

2003 International Residential Code
ELECTRICAL PROVISIONS ONLY
October 2005

EDITORIAL CHANGES – SEVENTH PRINTING

E3305.3: now reads ... The space equal to the width and depth of the panelboard and extending from the floor to a height of 6 feet (1829 mm) above the panelboard, or to the structural ceiling, whichever is lower, shall be dedicated to the electrical installation. Piping, ducts, leak protection apparatus and other equipment foreign to the electrical installation shall not be installed in such dedicated space. The area above the dedicated space shall be permitted to contain foreign systems, provided that protection is installed to avoid damage to the electrical equipment from condensation, leaks and breaks in such foreign systems. Suspended ceilings with removable panels shall be permitted within the 6 foot (1829 mm) dedicated space.

E3307.1: now reads: . . . Insulated grounded conductors of sizes 6 AWG or smaller shall be identified by a continuous white or gray outer finish or by three continuous white stripes on other than green insulation along the entire length of the conductors. Conductors of sizes larger than 6 AWG shall be identified either by a continuous white or gray outer finish or by three continuous white stripes on other than green insulation along its entire length or at the time of installation by a distinctive white marking at its terminations. This marking shall encircle the conductor or insulation.

E3503.1: now reads . . . Conductors used as ungrounded service entrance conductors, service lateral conductors, and feeder conductors that serve as the main power feeder to a dwelling unit shall be those listed in Table E3503.1. The main power feeder shall be the feeder(s) between the main disconnect and the lighting and appliance branch-circuit panelboard(s). Ungrounded service conductors shall have a minimum size in accordance with Table E3503.1. The grounded conductor ampacity shall be not less than the maximum unbalance of the load and its size shall be not smaller than the required minimum grounding electrode conductor size specified in Table E3503.1.

E3507.3.2: line 12 now reads . . . The size of the grounded conductor shall be not smaller than the larger of

1. That required by Section E3604.4
2. That required by Section E3808.12
- 3.

E3508.1: line 3 now reads . . . specified in Sections E3508.1.1, E3508.1.2, E3508.1.3, E3508.1.4, and E3508.1.5 shall be bonded . . .

E3508.1: line 14 now reads . . . conductor required among all the electrodes connected to it. Where none of these electrodes are available, one or more of the electrodes specified in Sections E3508.1.3, E3508.1.4, and E3508.1.5 shall be installed and used.

E3508.1.1: line 14 now reads . . . interior piping shall not rely on water meters, filtering devices and similar equipment. A metal underground water pipe shall be supplemented by an additional electrode of a type specified in sections E3508.1.2 through E3508.1.5. The supplemental electrode shall be bonded to the grounding electrode conductor, the grounded service entrance conductor, a non-flexible grounded service raceway or any grounded service enclosure. Where the supplemental electrode is a rod, pipe or plate electrode in accordance with sections E3508.1.4 and E3508.1.5 that portion of

E3508.1.3: line 2 now reads. . . building or structure, in direct contact with the earth at a depth below the earth's surface of not less than 30 inches (762mm) consisting of . . .

E3508.1.5: New Section reads . . . E3508.1.5 Plate electrodes. A plate electrode that exposes no less than 2 square feet (0.186m²) of surface to exterior soil shall be considered as a grounding electrode. Electrodes of iron or steel plates shall be at least ¼ inch (6.4mm) in thickness. Electrodes of nonferrous metal shall be at least 0.06 inch (1.5mm) in thickness. Plate electrodes shall be installed not less than 30 inches (762 mm) below the surface of the earth.

E3508.2.1: now reads E3508.1.4 Rod and pipe electrodes. Rod and pipe electrodes not less than 8 feet (2438 mm) in length and consisting of the following materials shall be considered as a grounding electrode:

1. Electrodes of pipe or conduit shall be not smaller than ¾ - inch trade size (metric designator 21) and, where of iron or steel, shall have the outer surface galvanized or otherwise metal-coated for corrosion protection.
2. Electrodes of rods of iron or steel shall be at least 5/8 inch (15.9 mm) in diameter. Stainless steel rods less than 5/8 inch (15.9mm) in diameter, nonferrous rods or their equivalent shall be listed and shall be not less than ½ inch (12.7mm) in diameter.

E3508.2.2: now reads E3508.1.4.1 Installation. The rod and pipe electrodes shall be installed such that at least 8 feet (2438 mm) of length is in contact with the soil. They shall be driven to a depth of not less than 8 feet (2438 mm) except that where rock bottom is encountered, electrodes shall be driven at an oblique angle not to exceed 45 degrees from the vertical or shall be buried in a trench that is at least 30 inches (762 mm) deep. The upper end of the electrodes shall be flush with or below ground level except where the above ground end and the

grounding electrode conductor attachment are protected against physical damage.

E3508.2: now reads . . . Rod, pipe and plate electrode requirements. Where practicable, rod, pipe and plate electrodes shall be embedded below permanent moisture level. Such electrodes shall be free from nonconductive coatings such as paint and enamel. Where more than one such electrode is used, each electrode of one grounding system shall be not less than 6 feet (1829 mm) from any other electrode of another grounding system. Two or more grounding electrodes that are effectively bonded together shall be considered as a single grounding electrode system. That portion of a bonding jumper that is the sole connection to a rod, pipe, or plate electrode shall not be required to be larger than 6 AWG copper or 4 AWG aluminum wire.

E3508.2.3: now reads . . . E3508.4

E3508.3: now reads ... Resistance of rod, pipe and plate electrodes. A single electrode consisting of a rod, pipe or plate that does not have a resistance to ground of 25 ohms or less shall be augmented by one additional electrode of any of the types specified in Sections E3508.1.2 through E3508.1.5. Where multiple rod, pipe or plate electrodes are installed to meet the requirements of this section, they shall be not less than 6 feet (1829mm) apart.

E3605.3. New exception 3 reads ...3. Adjustment factors shall not apply to type AC cable or to type MC cable without an overall outer jacket meeting all of the following conditions:

- 3.1 Each cable has not more than three current-carrying conductors
- 3.2 The conductors are 12 AWG copper
- 3.3 Not more than 20 current-carrying conductors are bundled, stacked or supported on bridle rings. A 60 percent adjustment factor shall be applied where the current-carrying conductors in such cables exceed 20 and the cables are stacked or bundled for distances greater than 24 inches (610mm) without maintaining spacing.

E3606.4: New section reads . . . E3606.4 grounded conductor terminations. Each grounded conductor shall terminate within the panelboard on a individual terminal that is not also used for another conductor, except that grounded conductors of circuits with parallel conductors shall be permitted to terminate on a single terminal where the terminal is identified for connection of more than one conductor.

E3702.2.2.: Now reads . . . Cable installed through or parallel to framing members . Where cables are installed through or parallel to the sides of rafters, studs, or floor joists, guard strips and running boards shall not be required, and the installation shall comply with Table E3702.1

E3702.6: New section reads . . . E3702.6 Raceways exposed to different temperatures. Where portions of a cable, raceway, or sleeve are known to be subjected to different temperatures and where condensation is known to be a problem, as in cold storage areas of buildings or where passing from the interior to the exterior of a building, the raceway or sleeve shall be filled with an approved material to prevent the circulation of warm air to a colder section of the raceway or sleeve.

TABLE E3702.1: In 6th row from the bottom, columns 4, 6, and 8 now read . . . A^j.

TABLE E3702.1: New Footnote j reads . . . bushings and grommets shall remain in place and shall be listed for the purpose of cable protection.

E3801.2.1: now reads . . Receptacles shall be installed so that no point measured horizontally along the floor line in any wall space is more than 6 feet (1829mm), from a receptacle outlet.

E3801.4.5: line 6 now reads . . . fastened in place, appliance garages or appliances occupying . . .

E3801.9 line 5 now reads ... finished into one or more habitable room(s), each separate unfinished portion shall have a receptable outlet installed in accordance with this section.

E3801.11: now reads . . . A 125-volt, single-phase, 15 or 20 ampere-rated receptable outlet shall be installed at an accessible location for the servicing of heating, air-conditioning and refrigeration equipment. The receptacle shall be located on the same level and within 25 feet (7620mm) of the heating, air-conditioning and refrigeration equipment. The receptacle outlet shall not be connected to the load side of the HVAC equipment disconnecting means.

E3803.3: line 6 now reads . . . outdoor egress door having grade level access, including outdoor egress doors for attached garages and detached garages with electric power. A vehicle door in a garage shall not be considered as an outdoor egress door. Where one or more lighting outlets are installed for interior stairways, there shall be a wall switch at each floor level and landing level that includes an entry-way to control the lighting outlets where the stairway between floor levels has six or more risers.

E3804.3.1: new sections reads . . E3804.3.1 prohibited means of support. Cable wiring methods shall not be used as a means of support for other cables, raceways and nonelectrical equipment.

E3808.8: Item 1 now reads . . . A copper, aluminum or copper-clad aluminum conductor. This conductor shall be solid or stranded; insulated, covered or bare; and in the form of a wire or a busbar of any shape.

E3808.8 Item 6 now reads . . . Armor of Type AC cable in accordance with Section E3808.4

E3808.8: Item 8 reads . . . 7. The combined metallic sheath and grounding conductor of interlocked metal tape-type MC cable where listed and identified for grounding.

E3808.8: Item 7 is deleted.

E3808.8: Item 8 now reads . . . The metallic sheath or the combined metallic sheath and grounding conductors of the smooth or corrugated tube-type MC Cable where listed and identified for grounding.

E3808.8: new Item 10 reads . . . 10. other electronically continuous metal raceways and auxiliary gutters listed for grounding.

E3808.12: line 8 now reads . . . Where ungrounded conductors are increased in size, equipment grounding conductors shall be increased proportionally according to the circular mil area of the ungrounded conductors.

E3808.13: line 2 now reads ... where circuit conductors are spliced within a box or terminated on equipment within or supported by a box, any separate equipment grounding conductors associated with the circuit conductors shall be spliced or joined within the box or to the box with devices suitable for the use. Connections depending solely on solder shall not be used. Splices shall be made in accordance with Sections E3306.10 except that insulation shall not be required. The arrangement of grounding connections shall be such that the disconnection or removal of a receptacle, luminaire or other device fed from the box will not interfere with or interrupt the grounding continuity.

E3808.14: Item 2, line 1 now reads . . Surface mounted box. Where the box is mounted on the surface . . .

E3901.11: now reads . . Snap switch faceplates. Faceplates provided for snap switches mounted in boxes and other enclosures shall be installed so as to completely cover the opening and, where the switch is flush mounted, seat against the finished surface.

TABLE E4103.6: row 1, column 2 now reads . . . UNDERGROUND WIRING

Errata to the Fourth Printing

E3602.1: 2nd paragraph, now reads . . . at over 1,440 volt-amperes or ¼ horsepower and greater shall be . . .

Errata to the Second Printing

E3902.9 reads . . . E3902.10 Wet locations other than outdoors

E3902.9 new section reads . . . E3902.9 Outdoor wet locations. Where installed outdoors in a wet location, 15- and 20- ampere, 125- and 250-volt receptacles shall have an enclosure that is weatherproof whether or not the attachment plug cap is inserted.

E3902.10 now reads E3902.11 Bathtub and shower space

E3902.11 now reads ... E3902.12 Flush mounting with face plate

E3902.12 now reads ...E3902.13 Outdoor installation

Errata to the First Printing

E3605.4.4: line 6 now reads Shall comply with Section E3605.1 and Table E3605.5.3