

DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

CONSTRUCTION CODE

(By authority conferred on the director of the department of licensing and regulatory affairs by section 4 of 1972 PA 230, MCL 125.1504, and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, 2011-4, and 2017-1, MCL 445.2001, 445.2011, 445.2025, 445.2030, and 339.3102)

PART 8. ELECTRICAL CODE

R 408.30801 National electrical code; adoptions by reference; inspection; purchase.

Rule 801. (1) The standards contained in the national electrical code 2017 edition, including Annex H, except sections 80.2, 80.5, 80.15, 80.21, 80.27, 80.29, 80.31, 80.33, 80.35, 90.6, and 547.1 to 547.10, as published by the national fire protection association (NFPA), shall govern the installation, replacement, alteration, relocation, and use of electrical systems or material. With the exceptions noted, the national electrical code is adopted in these rules by reference.

(2) All references to the ANSI/ASME A17.1-2013, safety code for elevators and escalators mean the Michigan elevator code and all references to the national electrical code mean the Michigan electrical code.

(3) NFPA 110, standard for emergency and standby power systems, 2013 edition and NFPA 111, standard on stored electrical energy emergency and standby power systems, 2013 edition, are adopted by reference in these rules.

(4) The codes are available for inspection at the Lansing office of the Michigan department of licensing and regulatory affairs, bureau of construction codes.

(5) The National Electrical Code, NFPA 110 and NFPA 111 may be purchased from the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269, or through the bureau's website at www.michigan.gov/bcc, at a cost as of the time of adoption of these rules of \$98.00, \$47.50, and \$47.50 each, respectively.

History: 1979 AC; 1980 AACS; 1981 AACS; 1985 AACS; 1986 AACS; 1988 AACS; 1991 AACS; 1995 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2009 AACS; 2013 AACS; 2015 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30805 Rescinded.

History: 1979 AC; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30806 Rescinded.

History: 1979 AC; 1981 AACS; 2007 AACS; 2013 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30807 Title.

Rule 807. Section 80.7 is amended to the code to read as follows:

80.7. Title. These rules shall be known as the Michigan electrical code, hereinafter referred to as "the code."

History: 1979 AC; 2004 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30808 Scope.

Rule 808. Sections 80.1 is amended, and 80.1.1, is added to the code to read as follows:

80.1. Scope. The following are covered:

(1) The inspection of electrical installations as covered by 90.2.

(2) The review of construction plans, drawings, and specifications for electrical systems.

(3) The design, alteration, modification, construction, maintenance, and testing of electrical systems and equipment.

(4) The regulation and control of electrical installations at special events, including, but not limited to, exhibits, trade shows, amusement parks, and other similar special occupancies.

80.1.1. Severability. If a section, subsection, sentence, clause, or phrase of the code is, for any reason, held to be unconstitutional, this decision shall not affect the validity of the remaining portions of the code.

History: 2004 AACS; 2007 AACS; 2013 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30809 Rescinded.

History: 2004 AACS; 2007 AACS.

R 408.30810 Authority.

Rule 810. Section 80.13 is added to the code to read as follows:

80.13. Authority. Where used in this article, the term authority having jurisdiction shall include the chief electrical inspector or other individuals designated by the governing body. This code shall be administered and enforced by the authority having jurisdiction designated by the governing authority as follows:

(1) When the use of any electrical equipment or its installations is found to be dangerous to human life or property, the authority having jurisdiction may have the premises disconnected from its source of electric supply, as established by the board. When this equipment or installation has been condemned or disconnected, a notice shall

be placed on the equipment or installation listing the causes for the condemnation, or the disconnection, or both, and the penalty for the unlawful use of the equipment or installation. Written notice of this condemnation or disconnection and the causes of it shall be given within 24 hours to the owners, or the occupant, or both, of the building, structure, or premises. It is unlawful for any person to remove this notice, to reconnect the electrical equipment to its source of electric supply, or to use or permit to be used electric power in any electrical equipment until the causes for the condemnation or disconnection have been remedied to the satisfaction of the inspection authorities.

(2) The authority having jurisdiction may delegate to other qualified individuals the powers as necessary for the proper administration and enforcement of this code.

(3) Police, fire, and other enforcement agencies may render necessary assistance in the enforcement of this code when requested to do so by the authority having jurisdiction.

(4) The authority having jurisdiction may order any person or persons to remove or remedy the dangerous or hazardous condition or conditions or equipment. Any person or persons who fail to comply with this order are in violation of this code.

(5) Where the authority having jurisdiction deems that conditions hazardous to life and property exist, he or she may require that the hazardous conditions in violation of this code be corrected.

(6) Persons shall not use a badge, uniform, or other credentials to impersonate the authority having jurisdiction.

(7) The authority having jurisdiction may require plans and specifications to ensure compliance with this code.

(8) Whenever any installation is subject to inspection prior to use is covered or concealed without having first been inspected, the authority having jurisdiction may require that this work be exposed for inspection. Neither the code official nor the jurisdiction is liable for expense entailed in the removal or replacement of any material required to allow inspection. The authority having jurisdiction shall be notified when the installation is ready for inspections.

History: 1979 AC; 1980 AACS; 1981 AACS; 2004 AACS; 2007 AACS; 2013 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30811 Duties and powers of code official.

Rule 811. Section 80.14 is added to the code to read as follows:

80.14. Duties and powers of the code official. The code official is authorized and directed to enforce the provisions of this code. The code official may render interpretations of this code and adopt policies and procedures in order to clarify the application of its provisions. These interpretations, policies, and procedures shall be in compliance with the intent and purpose of this code. These policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

History: 2004 AACS; 2013 AACS; 2015 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30812 Rescinded.

History: 1979 AC; 1981 AACS; 2004 AACS; 2007 AACS; 2013 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30813 Rescinded.

History: 2004 AACS; 2009 AACS; 2015 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30814 Rescinded.

History: 2004 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30815 Maintenance of existing wiring and equipment.

Rule 815. Section 80.18 of the code is added to read as follows:

80.18. Maintenance of existing wiring and equipment. Every building, structure, or part thereof shall be kept in good electrical repair by the owner.

History: 1979 AC; 1981 AACS; 2004 AACS; 2013 AACS.

R 408.30816 Rescinded.

History: 1979 AC; 1981 AACS; 2004 AACS.

R 408.30817 Rescinded.

History: 1979 AC; 1981 AACS; 1998-2000 AACS; 2004 AACS; 2013 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30818 Permits and certificates.

Rule 818. Section 80.19, is added to the code to read as follows:

80.19. Permits and approvals. Permits and approvals shall conform to (a) to (e).

(a) Application. A copy of the permit shall be posted or otherwise readily accessible at each work site or carried by the permit holder as specified by the authority having jurisdiction.

(b) Issuance of Permits. The authority having jurisdiction shall be authorized to establish and issue permits, certificates, notices, and approvals, or orders pertaining to electrical safety hazards, except that no permit shall last longer than 180 days, or be required to execute any of the classes of electrical work specified in the following:

(1) Installation or replacement of equipment such as lamps and of electric utilization equipment approved for connection to suitable permanently installed receptacles.

(2) Replacement of flush or snap switches, fuses, lamp sockets, and receptacles, and other minor maintenance and repair work, such as replacing worn cords and tightening

connections on a wiring device and minor repair work as defined in skilled trades regulation act, 2016 PA 407, MCL 339.5101 to 339.6133.

(3) The process of manufacturing, testing, servicing, or repairing electrical equipment or apparatus.

(4) Installations that are referred to in section 737(3)(a), (b), (c), (d), (f), (h), (l), and (m) of the skilled trades regulations act, 2016 PA 407, MCL 339.5737.

(c) Annual permits. In lieu of an individual permit for each installation or alteration, an annual permit shall, upon application, be issued to any person, firm, or corporation regularly employing 1 or more employees for the installation, alteration, and maintenance of electrical equipment in or on buildings or premises owned or occupied by the applicant for the permit. Upon application, an electrical contractor as an agent for the owner or tenant shall be issued an annual permit. The applicant shall keep records of all work done, and the records shall be transmitted periodically to the electrical inspector.

(d) Inspection and approvals.

(1) Upon the completion of any installation of electrical equipment that has been made under a permit, the person, firm, or corporation making the installation shall notify the electrical inspector having jurisdiction.

(2) Where the inspector finds the installation to be in conformity with the code, state statutes, rules and, if applicable, local ordinances, the inspector shall issue to the person, firm, or corporation making the installation a final approval, or certificate of approval provided payment has been made, which authorizes the connection into the supply of electricity.

(3) When any portion of the electrical installation within the jurisdiction of an electrical inspector is to be hidden from view by the permanent placement of parts of the building, the person, firm, or corporation installing the equipment shall notify the electrical inspector, and the equipment shall not be concealed until it has been approved by the electrical inspector. Neither the code official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

(e) Applications and extensions. The authority having jurisdiction may grant 1 180-day extension of the original permit time period of 180 days, upon presentation of the permittee of a satisfactory reason for failure to start or complete the work or activity authorized by the permit.

History: 1979 AC; 1981 AACS; 1991 AACS; 1995 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2009 AACS; 2013 AACS; 2015 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30819 Plans and specifications.

Rule 819. Sections 80.21, 80.21.1, 80.21.2, and 80.21.3 are added to the code to read as follows:

80.21. Plans and specifications. An applicant shall submit a detailed set of plans and specifications with the application for an electrical permit for any wiring or alteration to an electrical system if the system requires installation of electrical equipment that has an ampacity of more than 400 amperes for the service or feeder and if the calculated floor area in a building is more than 3,500 square feet. The enforcing agency may request

plans for projects that include an unusual design. The electrical drawings shall include all of the following details:

- (a) Lighting layout.
- (b) Circuiting.
- (c) Switching.
- (d) Conductor and raceway sizes.
- (e) Wattage schedule.
- (f) Service location and riser diagram.
- (g) Load calculations and available fault current calculations.
- (h) A proposed method of construction that is drawn with symbols of a standard form.

All conductors are assumed to be copper unless otherwise stated in the plan. Specifications, when provided, shall also include the information listed in this rule. The selection of suitable disconnect and overcurrent devices to provide proper coordination and interrupting capacity for a wiring system is the responsibility of the designer. The enforcing agency, when approving electrical plans, does not assume responsibility for the design or for any deviations from any electrical drawings. The permit holder shall ensure that the plans and specifications approved by the enforcing agency, or a certified copy of the plans and specifications, where required, are available on the jobsite for the use of the enforcing agency.

80.21.1. Application and permits. Work shall be installed pursuant to the code and approved construction documents, and any changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.

80.21.2 Previous approvals. This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been previously issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

80.21.3. Information on construction documents. Construction documents shall be dimensioned and drawn upon suitable material. Electronic media documents may be submitted when approved by the enforcing agency. Construction documents shall be of sufficient clarity to indicate the location, nature, and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules, and regulations as determined by the enforcing agency.

History: 1979 AC; 1981 AACS; 1988 AACS; 1991 AACS; 1995 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2013 AACS; 2015 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30820 Representative on jobsite.

Rule 820. Section 80.20 is added to the code to read as follows:

80.20. Representative on jobsite. The enforcing agency reserves the right to require a representative of the permit holder to be on the job when an inspection is made.

History: 1979 AC; 1981 AACS; 1988 AACS; 1991 AACS; 1995 AACS; 1998-2000 AACS; 2004 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30821 Rescinded.

History: 1979 AC; 1981 AACS; 1995 AACS; 2007 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30822 Rescinded.

History: 1979 AC; 1981 AACS; 1995 AACS; 1998-2000 AACS; 2004 AACS; 2013 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30823 Connection to electricity supply.

Rule 823. Section 80.25 is amended to the code to read as follows:

80.25. Connection to electricity supply. Connections to the electric supply shall conform to (a) and (b).

(a) Except where work is done under an annual permit and except as otherwise provided in section 80.25, it is unlawful for any person, firm, or corporation to make connection to a supply of electricity or to supply electricity to any electrical equipment installation for which a permit is required or that has been disconnected or ordered to be disconnected.

(b) The governing utility may reconnect the electrical service, prior to approval by the enforcing agency, following emergency repairs performed by an electrical contractor licensed pursuant to the skilled trades regulation act, 2016 PA 407, MCL 339.5701 to 339.5739. The electrical contractor shall secure a permit by the next business day after the work is completed. This requirement is not applicable to new service connections, upgrades, structural fires, or other planned modifications.

History: 1979 AC; 1981 AACS; 1991 AACS; 2004 AACS; 2007 AACS; 2013 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30824 Rescinded.

History: 1979 AC; 1981 AACS; 2004 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30825 Rescinded.

History: 1979 AC; 1981 AACS; 1991 AACS; 1995 AACS; 1998-2000 AACS.

R408.30826 Violations.

Rule 826. Section 80.23 is amended to the code to read as follows:

80.23. Violations. Whenever the authority having jurisdiction determines that there are violations of this code, a written notice shall be issued to the permit holder to confirm such findings. Notice of violation shall be sent to the permit holder in writing.

History: 1979 AC; 1981 AACS; 1991 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2013 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30827 Service equipment.

Rule 827. Section 80.26 is added to the code to read as follows:

80.26. Service equipment. The enforcing agency shall approve service equipment installed, altered, or repaired before the load side of the meter is energized.

History: 1991 AACS; 1995 AACS; 1998-2000 AACS; 2004 AACS; 2013 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30828 Definitions.

Rule 828. The definition of is added to article 100 of the code to read as follows:

“Act” means 1972 PA 230, MCL 125.1501 to 125.1531 and known as the Stille-DeRossett-Hale single state construction code act.

History: 2004 AACS; 2007 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30829 Rescinded.

History: 2004 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30830 Rescinded.

History: 1979 AC; 1998-2000 AACS.

R 408.30831 Rescinded.

History: 1981 AACS; 1988 AACS; 1997 AACS; 1998-2000 AACS; 2004 AACS.

R 408.30832 Rescinded.

History: 1981 AACS; 1985 AACS; 1995 AACS; 1997 AACS.

R 408.30834 Rescinded.

History: 2007 AACS; 2009 AACS; 2015 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30835 Rescinded.

History: 1985 AACS; 1988 AACS; 1997 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2009 AACS; 2013 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30837 Rescinded.

History: 1985 AACS; 1988 AACS; 1997 AACS; 1998-2000 AACS; 2004 AACS.

R 408.30838 NFPA code; adoption by reference.

Rule 838. Sections 700.9 and 701.9 of the code are amended to read as follows:

700.9. Installation. Emergency systems shall be installed pursuant to NFPA 110 and NFPA 111, 2013 editions, which are adopted by reference in these rules.

701.9. Installation. Legally required standby systems shall be installed pursuant to NFPA 110 and NFPA 111, 2013 editions, which are adopted by reference in these rules.

History: 1986 AACS; 1988 AACS; 1997 AACS; 2009 AACS; 2013 AACS; 2015 AACS.

R 408.30839 Rescinded.

History: 1985 AACS; 1988 AACS; 1997 AACS; 1998-2000 AACS.

R 408.30843 Rescinded.

History: 1985 AACS; 1988 AACS; 1991 AACS; 1998-2000 AACS; 2004 AACS.

R 408.30865 Rescinded.

History: 1979 AC; 1980 AACS; 1988 AACS; 1997 AACS; 2009 AACS; 2013 AACS; 2015 AACS.

R 408.30866 Rescinded.

History: 1988 AACS; 1991 AACS; 1998-2000 AACS; 2004 AACS.

R 408.30867 Rescinded.

History: 1988 AACS; 1998-2000 AACS; 2007 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30868 Rescinded.

History: 1988 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS.; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30869 Rescinded.

History: 1988 AACS; 1991 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2009 AACS; 2013 AACS; 2015 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30870 Rescinded.

History: 1988 AACS; 1991 AACS; 1997 AACS; 2009 AACS; 2013 AACS; 2015 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30871 Bonding other metal piping.

Rule 871. Section 250.104(B) of the code is amended to read as follows:

250.104(B). Bonding other metal piping. (1) Other metal piping. If installed in or attached to a building or structure, a metal piping system, including gas piping, capable of becoming energized shall be bonded to any of the following:

- (a) Equipment grounding conductor for the circuit that is likely to energize the piping system.
- (b) Service equipment enclosure.
- (c) Grounded conductor at the service.
- (d) Grounding electrode conductor, if of sufficient size.
- (e) One or more grounding electrodes used, if the grounding electrode conductor or bonding jumper to the grounding electrode is of sufficient size.

The bonding conductor or conductors, or the jumper or jumpers shall be sized in accordance with table 250.122, and equipment grounding conductors shall be sized in accordance with table 250.122 using the rating of the circuit that is likely to energize the piping system or systems. The points of attachment of the bonding jumper or jumpers shall be accessible.

(2) Corrugated stainless steel tubing (CSST). Listed corrugated stainless steel tubing gas piping systems shall be bonded to the electrical service grounding electrode system. The bonding jumper shall connect to a metallic pipe or fitting between the point of delivery and the first downstream CSST fitting. The bonding jumper shall be not smaller than 6 AWG copper wire or equivalent. A gas piping system that is bonded pursuant to this section shall be considered effectively bonded regardless of the amount of CSST in the system.

Exception: Listed CSST piping systems approved for installation without additional bonding by the manufacturer.

History: 1991 AACS; 1995 AACS; 1998-2000 AACS; 2009 AACS; 2013 AACS; 2015 AACS; 2019 MR 1, Eff. Jan. 4, 2019.

R 408.30872 Rescinded.

History: 1991 AACS; 1995 AACS; 1997 AACS; 2009 AACS; 2013 AACS.

R 408.30873 Uses permitted.

Rule 873. Sections 334.10 and 334.12(A) of the code are amended to read as follows:

334.10. Uses Permitted. Type NM, type NMC, and type NMS cables may be used in the following, except as prohibited in section 334.12:

(1) One- and 2-family dwellings and their attached or detached garages, and their storage buildings.

(2) Multifamily dwellings.

(3) In other structures exceeding 1 floor above grade, cables shall be concealed within walls, floors, or ceilings that provide a thermal barrier of material that has at least a 15-minute finish rating as identified in listings of fire rated assemblies pursuant to the Michigan building code.

(4) Cable trays in structures permitted to be types III, IV, or V where the cables are identified for the use.

334.12(A). Uses not permitted. Types NM, NMC, and NMS cable shall not be permitted as follows:

(1) In any dwelling or structure not specifically permitted in section 334.10(1), (2) and (3).

(2) Exposed in dropped or suspended ceilings in other than 1- and 2-family and multifamily dwellings.

(3) As service-entrance cable.

(4) In commercial garages having hazardous or classified locations as defined in section 511.3.

(5) In theaters and similar locations, except where permitted in section 518.4(B).

(6) In motion picture studios.

(7) In storage battery rooms.

(8) In hoistways or on elevators or escalators.

(9) Embedded in poured cement, concrete, or aggregate.

(10) In hazardous or classified locations, except where specifically permitted by other articles in this code.

History: 1991 AACS; 1995 AACS; 1998-2000 AACS; 2007 AACS; 2013 AACS; 2015 AACS.

R 408.30880 Rescinded.

History: 1979 AC; 1980 AACS; 1997 AACS; 2009 AACS; 2013 AACS.