



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/ E180/ Arg/ i89(#6) (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		0.81	0.14	0.230	0.625	0.110
7		0.80	0.14	0.230	0.612	0.108
6		0.79	0.14	0.230	0.601	0.106
5	✓	0.79	0.14	0.230	0.600	0.106
4	✓	0.79	0.14	0.230	0.597	0.105
Marine North	✓	0.79	0.14	0.230	0.595	0.105
Marine South	✓	0.78	0.14	0.230	0.592	0.104
3	✓	0.79	0.14	0.230	0.594	0.105
2 West	✓	0.75	0.13	0.230	0.555	0.098
2 East	✓	0.75	0.13	0.230	0.555	0.098
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	1.11	0.20	0.010
Sill		58	2.27	1.11	0.20	0.006
left jamb		58	2.27	1.12	0.20	0.010
right jamb		58	2.27	1.12	0.20	0.010


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ASHRAE/IECC /DOE North American Climate Zone	North, East, South- facing West - facing			Cardinal E366/ Arg/ E180/ Arg/ i89(#6) (6mm) 44,0mm SDL/no Internal grids < 25.4mm		
Climate specific recommendations:		Whole-window installed U-value		Ucog-Value		
		W/m2K	BTU/hr.ft2.F	SHGC	W/m2K	BTU/hr.ft2.F
8		0.81	0.14	0.203	0.625	0.110
7		0.80	0.14	0.203	0.612	0.108
6		0.79	0.14	0.203	0.601	0.106
5	✓	0.79	0.14	0.203	0.600	0.106
4	✓	0.79	0.14	0.203	0.597	0.105
Marine North	✓	0.79	0.14	0.203	0.595	0.105
Marine South	✓	0.78	0.14	0.203	0.592	0.104
3	✓	0.79	0.14	0.203	0.594	0.105
2 West	✓	0.75	0.13	0.203	0.555	0.098
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Universal Fixed Window Exterior		FRAME		Psi-spacer		Psi-opaque
Cardinal Endur		Frame height		Ψ		W/mK
		mm	in	W/mK	BTU/hr.ft.F	
Head		58	2.27	1.11	0.20	0.010
Sill		58	2.27	1.11	0.20	0.006
left jamb		58	2.27	1.12	0.20	0.010
right jamb		58	2.27	1.12	0.20	0.010


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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/ E180/ Arg/ i89(#6) (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			0.81	0.14	0.203	0.625	0.110	
7			0.80	0.14	0.203	0.612	0.108	
6			0.79	0.14	0.203	0.601	0.106	
5		✓	0.79	0.14	0.203	0.600	0.106	
4		✓	0.79	0.14	0.203	0.597	0.105	
Marine North		✓	0.79	0.14	0.203	0.595	0.105	
Marine South	✓	✓	0.78	0.14	0.203	0.592	0.104	
3	✓	✓	0.79	0.14	0.203	0.594	0.105	
2 West	✓	✓	0.75	0.13	0.203	0.555	0.098	
2 East	✓	✓	0.75	0.13	0.203	0.555	0.098	
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	1.11	0.20	0.010	0.006	0.078
Sill		58	2.27	1.11	0.20	0.010	0.006	BTU/hr.ft.F
left jamb		58	2.27	1.12	0.20	0.010	0.006	0.045
right jamb		58	2.27	1.12	0.20	0.010	0.006	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			0.87	0.15	0.203	0.625	0.110	
7			0.86	0.15	0.203	0.612	0.108	
6			0.85	0.15	0.203	0.601	0.106	
5			0.85	0.15	0.203	0.600	0.106	
4		✓	0.84	0.15	0.203	0.597	0.105	
Marine North		✓	0.84	0.15	0.203	0.595	0.105	
Marine South	✓	✓	0.84	0.15	0.203	0.592	0.104	
3	✓	✓	0.84	0.15	0.203	0.594	0.105	
2 West	✓	✓	0.81	0.14	0.203	0.555	0.098	
2 East	✓	✓	0.81	0.14	0.203	0.555	0.098	
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	1.11	0.20	0.010	0.006	0.078
Sill		58	2.27	1.11	0.20	0.010	0.006	BTU/hr.ft.F
left jamb		58	2.27	1.12	0.20	0.010	0.006	0.045
right jamb		58	2.27	1.12	0.20	0.010	0.006	Grade A


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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	1.11	0.20	0.010	0.006	0.078
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Cardinal Endur		Frame height		Ψ	
		mm	in	W/m2K	BTU/hr.ft.F
Head		58	2.27	1.11	0.20
Sill		58	2.27	1.11	0.20
left jamb		58	2.27	1.12	0.20
right jamb		58	2.27	1.12	0.20
				W/mK	BTU/hr.ft.F
				0.010	0.006
				0.010	0.006
				0.010	0.006
				0.010	0.006
				W/mK	
				0.078	
				BTU/hr.ft.F	
				0.045	
				Grade A	

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