

ELECTRICAL WIRING REQUIREMENTS FOR ANIMAL CONFINEMENT BUILDINGS per 2014 NATIONAL ELECTRICAL CODE ARTICLE 547

| BUILDING OR AREA | WIRING METHOD | LIGHT FIXTURES | BOXES, FITTINGS and CONTROLS | MOTORS | PANELBOARDS | EQUIPOTENTIAL PLANE See note 1 |
|---|---|--|---|------------------------------------|---------------|-----------------------------------|
| Livestock Confinement | Types SE, UF, or PVC | Enclosed and listed for wet locations, dusttight, watertight and corrosion resistant | Dusttight, Watertight and corrosion resistant | Totally enclosed fan cooled (TEFC) | Not permitted | Required |
| Open-sided building or structure (no gates or doors to confine livestock) | Types SE, UF, or PVC | General use | General use | TEFC | Not Permitted | Required |
| Horse barn or stable | Types SE, UF, or PVC | Enclosed over stalls, hay, or bedding areas. General use elsewhere See note 2 | In bedding areas, switches, receptacle outlets and controls must be in dust-tight enclosures with weatherproof covers | TEFC | General use | Required |
| Milking parlor | Types SE, UF, or PVC | Listed for wet locations | Watertight and corrosion resistant | TEFC | Not permitted | Required |
| Dairy barn, tie stall or stanchion | Types SE, UF, or PVC | Enclosed, listed for wet locations and corrosion resistant | Dust-tight, watertight, and corrosion resistant | TEFC | Not permitted | Required |
| Milk room | Types SE, UF, PVC or EMT with watertight fittings | Listed for wet locations | Watertight | TEFC | Rain-tight | Not required |
| Equipment room, office, or lunch room and other ancillary areas | General use See note 3 | General use | General use | General use | General use | Not required |
| Poultry confinement | Types SE, UF, or PVC | Dust-tight, watertight, and corrosion resistant | Dust-tight, watertight, and corrosion resistant | TEFC | Not permitted | Permitted but not Required |
| Silo and feed rooms and similar areas | Types SE, UF, or PVC | Listed for damp locations, corrosion resistant and dusttight | Moisture and corrosion resistant and dusttight | TEFC | Raintight | Not required |
| Hay or bulk feed storage or similar areas | Types SE, UF, PVC or EMT | Enclosed and dust-tight | Dusttight | TEFC | Not permitted | Not required |

Note 1.

INDOORS: An equipotential plane is required to be installed indoors in livestock confinement areas with concrete floors where metallic equipment is located which may become energized and is accessible to livestock. Precast slotted floors that are supported by structures that are part of an equipotential plane are not required to be individually bonded.

OUTDOORS: An equipotential plane is required to be installed outdoors in concrete slabs where metallic equipment is located which may become energized and is accessible to livestock. The outdoor equipotential plane must encompass the area where livestock stand while accessing metallic equipment that may become energized.

Note 2. Light fixtures over stalls must have substantial guards where the fixture mounting does not prevent contact by horses. Horses have a reputation for damaging electrical equipment that is within reach.

Note 3. Only wiring methods approved for the location shall be installed in concealed walls and ceilings of buildings, or portions thereof which are contiguous with or adjoin livestock confinement areas. Metallic-sheathed cables or metallic or nonmetallic raceways are permitted. Nonmetallic-sheathed cables are not permitted to be installed in concealed walls and ceilings. Rodents and other pests will damage nonmetallic-sheathed cable-type concealed wiring. This type of damage has resulted in catastrophic fires and loss of buildings, animals and property.

General Information

- Motors must be installed so that dust and debris build-up will not create motor surface temperature in excess of normal operating temperature.
- Line-voltage thermostats are considered motor controllers and must be provided with a disconnecting means in accordance with the NEC®
- Expansion fittings for Type PVC raceways must be installed when required by the NEC®
- All electrical equipment must be readily accessible and capable of being reached quickly for operation, renewal or inspection without personnel having to remove obstacles or resort to portable ladders, etc.
- To ensure safety for personnel, minimum working clearances must be provided where required by the NEC®
- It is advisable to consult with the appropriate insurance company before proceeding with any electrical wiring installation. Insurance companies may have additional prescriptive requirements.



Equipment Enclosures, Boxes, Conduit Bodies and Fittings

Equipment enclosures, boxes, conduit bodies and fittings installed in areas with excessive dust must be designed to minimize the entrance of dust.

Equipment enclosures, boxes, conduit bodies and fittings installed in damp or wet locations must be approved and shall prevent moisture from entering or accumulating within the enclosure, box, conduit, etc. In wet locations or normally dry or damp locations that are subject to periodic washing, boxes, conduit bodies and fittings must be listed for wet locations and equipment enclosures must be weatherproof, rainproof or raintight as applicable.