

TABLE 5.5-2 Building Envelope Requirements for Climate Zone 2 (A, B)*

Opaque Elements	Nonresidential		Residential		Semiheated	
	Assembly Maximum	Insulation Min. R-Value	Assembly Maximum	Insulation Min. R-Value	Assembly Maximum	Insulation Min. R-Value
<i>Roofs</i>						
Insulation Entirely above Deck	U-0.048	R-20.0 c.i.	U-0.048	R-20.0 c.i.	U-0.218	R-3.8 c.i.
Metal Building ^a	U-0.055	R-13.0 + R-13.0	U-0.055	R-13.0 + R-13.0	U-0.097	R-10.0
Attic and Other	U-0.027	R-38.0	U-0.027	R-38.0	U-0.081	R-13.0
<i>Walls, Above-Grade</i>						
Mass	U-0.151 ^b	R-5.7 c.i. ^b	U-0.123	R-7.6 c.i.	U-0.580	NR
Metal Building	U-0.093	R-16.0	U-0.093	R-16.0	U-0.113	R-13.0
Steel-Framed	U-0.124	R-13.0	U-0.064	R-13.0 + R-7.5 c.i.	U-0.124	R-13.0
Wood-Framed and Other	U-0.089	R-13.0	U-0.089	R-13.0	U-0.089	R-13.0
<i>Walls, Below-Grade</i>						
Below-Grade Wall	C-1.140	NR	C-1.140	NR	C-1.140	NR
<i>Floors</i>						
Mass	U-0.107	R-6.3 c.i.	U-0.087	R-8.3 c.i.	U-0.322	NR
Steel-Joist	U-0.052	R-19.0	U-0.052	R-19.0	U-0.069	R-13.0
Wood-Framed and Other	U-0.051	R-19.0	U-0.033	R-30.0	U-0.066	R-13.0
<i>Slab-On-Grade Floors</i>						
Unheated	F-0.730	NR	F-0.730	NR	F-0.730	NR
Heated	F-1.020	R-7.5 for 12 in.	F-1.020	R-7.5 for 12 in.	F-1.020	R-7.5 for 12 in.
<i>Opaque Doors</i>						
Swinging	U-0.700		U-0.700		U-0.700	
Nonswinging	U-1.450		U-0.500		U-1.450	
Fenestration	Assembly Max. U	Assembly Max. SHGC	Assembly Max. U	Assembly Max. SHGC	Assembly Max. U	Assembly Max. SHGC
<i>Vertical Glazing, 0%–40% of Wall</i>						
Nonmetal framing (all) ^c	U-0.75	SHGC-0.25 all	U-0.75	SHGC-0.25 all	U-1.20	SHGC-NR all
Metal framing (curtainwall/storefront) ^d	U-0.70		U-0.70		U-1.20	
Metal framing (entrance door) ^d	U-1.10		U-1.10		U-1.20	
Metal framing (all other) ^d	U-0.75		U-0.75		U-1.20	
<i>Skylight with Curb, Glass, % of Roof</i>						
0%–2.0%	U _{all} -1.98	SHGC _{all} -0.36	U _{all} -1.98	SHGC _{all} -0.19	U _{all} -1.98	SHGC _{all} -NR
2.1%–5.0%	U _{all} -1.98	SHGC _{all} -0.19	U _{all} -1.98	SHGC _{all} -0.19	U _{all} -1.98	SHGC _{all} -NR
<i>Skylight with Curb, Plastic, % of Roof</i>						
0%–2.0%	U _{all} -1.90	SHGC _{all} -0.39	U _{all} -1.90	SHGC _{all} -0.27	U _{all} -1.90	SHGC _{all} -NR
2.1%–5.0%	U _{all} -1.90	SHGC _{all} -0.34	U _{all} -1.90	SHGC _{all} -0.27	U _{all} -1.90	SHGC _{all} -NR
<i>Skylight without Curb, All, % of Roof</i>						
0%–2.0%	U _{all} -1.36	SHGC _{all} -0.36	U _{all} -1.36	SHGC _{all} -0.19	U _{all} -1.36	SHGC _{all} -NR
2.1%–5.0%	U _{all} -1.36	SHGC _{all} -0.19	U _{all} -1.36	SHGC _{all} -0.19	U _{all} -1.36	SHGC _{all} -NR

*The following definitions apply: c.i. = continuous insulation (see Section 3.2), NR = no (insulation) requirement.

^aWhen using R-value compliance method, a thermal spacer block is required; otherwise use the U-factor compliance method. See Table A2.3.

^bException to Section A3.1.3.1 applies.

^cNonmetal framing includes framing materials other than metal with or without metal reinforcing or cladding.

^dMetal framing includes metal framing with or without thermal break. The "all other" subcategory includes operable windows, fixed windows, and non-entrance doors.