



# CHAPTER 12 BUILDINGS AND BUILDING REGULATIONS\* ELECTRICITY

\*Cross reference(s)--Airport zoning, § 5-36 et seq.; erosion and sedimentation control, Ch. 15; fire prevention codes and standards, § 17-101 et seq.; floodplain management, Ch. 18; open housing, § 22-41 et seq.; planning and development, Ch. 34; preservation, Ch. 37; awnings, § 42-176 et seq.; subdivisions, Ch. 43; zoning, App. A. --State law reference(s)--Powers of home rule units, Ill. Const. art. VII, § 6.

## ARTICLE III. ELECTRICITY\*

**Sec. 12-32. City of Aurora Electrical Ordinance shall be deleted and replaced with the following.**

- 1) The provisions herein shall govern installations in Non-One & Two Family structures.
  - a) Electrical provisions for existing Non-One & Two family structures shall additionally refer to the International Existing Building Code adoption, the more specific of which shall govern.
- 2) Electrical provisions within One & Two Family structures additionally shall refer to the current International Residential Code Part VIII – Electrical (e.g. chapters 34-43 of the 2009 IRC) as amended
  - a) Electrical provisions for existing One & Two family structures shall additionally refer to the International Residential Code Appendix J adoption, the more specific of which shall govern.
- 3) That certain document, three (3) copies of which are on file in the office of the Building Code Official, being marked and designated as the City of Aurora Electrical Ordinance.
  - **2011 NFPA -70 National Electrical Code; As published by the National Fire Protection Association and adopted as the Electrical Ordinance of the City of Aurora, Illinois in the State of Illinois: for the control and regulation of installation and/or alteration of electrical systems and electrical equipment; for the utilization of electricity for light, heat or power. Each and all of the regulations, penalties, conditions and terms of said edition of NFPA-70 are hereby referred to and amended in part hereof as if fully set out in this article, with the additions, insertions, deletions, and changes prescribed in ARTICLE III. Sec. 12-31 through 12-100.Ord. No. 092-37, § 1, 6-2-92; Ord. No. 099-41, §§ 1, 11, 6-8-99)**

### Chapter 2 Wiring and Protection

**Article 210 Branch Circuits** shall be added to as follows:

#### II. Branch-Circuit Ratings

**Subsection to 210.23** shall be added as follows:

**210.23 (E) Existing 12 AWG branch circuits:** Existing branch circuits with 12 AWG conductors that cannot be completely traced throughout the circuit shall be served by no more than 15 ampere breakers.

**Article 230 Services** shall be added to/amended as follows:

#### II. Overhead Service Conductors

Section 230.23 (B) Minimum Size. The conductors shall not be smaller than 6 AWG copper or 1/0 AWG aluminum.

#### III. Underground Service Conductors

Section 230.31(B) Minimum Size: The conductors shall not be smaller than 3 AWG copper or **1/0 AWG** aluminum.

#### IV. Service-Entrance Conductors

**Section 230.43 Wiring Methods for 600 Volts, Nominal, or Less** shall be amended as follows:

- 230.43(1) Open Wiring on Insulators: Deleted
- 230.43(2) Type IGS Cable: Deleted.
- 230.43(5) Electrical Metallic Tubing (EMT): Deleted.
- 230.43(6) Electrical Nonmetallic Tubing (ENT): Deleted.
- 230.43(7) Service-entrance Cables: Deleted.
- 230.43(8) Wireways: Deleted.
- 230.43(11) Rigid Non-metallic Conduit: Shall only be permitted for underground use.
- 230.43(12) Cablebus: Deleted.
- 230.43(13) Type MC Cable: Deleted.
- 230.43(14) Mineral-insulated, metal-sheathed cable: Deleted.
- 230.43(15) Flexible metal conduit: Deleted.
- 230.43(16) Liquid-tight flexible nonmetallic conduit: Deleted.

**230.43.1** All service entrance conduit for overhead service drops shall be supported by galvanized 2 piece backstraps or an approved equal.

#### VI. Service Equipment – Disconnecting Means

**Section 230.70 General** shall be amended as follows

**230.70 (A) (1) Readily Accessible Location:** Main Service Disconnecting means shall be located at the meter location.

**Article 250 Grounding & Bonding** shall be added to/amended as follows:

#### I. General

**Section 250.8 Connection of Grounding and Bonding Equipment** shall be added to as follows:

**250.8(B)(1) Methods not Permitted :** Sheet-metal strap type ground clamps shall not be used for connecting a grounding electrode conductor to a grounding electrode.

#### XI. Grounding Conductors

**Section 250.192 Underground / Under-slab / Concrete Encased Raceway:**

**250.192 Equipment Grounding Conductor:** A conductor to serve as a 100% redundant Equipment Grounding conductor shall be installed in all underground raceways and raceways in concrete.

**Chapter 3 Wiring Methods and Materials****Article 310 Conductors for General Wiring**

**Section 310.15 Ampacities for conductors Rated 0-2000 volts** shall be amended as follows:

**310.15 (B)(7) 120/240-Volt, 3 wire, single phase dwelling service and feeders** and Table **310.15 (B)(7)** shall be deleted in their entirety.

**Section 310.106 (A) Minimum Size of Conductors** shall be added to as follows:

**310.106(A) (1) Min Conductor Size: Minimum size conductor shall be 12 AWG** except for individually metered units of R-2, R-3 or R-4 uses (as defined in the IBC).

**Section 310.106 (B) Conductors** shall be added to as follows:

**310.106(B) (1) Aluminum Conductors:** Aluminum or copper-clad aluminum wires shall be 1/0 AWG or larger.

**Article 314 Outlet, Device, Pull, and Junction Boxes: Conduit Bodies; Fittings and Hand Hole Enclosure**

**Section 314.3 Non-Metallic Boxes:** shall be amended as follows

Plastic device and junction boxes shall not be installed, except in corrosive locations or in non-grounded circuits when they are permitted to remain

**Article 320 Armored Cable: Type AC.**

**Section 320.10 Uses Permitted** shall be deleted and replaced with the following:

**320.10 Uses Permitted:** Type AC cable shall not be permitted

**Exception (1)** Except where included as a factory assembled sub component of a manufactured system.

**Article 322 Flat Cable Assemblies: Type FC shall be deleted in its entirety.****Article 324 Flat Conductor Cable: Type FCC shall be deleted in its entirety.****Article 326 Integrated Gas Spacer Cable: Type IGS shall be deleted in its entirety.****Article 330 Metal-Clad Cable: Type MC shall be amended as follows.**

**330.10 Uses Permitted:** Type MC cable shall only be permitted when fished into existing walls with not more than (6) six feet exposed.

**Exception (1)** Except where included as a factory assembled sub component of a manufactured system.

**Article 332 Mineral-Insulated, Metal-Sheathed Cable: Type MI shall be deleted in its entirety.****Article 334 Nonmetallic-Sheathed Cable: Types NM, NMC, and NMS shall be amended as follows:**

**334.10 Uses Permitted:** Type NM, NMC, and Type NMS cables shall not be permitted.

**Article 338 Service-Entrance Cable: Types SE and USE shall be amended as follows:**

**338.10 Uses Permitted:** SE and USE cable shall not be allowed.

**Article 340 Underground Feeder and Branch Circuit Cable: Type UF.**

**Section 340.10** shall be amended as follows:

**340.10 Uses Permitted:** Type UF cables shall be permitted when remodeling existing one and two family dwellings, only in exterior applications, and in conformance with the cable listing.

**Article 348 Flexible Metal Conduit: Type FMC.**

**Section 348.10 Uses Permitted:** FMC shall only be permitted when fished into existing walls with not more than (6) six feet exposed.

**Article 350 Liquid-tight Flexible Metal Conduit: Type LFMC.**

**Section 350.10 Uses Permitted:** LFMC shall only be permitted in lengths not to exceed (6) six feet.

**Article 352 Rigid Polyvinyl Chloride Conduit: Type PVC.**

**Section 352.10** shall be amended as follows:

**352.10.1** When permitted the transition at grade shall be 90 degree galvanized rigid metal conduit.

**Exception (1)** Conduits and sleeves used exclusively for utility cables.

**Exception (2)** Conductors encased in concrete at Light Pole Bases.

**352.10(A) Concealed** shall be deleted in its entirety.

**Exception (1)** Conduits encased in min 2 inches of concrete.

**352.10(C) Cinders:** shall be deleted in its entirety.

**352.10(E) Dry and Damp Locations:** shall be deleted in its entirety.

**352.10(F) Exposed:** shall be deleted in its entirety unless approved by the authority having jurisdiction.

**Article 356 Liquid Tight Flexible Non-Metallic Conduit: Type LFNC**

**Section 356.10** uses permitted shall be amended as follows:

**Section 356.10 (5)** shall be deleted in its entirety.

**Section 356.12** uses not-permitted shall be amended as follows:

**Section 356.12 (3)** ...in lengths longer than 6 feet.

**Article 358 Electrical Metallic Tubing: Type EMT**

**Section 358.12 (7)** shall be added.

(a) Electrical metallic tubing ("EMT") shall not be used underground or in concrete bases or slabs.

(1) Exception: EMT may be used in poured concrete only when installed above-grade with intermediate metal conduit ("IMC") or rigid metal conduit used to exit from the concrete.

(b) EMT shall not be installed using indenter type couplings and connectors.

**Article 362 Electrical Non-Metallic Tubing: Type ENT shall be deleted in its entirety.****Article 378 Non-Metallic Wireways:** shall be deleted in its entirety.**Article 382 Non-Metallic Extensions:** shall be deleted in its entirety.**Article 386 Surface Metal Raceway**

**Section 386.60.1** Grounding - All surface metal raceways shall contain an equipment grounding conductor sized per table 250.122

**Article 388 Surface Non-Metallic Raceways:** shall be deleted in its entirety.**Article 394 Concealed Knob and Tube Wiring** shall be amended as follows:

**Section 394.10 Uses Permitted.** New installations of Knob-and-tube wiring shall not be installed. Existing knob-and-tube wiring shall not be extended.

**Chapter 4 Equipment for General Use:**

**Article 408 Switch Boards and Panel Boards:** shall be added to as follows:

**Section 408.54 (A) Mini-circuit breakers prohibited.** All breakers shall be full sized, breakers known as mini, tandem, dual, twin, etc. shall not be permitted to be used in new or existing service or panel installations.

**Chapter 6 Special Equipment:**

**Article 600 Electrical Signs and Outline lighting.** Shall be amended as follows:

**Section 600.31 (F) Metallic Enclosures.** On all neon signs, the high voltage transformer and high voltage equipment shall be installed in approved metal boxes and all metallic parts shall be grounded to the conduit.

**Article 604 Manufactured Wiring Systems:** **Delete Article in its entirety**

**City of Aurora Code of ordinances Chapter12 - Sections 33-100.** **Shall be deleted and marked as 'Reserved'.**