

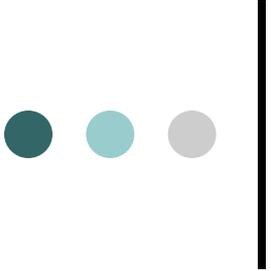


City of Flagstaff 2012

Energy Code

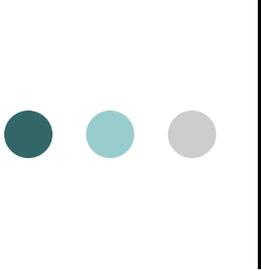
Comparison Charts

Building & Safety Program



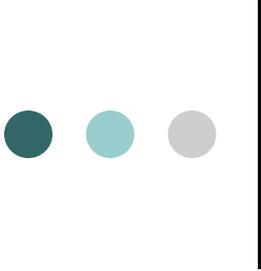
Energy Code Comparison

- Comparison of 2006, 2009 and 2012 Energy Code Requirements
- Purpose is to show Council the major differences between each of the Energy Code Editions side by side.



Prescriptive Req. Table 402.1.1

	2006	2009	2012
Certification of R values posted in electrical distribution panel	Yes	Yes	Yes
Climate Zone 5	Yes	Yes	Yes
Ceiling R-value	R-38	R-38	R-49
Wood frame wall R-value (13 = cavity insulation, + R-5 sheathing)	R19 or 13+5	R20 or 13+5	R20 or 13+5
Mass wall R-value (17 applies when > ½ insulation is on interior)	R-13	13/17	13/17
Floor R-value (Minimum R-19 allowed for smaller framing cavities)	R-30	R-30	R-30

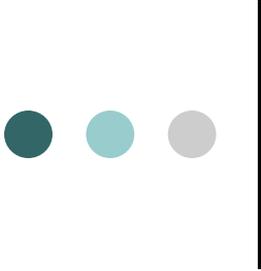


Prescriptive Req. cont.

	2006	2009	2012
Basement wall R-value (10 = cont. insul. on interior or exterior of home or 13 cavity insul. at interior of basement wall)	10/13	10/13	15/19
Slab R- Value	10, 2 ft.	10, 2 ft.	10, 2 ft.
Crawl space R - Value	10/13	10/13	15/19
Fenestration U – Factors (windows – fenestrations)	0.35 (City amended to 0.45)	0.35	0.32
Skylights	0.60	0.60	0.55
Specific insulation requirements: (Prescriptive)	R-38 to 30 R-49 to 38 (city allows 2” compression)	R-38 to 30, uncompressed R-49 to 38	R-49 to 38, uncompressed (Staff recommends R30)

Additional Requirements cont.

	2006	2009	2012
Cathedral ceilings – no attic (Prescriptive)	R-30	R-30	R-30
Insulation for post-tension slabs (allows vertical to bottom of footing, prescriptive)	R-10	R-10	R-10
Attic hatches and doors (Prescriptive)	No requirement	Weatherstrip and insulate (R-38)	Weatherstrip and insulate (R-38)
Air leakage (Mandatory), Section 402.4 (Thermal envelop, fenestration air leakage, recessed lighting, IC rated can fixtures)	Sealed envelope recessed lighting sealed	Sealed envelope , optional blower door testing, visual insp.	Sealed envelope + blower door testing <i>(Staff amends out blower door)</i>
Whole House ventilation	No Requirements	No Requirements	Whole House ventilation fan efficacy. <i>(Staff amends out)</i>



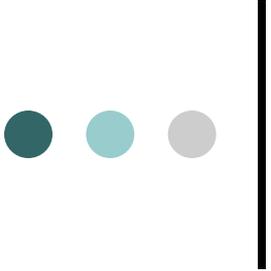
Additional Req. cont.

2006

2009

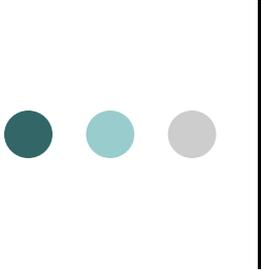
2012

	2006	2009	2012
Mechanical Systems (Mandatory)	1 thermostat /system (amended to programmable)	1 programmable thermostat/ system	1 programmable thermostat/ system
Duct Sealing (Mandatory)	Mastic or approved tape	Sealed + ducts tested	Sealed & tested, some exceptions
Duct insulation (Prescriptive)	R-8 in attics & R-6 in floor trussed	R-8 in attics & R-6 in floor trusses	R-8 in attics & R-6 in floor trusses
Circulating hot water systems; pipe insulation (Mandatory)	R-2 w/manual switch	R-2 w/manual switch	R-3 w/manual switch, specific applications, max. length
Electrical Power & Lighting (Prescriptive)	No Requirements (City amended as best practices)	50% in permanent fixtures high efficacy.	75% in permanent fixtures high efficacy.
Simulated Performance Alternative (Performance)	Yes	Yes	Yes



Additional Amendment item

- Group R-2 occupancies when defined as a commercial building by section C202 shall have the option of complying under the residential provisions of the code, regardless of height. Once defined as such on the submittal documents, all components of the residential provisions shall be followed.



Questions & Discussion

- Next step – return to Council on June 18 for 2nd read of Ord. 2013-12 adopting the 2012 International Codes, except Energy Code, and adopting revisions of 2013 Amendments to City Code Title 4, Building Regulations. ***or***
- July 2, Council has a second read of Ordinance 2013 – 12 adopting the 2012 International Building Codes and 2013 Amendments to City Code Title 4, Building Regulations