2018 International Energy Conservation Code Checklist for General Prescriptive Method

Building Components Thermal Envelope R402: General Prescriptive Method to Compliance	
Vapor Retarder: Class I =Poly Class II =Kraft-Faced insulation Class III = Paint	Follow IRC Section R702.7 or IBC Section 1405.3 Class of vapor retarder is based upon selected methods of insulating the exterior walls of the structure.
Windows and Doors U-Factor = 0.30	R402.1.5 Total UA Alternative may be used to lower the U-Factor
Skylights U-Factor = 0.55	R402.1.5 Total UA Alternative may be used to lower the U-Factor
Ceiling Insulation with Attic Space = R49	R402.2.1 reduction to R38 wherever the full height of uncompressed R-38 extends over the wall top plate at the eaves.
Ceiling Insulation without Attic Space = R-49	R402.2.2 reduction to R30 provided when roof/ceiling assemblies don't have sufficient space.
Wood Framed Wall Insulation : 2x6 wall = R20/5 Wood Framed Wall Insulation: 2x6 wall = R22/3 Wood Framed Wall Insulation: 2x6 wall = R27/0	R20 in the cavity of the wall and R5 continuous insulation, R22 in the cavity of the wall and R3 continuous insulation, or R27 in the cavity of the wall and no continuous insulation. Walls with Structural Sheathing see Section R402.2.7 for reduction
Wood Framed Wall Insulation: 2x4 wall = R13/10	R13 in the cavity of the wall and R10 continuous insulation. Walls with Structural Sheathing see Section R402.2.7 for reduction
Mass Walls R-19/21	Defined & Reviewed based upon formula from Section 402.2.5
Floor Insulation = R38	See Section 402.2.8 for definition and exception
Basement Wall Insulation = R-15/19	See Section 402.2.9 for definition R15 continuous on either side or R19 on interior side. See footnotes in R402.1.2 for alternatives
Concrete Slab on Grade Insulation = R10/4ft	See Section R402.2.10 Insulation depth shall be depth of the footing minimum of 4 feet.
Crawl Space Wall Insulation = R15/19	See Section R402.2.11 for definition R15 continuous on either side or R19 on interior side.
Fenestration Air Leakage: windows, sliding doors, skylights	</= 0.3 cfm/sf Exception for site built windows, skylights, and doors.
Fenestration Air Leakage: Swinging Doors	</= 0.5 cfm/sf Exception for site built doors.
Air Leakage: The building thermal envelop shall be constructed to limit air leakage.	All products installed in accordance with manufactures instructions and be labeled in accordance with the requirements of the 2018 IECC.
Fireplaces new wood-burning units	See Section R402.4.2 Information on tight fitting doors and labels required.

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Building Systems R403: General Prescriptive Method to Compliance	
Programmable thermostats required for all heating and cooling equipment installed in a dwelling unit.	See Section R403.1.1: Thermostat to have daily schedules and temperature setback for scheduled times of the day.
Duct Insulation: Attic spaces R8 when 3” diameter or greater	See Section R403.3.1 for exception where ducts are completely within the building thermal envelope.
Duct Insulation: Attic spaces R6 when less than 3” diameter	See Section R403.3.1 for exception where ducts are completely within the building thermal envelope.
Sealing: Mandatory for ducts, air handlers and filter boxes.	See Section R403.3.2 for exceptions.
Hot water boiler outdoor temperature setback:	See Section R403.2 Hot water boilers that supply heat to the building through one or two-pipe heating systems shall have an outdoor set-back control that lowers the temperature based on outdoor temperature.
Mechanical System Piping insulation: Mandatory	See Section R403.4 mechanical piping carrying fluids above 105 F or below 55 F shall be insulated with R3 minimum.
Circulating systems / Heat trace systems/ Demand recirculation systems:	See Section R403.5.1.1, R403.5.1.2, R403.5.2 for information on operations and controls for pumps and specific electric heat trace systems.
Hot water pipe insulation required to be R3	See Section R403.5.3 for list of required piping that requires R3
Mechanical Ventilation: The building should be provided with mechanical ventilation or approved method per requirements.	See Section R403.6 and R403.6.1 for definitions and refer the 2015 IRC Sections M1507 for system design and requirements.
Systems serving multiple dwelling units:	See Section R403.8 Shall comply with Sections C403 and C404 of the IECC – Commercial provisions in lieu of Section R403
Snow melt systems and ice system controls:	See Section R403.9 Automatic controls shutting system when pavement temperature >50 F and no precipitations falling, automatic or manual control to shutoff as outdoor temp > 40 F
Pools/ Permanent & Portable Spas:	See Sections R403.10 through R403.12 Heaters, Time Switches, Covers, Energy Consumption.
Equipment Sizing and Efficiency Rating	See Section R403.7 and refer to IRC M1401.3

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Electrical Power and Lighting Systems: General Prescriptive Method to Compliance	
Lighting Equipment	See Section R404.1: Not Less than 90% of permanently installed lighting fixtures shall contain only high-efficacy bulbs
Fuel Gas Lighting Systems:	See Section R404.1.1: Fuel gas lighting systems shall not have continuously burning pilot lights.

2018 IECC Changes to Duct Insulation Requirments

R403.3.6Ducts buried within ceiling insulation.
Where supply and return air ducts are partially or completely buried in ceiling insulation, such ducts shall comply with all of the following:

1. 1.The supply and return ducts shall have an insulation *R*-value not less than R-8.
2. 2.At all points along each duct, the sum of the ceiling insulation *R*-value against and above the top of the duct, and against and below the bottom of the duct, shall be not less than R-19, excluding the *R*-value of the duct insulation.
3. 3.In *Climate Zones* 1A, 2A and 3A, the supply ducts shall be completely buried within ceiling insulation, insulated to an *R*-value of not less than R-13 and in compliance with the vapor retarder requirements of Section 604.11 of the *International Mechanical Code* or Section M1601.4.6 of the *International Residential Code*, as applicable.

   Exception: Sections of the supply duct that are less than 3 feet (914 mm) from the supply outlet shall not be required to comply with these requirements.

R403.3.6.1Effective *R*-value of deeply buried ducts.
Where using a simulated energy performance analysis, sections of ducts that are: installed in accordance with Section R403.3.6; located directly on, or within 5.5 inches (140 mm) of the ceiling; surrounded with blown-in attic insulation having an *R*-value of R-30 or greater and located such that the top of the duct is not less than 3.5 inches (89 mm) below the top of the insulation, shall be considered as having an effective duct insulation *R*-value of R-25.

R403.3.7Ducts located in conditioned space.
For ducts to be considered as inside a conditioned space, such ducts shall comply with either of the following:

1. 1.The duct system shall be located completely within the continuous air barrier and within the building thermal envelope.
2. 2.The ducts shall be buried within ceiling insulation in accordance with Section R403.3.6 and all of the following conditions shall exist:
   1. 2.1.The air handler is located completely within the *continuous air barrier* and within the building thermal envelope.
   2. 2.2.The duct leakage, as measured either by a rough-in test of the ducts or a post-construction total system leakage test to outside the building thermal envelope in accordance with Section R403.3.4, is less than or equal to 1.5 cubic feet per minute (42.5 L/min) per 100 square feet (9.29 m^2) of conditioned floor area served by the duct system.
   3. 2.3.The ceiling insulation *R*-value installed against and above the insulated duct is greater than or equal to the proposed ceiling insulation *R*-value, less the *R*-value of the insulation on the duct.