

**GENERAL:**

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The scope of this document is to provide requirements for Grounding and Bonding for electrical systems.

**DESIGN GUIDELINES:**

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1. Grounding systems should be designed and installed to provide a resistance of five (5) ohms or less. The preferred grounding electrode is a ground ring or (in new construction) a concrete-encased electrode.
2. Grounding electrode conductors shall be insulated stranded copper conductors. Concealed terminations (such as below grade and within concrete) and terminations to the grounding electrode shall be made using exothermic welds.
3. Grounding conductors shall be insulated copper conductors. Grounding conductors larger than # 8 AWG should be stranded, and conductors small than # 8 AWG should be non-stranded (solid).
4. Where isolated grounding conductors are required, the grounding conductor shall be identified by the use of a spirally applied set of two (2) orange stripes over the green conductor insulation. Each orange stripe shall be 1/16 inch minimum width.
5. Building columns, roof steel, and footer steel reinforcing shall be electrically continuous for grounding purposes.
6. All grounding and bonding shall meet or exceed the requirements of the National Electrical Code.

**NOT PERMITTED:**

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1. Metal underground water pipes shall NOT be used as the grounding electrode, but shall be bonded to the grounding system.
2. Building steel shall not be used as a grounding path unless the steel and connections are designed for this use, or grounding capability has been reviewed by a qualified registered professional engineer and a report provided with the engineers seal affixed.