

Energy Code Requirements for Sunrooms and Additions

[2003 IECC, 2006 IECC]

The prescriptive envelope component criteria (Section 502.2.5) in the 2003 International Energy Conservation Code (IECC) is an alternative compliance path for sunrooms and additions to existing residential buildings and structures. Sections 402.2.10 and 402.3.5 in the 2006 IECC list requirements for sunrooms.

2003 IECC

Sunrooms must meet the following criteria to use the sunroom compliance path (IECC 2003 Section 502.2.5):

- An area <500 square feet
- >40% glazing of gross exterior wall and roof area
- thermally isolated
- not used as a kitchen or sleeping quarters
- separate heating/cooling system or zone

Additions must meet the following criteria to use the alternative compliance path (IECC 2003 Section 502.2.5):

- An area <500 square feet
- <40% glazing of gross exterior wall and roof area

Sunrooms and/or additions that meet the criteria defined in the 2003 IECC can show compliance by using the Prescriptive Envelope Component Criteria table shown below in Table 1 for the designated heating degree days (HDD) applicable to the location.

Table 1: 2003 IECC/Sunrooms (Section 502.2.5)*

HDD (heating degree day)	Fenestration U-factor (MAX)	Ceiling R-value (MIN)	Wall R-value (MIN)	Floor R-value (MIN)	Basement wall R-value (MIN)	Slab perimeter R-value and depth (MIN)	Crawl space wall R-value (MIN)
0 - 1,999	.75	R-19	R-13	R-11	R-5	R-0	R-5
2,000 - 3,999	.50	R-19	R-13	R-19	R-8	R-5, 2 ft.	R-10
4,000 - 5,999	.50	R-19	R-13	R-21	R-10	R-9, 2 ft.	R-19
6,000 - 8,499	.50	R-24	R-13	R-21	R-11	R-13, 4 ft.	R-20
8,500 - 12,999	.50	R-24	R-13	R-21	R-19	R-18, 4 ft.	R-20

Solar Heat Gain Coefficient (SHGC) of .40 mandatory for locations < 3,500 HDD

Table 2: 2003 IECC/Additions (Section 502.2.5)*

HDD (heating degree day)	Fenestration U-factor (MAX)	Ceiling R-value (MIN)	Wall R-value (MIN)	Floor R-value (MIN)	Basement wall R-value (MIN)	Slab perimeter R-value and depth (MIN)	Crawl space wall R-value (MIN)
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degree day)	(MAX)	(MIN)	(MIN)	(MIN)	R-value (MIN)	R-value and depth (MIN)	R-value (MIN)
0 - 1,999	.75	R-26	R-13	R-11	R-5	R-0	R-5
2,000 - 3,999	.50	R-30	R-13	R-19	R-8	R-5, 2 ft.	R-10
4,000 - 5,999	.40	R-38	R-18	R-21	R-10	R-9, 2 ft.	R-19
6,000 - 8,499	.35	R-49	R-21	R-21	R-11	R-13, 4 ft.	R-20
8,500 - 12,999	.35	R-49	R-21	R-21	R-19	R-18, 4 ft.	R-20

SHGC of .40 mandatory for locations < 3,500 HDD

The RES *check* software tools cannot currently be used to show compliance using the prescriptive criteria alternative compliance defined for sunrooms and additions in the 2003 IECC. Compliance can be shown by including requirements for the applicable minimum component insulation and maximum U-factor for fenestration on the building plans. Attaching the applicable table to your building plans and highlighting the applicable criteria will help expedite approval.

2006 IECC

Sunrooms must meet the following criteria:

- >40% glazing of gross exterior wall and roof area
- separate heating/cooling system or zone
- must be thermally isolated (closeable doors or windows to the rest of the house)

The 2006 IECC (Sections 402.3.5 and 402.2.10) has the following requirements for sunrooms:

- Ceiling Insulation: R-19 (Zones 1-4); R-24 (Zones 5-8)
- Wall Insulation: R-13 (All Zones)
- Fenestration U-Factor: 0.50 (Zones 4-8)
- Skylight U-Factor: 0.75 (Zones 4-8)

Any new windows and doors separating the sunroom from conditioned space must meet the building envelope requirements.

The RES *check* software tools cannot currently be used to show compliance using the prescriptive criteria alternative compliance defined for sunrooms in the 2006 IECC.

Additions and window replacements in the 2006 IECC must meet the same requirements as new construction.

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