

Use : Policy for grounding electric supply equipment.

STANDARD ORIGINATED 03-94	PREVIOUS STANDARD REVISION 01-01-01	PREVIOUS STANDARD NUMBERS ER 500 (07-17-92)
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REVISION SUMMARY: Convert to current format and clarify content.

REFERENCE(S): (All references are latest revision; unless noted)

National Standard(s)

- a. Indiana Electrical Code (IEC)
- b. Underwriter Laboratories® (UL®)

SPECIFICATIONS:

1. EXISTING FACILITIES DEEMED INADEQUATE:

- 1.1. All wiring and entrance equipment for two-wire 120 volt, three-wire 120/240 volt, four-wire 208Y/120 volt, and four-wire 480Y/277 volt shall be designed and installed in a manner suitable for operation with ground connections.
- 1.2. Wiring and entrance equipment for two-wire 240 volt single-phase and three-wire 240 volt three-phase shall be designed and installed for operation with conductors ungrounded, unless it is definitely known that one of the conductors is grounded. The box, cabinet, and/or meter socket shall be grounded.
- 1.3. Service conductors for three-wire 480 volt three-phase service connections are not to be grounded. Box or cabinet shall be grounded.
- 1.4. Grounded conductor and equipment of service entrance shall be effectively and permanently grounded per IEC or in accordance with requirements of applicable authorities having jurisdiction where any differences occur. Aluminum wire shall not be used as a ground wire where in direct contact with masonry or earth or where subject to corrosive conditions. When terminating copper and aluminum conductors at the same point, an inhibitor shall be used.

2. ENTRANCE EQUIPMENT:

Grounding conductor shall be connected to the neutral conductor (or to the grounded phase conductor of a three-wire delta service) at any accessible point from load end of service drop or service lateral, to and including the terminal or bus to which the grounded service conductor is connected at the service disconnecting means.

3. BONDING:

- 3.1. Non-current-carrying metal parts of the entrance equipment shall be effectively bonded per IEC. This equipment includes meter sockets, meter connection boxes, and instrument transformer cabinets.
- 3.2. Metal water piping and other metal piping shall be bonded in accordance with IEC. Gas piping within a building shall not be used as a grounding electrode but shall be bonded in accordance with IEC on the customer's side of the gas meter.
- 3.3. Grounding conductor shall be connected to the grounding electrode system by suitable lugs, compression connectors, clamps, or other approved means. Connections depending on solder shall not be used. Grounding clamps shall be suitable for materials of the grounding electrode and grounding electrode conductor.

- 3.3. When a cast bronze, brass, or galvanized iron fitting is used, it should be designed so that the end of conduit or armor enclosing the grounding conductor will be bonded to the fitting. Bolts, screws, or terminals used for connecting grounding conductor to ground clamp shall be the correct size to fit grounding conductor being used.
- 3.4. All ground connections and bonding shall be made by a UL[®] listed ground clamp, solderless copper lug, or fitting.
- 3.5. If NIPSCO owned, pad-mounted 480 volt delta transformers are installed six feet or less away from a metallic structure, it is recommended that the customer install equipment bonding between them. This can be accomplished through installation of metallic service conduit between them, with both ends bonded, or, if non-metallic conduit is installed, an additional equipment bonding jumper (identified by green insulation/markings, or bare wire) can be installed between the transformer and the metallic structure. Equipment bonding jumper shall be sized in accordance with IEC.