ARTICLE
517
HEALTH CARE FACILITIES

Introduction to Article 517—Health Care Facilities

Article 517 applies to electrical wiring in health care facilities such as hospitals, nursing homes, limited care and supervisory care facilities, clinics, medical and dental offices, and ambulatory care facilities that provide services to human beings. The requirements of Article 517 do not apply to business offices or waiting rooms, or to animal veterinary facilities. Many of these rules are outside of the scope of this material, however we do cover the following topics in this article:

- Wiring Methods
- Equipment Grounding Conductor for Receptacles and Fixed Electrical Equipment in Patient Care Spaces
- Isolated Ground Receptacles

Article 517 consists of seven parts:

- Part I. General
- Part II. Wiring and Protection
- Part III. Essential Electrical Systems (not covered)
- Part IV. Inhalation Anesthetizing Locations (not covered)
- Part V. Diagnostic Imaging and Treatment Equipment (not covered)
- Part VI. Communications, Signaling Systems, Data Systems, Fire Alarm Systems, and Systems Less than 120V, Nominal (not covered)
- Part VII. Isolated Power Systems (not covered)

517.16 Isolated Ground Receptacles

(A) Inside Patient Care Vicinity. An isolated ground receptacle must not be installed within a patient care vicinity. ▸Figure 517–10

(B) Outside Patient Care Vicinity. Isolated ground receptacle(s) within the patient care space (as defined in 517.2), but outside the patient care vicinity must comply with the following:

(1) The equipment grounding terminal of isolated grounding receptacles must be connected to an insulated equipment grounding conductor in accordance with 250.146(D) and installed in a wiring method described in 517.13(A). The equipment grounding conductor connected to the equipment grounding terminals of the isolated grounding receptacle must have green insulation with one or more yellow stripes along its entire length. ▸Figure 517–11

(2) The insulated equipment grounding conductor required by 517.13(B)(1) must be connected to the metal enclosure containing the isolated ground receptacle in accordance with 517.13(B)(1)(2).

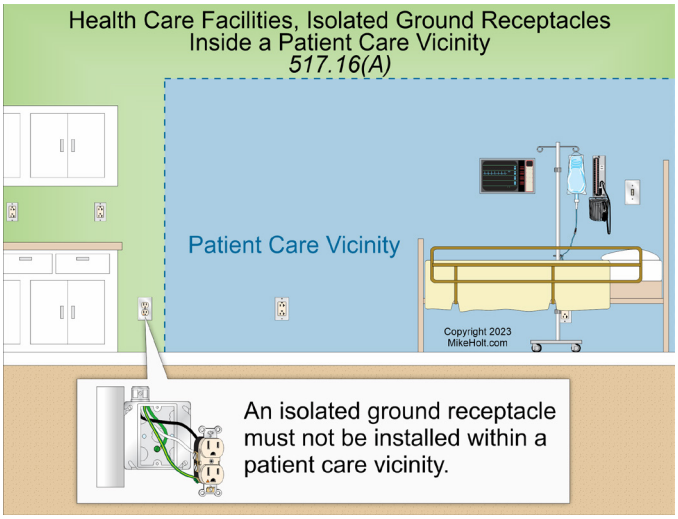


Figure 517–10

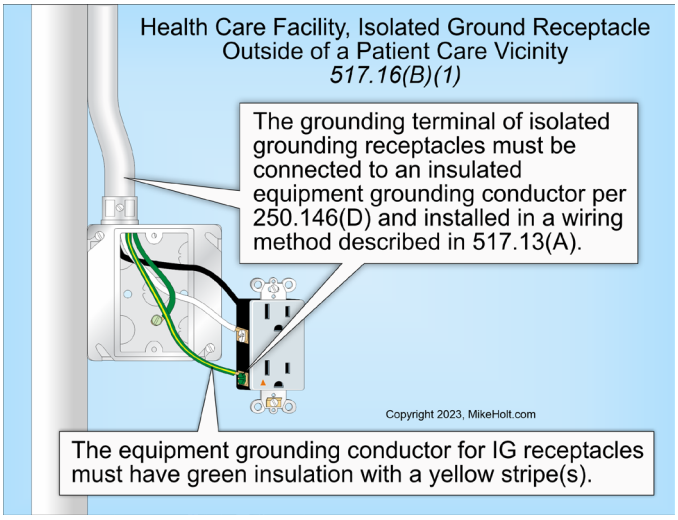


Figure 517–11

Note 2: Care should be taken in specifying a system containing isolated ground receptacles because the impedance of the effective ground-fault current path is dependent on the equipment grounding conductor(s). It does not benefit from any conduit or building structure in parallel with the equipment grounding conductor.

Author's Comment:

- Use of an isolated equipment grounding conductor does not relieve the requirement for connecting the raceway system and outlet box to an equipment grounding conductor to establish a low-impedance fault current path back to the supply source.
- The equipment grounding conductor of isolated ground receptacles does not provide the benefits of the multiple equipment grounding paths required in 517.13. For that reason, isolated ground receptacles cannot be installed in a patient care vicinity, but are allowed in a patient care space where the installation complies with 517.13(A) and (B), if the isolated equipment grounding conductor is identified by green insulation with one or more yellow stripes.