Electrical–General Requirements

Reset Form

Self-Inspection Checklist

Optional Information

Name of School:
Date of Inspection:
Career-Technical program/course/room:
Signature of inspector:

Guidelines:

This checklist covers regulations issued by the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) under the general industry standards subpart S-29 CFR 1910.303; 1910.305; and 1910.335 and the construction standards subpart K-29 CFR 1926.403 and 1926.405. It applies to all electrical use systems. This checklist does not cover installations in ships, watercraft, railway rolling stock, aircraft, or automotive vehicles other than mobile homes and recreational vehicles. The regulations cited apply only to private employers and their employees, unless adopted by a State agency and applied to other groups such as public employees. A yes answer to a question indicates that this portion of the inspection complies with the OSHA, and EPA standard, or with a non-regulatory recommendation. Definitions of terms in bold type are provided at the end of the checklist.

This checklist does not address voltages greater than 600 volts (nominal). For these voltages, consult the OSHA regulations.

Examination, Installation, and Use of Equipment		
	1	Are only approved conductors and equipment used for electrical installations? [29 CFR 1910.303(a) and 1926.403(a)] *Note: Conductors and equipment must be listed or labeled by a recognized testing laboratory, such as Factory Mutual. [29 CFR 1910.303(b)(2)]*
	2	Is equipment used and installed in accordance with instructions on the listing or label? [29 CFR 1910.303(b)(2) and 1926.403(b)(2)]
	3	Is all electrical equipment free from recognized hazards that are likely to cause death or serious physical harm? [29 CFR 1910.303(b)(1) and 1926.403(b)(1)] *Note: Violations have included the following: male plugs with fiber insulators were not dead fronted; metal junction boxes were used on extension cords; metal junction boxes were used on the ends of pendants; receptacles were loose in their mountings; open light sockets exposed live parts; an electric outlet strip had an open neutral reading when tested with a circuit analyzer; on/off switch boxes for fans were not secured to the wall; heavy items were hanging from the lighting fixtures; floor mounted receptacles were loose in their mountings; receptacles were broken; and electric cords were frayed, loose, and had exposed wires.*

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Splices		
	4	Are conductors spliced or joined by using suitable devices or by brazing, welding, or soldering with a fusible metal or alloy? [29 CFR 1910.303(c) and 1926.403(e)]
	5	Are soldered splices first joined so as to be mechanically and electrically secure and then soldered? [29 CFR 1910.303(c) and 1926.403(e)]
	6	Are all splices, joints, and free ends of conductors covered with adequate insulation? [29 CFR 1910.303(c) and 1926.403(e)]

Arcing Parts		
	7	Are all parts of electrical equipment that ordinarily produce arcs, sparks, flames, or molten metal enclosed or isolated from all combustible material? [29 CFR 1910.303(d) and 1926.403(f)]

Marking		
	8	Is all electrical equipment marked with the manufacturer's identity? [29 CFR 1910.303(e) and 1926.403(g)]
	9	Is all electrical equipment marked with the voltage, current, wattage or other ratings as necessary? [29 CFR 1910.303(e) and 1926.403(g)]
	10	Are these markings durable enough to withstand the working environment? [29 CFR 1910.303(e) and 1926.403(g)]

Identification of Disconnecting Means and Circuits		
	11	Is each disconnecting means for motors and appliances legibly marked to indicate its purpose, unless located and arranged so the purpose is evident? [29 CFR 1910.303(f) and 1926.403(h)]
	12	Is each service, feeder, and branch circuit at its disconnecting means or overcurrent device legibly marked to indicate its purpose, unless located and arranged so the purpose is evident? [29 CFR 1910.303(f) and 1926.403(h)] *Note: Circuit breaker panels should be marked to clearly indicate the purpose of each circuit breaker.*

600 Volts, Nominal, or Less Working Space About Electric Equipment		
	13	Is access and working space around electrical equipment sufficient to provide ready and safe operation and maintenance? [29 CFR 1910.303(g)(1) and 1926.403(i)(1)]
	14	Are sufficient work clearances (see note) maintained around all equipment operating at 600 volts or less? [29 CFR 1910.303(g)(1)(i) and 1926.403(i)(a)(i)] *Note: Working distances around electrical equipment vary according to the nominal voltage to the ground, exposed live parts, and year equipment was installed. These distances vary from 2.5 to 4 feet. Consult the OSHA regulations for details.*
	15	Are required working spaces around electrical equipment kept free of stored materials? [29 CFR 1910.303(g)(1)(ii) and 1926.403(i)(1)(ii)]
	16	When live parts are normally exposed on the front of switchboards or motor control centers, is the working space in front of such equipment greater than or equal to 3 feet? [29 CFR 1910.303(g)(1)(iv) and 1926.403(i)(1)(iv)]
	17	Is illumination provided for all working spaces around service equipment, switchboards, panel boards, and motor control centers installed indoors? [29 CFR 1910.303(g)(1)(v)]
	18	Is a minimum headroom of 6 feet, 3 inches of working space maintained about service equipment, switchboards, panel boards, or control centers? [29 CFR 1910.303(g)(1)(vi) and 1926.403(i)(1)(v)]

600 Volts, Nominal, or Less Guarding of Live Parts		
	19	Are live parts of electrical equipment operating at 50 volts or more guarded against contact by approved cabinets or other forms of approved enclosures? [29 CFR 1910.303(g)(2)(i) and 1926.403(i)(2)(i)] *Note: All splices should be in junction boxes or other proper enclosures. The requirement to guard the live part is not applicable in the following situations:* 1. when the live part is located in a room, vault, or similar enclosure that is accessible only to qualified persons. 2. when permanent, substantial partitions or screens are arranged so that only qualified persons have access to the space within reach of the live parts. Any openings in such partitions or screens shall be sized and located so that persons are not likely to come into accidental contact with the live parts or to bring conducting objects into contact with them. 3. when the live part located in a suitable balcony, gallery, or platform elevated and arranged to exclude unqualified persons. 4. when the live part is elevated 8 feet or more above the floor or other working surface
	20	In areas where electrical equipment may be exposed to physical damage, are the enclosures or guards arranged and of such strength to prevent such damage? [29 CFR 1910.303(g)(2)(ii) and 1926.403(i)(2)(ii)] *Note: Incandescent and fluorescent light bulbs should be guarded if subject to physical damage. Light fixtures should have protective plates.*
	21	Are all entrances to rooms or other guarded locations containing exposed live parts marked with conspicuous warning signs forbidding unqualified persons to enter? [29 CFR 1910.303(g)(2)(iii) and 1926.403(i)(2)(iii)]
	22	When normally enclosed live parts are exposed for maintenance and repair, are they guarded to protect unqualified persons from contact? [29 CFR 1910.335(a)(2)(ii)]
	23	Are safety signs, safety symbols, or accident prevention tags used where necessary to warn students and teachers about electrical hazards? [29 CFR 1910.335(b)(1)]

Wiring Methods–General Requirements		
	24	Are all metal raceways, cable armor, and other metal enclosures for conductors metallically joined together into a continuous electric conductor (including connections to all boxes, fittings, and cabinets) to provide effective electrical continuity? [29 CFR 1910.305(a)(1)(i) and 1926.405(a)(1)(i)]
	25	Is wiring in ducts for transporting dust, flammable vapors and exhaust from commercial-type cooking equipment prohibited? [29 CFR 1910.305(a)(1)(ii) and 1926.405(a)(1)(ii)]

Wiring Methods–Cable Trays		
	26	Are only acceptable types of cables used in cable trays? [29 CFR 1910.305(a)(3)(i)] *Note: Consult* 29 CFR 1910.305(a)(3)(i) *for complete list of acceptable types of cables.*
	27	Are cable tray systems prohibited in hoistways or where they are subjected to severe physical damage? [29 CFR 1910.305(a)(3)(ii)]

Definitions

Approved: acceptable to the authority enforcing this checklist.

Approved for the purpose: determined by a nationally recognized testing laboratory, inspection agency or other organization concerned with the product evaluation as part of its listing and labeling program.

Branch circuit: the circuit conductors between the final overcurrent device protecting the circuit and the outlet(s).

Disconnecting means: a device, or group of devices, or other means by which the conductors of a circuit can be disconnected from their source of supply.

Feeder: all circuit conductors between the service equipment, or the generator switchboard of an isolated plant, and the final branch-circuit overcurrent device.

Qualified person: one familiar with the construction and operation of the equipment and the hazards involved. Whether an employee is considered to be a "qualified person" depends upon various circumstances in the workplace. It is possible and, in fact, likely for an individual to be considered "qualified" with regard to certain equipment in the workplace, but "unqualified" as to other equipment. A person who is undergoing on-the-job training and who, in the course of such training, has demonstrated an ability to perform duties safely at his or her level of training and who is under the direct supervision of a qualified person is considered to be a qualified person for the performance of those duties.

Raceway: a channel designed expressly for holding wires, cables, or busbars, with additional functions as permitted. Raceways may be of metal or insulating materials, and the term includes rigid metal conduit, rigid nonmetallic conduit, intermediate metal conduit, liquid tight flexible metal conduit, flexible metallic tubing, flexible metal conduit, electrical metallic tubing, underfloor raceways, cellular concrete floor raceways, cellular metal floor raceways, surface raceways, wireways, and busways.

Service: the conductors and equipment for delivering energy from the electricity supply system to the wiring system of the premises served.