

WAC 296-307-36630 What supports, enclosures, and equipment must be grounded? (1) Metal cable trays, metal raceways, and metal enclosures for conductors must be grounded.

Exceptions:

- (a) Metal enclosures such as sleeves that are used to protect cable assemblies from physical damage need not be grounded; or
- (b) Metal enclosures for conductors added to existing installations of open wire, knob-and-tube wiring, and nonmetallic-sheathed cable need not be grounded if all of the following conditions are met:
 - (i) Runs are less than 25 feet;
 - (ii) Enclosures are free from probable contact with ground, grounded metal, metal laths, or other conductive materials; and
 - (iii) Enclosures are guarded against employee contact.

(2) Metal enclosures for service equipment must be grounded.

(3) Frames of electric ranges, wall-mounted ovens, counter-mounted cooking units, clothes dryers, and metal outlet or junction boxes that are part of the circuit for these appliances must be grounded.

(4) Exposed noncurrent-carrying metal parts of fixed equipment that may become energized must be grounded under any of the following conditions:

(a) If within 8 feet vertically or 5 feet horizontally of ground or grounded metal objects and subject to employee contact;

(b) If located in a wet or damp location and not isolated;

(c) If in electrical contact with metal;

(d) If in a hazardous (classified) location;

(e) If supplied by a metal-clad, metal-sheathed, or grounded metal raceway wiring method;

(f) If equipment operates with any terminal at over 150 volts to the ground; however, the following need not be grounded:

(i) Enclosures for switches or circuit breakers used for other than service equipment and accessible to qualified persons only;

(ii) Metal frames of electrically heated appliances that are permanently and effectively insulated from ground; and

(iii) The cases of distribution apparatus such as transformers and capacitors mounted on wooden poles that are over 8 feet above ground or grade level.

(5) Under any of the conditions below, exposed noncurrent-carrying metal parts of cord-connected and plug-connected equipment that may become energized must be grounded.

(a) When equipment is in hazardous (classified) locations.

(b) When equipment is operated at over 150 volts to ground.

Exception:

Guarded motors and metal frames of electrically heated appliances need not be grounded if the appliance frames are permanently and effectively insulated from ground.

(c) When equipment is one of the following:

- Refrigerators, freezers, and air conditioners;
- Clothes-washing, clothes-drying and dishwashing machines, sump pumps, and electrical aquarium equipment;
- Hand-held motor-operated tools;
- The following motor-operated appliances: Hedge clippers, lawn mowers, snow blowers, and wet scrubbers;
- Cord-connected and plug-connected appliances used in damp or wet locations or by employees standing on the ground or on metal floors or working inside of metal tanks or boilers;
- Tools likely to be used in wet and conductive locations; and
- Portable hand lamps.

Tools likely to be used in wet and conductive locations need not be grounded if supplied through an isolating transformer with an ungrounded secondary of a maximum of 50 volts. Listed or labeled portable tools and appliances protected by an approved system of double insulation, or its equivalent, need not be grounded. The equipment must

be distinctively marked to indicate that the tool or appliance uses an approved system of double insulation.

(6) The metal parts of the following nonelectrical equipment must be grounded: Frames and tracks of electrically operated cranes; frames of nonelectrically driven elevator cars to which electric conductors are attached; hand operated metal shifting ropes or cables of electric elevators, and metal partitions, grill work, and other metal enclosures around equipment of over 750 volts between conductors.

[WSR 97-09-013, recodified as § 296-307-36630, filed 4/7/97, effective 4/7/97. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060. WSR 96-22-048, § 296-306A-36630, filed 10/31/96, effective 12/1/96.]