

Wisdom & Associates, Inc.

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NEC Requirements

The state of Alaska has adopted the National Electrical Code. This is a list of common issues that we encounter during electrical inspections. This is not a full list of all requirement in the electrical code, contact us if you have questions.

Arc Fault Breakers (210.12): All 120-volt, single-phase, 15- and 20-ampere branch circuits supplying outlets or devices installed in:

- Dwelling unit kitchens
- Family rooms
- Dining rooms
- Living rooms
- Parlors
- Libraries/Offices
- Dens
- Bedrooms (includes smoke alarm circuits)
- Sunrooms
- Recreation rooms
- Closets, hallways
- Laundry areas

GFCI Protection (210.8):

- Bathrooms
- Garages
- Outdoor receptacles, including under eaves
- Crawlspace and unfinished basements
- All kitchen countertops
- Within 6 feet of the to inside edge of the bowl of sinks
- Within 6 feet of bathtubs and shower stalls
- Laundry areas
- Dishwasher circuit
- Hot tubs, Jacuzzis, etc.

Minimum Branch Circuits (210.10):

- Two or more 20 amp circuits for kitchen countertop receptacles (can serve no other outlets/receptacles)
- One 20 amp circuit for the laundry receptacles only
- One 20 amp circuit for the bathroom receptacles only
- One 20 amp circuit for garage receptacles only
- One 20 amp circuit for dishwasher only
- One 20 amp circuit for garbage disposal only
- One 20 amp circuit for washing machine only
- One 20 amp circuit for microwave only

Receptacle Spacing (210.52):

- No point on a wall more than 6 feet from a receptacle (Max 12' between receptacles) (Includes loft/railing spaces, floor outlets may be needed)
- Receptacle required wall more than 2 feet wide
- Maximum 4' between kitchen countertop receptacles
- Receptacle required on any kitchen island greater than 12" X 24"
- Receptacle required on any kitchen peninsula greater than 12" X 24"
- Receptacle required at any kitchen counter greater than 12" wide
- Receptacle required within 3' of each sink basin
- At least one outdoor receptacle required front and back of home
- At least one receptacle outlet per deck or balcony
- At least one receptacle per garage space
- At least one receptacle every 10' of hallway

Tamper Resistant Receptacles (406.12 & 210.52):

- Tamper resistant receptacles are required at all floor, wall, countertop, kitchen, exterior, bathroom, balconies, decks, porches, laundry, basement, garage, and hallway receptacles.

Grounding (250.52(3)) Concrete Encased Electrode:

- Minimum 20 feet of ½" rebar (can be tied together), or 20 feet of minimum 4 AWG bare copper. Covered with at least 2 inches of concrete. Must be in direct contact with earth, *vapor barriers and insulation are not considered direct contact with earth per code.*

Smoke Detectors - IRC 314:

- Smoke detectors required in each bedroom, outside each sleeping area in the immediate vicinity, and on each habitable level
- Must be hardwired, interconnected

CO Detectors (R315):

- All dwelling units with attached garages or fuel fired appliance
- Outside each separate sleeping area
- Must be hardwired, interconnected

Box Volume (314.16B):

- 2.00 inches per 14 Ga wire, 2.25 inches per 12 Ga wire
- 18 cubic inch boxes can only have 2 – 12 Ga romex entering the box
- 3 – 12 Ga romex must have at least 20.25 cubic inch box

Panel Location (110.26):

- 6-1/2' clear height in front of panel
- 30" clear width in front of panel, 36" deep
- Cannot be located in a bathroom or closet

This is not a complete list, please let us know if you have any questions!

Sincerely
Robert Moss
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