

### 23.30.10 - **Local amendments to the National Electrical Code 2017 Edition.**

The amendments to the 2017 edition of the National Electrical Code are listed here by section. The last digits of the number after the title and chapter digits are the article, section and subsection of the National Electrical Code to which the amendment refers, i.e., 23.30.210.23(D) refers to article 210, section 210.23 and subsection (E) of the National Electrical Code, 2017 Edition.

**Informational Note:** For further information on other Building Codes, Policies and Handouts that may affect electrical installation requirements go to the Municipality of Anchorage, Building Safety Website at: [www.muni.org/departments/ocpd/development/bsd](http://www.muni.org/departments/ocpd/development/bsd)

### 23.30.20 - **Certificate of fitness—Right to inspection.**

Municipal electrical inspectors may contact any electrical worker performing work for which a certificate of fitness is required by Alaska Statute 18.62.070 and request the person to exhibit their certificate of fitness or trainee certificate of fitness. The inspector may immediately serve upon that person a notice to cease any further work in that occupation until the person has demonstrated possession of the required certificate.

### 230.30.100

Add Definition to article 100

**DORMITORY.** A space in a building where group sleeping accommodations are provided in one room or series of closely associated rooms, for persons not of the same family group, under joint occupancy and single management, as in college dormitories, boarding houses and assisted living facilities.

### 23.30.210.8 **Ground-fault Circuit-Interrupter Protection for Personnel**

Replace second paragraph with

For the purposes of this section, when determining distance from receptacles the distance shall be measured as the shortest path the cord of an appliance connected to the receptacle would follow without piercing a floor, wall, ceiling, or fixed barrier, or passing through a personnel door, personnel doorway, or window.

### 23.30.210.8 (B) **Other Than Dwelling unit**

Replace first paragraph

All single-phase receptacles rated 150 volts to ground or less, 50 amperes or less installed in the following locations shall have ground-fault circuit-interrupter protection for personnel.

23.30.210.12(A) - **Arc-fault circuit-interrupter protection** (dwelling units).

Delete items (3) and (4).

And replace exception with

Exception: Where an individual branch circuit to central heating equipment (furnace or boiler) or a fire alarm system installed in accordance with 760.41(B) or 760.121(B) is installed in RMC, IMC, EMT, or steel-sheathed cable, Type AC or Type MC, meeting the requirements of 250.118, with metal outlet and junction boxes, AFCI protection shall be permitted to be omitted.

23.30.210.23(E) - **Permissible loads, multiple-outlet branch circuits** (outlets per circuit)

Add subsection (E) as follows:

**(E) Outlets per circuit.** In dwelling units, no more than (15) outlets are allowed on one branch circuit. All smoke detectors on a circuit may be counted as a total of one outlet. Appliance circuits are limited to six (6) duplex receptacles per circuit.

*Exception: Fixed lighting circuits designed to meet the appropriate sections of the code.*

23.30.210.52(J) - **Dwelling unit receptacle outlets** (parking spaces).

Add subsection (J) as follows:

**(J) Parking spaces.** For each dwelling unit and mobile home, there shall be at least one (1) exterior GFCI protected duplex outlet on a separate 20-ampere circuit adjacent to required on-site parking locations.

*Exception: For multi-family dwellings, eight-plex and larger where indoor parking is provided, the required number of exterior duplex receptacles may be reduced by the number of indoor heated parking locations.*

23.30.210.52(K) - **Dwelling unit receptacle outlets** (under-floor crawl spaces).

Add subsection (K) as follows:

**(K) Under-floor crawl spaces.** A receptacle shall be provided in each unconnected space; the receptacle shall be located adjacent to a sump when one is provided. This receptacle shall be a GFCI protected duplex outlet.

23.30.230.1 - **Scope.**

Add the following sentence:

The service installation shall also conform to the current written electric service requirements of the utility serving the area.

**23.30.230.32 - Protection Against Damage.**

Add the following paragraph:

Physical protection of underground service laterals for residential services of 200 amperes and less shall consist of not more than nine feet of liquid tight flexible metal conduit.

**23.30.230.70(A)(1) - Readily Accessible Location.**

Add the following paragraph:

The service disconnecting means shall be operable from the exterior of the building if the service disconnect is within the building. A fire pump service disconnect is not required to be operable from the exterior of the building.

**23.30.230.70(A)(3) - Remote Control.**

Replace subsection (3) with:

**(3) Remote Control.** Where a remote control device(s) is used to actuate the service disconnecting means, the service disconnecting means shall be located in accordance with section 230.70(A)(1). The control device shall meet the requirements of the electrical utility.

**23.30.250.53(D) (2) - Supplemental Electrode Required.** (Metal underground water pipe)

Delete the exception.

**23.30.250.68(C) - Grounding Electrode Conductor Connections.**

Delete the exception under location (1).

**23.30.250.118 - Types of Equipment Grounding Conductors.**

Delete items (2) through (14) and replace with:

- (2) The copper sheath of mineral insulated, metal-sheathed cable Type MI.
- (3) Metal enclosures of busways listed for grounding.
- (4) Armor of Type AC cable as provided in 320.108.
- (5) Type MC cable that provides an effective ground-fault current path in accordance with one or more of the following:
  - a. It contains an insulated or uninsulated equipment grounding conductor in compliance with 250.118(1).
  - b. The combined metallic sheath and uninsulated equipment grounding/bonding conductor of inter-locked metal tape-type MC cable that is listed and identified as an equipment grounding conductor.

c. The metallic sheath or the combined metallic sheath and equipment grounding conductors of the smooth or corrugated tube-type MC cable that is listed and identified as an equipment grounding conductor.

(6) Cable trays as permitted in 392.10 and 392.60.

#### 23.30.250.122(B) - **Increase in Size.**

Add the following to the end of the paragraph:

Increase in size shall not be required for circuits less than 100 feet in length. Circuits 100 amps or less may use the 60 degree C column for determining smallest conductor size with sufficient ampacity in accordance with section 110.14. Rounding up shall not be considered as the smallest conductor size with sufficient ampacity.

#### 23.30.300.4(I) - **Protection Against Physical Damage (roofs).**

Add subsection (I) as follows:

**(I) Roofs.** Raceways run on the surface of a roof or subject to damage from snow, ice, or foot traffic, shall be rigid metal or intermediate metal conduit only.

#### 23.30.300.5 - **Underground Installations** (separation from other systems).

Add subsection (L) as follows:

**(L) Separation from other systems.** When direct buried cables or conductors cross or are installed parallel to sewers, water lines, gas or other fuel lines, steam lines, communication and utility electric cables or conductors, a minimum 12 inch radial separation shall be maintained.

#### 23.30.300.24 - **Cold temperature installations.**

Add section 300.24 as follows:

**300.24 Cold Temperature installations:** Thermoplastic type insulated wires or cables, or non-metallic tubing shall not be installed when ambient temperatures are less than 20 degrees F.

#### 23.30.330.40 - **Boxes and fittings.**

Add section 330.24 as follows

330.40 **Boxes and fittings.** An insulated bushing or its equivalent protection shall be provided between the conductors and the outer metal sheath and must be visible for inspection.

23.30.334.10 - **Uses permitted.**

Replace 334.10 (3) with

Other structures permitted on branch circuits that are AFCI protected in occupancies of R1, R2, R3, R4 and I1 classification and with wood framing. Cables shall be concealed in walls, floors, or ceilings that provide a thermal barrier of material that has at least 15-minute finish rating as identified in listings of fire-rated assemblies

23.30.334.104 - **Conductors.**

Replace section 334.104 with:

**334.104. Conductors.** The insulated power conductors shall be sizes 14 AWG through 2 AWG with copper conductors or sizes 10 AWG through 2 AWG with aluminum or copper-clad aluminum conductors. Conductors supplying receptacles shall be minimum size 12 AWG copper conductors or sizes 10 AWG with aluminum or copper-clad aluminum conductors. The communication conductors shall comply with Part V of Article 800.

23.30.410.17 - **Other Closet or Storage Spaces.**

Add section 410.17 as follows:

410.17 **Other Closet or Storage Spaces.** Luminaires shall meet the location requirements for clothes closets or be of a totally enclosed fluorescent or LED type. 410.17

23.30.445.18 (A) - **Disconnecting means.**

Add the following sentence to the end of the paragraph:

Generator disconnecting means shall conform to the requirements of sections 23.30.230.70(A)(1) and 23.30.230.70(A)(3).

23.30.510 - Hazardous (classified) locations.

Add the following informational note:

**Informational Note:** The requirement for elevation of ignition source in the International Mechanical Code and the International Fuel Gas Code does not constitute a hazardous classification in accordance with this code. The requirement for elevation of ignition source may apply to both classified and unclassified areas. The requirement reads as follows:

**Elevation of ignition source.** Equipment and appliances having an ignition source and located in hazardous locations and public garages, private garages, repair garages, automotive motor fuel-dispensing facilities and parking garages shall be elevated such that the source of ignition is not less than 18 inches above the floor surface on which the equipment or appliance rests. For the purpose of this section, rooms or spaces that are not part of the living space of a dwelling unit and that communicate directly with a private garage through openings shall be considered to be part of the private garage. Rooms and spaces that are not part of the living space of a dwelling unit shall include but not be limited to utility, storage, mud, laundry, toilet and bathing rooms. Group F (factory), M (mercantile) and S (storage) occupancies with overhead doors providing access to vehicles and equipment containing combustible fuel shall comply with this section.

**Replace Table 23.30.511.3(C) Table With the following**

Table 511.3(C) Extent of Classified Locations for Major and Minor Repair Garages with Heavier-Than-Air Fuel

Location	Class I		Extent of Classified Location
	Division (Group D)	Zone (Group IIA)	
Repair garage, major (where Class I liquids or gaseous fuels are transferred or dispensed*)	1	1	Entire space within any pit, below grade work area, or subfloor work area that is not ventilated
	2	2	Entire space within any pit, below grade work area, or subfloor work area that is provided with ventilation of at least 0.3 m <sup>3</sup> /min/m <sup>2</sup> (1 ft <sup>3</sup> /min/ft <sup>2</sup> ) of floor area, with suction taken from a point within 300 mm (12 in.) of floor level
	2	2	Up to 450 mm (18 in.) above floor level of the room
	2	2	Within 0.9 m (3 ft.) of any fill or dispensing point, extending in all directions
Specific areas adjacent to classified locations	Unclassified	Unclassified	Areas adjacent to classified locations where flammable vapors are not likely to be released, such as stock rooms, switchboard rooms, and other similar locations, where designed with positive air pressure or where effectively cut off by walls or partitions. Doorways shall be by means of a vestibule providing a two door separation.
Repair garage, minor (where Class I liquids or gaseous fuels are not transferred or dispensed*)	2	2	Entire space within any pit, below grade work area, or subfloor work area that is not ventilated

Table 511.3(C) Extent of Classified Locations for Major and Minor Repair Garages with Heavier-Than-Air Fuel

Location	Class I		Extent of Classified Location
	Division (Group D)	Zone (Group IIA)	
	2	2	Up to 450 mm (18 in.) above floor level, extending 0.9 m (3 ft.) horizontally in all directions from opening to any pit, below grade work area, or subfloor work area that is not ventilated
	Unclassified	Unclassified	Entire space within any pit, below grade work area, or subfloor work area that is provided with ventilation of at least 0.3 m <sup>3</sup> /min/m <sup>2</sup> (1 ft <sup>3</sup> /min/ft <sup>2</sup> ) of floor area, with suction taken from a point within 300 mm (12 in.) of floor level
Specific areas adjacent to classified locations	Unclassified	Unclassified	Areas adjacent to classified locations where flammable vapors are not likely to be released, such as stock rooms, switchboard rooms, and other similar locations, where designed with positive air pressure, or where effectively cut off by walls or partitions. Doorways shall be by means of a vestibule providing a two door separation

\*Includes draining of Class I liquids from vehicles.

**Replace 23.30.511.3 (D) Table with the following**

Table 511.3(D) Extent of Classified Locations for Major Repair Garages with Lighter-than-Air Fuel

Location	Class I		Extent of Classified Location
	Division <sup>2</sup>	Zone <sup>3</sup>	
Repair garage, major (where lighter-than-air gaseous fueled <sup>1</sup> vehicles are	2	2	Within 450 mm (18 in.) of ceiling, except as noted below
	Unclassified	Unclassified	For Existing buildings only within 450 mm (18 in.) of ceiling where ventilation of at least 0.3 m <sup>3</sup> /min/m <sup>2</sup>

Table 511.3(D) Extent of Classified Locations for Major Repair Garages with Lighter-than-Air Fuel

Location	Class I		Extent of Classified Location
	Division <sup>2</sup>	Zone <sup>3</sup>	
repaired or stored)			(1 ft <sup>3</sup> /min/ft <sup>2</sup> ) of floor area, with suction taken from a point within 450 mm (18 in.) of the highest point in the ceiling
Specific areas adjacent to classified locations	Unclassified	Unclassified	Areas adjacent to classified locations where flammable vapors are not likely to be released, such as stock rooms, switchboard rooms, and other similar locations, where designed with positive air pressure, or where effectively cut off by walls or partitions. Doorways shall be by means of a vestibule providing a two door separation.

<sup>1</sup>Includes fuels such as hydrogen and natural gas, but not LPG.

<sup>2</sup>For hydrogen (lighter than air) Group B, or natural gas Group D.

<sup>3</sup>For hydrogen (lighter than air) Group IIC or IIB+H2, or natural gas Group IIA

**23.30.511.3(E)(1) - Specific areas adjacent to classified locations.**

Replace subsection (1) with:

- (1) **Specific areas adjacent to classified locations.** Areas adjacent to classified locations in which flammable vapors are not likely to be released such as offices, stock rooms, switchboard rooms, and other similar locations shall be unclassified where any of the following parameters apply:
- a) Adjacent areas less than 300 square feet and mechanically ventilated at a rate of four or more air changes per hour.
  - b) Adjacent areas designed with positive air pressure.
  - c) Adjacent areas effectively cutoff by walls or partitions. Doorways shall be by means of a vestibule providing a two door separation.

**23.30.513.3(D) - Areas Suitably Cut Off and Ventilated.**

Replace subsection (D) with:

**(D) Areas Suitably Cut Off and Ventilated.** Areas adjacent to classified locations in which flammable liquids or vapors are not likely to be released such as offices, stock rooms, electrical control rooms, and other similar locations shall be unclassified where designed with positive air pressure and effectively cutoff by walls. Doorways shall be by means of a vestibule providing a two door separation.



230.30.517.13 (A) **Wiring Method**

Add exception to 517.13 (A)

Exception: shall not apply to Patient Care - Support (category 4) Space

23.30.620.22

Add to the following to 620.22 (A)

If the elevator is powered by a generator then these circuits shall also be fed by the generator.

23.30.620.23 (A)

Add to the following paragraph to 620.23 (A)

The separate circuits required in 620.23(A) and 620.24(A) shall be one or more lighting circuits and one or more receptacle circuits that are separated from each other and from building circuits but may be comingled between machine room, control room, machine space, control space, hoistway and pit. If the elevator is powered by a generator then these circuits shall also be fed by the generator.

23.30.620.24(A)

Add to the following paragraph to 620.24 (A)

The separate circuits required in 620.23(A) and 620.24(A) shall be one or more lighting circuits and one or more receptacle circuits that are separated from each other and from building circuits but may be comingled between machine room, control room, machine space, control space, hoistway and pit. If the elevator is powered by a generator then these circuits shall also be fed by the generator.

23.30.620.51(D) (1)

Replace **620.51(D) (1) With**

**(1) Identification**

The disconnecting means shall be provided with a sign to identify the location of the supply side overcurrent protective device.

Where there is more than one driving machine or motor controller in a machine room, machine space, control room or control space the disconnecting means shall be numbered to correspond to the identifying number of the driving machine they control.

**23.30.620.71(A) - Motor controllers.**

Add the following to the end of the paragraph:

Unless specifically addressed in the adopted elevator code (ASME A17.1). Motor controllers that are recessed mounted in a wall with less than 1¼ inch clearance between the back of the cabinet and the inside surface of the wall sheathing shall be protected by 1/16 inch thick steel plate, or equivalent. This plate is in addition the cabinet construction.

**23.30.620.85** Replace 620.85 with

**Ground-Fault Circuit –Interrupter Protection for Personnel.** Each 125-volt, single-phase, 15- and 20-ampere receptacle installed in pits, in hoistways, on the cars of elevators, dumbwaiters and wind turbine tower elevators, on the platforms or in the runways and machinery spaces of platform lifts and stairway chairlifts, and in escalator and moving walk wellways shall be of the ground-fault circuit interrupter type.

All 125-volt, single-phase, 15- and 20-ampere receptacles installed in machine rooms, machine space, control spaces, and control rooms shall be GFCI protected by a ground-fault type circuit-interrupter located in that space for personnel.

A single receptacle supplying a permanently installed sump pump shall not require ground-fault circuit-interrupter protection.

Feed through ground-fault type protection to other spaces shall be prohibited.

**23.30.700.19 - Multiwire branch circuits.**

Add the following exception:

*Exception: Existing installations on multiwire branch circuits where retrofit kits, unit equipment or same type replacements are installed, or no more than 6 new luminaires with associated branch wiring are added to each existing circuit.*

**23.30.702.5 - Transfer equipment.**

Add the following to the end of the section:

Transfer switches for residential applications which are installed without a permanently installed generator shall be configured to allow installation as a separately derived system (i.e. an additional switched pole for the grounded conductor will be provided in the transfer switch).