

3. *Limitations of extra high-pressure supply.*—An extra high-pressure supply shall not be given except to distributing stations or other premises in the sole occupation of the undertakers, and with the written consent of the constituted authorities, and subject to such regulations and conditions as the constituted authorities may prescribe.

Underground Mains and Conductors.

4. *Maximum working current.*—The maximum working current shall not be sufficient to raise the temperature of the conductor in any part to such an extent as to materially alter the physical condition or specific resistance of the insulating covering, if any or in any case to raise such temperature to a greater extent than 30° Fahrenheit; and efficient automatic means shall be provided which will render it impossible for this maximum working current to be by any accident exceeded to the extent of 50 per centum, even for short intervals of time; and special care shall be taken that the cross sectional area and conductivity at joints is sufficient to avoid local heating, and that the joints are properly made and protected against corrosion.

5. *Lightning arresters.*—Where any portion of any conductor is exposed in such a position as to be liable to be affected by lightning, a lightning arrester, of such pattern and construction as may be from time to time approved by the constituted authorities, shall be placed in the circuit for the efficient protection of all instruments connected therewith.

6. *High-pressure conductors laid above ground.*—Where any high-pressure conductor, other than an aerial conductor, is placed above the surface of the ground, it shall be completely enclosed in brickwork, masonry, or cement concrete, or in strong metal cases efficiently connected to earth, for a height of at least 10 feet above the ground.

7. *High-pressure conductors laid in subways, &c.*—Where any high-pressure conductor is laid in a subway, or in the same conduit with any low-pressure conductor, it shall be completely enclosed in strong metal casing efficiently connected to earth.

8. *High and low pressure conductors laid in proximity.*—Where any high-pressure conductor is laid within a less distance than 18 inches from any low-pressure conductor, or from the surface of the ground, or where any low-pressure conductor is laid within the above-mentioned distance from any previously laid high-pressure conductor, efficient means shall be taken to render it impossible that the low-pressure conductor or the surface of the ground shall become electrically charged by any leakage from or defect in the high-pressure conductor.

9. *Continuous insulation.*—Every high-pressure conductor shall be continuously insulated with a durable and efficient material, which shall be protected on the outside against injury or removal by abrasion, and every such conductor shall be tested for insulation after having been laid in position, and before any joints for service lines are made. The insulation resistance under these conditions shall not be less, in any section of the conductor, than at the rate of 100,000 ohms. per mile for every volt of pressure of the supply under a testing pressure of at least 100 volts, and the undertakers shall duly record the results of the tests of each conductor or section of a conductor, and at all times permit the electric inspector to examine and take copies of such record.

10. *Minimum insulation resistance allowable—Indicator of leakage.*—The insulation resistance of any complete circuit used for high-pressure supply, including all devices for producing, consuming, or measuring energy, connected to such circuit, shall be such that, should any part of the circuit be put to earth through a resistance of 2,000 ohms., the leakage current shall not exceed 0.04 ampere in the case of continuous currents, or 0.02 ampere in the case of alternating currents. Every such circuit shall be fitted with an instrument, of such pattern and construction as may from time to time be approved by the constituted authorities, which shall immediately indicate any defect which may at any time occur in the insulation resistance of either conductor.

Every such circuit shall be tested for insulation at least once in every week, and the undertakers shall duly record the results of such testings, and at all times permit the electric inspector to examine and take copies of such record.

11. *Precautions against sparking with high-pressure alternating current mains.*—In the case of a high-pressure supply on any alternating current system, where separately insulated conductors are laid in the same conduit or pass through the same boxes, precautions shall be taken against the discharge of electric sparks between the insulating covering of oppositely charged conductors, by providing a sufficient connexion of a conducting nature from one covering to the other.

Conduits.

12. *Conduits to be durable and strong.*—All conduits used as receptacles for conductors shall be constructed of durable material, and of ample strength to resist any pressure due to heavy traffic or other forces to which they may be expected to be subjected.

13. *To be kept free from water.*—Where the conductors in any conduit are not continuously insulated, adequate precautions shall be taken to insure that no accumulation of water shall take place in any part sufficient to raise the level of the water into contact with the conductors.

14. *To be kept free from gas.*—All conduits for conductors constructed in streets in which gas mains are also laid shall be efficiently protected against an accumulation of gas.

15. *Precautions with respect to street boxes.*—Where any street box contains high-pressure conductors efficient means shall be taken to render it impossible that the covers or other exposed parts of these boxes, or any adjacent material forming the surface of the street, shall become electrically charged, whether by reason of leakage, defect, or otherwise; and all street boxes shall be efficiently protected against any accumulation of gas or water, and their covers so secured that they cannot be opened except by means of a special appliance.

Aerial Conductors.

16. *Height from ground, and distance from buildings, &c.*—An aerial conductor in any street or thoroughfare shall not, in any part thereof, be at a less height from the ground than 20 feet; or, where it crosses a street, 30 feet, or within 6 feet of any building or erection other than a support for the conductor, except where brought into a building for the purpose of supply