.125
7		0.87	0.15	0.239	0.693	0.122
6		0.86	0.15	0.239	0.681	0.120
5		0.86	0.15	0.239	0.680	0.120
4		0.86	0.15	0.239	0.679	0.120
Marine North		0.86	0.15	0.239	0.679	0.120
Marine South	✓	0.86	0.15	0.239	0.679	0.120
3	✓	0.86	0.15	0.239	0.680	0.120
2 West	✓	0.87	0.15	0.239	0.686	0.121
2 East	✓	0.87	0.15	0.239	0.686	0.121
Universal Fixed Window Exterior Cardinal Endur		FRAME		Psi-spacer		Psi-opaque
		Frame height		Ψ		W/mK
		mm	in	W/m2K	BTU/hr.ft2.F	
Head		58	2.27	0.98	0.17	0.021
Sill		58	2.27	0.98	0.17	0.012
left jamb		58	2.27	0.99	0.17	0.012
right jamb		58	2.27	0.99	0.17	0.012


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Product name: Universal Fixed Window Exterior Glazed				Center-of-glass properties		
ASHRAE/IECC /DOE North American Climate Zone	South- facing	North, East, West - facing			Cardinal E366/ Arg/ Clear/ Arg/ E180 (6mm) 44,0mm SDL/no Internal grids 	


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Product name: Universal Fixed Window Exterior Glazed				Center-of-glass properties				
ASHRAE/IECC /DOE North American Climate Zone	North, East, West - facing	South-facing		Cardinal E366/ Arg/ Clear/ Arg/ E180 (6mm) 44,0mm Internal grids And SDL with Internal grids < 25.4mm maintain 3mm clearance				
Climate specific recommendations:			Whole-window installed U-value		Ucog-Value			
			W/m2K	BTU/hr.ft2.F	SHGC	W/m2K	BTU/hr.ft2.F	
8			0.89	0.16	0.211	0.710	0.125	
7			0.87	0.15	0.211	0.693	0.122	
6			0.86	0.15	0.211	0.681	0.120	
5			0.86	0.15	0.211	0.680	0.120	
4		✓	0.86	0.15	0.211	0.679	0.120	
Marine North		✓	0.86	0.15	0.211	0.679	0.120	
Marine South	✓	✓	0.86	0.15	0.211	0.679	0.120	
3	✓	✓	0.86	0.15	0.211	0.680	0.120	
2 West	✓	✓	0.87	0.15	0.211	0.686	0.121	
2 East	✓	✓	0.87	0.15	0.211	0.686	0.121	
Universal Fixed Window Exterior Cardinal Endur		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		58	2.27	0.98	0.17	0.021	0.012	0.080
Sill		58	2.27	0.98	0.17	0.021	0.012	BTU/hr.ft.F
left jamb		58	2.27	0.99	0.17	0.021	0.012	0.046
right jamb		58	2.27	0.99	0.17	0.021	0.012	Grade A


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Product name: Universal Fixed Window Exterior Glazed			Center-of-glass properties					
ASHRAE/IECC /DOE North American Climate Zone	South-facing	North, East, West - facing	<div><div></div><div>Passive House Institute US</div></div> <div>Cardinal E366/ Arg/ Clear/ Arg/ E180 (6mm) 44,0mm Internal grids And SDL with Internal grids < 25.4mm</div>					
Climate specific recommendations:		Whole-window installed U-value		Ucog-Value				
		W/m2K	BTU/hr.ft2.F	SHGC	W/m2K	BTU/hr.ft2.F		
		8	0.94	0.17	0.211	0.710	0.125	
		7	0.93	0.16	0.211	0.693	0.122	
		6	0.92	0.16	0.211	0.681	0.120	
		5	0.92	0.16	0.211	0.680	0.120	
		4	0.92	0.16	0.211	0.679	0.120	
		Marine North	0.92	0.16	0.211	0.679	0.120	
		Marine South	0.92	0.16	0.211	0.679	0.120	
		3	0.92	0.16	0.211	0.680	0.120	
2 West	0.93	0.16	0.211	0.686	0.121			
2 East	0.93	0.16	0.211	0.686	0.121			
Universal Fixed Window Exterior		FRAME		Psi-spacer		Psi-opaque		
Cardinal Endur		Frame height		Ψ		W/mK		
		mm	in	W/m2K	BTU/hr.ft2.F			
Head		58	2.27	0.98	0.17	0.021	0.012	0.080
Sill		58	2.27	0.98	0.17	0.021	0.012	BTU/hr.ft.F
left jamb		58	2.27	0.99	0.17	0.021	0.012	0.046
right jamb		58	2.27	0.99	0.17	0.021	0.012	Grade A


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Climate specific recommendations:			Whole-window installed U-value		Ucog-Value			
			W/m2K	BTU/hr.ft2.F	SHGC	W/m2K	BTU/hr.ft2.F	
8			0.89	0.16	0.184	0.710	0.125	
7			0.87	0.15	0.184	0.693	0.122	
6			0.86	0.15	0.184	0.681	0.120	
5			0.86	0.15	0.184	0.680	0.120	
4		✓	0.86	0.15	0.184	0.679	0.120	
Marine North		✓	0.86	0.15	0.184	0.679	0.120	
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3	✓	✓	0.86	0.15	0.184	0.680	0.120	
2 West	✓	✓	0.87	0.15	0.184	0.686	0.121	
2 East	✓	✓	0.87	0.15	0.184	0.686	0.121	
Universal Fixed Window Exterior		FRAME			Psi-spacer		Psi-opaque	
Cardinal Endur		Frame height		U-frame		Ψ		W/mK
		mm	in	W/m2K	BTU/hr.ft2.F	W/mK	BTU/hr.ft.F	
Head		58	2.27	0.98	0.17	0.021	0.012	0.080
Sill		58	2.27	0.98	0.17	0.021	0.012	BTU/hr.ft.F
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		W/m2K	BTU/hr.ft2.F	SHGC	BTU/hr.ft2.F
				W/m2K	
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				W/mK	
				BTU/hr.ft.F	
				Grade A	

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