

Terminals of motors must be so guarded that they cannot be accidentally touched or short-circuited.

The insulation resistance of each motor-circuit, including all devices necessary for the working of the motor, shall be not less than 1 megohm to earth when all metal parts that are required to be connected to earth are so connected.

32. Arc Lamps.

All arc lamps shall be so guarded as to prevent pieces of ignited carbon or broken glass falling from them, and shall not be used where there is any danger of the presence of explosive dust or gas.

Arc lamps used in any street for public lighting shall be so fixed as not to be in any part at a less height than 10 ft. from the ground.

Arc lamps used in any street for private lighting shall be so fixed as not to be in any part at a less height than 8 ft. from the ground, and shall be so screened as to prevent risk of contact with persons.

Arc lamps must be insulated from earth, and be fixed so that they cannot swing into contact with any substance, metallic or otherwise, that might connect them with earth. They may be run in series, and at any available voltage up to 3,000 volts. Every precaution must be taken against the danger of shock during trimming of high-pressure arc-lamp circuits.

Resistances for the regulation of arc lamps, if exterior to the lamp, shall be mounted on incombustible bases, shall be so placed that they cannot be touched by conduction or radiation set fire to any contiguous material, and shall be of ample size to safely carry the maximum current that will normally flow through them.

Each arc-lamp circuit shall be provided with a fuse on each pole, except when connected to an earthed neutral or intermediate conductor, when there shall be only one fuse placed on the other pole of the arc-lamp circuit. Interior arc lamps shall also be provided with a switch on each circuit.

33. Underground Conductors.

Underground conductors shall be thoroughly insulated, and shall be protected from mechanical damage by steel armouring, wooden boxing, or earthenware, stoneware, concrete, iron, or fibre conduits or pipes. They shall be laid, wherever possible, under the footpaths, and with a cover of at least 9 in. from the surface of the pavement. Where laid under the roadway this cover shall be increased to 2 ft.

All conduits, pipes, casings, and street boxes used as receptacles for electric lines shall be constructed of durable material, and shall be of ample strength to prevent damage from heavy traffic; and reasonable means shall be taken to prevent the accumulation of gas in such receptacles.

Where any underground line crosses or is in proximity to any metallic substance, special precaution shall be taken against the possibility of any electrical charging of the metallic substance from the line, or from any metallic conduit, pipe, or casing enclosing the line.

Every portion of any high or extra-high pressure electric line where brought above the surface of the ground, or in any subway, not in the sole occupation of the licensee shall be completely enclosed either in a tube of highly insulated material embedded in brickwork, masonry, or cement concrete, or in strong metal casing efficiently connected with earth.

When any high or extra-high pressure electric line is laid beneath the surface of the ground, efficient means shall be taken to render it impossible that the surface of the ground, or any neighbouring electric line or conductor, shall become charged by leakage from the high or extra-high pressure line.

A high or extra-high pressure electric line shall not be used for the supply of energy before it has been completely laid, properly jointed, examined, and tested, or until it is in the sole charge of the licensee; and every such line shall, during its use, be in the sole charge of the licensee.

34. Street Boxes.

The covers of street boxes shall be so secured that they cannot be opened except by means of a special appliance. Street boxes shall be either filled with cable compound or oil, or if not so filled shall be inspected from time to time for the presence of gas, and suitable action shall be taken to check its influx and accumulation.

35. Earthing Conduits.

All metallic conduits, pipes, or casings containing high or extra-high pressure electric lines shall be efficiently earthed, and shall be so jointed and connected across all street boxes and other openings as to make good electrical contact throughout their whole length.

36. Maintenance.

Every portion of an electric-supply system, whether aerial or underground, also all structural parts and electric appliances and devices belonging to or connected therewith, shall be duly and efficiently supervised and maintained by the licensee as regards both electrical and mechanical conditions.

37. Insulation of Electric Lines.

Every insulated conductor, either overhead or underground, shall be tested for insulation after having been placed in position and before it is used for the purposes of supply, the testing pressure being the maximum pressure to which it is intended to be subjected in use, and in any case at least 500 volts; and the licensee shall duly record the results of such tests.

A high or extra-high pressure circuit shall not be brought into use unless the insulation of every part thereof has withstood the continuous application, during half an hour of pressure exceeding the maximum pressure to which it is intended to be subjected in use—in the case of every electric line to be used for a pressure not exceeding 10,000 volts, twice the said maximum pressure; and in the case of a line to be used for a pressure exceeding 10,000 volts, a pressure exceeding the said maximum pressure by 10,000 volts. The licensee shall record the results of the tests of each circuit or section of a circuit.

The insulation of every complete circuit used for the supply of energy, including all machinery, apparatus, and devices forming part of or in connection with such circuit, shall be so maintained that the leakage current shall not under any condition exceed one-thousandth part of the maximum supply current; and suitable means shall be provided for the indication and localization of leakage. Every leakage shall be remedied without delay.

Every such circuit shall be tested for insulation at least once in every month, and the licensee shall duly record the results of such tests; provided that when any part of an electric circuit is normally connected with earth, as described in clause 3, paragraphs 2, 3, and 4, the provision of this regulation shall not apply to that circuit so long as the connection with earth exists.

Copies of the results of all tests shall be forwarded to the Public Works Engineer.

38. Service Lines from Distribution-lines.

Service connections from aerial lines shall be taken direct from insulators, and shall not be tapped off between supports. They shall be led as directly as possible to insulators firmly attached to some portion of the consumer's premises which is not accessible to any person without the use of a ladder or other special appliance.

Every portion of any electric service line, except an earthed neutral or intermediate conductor, which is outside a building, but is accessible therefrom, shall be efficiently protected by rubber insulation of 600-megohm grade.

39. Service Connections.

The licensee shall be responsible for all electric lines, or wires, fittings, and apparatus belonging to it or under its control which may be upon a consumer's premises, being maintained in a safe condition and in all respects fit for supplying energy.

In delivering the energy to a consumer's terminals the licensee shall exercise all due precautions so as to avoid risk of causing fire on the premises.

A suitable safety-fuse or other automatic circuit-breaker shall be inserted in each electric service line, within or without a consumer's premises, as close as possible to the point of entry, and contained within a suitable locked or sealed receptacle of fireproof construction.

All electric wires or apparatus on a consumer's premises, except such parts as require to be earthed, shall be highly insulated and suitable for the voltage at which the supply is given. They shall be thoroughly protected against injury to the insulation or access of moisture. All electric wires shall be so fixed and protected as to prevent the possibility of electrical discharge to any adjacent metallic substance.

The maximum permissible current in any conductor shall not exceed the value permitted under the rules of the Institution of Electrical Engineers of Great Britain.

40. Installation on Consumers' Premises.

The licensee shall not connect the wires and fittings on a consumer's premises with its lines, or, in the case of premises already connected, continue the supply from its lines, unless it is reasonably satisfied that the requirements of the licensee are complied with; that the wiring and fittings are suitable for the voltage at which supply is given and in accordance with the wiring rules of the Institution of Electrical Engineers of Great Britain; and that the connection or continuance of supply would not cause a leakage from those wires dangerous or likely to become dangerous to life or property.

For the purpose of satisfying itself that the requirements of the licensee are being observed in so far as they apply to wires on a consumer's premises, the licensee shall require that notice shall be served of the intention to install wires, fittings, lamps, motors, or other apparatus on any such premises, and may inspect and test the same during any reasonable hours while the installation of such is in progress.