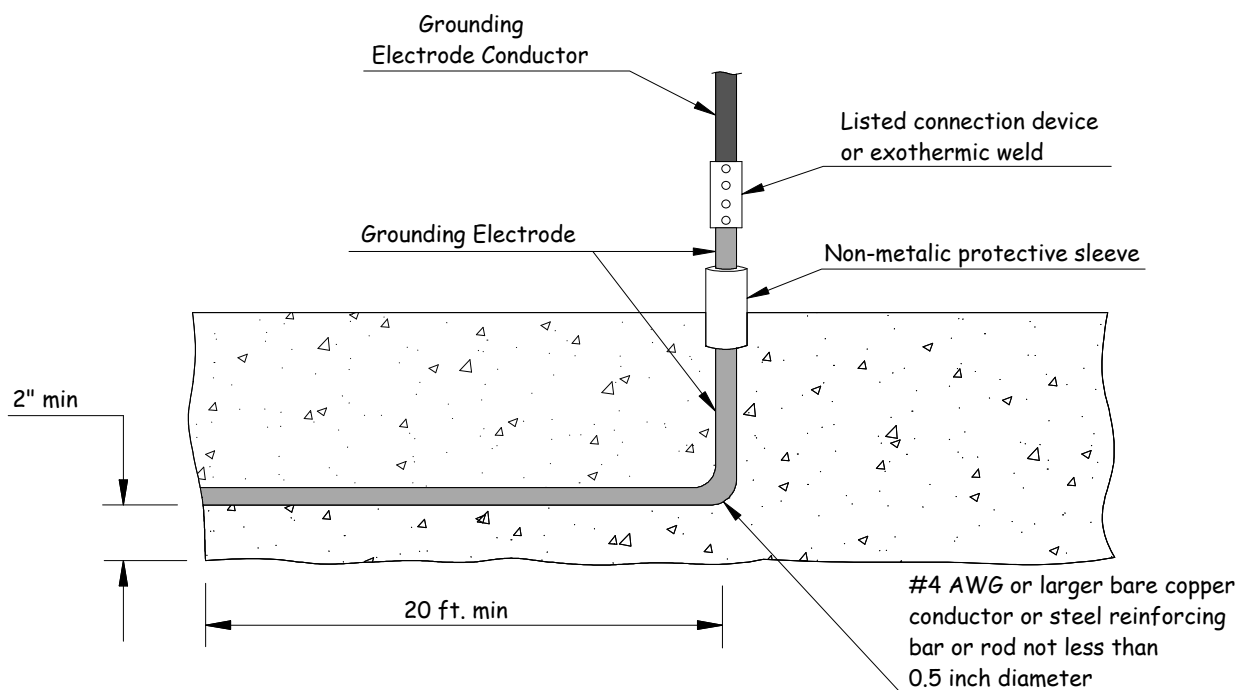


**Concrete Encased Grounding Electrode.** A concrete encased electrode shall be bonded to other grounding electrodes, to form the grounding electrode system. A concrete encased electrode shall be encased by at least 2" of concrete, be located within and near the bottom of a concrete foundation or footing that is in direct contact with the earth, consist of at least 20' of one or more bare or zinc coated reinforcement bars of at least ½" diameter, or consisting of at least 20 feet of bare copper conductor not smaller than 4 AWG.

**Exception:** Concrete encased electrodes of existing buildings or structures shall not be required to be part of the grounding electrode system where the steel reinforcement bars or rods are not accessible for use without disturbing the concrete.

Note that where the structural drawings do not require reinforcement bars in the concrete foundation or footer, the NEC does not require that this electrode be installed.



An existing electric service grounding electrode conductor is not required to be bonded to a new concrete encased electrode of an addition, provided the grounding of the existing electric service has been installed and maintained to the requirements of the NEC when installed.

It is not necessary for the minimum required length of 20 feet of steel reinforcing to be installed in one continuous piece. Properly spliced and connected pieces of reinforcing may be added together to satisfy the 20 foot requirement. Lengths of splices shall be a minimum of 30 times the diameter of the reinforcing steel, and may be connected together with steel tie wire.