

# Residential Energy Code Information Sheet for Additions/Alterations

All work shall meet or exceed the 2018 IECC & 2018 IRC, including any applicable amendments, some of which are listed below.

MAXIMUM			MINIMUM R-VALUE						
Fenestration U-factor	Skylight U-factor	Glazed Fenestration SHGC	Ceiling	Wood Frame Wall	Mass Wall	Floor	Basement Wall	Slab R-value & Depth	Crawl Space Wall
.35	.55	.25	38	20 or 13+ <sup>h</sup>	3/4	13	0	0	0

h. The first value is cavity insulation, the second value is continuous insulation. Therefore, as an example, "13+5" means R-13 cavity insulation plus R-5 continuous insulation.

**R501.1.1 Additions, alterations, or repairs: General.** Additions, alterations, or repairs to an existing building, building system or portion thereof shall comply with Section R502, R503, or R504. Unaltered portions of the existing building or building supply system shall not be required to comply with this code.

**R503.2 Change in Space Conditioning.** Any non-conditioned or low-energy space that is altered to become conditioned space shall be required to be brought into full compliance with this code.

**Exception:** Where the simulated performance option in Section R405 is used to comply with this section, the annual energy cost of the proposed design is permitted to be 110 percent of the annual energy cost otherwise allowed by Section R405.3

**402.2.13 Sunroom insulation.** Sunrooms enclosing conditioned space shall meet the insulation requirements of this code.

**Exception:** For sunrooms with thermal isolation, and enclosing conditioned space, the following exceptions to the insulation requirements of this code shall apply:

1. The minimum ceiling insulation R-value shall be R-19.
2. The minimum wall R-value shall be R-13. Walls separating a sunroom with a thermal isolation from conditioned space shall meet the building thermal envelope requirements of this code.

**402.4.1 Building thermal envelope.** The building thermal envelope shall comply with sections R402.4.1.1 and R402.4.1.2 the sealing methods between dissimilar materials shall allow for differential expansion and contraction.

**402.4.5 Recessed lighting.** Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires shall be IC-rated and labeled as having an air leakage rate not more than 2.0 cfm (0.944 L/s) when tested in accordance with ASTM E 283 at a 1.57 psf (75 Pa) pressure differential. All recessed Luminaires shall be sealed with a gasket or caulk between the housing and the interior wall or ceiling covering.

**403.1 Controls (Mandatory).** At least one thermostat shall be provided for each separate heating and cooling system.

**403.3.1 Insulation (Prescriptive).** Supply and return ducts in attics shall be insulated to a minimum of R-8 where 3 inches (76mm) in diameter and greater and R-6 where less than 3 inches (76 mm) in diameter. Supply and return ducts in other portions of the building shall be insulated to a minimum of R-6 where 3 inches (76 mm) in diameter or greater and R-4.2 where less than 3 inches (76mm) in diameter.

**Exception:** Ducts or portions thereof located completely inside the building thermal envelope.

**403.3.5 Building cavities (Mandatory).** Building framing cavities shall not be used as supply ducts or plenums.

**404.1 Lighting equipment (Mandatory).** Not less than 75 percent of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps.

**PROVIDE INFORMATION FOR INSPECTION AND MAINTENANCE.** Materials and equipment must be identified so that compliance can be determined. Manufacturer manuals for all installed heating and cooling equipment and service water heating equipment must be provided. Insulation R-values, glazing and door U-factors and SHGC values, and heating and cooling efficiency must be clearly marked.

This handout is for informational purposes only and should not be relied on in place of official regulations and/or policies. The CITY OF PLANO makes no representations, guarantees, or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the handout. Customers and citizens are personally responsible for complying with all local, state and federal laws pertaining to projects within the city. Copies of the CITY OF PLANO adopted codes and Zoning Ordinances can be found on the city website at [www.plano.gov](http://www.plano.gov) or at the CITY OF PLANO Municipal Center at 1520 K Avenue, Plano, Texas.