

**SUPPLEMENT**

**VOLUME NO. 2**

**FIFTH EDITION**

**WISCONSIN STATE ELECTRICAL CODE**

**Effective July 8, 1953**

In this supplement are included the changes in Volume No. 2 of the Fifth Edition of the Wisconsin Electrical Code made by the Industrial Commission on May 25, 1953, effective on July 8, 1953.

It is suggested that immediately upon receipt of this supplement you change your copy of the code. This will eliminate the possibility of using obsolete orders.

1. Fuses protecting the arrester may be omitted on circuits entering a building through metal sheathed cable, provided the metal sheath of the cable is grounded and the conductors in the cable are No. 24 or smaller.

2. A protector without fuses may be used where insulated conductors, in accordance with Orders 13-8021-C-1 and 13-8021-C-2, are used to extend circuits to a building from a cable having a grounded metal sheath, provided the protector is approved for this purpose.

**History:** Order 13-8011-D was amended and order 13-8011-D-2 created as shown above on June 8, 1953, effective July 8, 1953.

## 13-8021-C—Circuits Requiring Protectors.

3. *On Buildings.* Open conductors shall be separated at least 4 inches from light or power conductors not in conduit or cable, unless permanently separated from conductors of the other system by a continuous and firmly fixed non-conductor additional to the insulation on the wires, such as porcelain tubes or flexible tubing. Open conductors exposed to accidental contact with light or power conductors operating at over 300 volts, and attached to buildings, shall be separated from woodwork by being supported on glass, porcelain or other insulating material approved for the purpose, except that such separation is not required where conductors approved for the purpose are used to extend circuits to a building from a cable having a grounded metal sheath.

4. *Entering Buildings.* Where a protector is installed inside a building, the conductors shall enter the building either through a non-combustible, non-absorptive insulating bushing, or through a metal raceway. The insulating bushing may be omitted where the entering conductors (1) are in metal-sheathed cable, (2) pass through masonry, or (3) are approved for the purpose and are used to extend circuits to a building from a cable having a grounded metal sheath. Raceways or bushings shall slope upward from the outside or where this cannot be done, drip loops shall be formed in the conductors immediately before they enter the building. Raceways shall be equipped with an approved service head. More than one conductor may enter through a single raceway or bushing. Conduits or other metallic raceways located ahead of the protector shall be grounded.

**History:** Order 13-8021-C-3 was amended as shown above and 13-8021-C-4 was repealed and recreated as shown above on June 8, 1953, effective July 8, 1953.

## 13-8041—Grounding.

## B. PROTECTOR GROUND.

5. *Electrode.* The grounding conductor shall preferably be connected to a water pipe electrode. Where a water pipe is not readily available and the grounded conductor of the power service is connected to the water pipe at the building, the protector grounding conductor may be connected to the power service conduit, service equipment enclosures or grounding conductor of the power service. In the absence of a water pipe, connection may be made to a continuous and extensive underground gas piping system, to an effectively grounded metallic structure, or to a ground rod or pipe driven into permanently damp earth. Steam or hot water pipes, or lightning rod conductors shall not be employed as electrodes for protectors. A driven rod or pipe used for grounding power circuits shall not be used for grounding communication circuits unless the driven rod or pipe is connected to the grounded conductor of a multi-grounded neutral power system. The requirements for separate made electrodes for power and lighting system grounds, those for communicating systems, and those for a lightning rod installation shall not prohibit the bonding together of all such made electrodes.

**History:** Order 13-8041-B-5 was repealed and recreated as shown above on June 8, 1953 effective July 8, 1953.