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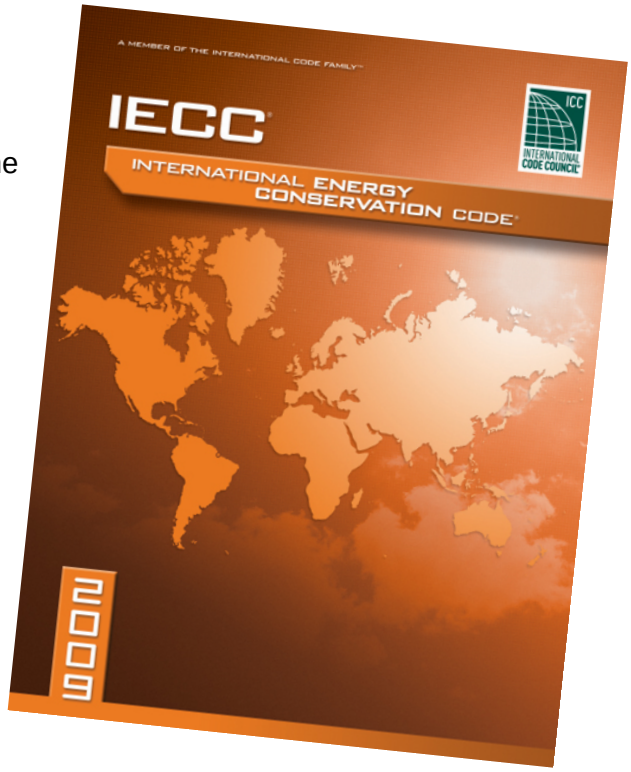
QUICK REFERENCE FOR COMPLIANCE

with the

2009 RESIDENTIAL New Mexico Energy Code



Q: What is the 2009 IECC code?

A: Effective January 1, 2012 the State of New Mexico adopted the 2009 version of the International Energy Conservation Code (IECC). This code sets minimal energy efficiency provisions for both residential (and commercial) buildings. This document addresses the details for residential new construction and renovations on existing homes.

Q: What parts of the building are affected by the code changes?

A: The 2009 IECC is intended to ensure the design and construction of energy efficient building thermal envelopes focusing on the insulation requirements for ceilings, walls and floors as well as the thermal conductance of the windows and doors. Energy efficiencies of the mechanical (HVAC), water heating, electrical, and lighting equipment and systems of the home are also affected.

Q: What are my options for compliance?

A: There are three options for showing compliance – the prescriptive, trade-off or performance paths. *NOTE: The prescriptive and trade-off options can be combined if needed. The performance option is a stand-alone option*.

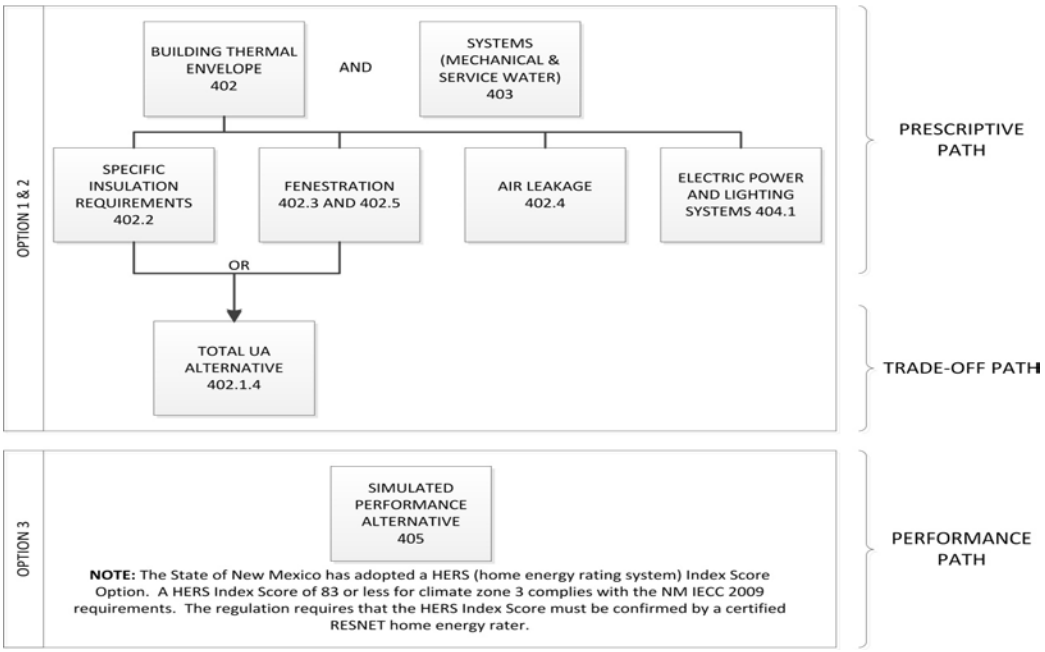
The prescriptive path of the code sets specific minimum performance levels for each of the components of the building envelope, such as ceiling and wall insulation, window U-factor and solar heat gain coefficient (SHGC), and air infiltration. For each component, these prescriptive requirements must be met or exceeded, without the ability to tradeoff between components. While it allows less flexibility, this path can be more straightforward to comply with.

The trade-off path uses the total building envelope UA (U-factor multiplied by area). Based on the prescriptive U-factor table, it allows trade-offs whereby some energy efficiency measures can fall below code requirements IF balanced by other measures that exceed code requirements.

In the performance path, users can have performance of components that are lower in one area, as long as they make up for it with higher performance in another area. Energy calculations are used to determine if the tradeoffs are equivalent. In some cases, additional requirements necessitate the use of the performance path; for instance, if a building wants to exceed 40% window to wall area, it must use the performance path.

NOTE: All references to climate zone are for climate zone 3.

RESIDENTIAL IECC 2009 COMPLIANCE OPTIONS



NMECC 2009 compliance will require the following documents and testing:

1. State of NM, City of Las Cruces or Dona Ana County Residential Energy Plan Review Checklist
2. Documentation demonstrating energy code compliance per IECC 2009 Section 103.2 HVAC load calculations (Manual J load calculation or OEM provided building load report) 403.6
3. Duct leakage test completed by a certified RESNET Home Energy Rater or approved technician satisfying 403.2.2
4. Blower door test and/or building thermal envelope checklist completed by a certified RESNET Home Energy Rater or approved independent third-party - air barrier and insulation inspection per component criteria in Table 402.4.2 (402.4.2.1 and 402.4.2.2) (or 405.5.2 if performance path)
5. If Performance path is used, generate documentation that the proposed design complies with Section 405.3. Including details listed in 405.4.2.

Mandatory requirements *regardless* of compliance path:

1. Glazing - SHGC (solar heat-gain coefficient) from Table 402.1.1. Minimum SHGC is .30 or lower. (not required for zones 4-8)
2. Heating and cooling equipment must be sized in accordance with Section M1401.3 of the IRC. Manual J - HVAC load calculation or OEM provided report is acceptable. 403.6
3. Blower door test or thermal envelope (air barrier and insulation) inspection by independent third party (402.4.2 Air sealing and insulation, 402.4.2.1 Testing option, 402.4.2.2 Visual inspection option)
4. Programmable thermostat (required for forced air heat is primary source)
5. Air sealing - 402.4 and 402.4.1
6. Permanent certificate disclosing energy efficiencies must be placed on or inside the electrical panel per details in 401.3.
7. Maximum fenestration U-factor - area weighted average maximum fenestration SHGC permitted is .50 (Zones 1-3)
8. Controls that prevent supplementary electric resistance heater operation when the heating load can be met by the heat pump alone. 403.1.2
9. Sealing of air ducts, air handlers, and filter boxes. 403.2.2 *(Exception: Duct tightness test is not required if the air handler and all ducts are located within conditioned space.)*
10. Building cavities cannot be used as supply ducts. 403.2.3
11. Mechanical system piping capable of carrying fluids above 105 degrees F or below 55 degrees F must be insulated to a minimum of R-3. 403.3
12. Circulating service hot water piping will be insulated to at least R-2. Circulating hot water systems will include an automatic or readily accessible manual “off” switch to the recirculation pump when the system is not in use. 403.4
13. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating. 403.5
14. Mechanical systems serving more than one building (i.e. apartments, condos, etc.) will comply with Sections 503 and 504 in lieu of Section 403. 403.7
15. Pools shall be provided with energy conserving measures, see Sections 403.9.1 through 403.9.3NOTE: Not all mandatory requirements are listed here.

NOTE: All references to climate zone are for climate zone 3.