



MEMORANDUM

TO: Board of Building Appeals

FROM: Keith N. Steiskal, Building Official

DATE: September 7, 2016

SUBJECT: BUILDING CODE AMENDMENTS – CHAPTER 150.060 OF THE VILLAGE CODE (ELECTRICAL CODE PROVISIONS)

As part of the regular review of Village Code, attached for BOBA's review and consideration is a draft copy of the proposed amendments to the Village of Lombard's Building Code, Chapter 150.060 of the Village Code as it pertaining to aluminum wiring. Currently, existing code precludes the use of aluminum wiring systems. However, based upon inquiries to the Village, we are bringing forward an amendment to allow for aluminum wiring in selected exterior applications.

Currently the utility provider (ComEd) exclusively uses aluminum wire to feed electric services. Private Electricians have started doing much of this work. The current ordinance requiring copper wire was written at a time when all installation of wire to electric services was done by the utility provider who was not subject to our ordinances. The recommended change in the Village ordinance would allow for private licensed Electricians to install the same aluminum wire ComEd does for outside electric service feeder wire.

Attached is the proposed amendment to the National Electrical Code (Section 230.41. Exception (4)).

ACTION REQUESTED

Staff is placing the proposed amendments on the September 7, 2016 BOBA for consideration and recommends that BOBA recommend approval of the amendments to the Village Board.

§ 150.066 - Adoption by reference amendments, additions, and deletions.

- (A) The National Electrical Code (2011 edition), as amended, is adopted by reference as modified by this Chapter.

In the event any provisions, articles, wording, and the like, of the National Electrical Code (2011 edition), as amended, are in conflict with any ordinances, amendments, and/or addendums, as recognized and approved by the Electrical Commission of the Village of Lombard and/or as adopted by the Village of Lombard, or in conflict with the state law, the most restrictive provisions, articles, wording, and the like, shall prevail.

Wiring methods and/or materials listed by the National Electrical Code (2011 Edition), but amended, deleted, prohibited or requiring Special Expressed Written Permission (SEWP) by this Chapter as noted in subsections (B), (C), (D) below shall be considered to be amended, deleted, prohibited or requiring Special Expressed Written Permission (SEWP) where ever and there after mentioned or referenced in the National Electrical Code (2011 edition).

- (B) The following articles, or portions thereof, of the National Electric Code (2011 Edition) shall be deleted for the purpose of this Chapter:

Section 230.41. Ex.(4)

~~Aluminum wire not allowed~~ Aluminum wire is not allowed, except AA-8000 series electrical grade aluminum conductors are approved for outside use to feed an electric meter only.

Article 320

Armored Cable: Type AC

Article 322

Flat Cable Assemblies: Type FC

Article 324

Flat Conductor Cable: Type FCC

Article 334

Nonmetallic Sheathed Cable: Type NM, NMC, & NMS

Article 338

Service Entrance Cable: Type SE & USE

Article 362

Electrical Nonmetallic Tubing: Type ENT

Article 394

Concealed Knob & Tube

Article 330

Metal Clad Cable: Type MC when extended a length of greater twenty (20) feet per circuit.

(C) Certain constructions recognized by the National Electrical Code (NEC) shall only be permitted with the Special Expressed Written Permission (SEWP) of the Building Division of the Community Development Department.

(D) The following Articles or Sections the National Electric Code (2011 Edition) are amended as follows:

Section 110.14 Electrical Connections. (Add the following:)

(A) *Terminals*. The use of stab type screwless pressure terminals of the conductor push-in type is prohibited.

(B) *Splices*. The use of device terminals for splicing is strictly prohibited.

Section 110.26 Spaces About Electric Equipment. (Add the following:)

(A) *Dead Front Assemblies*—When in the judgment of the Electrical Inspector or his/her designee, the conditions of the installation or the equipment being installed or modified require additional clearances at front, sides or rear of electrical equipment, such additional clearances shall be provided.

Section 210.19 Conductors—Minimum Ampacity and Size. (Add the following:)

(1) *General*. All branch circuits shall be wired with copper conductors only.

Article 210

III. Required Outlets

Section 210.52

(G) (3) Where an installation includes a sump pump or pumps and an ejector pump or pumps, each pump shall be provided an Individual Branch Circuit (dedicated circuit) compliant with Section 210.21(B)(1), (2) and (3). That is, a receptacle with a rating of not less than the branch circuit rating (usually 20 amperes) and compliant with Section 210.8, (GFCI protected) and with Section 406.11, TR (Tamper Resistant). Where in wet locations Section 406.9(B) WR (Weather Resistant) outlets are required in addition to "In Use" covers.

Section 230.1 Scope (Add the following:)

Whenever a service is revised or replaced, all current pertinent provisions of this Chapter shall apply.

All service and feeder conductors shall be copper. It is intended that all electrical conductors be copper.

Section 230.43 Wiring Methods for 600 Volts, Nominal, or Less. (Delete the following methods:)

(1) Open Wiring on insulators; (2) TYPE IGS Cable; (5) Electrical metallic tubing; (6) Electrical Nonmetallic Tubing; (7) Service-entrance cables; (13) Type MC cable; (14) Mineral-insulated, metal-sheathed cable; (15) Flexible metal conduit and LFMC, Liquidtight flexible metal conduit; (16) Liquid tight flexible nonmetallic conduit; (17) High density polyethylene conduit (HDPE); (18) Nonmetallic underground conduit with conductors (NUCC); (19) Reinforced thermosetting resin conduit (RTRC).

Section 230.70 General.

(A) Location.

- (1) Readily Accessible Location. (Amend to read as follows:) The service disconnecting means shall be installed at a readily accessible location either outside of a building or structure, or inside nearest the point of entrance of the service conductors, in any case within five (5) feet of conduit and conductor entrance to the building.

Section 230.71 Maximum Number of Disconnects. (Replace NEC text with the following:)

(A) General. The service disconnecting means for each service permitted by Section 230.2, or for each set of service-entrance conductors permitted by Section 230.40, Exception Nos. 1, 3, 4 or 5, shall consist of one main switch or circuit breaker. There shall be no more than six (6) main disconnects grouped in any one location. For the purpose of this section, disconnecting means installed as part of listed equipment and used solely for the following shall not be considered a service disconnecting means:

- (1) Power monitoring equipment
- (2) Surge-protective device(s)
- (3) Control circuit of the ground-fault protection system
- (4) Power-operable service disconnecting means

Section 250.64 Grounding Electrode Conductor Installation. (Delete (A) and (B) and replace with the following:)

(A) Only Copper grounding and bonding conductors are allowed.

(B) Securing and Protection from Physical Damage. A grounding electrode conductor or its enclosure shall be securely fastened to the surface on which it is carried. All grounding electrode conductors shall be in an approved raceway. The following raceways shall be approved: rigid metal conduit, intermediate metal conduit, rigid nonmetallic conduit (Schedule 80) for exterior use; electrical metallic tubing or cable armor for interior use. (C), (D), (E), & (F), (Retain NEC text.)

Article 340 (Add the following:)

UF & BC Cable: Type UF

Approved for use only in exterior underground installations without Special Expressed Written Permission (SEWP); all other uses require SEWP. Article 340 otherwise applies entirely.

Article 348 (Add the following:)

Flexible Metal Conduit: Type FMC

Not approved for use as a general wiring method. Article 348 otherwise applies entirely.

Article 350 (Add the following:)

Liquidtight Flexible Metal Conduit: Type LFMC

Not approved for use as a general wiring method. Article 350 otherwise applies entirely.

Article 352 (Add the following:)

Rigid Nonmetallic conduit: Type RNC

Not approved for use as a general wiring method. Approved for use only in exterior underground installations without Special Expressed Written Permission (SEWP); all other uses require (SEWP). Article 352 otherwise applies entirely.

Article 366 (Add the following:)

Auxiliary gutters: Metal only are allowed. Article 366 otherwise applies entirely.

Section 410.2 Definitions.

Closet Storage Space: (Add the following:)

In residential occupancies, all clothes closets over six (6) square feet shall have an approved (listed for use) luminaire installed.

Section 545.4 Manufactured Building—Wiring methods.

(Replace (A) and (B) with the following):

Only wiring methods and materials previously approved by this Chapter shall be authorized for use in manufactured buildings, except that those constructions which require Special Expressed Written Permission (SEWP) for use may be considered on a case by case basis.

Section 600.21 Ballasts, Transformers and Electronic Power Supplies.

(A) Accessibility. (Add the following:)

A code approved enclosure designed for that purpose including a self contained disconnecting means or a disconnecting means installed within (3) three feet and in sight is required.

(Ord. 3267, passed 6/21/90; Ord. 5481, passed 5/6/04; Ord. 6522, passed 9/16/10; Ord. 6832, passed 5/17/13; Ord. No. 7137, 1, passed 10-15-15)