

EXCEPTION 3 to Section 150.0(j)2: Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration. Metal piping that penetrates metal framing shall use grommets, plugs, wrapping or other insulating material to assure that no contact is made with the metal framing. Insulation shall butt securely against all framing members.

EXCEPTION 4 to Section 150.0(j)2: Piping installed in interior or exterior walls shall not be required to have pipe insulation if all of the requirements are met for compliance with Quality Insulation Installation (QII) as specified in the Reference Residential Appendix RA3.5.

EXCEPTION 5 to Section 150.0(j)2: Piping installed in attics with a minimum of 4 inches (10 cm) of attic insulation on top of the piping shall not be required to have pipe insulation.

NOTE: Where the Executive Director approves a water heater calculation method for particular water heating recirculation systems, piping insulation requirements are those specified in the approved calculation method.

3. **Insulation Protection.** Insulation outside conditioned space shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Protection includes but is not limited to the following:
 - A. Insulation exposed to weather shall be installed with a cover suitable for outdoor service, including but not limited to aluminum, sheet metal, painted canvas, or plastic cover. The cover shall be water retardant and provides shielding from solar radiation that can cause degradation of the material.
 - B. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarder.

(k) Residential Lighting.

1. Luminaire Requirements

- A. **Luminaire Efficacy:** All installed luminaires shall be high-efficacy in accordance with TABLE 150.0-A.
- B. **Blank Electrical Boxes.** The number of electrical boxes that are more than 5 feet above the finished floor and do not contain a luminaire or other device shall be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.
- C. **Recessed Downlight Luminaires in Ceilings.** Luminaires recessed into ceilings shall meet all of the following requirements:
 - i. Be listed, as defined in Section 100.1, for zero clearance insulation contact (IC) by Underwriters Laboratories or other nationally recognized testing/rating laboratory; and
 - ii. Have a label that certifies the luminaire is airtight with air leakage less than 2.0 CFM at 75 Pascals when tested in accordance with ASTM E283. An exhaust fan housing shall not be required to be certified airtight; and
 - iii. Be sealed with a gasket or caulk between the luminaire housing and ceiling, and shall have all air leak paths between conditioned and unconditioned spaces sealed with a gasket or caulk; and
 - iv. For luminaires with hardwired ballasts or drivers, allow ballast or driver maintenance and replacement to be readily accessible to building occupants from below the ceiling without requiring the cutting of holes in the ceiling; and
 - v. Shall not contain screw base sockets; and
 - vi. Shall contain light sources that comply with References Joint Appendix JA8, including the elevated temperature requirements, and that are marked "JA8-2016-E" as specified in Reference Joint Appendix JA8.
- D. **Electronic Ballasts.** Ballasts for fluorescent lamps rated 13 watts or greater shall be electronic and shall have an output frequency no less than 20 kHz.
- E. **Night Lights.** Permanently installed night lights and night lights integral to installed luminaires or exhaust fans shall be rated to consume no more than five watts of power per luminaire or exhaust fan as