Chapter E 560

FARM WIRING

E 560.01 General. Farms contain a variety of different locations from dry to corrosive and are generally located in areas where it is difficult to obtain low resistance grounds. In addition farm animals are often in a position where they form a path to ground for any electric charge which may appear on stanchions. This chapter covers only those features of farm wiring which are to be handled differently from other occupancies. Other rules in this code are applicable to farm wiring when not in conflict with this chapter.

History: Cr. Register, April, 1964, No. 100, eff. 5–1–64.

E 560.02 Service. (1) The electric service may be brought to one point or one building and complete service equipment placed at that point or the service equipment may be omitted. If the service entrance equipment is placed at one point, disconnect means shall be placed at each building but service cable and entrance is not necessary. If service disconnect means are not located at one point each building shall have a complete service entrance.

(2) The water pump may be connected in such a way that the opening of other than its own circuit protection will not interrupt service to the pump.

(3) Service equipment and any other outdoor electrical equipment should be placed at least 6 feet above the ground.

History: Cr. Register, April, 1964, No. 100, eff. 5–1–64.

E 560.03 Grounding. (1) The neutral conductor and service raceway shall be grounded at the entrance to each building served. If the buried portion of the water system on the farm is less than 50 feet, excluding well casings, or has a resistance to ground of more than 3 ohms, the water system shall be augmented by at least 2 grounding electrodes recognized in section E 250.083.

Note: Any metal stanchions or other metal objects in contact with animals should be insulated from the metal in contact with the ground electrode if this is possible. It may be necessary to install a gravity feed to water cups or use hoses arranged to drain when shut off. The metal in contact with animals may be grounded separately. Additional protection for animals in stanchions could be provided by bonding all parts of the stanchions together and placing metal reinforcing rods bonded to the stanchions in the floor.

(2) The neutral conductor shall be grounded at each building even though there may be no service entrance equipment. In addition a ground shall be carried back from metal enclosures of electrical equipment to the point where the neutral is grounded. The ground for noncurrent carrying parts and the neutral shall be tied together at the grounding point.

History: Cr. Register, April, 1964, No. 100, eff. 5–1–64.

E 560.04 Wiring. The following types of wiring may be used for different farm locations:

(1) Spaces where livestock is housed, milk houses, utility rooms, pump houses, cooling rooms, root cellars, silos, chicken coops, and basements, knob-and-tube wiring or nonabsorbent (Neoprene jacket) non-metallic sheathed cable shall be used. In addition, insulated boxes, lampholders, ducts, and bushings should be used. The type of insulation recommended is porcelain. If some metal enclosures must be used they shall be mounted on insulating material out of contact with masonry. Entrance switches and distribution cabinets may be placed outside and this is recommended where corrosive, temperature and moisture conditions within the building warrant.

(2) Dry portions of living quarters, any type of wiring system authorized by this code may be used.

(3) Workshops, storage sheds, shelters, tobacco sheds, any type of wiring system authorized by this code may be used.

(4) Hay mows and granaries. Any type of wiring authorized by this code may be used, provided all lamps are installed in a vertical position and protected with a dust-tight fixture, all wiring is arranged or enclosed to keep hay and grain away, and ducts if used arranged to reduce condensation and to drain.

(5) Outside wiring. For outside wiring requirements see chapter E 730.

History: Cr. Register, April, 1964, No. 100, eff. 5–1–64.