

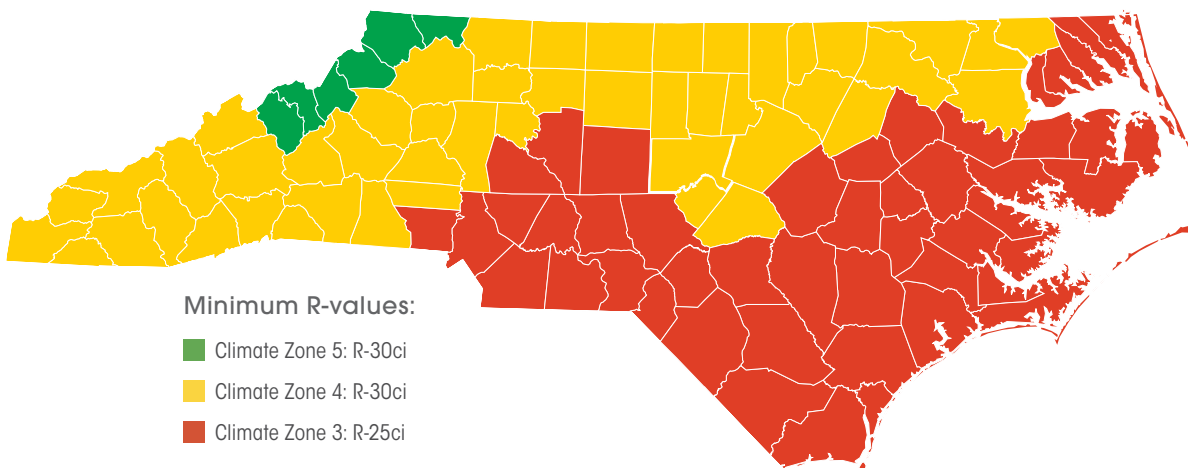
NORTH CAROLINA MINIMUM INSULATION REQUIREMENTS

For Low-Slope Commercial Roofing – PIMA State Energy Code Fact Sheet

The applicable building energy code that determines the minimum insulation requirements for commercial roofs with insulation entirely above the deck in North Carolina is the [2018 North Carolina State Building Code: Energy Conservation Code](#) (based on the 2015 International Energy Conservation Code with state-specific amendments). This code is effective January 1, 2019. The minimum insulation requirements apply to new construction only.

The State's energy code requires roof replacement projects to maintain existing insulation levels (Section C503.1, Exception 2(e)). However, the replacement of a roof system on an existing building provides a cost-effective opportunity to add insulation, improve building energy efficiency, and reduce operating costs. Building owners should consider meeting the minimum requirements for new construction when replacing an existing roof system.

Minimum R-value Requirements for Insulation Entirely Above the Roof Deck



Notes

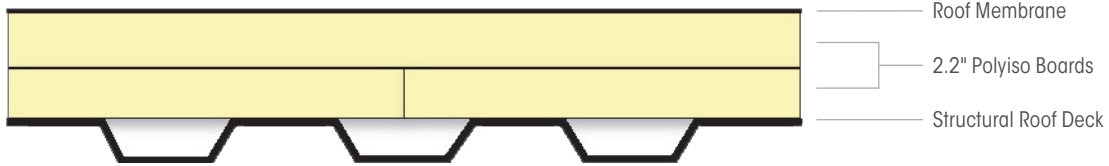
- About R-value:** R-value is a measurement of a material's ability to resist heat flow. The higher the R-value, the greater the insulating power. Installers should consult data sheets provided by polyiso manufacturers for information on product-specific R-values.
- Code Compliance:** The International Energy Conservation Code recognizes ASHRAE 90.1 as an alternate compliance option for both new construction and existing buildings.

Resources

- [Polyisocyanurate Insulation Manufacturers Association](#)
- [U.S. Department of Energy](#)

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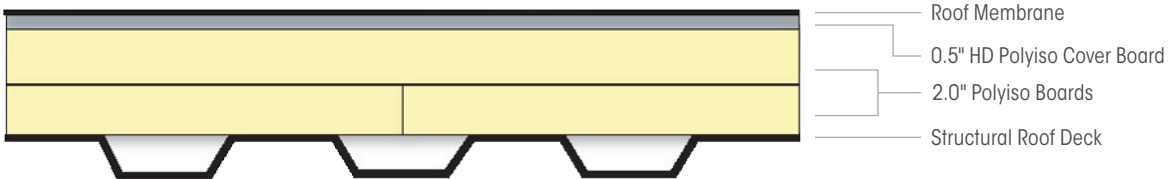
Option #1 - R-25ci Roof Assembly



Two layers of 2.2" polyiso	R-25.2
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- Roof Membrane
- 2.2" Polyiso Boards
- Structural Roof Deck

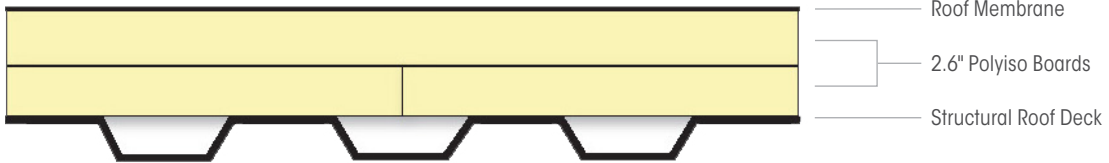
Option #2 - R-25ci Roof Assembly



Two layers of 2.0" polyiso	R-22.8
0.5" HD polyiso cover board	R-2.5
Total	R-25.3

- Roof Membrane
- 0.5" HD Polyiso Cover Board
- 2.0" Polyiso Boards
- Structural Roof Deck

Option #1 - R-30ci Roof Assembly



Two layers of 2.6" polyiso	R-30
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- Roof Membrane
- 2.6" Polyiso Boards
- Structural Roof Deck

Option #2 - R-30ci Roof Assembly



Two layers of 2.4" polyiso	R-27.6
0.5" HD polyiso cover board	R-2.5
Total	R-30.1

- Roof Membrane
- 0.5" HD Polyiso Cover Board
- 2.4" Polyiso Boards
- Structural Roof Deck

Information provided by PIMA

For more than 30 years, the Polyisocyanurate Insulation Manufacturers Association (PIMA) has served as the voice of the rigid polyiso industry, proactively advocating for safe, cost-effective, sustainable, and energy-efficient construction. Organized in 1987, PIMA is an association of polyiso manufacturers and industry suppliers. Polyiso is one of North America's most widely-used and cost-effective insulation products.



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