Mike Holt's

2014 NEC®INDEX





NEC[®], NFPA 70[®], NFPA 70E[®] and National Electrical Code[®] are registered trademarks of the National Fire Protection Association.

MIKE HOLT'S 2014 NEC INDEX

Introduction

This index is a free resource from Mike Holt Enterprises, Inc. It was designed to help you find what you're looking for in the *Code* book in seconds! This index lists difficult key words and gives you the section where these words appear in the *National Electrical Code*[®]. It's a great tool to get you familiar with those hard to find references in the *NEC*[®]! Use this index along with your *Code* book and tabs (below) and you'll be in great shape!

Mike Holt—Author



Founder and President Mike Holt Enterprises Groveland, FL www.MikeHolt.com

Mike Holt worked his way up through the electrical trade. He began as an appren-

tice electrician and became one of the most recognized experts in the world as it relates to electrical power installations. He's worked as a journeyman electrician, master electrician, and electrical contractor. Mike's experience in the real world gives him a unique understanding of how the *NEC* relates to electrical installations from a practical standpoint. You'll find his writing style to be direct, nontechnical, and powerful.

Did you know Mike didn't finish high school? So if you struggled in high school or didn't finish at all, don't let it get you down. However, realizing that success depends on one's continuing pursuit of education, Mike immediately attained his GED, and ultimately attended the University of Miami's Graduate School for a Master's degree in Business Administration.

Mike resides in Central Florida, is the father of seven children, has five grandchildren, and enjoys many outside interests and activities. He's a nine-time National Barefoot Water-Ski Champion (1988, 1999, 2005–2009, 2012–2013). He's set many

national records and continues to train year-round at a World competition level (www.barefootwaterskier.com). What sets him apart from some is his commitment to living a balanced lifestyle; placing God first, family, career, then self.

Code Book



Need to order a *Code* book? Choose from the softbound, the spiral or the loose leaf version. The most widely adopted element of a building code in the United States and the world, the *NEC* is the benchmark for safe and efficient electrical installations. Whether your jurisdiction adopts the 2014 *Code* immediately or

down the road, you need to extend your knowledge and take advantage of the benefits right away, not months or years behind your peers in the electrical industry.

Call our office at 888.632.2633 or visit www.MikeHolt.com/14Code to order your *Code* book.

Tabs

Peel-and-stick Tabs are a great way to customize your *Code* book, but too many tabs defeat the purpose. Mike Holt's adhesive tabs allow you to mark and reference important articles and tables quickly, making it easier for you to use the *NEC*. They are compatible with the 2014 *Code* Book and Handbook. Included in the set is a 16 in. x 20 in. Commercial and



Industrial Wiring and Raceway Chart and an Ohms Wheel Sticker.

Order by calling 888.632.2633 or visit www.MikeHolt. com/14Code.

For more on this and other products, visit www.mikeholt.com/14Code.



ABOUT THE NATIONAL ELECTRICAL CODE



The *National Electrical Code* is written for persons who understand electrical terms, theory, safety procedures, and electrical trade practices. These individuals include electricians, electrical contractors, electrical inspectors, electrical engineers, designers, and other qualified persons. The *Code* isn't written to serve as an instructional or teaching manual for untrained individuals [90.1(A)].

Learning to use the *NEC* can be likened to learning the strategy needed to play the game of chess well; it's a great game if you enjoy mental warfare. When learning to play chess, you must first learn the names of the game pieces, how they're placed on the board, and how each one is moved.

Once you understand the fundamentals, you're ready to start playing the game. Unfortunately, at this point all you can do is make crude moves, because you really don't understand how all the information works together. To play chess well, you'll need to learn how to use your knowledge by working on subtle strategies before you can work your way up to the more intriguing and complicated moves.

The *Code* is updated every three years to accommodate new electrical products and materials, changing technologies, improved installation techniques, and to make editorial refinements to improve readability and application. While the uniform adoption of each new edition of the *NEC* is the best approach for all involved in the electrical industry, many inspection jurisdictions modify the *Code* when it's adopted. To further complicate this situation, the *NEC* allows the authority having jurisdiction, typically the "Electrical Inspector," the flexibility to waive specific *Code* requirements, and to permit alternative methods. This is only allowed when he or she is assured the completed electrical installation is equivalent in establishing and maintaining effective safety [90.4].

Keeping up with requirements of the *Code* should be the goal of everyone involved in the safety of electrical installations. This includes electrical installers, contractors, owners, inspectors, engineers, instructors, and others concerned with electrical installations.

About the 2014 NEC

The actual process of changing the *Code* takes about two years, and it involves hundreds of individuals making an effort to have the *NEC* as current and accurate as possible. Let's review how this process worked for the 2014 *NEC*:

Step 1. Proposals—November, 2011. Anybody can submit a proposal to change the *Code* before the proposal closing date. Thousands of proposals were submitted to modify the 2011 *NEC* and create the 2014 *Code*. Of these proposals, several hundred rules were revised that significantly affect the electrical industry. Some changes were editorial revisions, while others were more significant, such as new articles, sections, exceptions, and Informational Notes.

Step 2. *Code*-Making Panel(s) Review Proposals—January, **2012.** All *Code* change proposals were reviewed by *Code*-Making Panels. There were 19 panels in the 2014 revision process who voted to accept, reject, or modify proposals.

Step 3. Report on Proposals (ROP)—July, 2012. The voting of the *Code*-Making Panels on the proposals was published for public review in a document called the "Report on Proposals," frequently referred to as the "ROP."

Step 4. Public Comments—October, 2012. Once the ROP was available, public comments were submitted asking the *Code*-Making Panel members to revise their earlier actions on change proposals, based on new information. The closing date for "Comments" was October, 2012.

Step 5. Comments Reviewed by *Code* **Panels**—**December, 2012.** The *Code*-Making Panels met again to review, discuss, and vote on public comments.

Step 6. Report on Comments (ROC)—March, 2013. The voting on the "Comments" was published for public review in a document called the "Report on Comments," frequently referred to as the "ROC."

Step 7. Electrical Section—June, 2013. The NFPA Electrical Section discussed and reviewed the work of the *Code*-Making Panels. The Electrical Section developed recommendations on

last-minute motions to revise the proposed *NEC* draft that would be presented at the NFPA's annual meeting.

Step 8. NFPA Annual Meeting—June, 2013. The 2014 NEC was voted by the NFPA members to approve the action of the *Code*-Making Panels at the annual meeting, after a number of motions (often called "floor actions" or "NITMAMs") were voted on.

Step 9. Standards Council Review Appeals and Approves the 2014 *NEC*—July, 2013. The NFPA Standards Council reviewed the record of the *Code*-making process and approved publication of the 2014 *NEC*.

Step 10. 2014 *NEC* **Published**—**September, 2013.** The 2014 *National Electrical Code* was published, following the NFPA Board of Directors review of appeals.

Author's Comment:

Proposals and comments can be submitted online at the NFPA website (www.nfpa.org). From the homepage, click on "Codes and Standards", then find NFPA 70 (*National Electrical Code*). From there, follow the on screen instructions to download the proposal form. The deadline for proposals to create the 2017 *National Electrical Code* will be around November of 2014. If you would like to see something changed in the *Code*, you're encouraged to participate in the process.

Not a Game

Electrical work isn't a game, and it must be taken very seriously. Learning the basics of electricity, important terms and concepts, as well as the basic layout of the *NEC* gives you just enough knowledge to be dangerous. There are thousands of specific and unique applications of electrical installations, and the *Code* doesn't cover every one of them. To safely apply the *NEC*, you must understand the purpose of a rule and how it affects the safety aspects of the installation.

NEC Terms and Concepts

The *NEC* contains many technical terms, so it's crucial for *Code* users to understand their meanings and their applications. If you don't understand a term used in a *Code* rule, it will be impossible to properly apply the *NEC* requirement. Be sure you understand that Article 100 defines the terms that apply to two or more *Code*

articles. For example, the term "Dwelling Unit" is found in many articles; if you don't know what a dwelling unit is, how can you apply the requirements for it?

In addition, many articles have terms unique for that specific article and definitions of those terms are only applicable for that given article. For example, Section 250.2 contains the definitions of terms that only apply to Article 250—Grounding and Bonding.

Small Words, Grammar, and Punctuation

It's not only the technical words that require close attention, because even the simplest of words can make a big difference to the application of a rule. The word "or" can imply alternate choices for wiring methods, while "and" can mean an additional requirement. Let's not forget about grammar and punctuation. The location of a comma can dramatically change the requirement of a rule.

Slang Terms or Technical Jargon

Electricians, engineers, and other trade-related professionals use slang terms or technical jargon that isn't shared by all. This makes it very difficult to communicate because not everybody understands the intent or application of those slang terms. So where possible, be sure you use the proper word, and don't use a word if you don't understand its definition and application. For example, lots of electricians use the term "pigtail" when describing the short conductor for the connection of a receptacle, switch, luminaire, or equipment. Although they may understand it, not everyone does.

NEC Style and Layout

Before we get into the details of the *NEC*, we need to take a few moments to understand its style and layout. Understanding the structure and writing style of the *Code* is very important before it can be used and applied effectively. The *National Electrical Code* is organized into ten major components.

- 1. Table of Contents
- 2. Article 90 (Introduction to the Code)
- 3. Chapters 1 through 9 (major categories)
- 4. Articles 90 through 840 (individual subjects)

- 5. Parts (divisions of an article)
- 6. Sections and Tables (*NEC* requirements)
- 7. Exceptions (Code permissions)
- 8. Informational Notes (explanatory material)
- 9. Annexes (information)
- 10. Index

1. Table of Contents. The Table of Contents displays the layout of the chapters, articles, and parts as well as the page numbers. It's an excellent resource and should be referred to periodically to observe the interrelationship of the various *NEC* components. When attempting to locate the rules for a particular situation, knowledgeable *Code* users often go first to the Table of Contents to quickly find the specific *NEC* Part that applies.

2. Introduction. The *NEC* begins with Article 90, the introduction to the *Code*. It contains the purpose of the *NEC*, what's covered and what isn't covered along with how the *Code* is arranged. It also gives information on enforcement and how mandatory and permissive rules are written as well as how explanatory material is included. Article 90 also includes information on formal interpretations, examination of equipment for safety, wiring planning, and information about formatting units of measurement.

3. Chapters. There are nine chapters, each of which is divided into articles. The articles fall into one of four groupings: General Requirements (Chapters 1 through 4), Specific Requirements (Chapters 5 through 7), Communications Systems (Chapter 8), and Tables (Chapter 9).

- Chapter 1—General
- Chapter 2—Wiring and Protection
- Chapter 3—Wiring Methods and Materials
- Chapter 4—Equipment for General Use
- Chapter 5—Special Occupancies
- Chapter 6—Special Equipment
- Chapter 7—Special Conditions
- Chapter 8—Communications Systems (Telephone, Data, Satellite, Cable TV and Broadband)
- Chapter 9—Tables–Conductor and Raceway Specifications

4. Articles. The *NEC* contains approximately 140 articles, each of which covers a specific subject. For example:

Article 110—General Requirements Article 250—Grounding and Bonding Article 300—General Requirements for Wiring Methods and Materials

Article 430—Motors and Motor Controllers

- Article 500—Hazardous (Classified) Locations
- Article 680—Swimming Pools, Fountains, and Similar Installations
- Article 725—Remote-Control, Signaling, and Power-Limited Circuits
- Article 800—Communications Circuits

5. Parts. Larger articles are subdivided into parts. Because the parts of a *Code* article aren't included in the section numbers, we have a tendency to forget what "part" the *NEC* rule is relating to. For example, Table 110.34(A) contains working space clearances for electrical equipment. If we aren't careful, we might think this table applies to all electrical installations, but Table 110.34(A) is located in Part III, which only contains requirements for "Over 600 Volts, Nominal" installations. The rules for working clearances for electrical equipment for systems 600V, nominal, or less are contained in Table 110.26(A)(1), which is located in Part III—600 Volts, Nominal, or Less.

6. Sections and Tables.

Sections. Each *NEC* rule is called a "*Code* Section." A *Code* section may be broken down into subsections by letters in parentheses (A), (B), and so on. Numbers in parentheses (1), (2), and so forth, may further break down a subsection, and lowercase letters (a), (b), and so on, further break the rule down to the third level. For example, the rule requiring all receptacles in a dwelling unit bathroom to be GFCI protected is contained in Section 210.8(A)(1). Section 210.8(A)(1) is located in Chapter 2, Article 210, Section 8, Subsection (A), Sub-subsection (1).

Many in the industry incorrectly use the term "Article" when referring to a *Code* section. For example, they say "Article 210.8," when they should say "Section 210.8." Section numbers in this textbook are shown without the word "Section," unless they begin a sentence. For example, Section 210.8(A) is shown as simply 210.8(A).

Tables. Many *NEC* requirements are contained within tables, which are lists of *Code* rules placed in a systematic arrangement. The titles of the tables are extremely important; you must read them carefully in order to understand the contents, applications, limitations, and so forth, of each table in the *NEC*. Many times notes are provided in or below a table; be sure to read them as well since they're also part of the requirement. For example, Note 1 for Table 300.5 explains how to measure the cover when burying cables and raceways, and Note 5 explains what to do if solid rock is encountered.

7. Exceptions. Exceptions are *Code* requirements or permissions that provide an alternative method to a specific rule. There are two types of exceptions—mandatory and permissive. When a rule has several exceptions, those exceptions with mandatory requirements are listed before the permissive exceptions.

Mandatory Exceptions. A mandatory exception uses the words "shall" or "shall not." The word "shall" in an exception means that if you're using the exception, you're required to do it in a particular way. The phrase "shall not" means it isn't permitted.

Permissive Exceptions. A permissive exception uses words such as "shall be permitted," which means it's acceptable (but not mandatory) to do it in this way.

8. Informational Notes. An Informational Note contains explanatory material intended to clarify a rule or give assistance, but it isn't a *Code* requirement.

9. Annexes. Annexes aren't a part of the *NEC* requirements, and are included in the *Code* for informational purposes only.

Annex A. Product Safety Standards

Annex B. Application Information for Ampacity Calculation

- Annex C. Raceway Fill Tables for Conductors and Fixture Wires of the Same Size
- Annex D. Examples
- Annex E. Types of Construction
- Annex F. Critical Operations Power Systems (COPS)
- Annex G. Supervisory Control and Data Acquisition (SCADA)
- Annex H. Administration and Enforcement
- Annex I. Recommended Tightening Torques
- Annex J. ADA Standards for Accessible Design

10. Index. The Index at the back of the *Code* book is helpful in locating a specific rule.

Changes to the *NEC* since the previous edition(s), are identified by shading, but rules that have been relocated aren't identified as a change. A bullet symbol "•" is located on the margin to indicate the location of a rule that was deleted from a previous edition. New articles contain a vertical line in the margin of the page.

Different Interpretations

Some electricians, contractors, instructors, inspectors, engineers, and others enjoy the challenge of discussing the *NEC* requirements, hopefully in a positive and productive manner. This give-and-take is important to the process of better understanding the *Code* requirements and application(s). However, if you're going to participate in an *NEC* discussion, please don't spout out what you think without having the actual *Code* book in your hand. The professional way of discussing an *NEC* requirement is by referring to a specific section, rather than talking in vague generalities.

How to Locate a Specific Requirement

How to go about finding what you're looking for in the *Code* book depends, to some degree, on your experience with the *NEC. Code* experts typically know the requirements so well they just go to the correct rule without any outside assistance. The Table of Contents might be the only thing very experienced *NEC* users need to locate the requirement they're looking for. On the other hand, average *Code* users should use all of the tools at their disposal, including the Table of Contents and the Index.

Table of Contents. Let's work out a simple example: What *NEC* rule specifies the maximum number of disconnects permitted for a service? If you're an experienced *Code* user, you'll know Article 230 applies to "Services," and because this article is so large, it's divided up into multiple parts (actually eight parts). With this knowledge, you can quickly go to the Table of Contents and see it lists the Service Equipment Disconnecting Means requirements in Part VI.

Author's Comment:

The number 70 precedes all page numbers because the NEC is NFPA Standard Number 70.

Index. If you use the Index, which lists subjects in alphabetical order, to look up the term "service disconnect," you'll see there's no listing. If you try "disconnecting means," then "services," you'll find that the Index indicates that the rule is located in Article 230, Part VI. Because the *NEC* doesn't give a page number in the Index, you'll need to use the Table of Contents to find it, or flip through the *Code* book to Article 230, then continue to flip through pages until you find Part VI.

Many people complain that the *NEC* only confuses them by taking them in circles. As you gain experience in using the *Code* and deepen your understanding of words, terms, principles, and practices, you'll find the *NEC* much easier to understand and use than you originally thought.

2014 NEC INDEX

Description

Rule Description

n		
к	u	Ie

А **Agricultural Buildings** Definitions 547.2 547.10 **Equipotential Planes** 547.8 Luminaires Scope 547.1 Wiring Methods 547.5 **Air-Conditioning Equipment** Ampacity and Rating 440.6 Conductor Size for Single Motor-Compressors 440.32 Definitions 440.2 Marking on Hermetic Refrigerant Motor-Compressors and Equipment 440.4 Other Articles 440.3 Scope 440.1 Short-Circuit and Ground-Fault Overcurrent **Device Size** 440.22 **Air-Conditioning Equipment Disconnect Cord-Connected Equipment** 440.13 440.14 Location Rating and Interrupting Capacity 440.12 **Appliances Branch-Circuit Rating** 422.10 Central Heating Equipment (Furnaces) 422.12 **Central Vacuums** 422.15 Covering of Combustible Material at Outlet Boxes 422.21 Definition 422.2 **Flexible Cords** 422.16 Ground-Fault Circuit-Interrupter (GFCI) Protection 422.5 Other Articles 422.3 Outlet Boxes to Be Covered 422.20 **Overcurrent Protection** 422.11 422.1 Scope Space for Conductors 422.19 Storage Water Heaters 422.13 Support of Ceiling Paddle Fans 422.18 Tire Inflation and Automotive Vacuum Machines 422.23

Appliances—Disconnect	
Cord-and-Plug-Connected Appliance Disconnects	422.33
Electric Drinking Fountains	422.52
General	422.30
Permanently Connected Appliance Disconnects	422.31
Unit Switches as Disconnects	422.34
Vending Machines	422.51
Armored Cable	
Bends	320.24
Boxes and Fittings	320.40
Conductor Ampacity	320.80
Construction	320.100
Definition	320.2
Equipment Grounding Conductor	320.108
Exposed Work	320.15
In Accessible Attics or Roof Spaces	320.23
Scope	320.1
Securing and Supporting	320.30
Through or Parallel to Framing Members	320.17
Uses Not Permitted	320.12
Uses Permitted	320.10
Assembly Occupancies	
General Classifications	518.2
Other Articles	518.3
Scope	518.1
Wiring Methods	518.4
Audio Signal Processing, Amplification, and Reproduction Equipment	
Audio Systems Near Bodies of Water	640.10
Definitions	640.2
Grounding and Bonding	640.7
Locations and Other Articles	640.3
Loudspeakers in Fire-Resistance-Rated	
Partitions, Walls, and Ceilings	640.25
Mechanical Execution of Work	640.6
Number of Conductors in a Raceway	640.23

Audio Signal Processing, Amplification, and Reproduction Equipment (continued)

Protection of Electrical Equipment	640.4
Scope	640.1
Use of Flexible Cords and Flexible Cables	640.21
Wiring Methods	640.9

B

Bonding

Bonding Conductors and Jumpers	250.102
Bonding Equipment for Services	250.92
Bonding in Hazardous (Classified) Locations	250.100
Bonding Loosely Jointed Metal Raceways	250.98
Bonding Metal Parts Containing 277V and	
480V Circuits	250.97
Bonding of Piping Systems and Exposed	
Structural Metal	250.104
Bonding Other Enclosures	250.96
General	250.90
Intersystem Bonding Termination	250.94
Lightning Protection System	250.106

Boxes

Boxes and Conduit Bodies for Conductors 4 AWG	
and Larger	314.28
Boxes Recessed in Walls or Ceilings	314.20
Conductors That Enter Boxes or Conduit Bodies	314.17
Covers and Canopies	314.25
Damp or Wet Locations	314.15
Handhole Enclosures	314.30
Metal Boxes	314.4
Nonmetallic Boxes	314.3
Number of 6 AWG and Smaller Conductors in	
Boxes and Conduit Bodies	314.16
Outlet Box	314.27
Repairing Noncombustible Surfaces	314.21
Scope	314.1
Support of Boxes and Conduit Bodies	314.23
Surface Extensions	314.22
Wiring to be Accessible	314.29
Branch Circuits	
Arc-Fault Circuit-Interrupter Protection	210.12
Branch Circuits in Buildings with Multiple	
Occupancies	210.25

Description

Rule

Rule

Branch Circuits Required	210.11
Branch-Circuit Rating	210.3
Branch-Circuit Voltage Limitations	210.6
Conductor Sizing	210.19
Electric Vehicle Branch Circuit	210.17
GFCI Protection	210.8
Guest Rooms and Guest Suites	210.18
Identification for Branch Circuits	210.5
Multiple Branch Circuits	210.7
Multiwire Branch Circuits	210.4
Other Articles	210.2
Outlet Device Rating	210.21
Overcurrent Protection	210.20
Permissible Loads, Individual Branch Circuits	210.22
Permissible Loads, Multiple-Outlet Branch Circuits	210.23
Scope	210.1
Building Disconnects	
Access to Occupants	225.35
Disconnect Construction	225.38
Disconnect Location	225.32
Disconnecting Means	225.31
Grouping of Disconnects	225.34
Identification of Multiple Feeders	225.37
Maximum Number of Disconnects	225.33
Number of Supplies	225.30
Rating of Disconnecting Means	225.39
Туре	225.36

C

Cabinets

Cabinets Containing Splices, Taps, and Feed-Through	
Conductors	312.8
Damp or Wet Locations	312.2
Deflection of Conductors	312.6
Enclosures	312.5
Installed in Walls	312.3
Repairing Gaps	312.4
Scope	312.1
Cable Trays	
Ampacity of Conductors	392.80
Bushed Raceway	392.46
Cable and Conductor Installation	392.20
Cable Splices	392.56

Description	Rule	Des
Cable Trays (continued)		L
Cable Tray Installations	392.18	Ν
Definition	392.2	N
Equipment Grounding Conductor	392.60	P
Number of Conductors or Cables	392.22	R
Scope	392.1	
Securing and Supporting	392.30	S
Uses Not Permitted	392.12	S
Uses Permitted	392.12	S
USES I EITIILLEU	392.10	U
Carnivals, Circuses, Fairs, and Similar Events		U
Definitions	525.2	U
Equipment Bonding	525.30	Com
Equipment Grounding	525.31	С
GFCI-Protected Receptacles and Equipment	525.23	D
Multiple Sources of Supply	525.11	G
Other Articles	525.3	S
Outdoor Portable Distribution or Termination Boxes	525.22	S
Overhead Conductor Clearances	525.5	S
Portable Equipment Grounding Conductor	020.0	V
Continuity	525.32	v
-	525.6	v
Protection of Electrical Equipment		v
Rides, Tents, and Concessions	525.21	
Scope	525.1	Com
Services	525.10	A
Wiring Methods	525.20	A
Circuit Breakers		
Applications	240.85	A
Indicating	240.81	
Markings	240.83	C
Method of Operation	240.80	
Nontamperable	240.82	D
		D
Coaxial Cable		Ir
Abandoned Cable	820.25	Ir
Access to Electrical Equipment Behind Panels		
Designed to Allow Access	820.21	Ir
Applications of Coaxial Cables	820.154	
Bonding and Grounding Methods	820.100	Ir
Definitions	820.2	Ľ
Grounding of the Outer Conductive Shield of		L
Coaxial Cables	820.93	L
Installation of Coaxial Cables	820.113	L
Installation of Coaxial Cables and Equipment	820.133	L

escription	Rule
Listing and Marking of Coaxial Cables	820.179
Mechanical Execution of Work	820.24
Metallic Entrance Conduit Grounding	820.49
Power Limitations	820.15
Raceways and Cable Routing Assemblies for	
Coaxial Cables	820.110
Scope	820.1
Spread of Fire or Products of Combustion	820.26
Supports	820.44
Underground Coaxial Cables Entering Buildings	820.47
Unlisted Cables and Raceways Entering Building	820.48
ommercial Garages, Repair, and Storage	
Classification of Hazardous Areas	511.3
Definitions	511.2
GFCI-Protected Receptacles	511.12
Scope	511.1
Seals	511.9
Special Equipment	511.10
Wiring and Equipment Above Hazardous (Classified)	
Locations	511.7
Wiring and Equipment in Hazardous (Classified) Locations	511.4
ommunications Circuits	
Abandoned Cable	800.25
	000.20
Access to Electrical Equipment Behind Panels Designed to Allow Access	800.21
Applications of Cables, Communications	000.21
Raceways, and Cable Routing Assemblies	800.154
Cable and Primary Protector Bonding and	000.134
Grounding	800.100
Definitions	800.2
Dwelling Unit Communications Outlet	800.156
Innerduct	800.12
Installation of Communications Cables,	000.12
Raceways, and Cable Routing Assemblies	800.113
Installation of Communications Wires, Cables,	000.110
and Equipment	800.133
Installation of Equipment	800.18
Lightning Conductors	800.53
Listing and Marking of Communications	000.00
Raceways	800.182
Listing and Marking of Communications Wires	
and Cables	800.179

Description	Rule
Communications Circuits (continued)	
Mechanical Execution of Work	800.24
Metallic Entrance Conduit Grounding	800.49
Overhead (Aerial) Communications Wires	
and Cables	800.44
Primary Protection	800.90
Raceways and Cable Routing Assemblies for	
Communications Wires and Cables	800.110
Scope	800.1
Spread of Fire or Products of Combustion	800.26
Underground Communications Wires and Cables	
Entering Buildings	800.47
Unlisted Cables Entering Buildings	800.48
Conductors	
Conductor Ampacity	310.15
Conductor Construction and Application	310.104
Conductor Identification	310.110
Conductors	310.106
Scope	310.1
Uses Permitted	310.10

E

Electric Signs and Outline Lighting

Ballasts, Transformers, Class 2 Power Sources,	
and Electronic Power Supplies	600.21
Branch Circuits	600.5
Class 2 Power Sources	600.24
Definitions	600.2
Disconnecting Means	600.6
Grounding and Bonding	600.7
LED Sign Illumination Systems, Secondary Wiring	600.33
Listing	600.3
Location	600.9
Markings	600.4
Portable or Mobile Signs	600.10
Scope	600.1
Electric Space Heating	
Branch Circuits	424.3
Disconnecting Means	424.19
Permanently Installed Electric Baseboard Heaters	
with Receptacles	424.9
Scope	424.1

Description	Rule
Electric Space Heating—Duct Heaters	
Disconnect for Electric Duct Heater Controllers	424.65
Installation	424.66
Electric Space Heating Cable	
Area Restrictions	424.38
Clearance from Other Objects and Openings	424.39
Clearances of Wiring in Ceilings	424.36
Installation of Cables in Concrete or Poured	
Masonry Floors	424.44
Electric Vehicle Charging System	
Definitions	625.2
Disconnecting Means	625.42
Listed	625.5
Location Markings	625.50 625.15
Overcurrent Protection	625.40
Personnel Protection System	625.22
Rating	625.41
Scope	625.1
Ventilation	625.52
Electrical Metallic Tubing	
Bends	358.24
Couplings and Connectors	358.42
Definition	358.2
Grounding	358.60
Listing Requirement Number of Bends (360°)	358.6 358.26
Number of Conductors	358.20
Reaming and Threading	358.28
Scope	358.1
Securing and Supporting	358.30
Trade Size	358.20
Uses Not Permitted	358.12
Uses Permitted	358.10
Electrical Nonmetallic Tubing	
Bends	362.24
Bushings	362.46
Definition	362.2
Equipment Grounding Conductor Joints	362.60 362.48
Number of Bends (360°)	362.46
Number of Conductors	362.22

Rule

Electrical Nonmetallic Tubing (continued)

Scope	362.1
Securing and Supporting	362.30
Trade Sizes	362.20
Trimming	362.28
Uses Not Permitted	362.12
Uses Permitted	362.10

Elevators, Escalators, and Moving Walks

Branch Circuit for Hoistway Pit	620.24
Branch Circuit for Machine Room/Machinery Space	620.23
Disconnecting Means	620.51
GFCI-Protected Receptacles	620.85
Scope	620.1
Wiring in Elevator Hoistways and Machine Rooms	620.37

Emergency Systems

Accessibility	700.26
Capacity	700.4
Definitions	700.2
Emergency Illumination	700.16
General Requirements	700.12
Ground-Fault Protection of Equipment	700.27
Loads on Emergency Branch Circuits	700.15
Multiwire Branch Circuits	700.19
Scope	700.1
Selective Coordination	700.28
Signs	700.7
Surge Protection	700.8
Tests and Maintenance	700.3
Transfer Equipment	700.5
Wiring	700.10
winmont Crounding Conductor	

Equipment Grounding Conductor

250.146
250.148
250.114
250.138
250.134
250.136
250.130
250.120

Description

Rule

Fixed Equipment Connected by Permanent	
Wiring Methods—General	250.110
Identification of Equipment Grounding Conductors	250.119
Ranges, Ovens, and Clothes Dryers	250.140
Sizing Equipment Grounding Conductor	250.122
Specific Equipment Fastened in Place	250.112
Types of Equipment Grounding Conductors	250.118
Use of Equipment Grounding Conductors	250.121
Use of Neutral Conductor for Equipment Grounding	250.142

F

Feeder Calculations Commercial—Kitchen Equipment Load 220.56 Commercial—Show Window and Track Lighting Load 220.43 Dwelling Unit— Small-Appliance and Laundry Load 220.52 Dwelling Unit—Appliance Load 220.53 Dwelling Unit-Electric Clothes Dryer Load 220.54 Electric Ranges and Cooking Appliances in **Dwelling Units** 220.55 220.61 Feeder/Service Neutral Unbalanced Load Fixed Electric Space-Heating Load 220.51 General 220.40 **General Lighting Demand Factors** 220.42 Motor Load 220.50 220.60 Noncoincident Loads Other than Dwelling Unit-Receptacle Load 220.44 Feeders **Conductor Identification** 215.12 Equipment Grounding Conductor 215.6 Feeders with Common Neutral Conductor 215.4 Ground-Fault Protection of Equipment 215.10 Minimum Rating 215.2 **Overcurrent Protection Sizing** 215.3 Scope 215.1 Fire Alarm Systems—General Abandoned Cable 760.25 Access to Electrical Equipment Behind Panels **Designed to Allow Access** 760.21 Applications of Power-Limited Fire Alarm Cables (PLFA) 760.154 Definitions 760.2

Index

Description	Rule
Fire Alarm Systems—General (continued)	
Equipment Marking	760.124
Fire Alarm Circuit Cables Extending Beyond	
a Building	760.32
Fire Alarm Circuit Identification	760.30
Fire Alarm Circuit Requirements	760.35
Installation of PLFA Cables in Buildings	760.135
Listing and Marking of Power-Limited Fire	
Alarm Cables (PLFA)	760.179
Mechanical Execution of Work	760.24
Other Articles	760.3
Power Sources for Power-Limited Fire Alarm	
Circuits	760.121
Power-Limited Fire Alarm Circuits, Class 2,	
Class 3, and Communications Circuits	760.139
Scope	760.1
Separation from Power Conductors	760.136
Support	760.143
Wiring Methods on Load Side of Power-Limited	
Fire Alarm Power Source	760.130
Fire Pumps	
Continuity of Power	695.4
Control Wiring	695.14
Power Source(s)	695.3
Power Wiring	695.6
Scope	695.1
Transformers	695.5
Voltage Drop	695.7
Fixture Wire	
Allowable Ampacity of Fixture Wires	402.5
Minimum Size	402.6
Neutral Conductor	402.8
Overcurrent Protection	402.12
Raceway Size	402.7
Scope	402.1
Types	402.3
Uses Not Permitted	402.11
Uses Permitted	402.10
Flexible Cords and Flexible Cables	
Ampacity of Flexible Cords and Flexible Cables	400.5
Equipment Grounding Conductor Identification	400.23

Description	Rule
Protection from Damage	400.14
Pull at Joints and Terminals	400.10
Scope	400.1
Suitability	400.3
Types of Flexible Cords and Flexible Cables	400.4
Uses Not Permitted	400.8
Uses Permitted	400.7
Flexible Metal Conduit	
Bends	348.24
Definition	348.2
Fittings	348.42
Grounding and Bonding	348.60
Listing Requirements	348.6
Number of Bends (360°)	348.26
Number of Conductors	348.22
Scope	348.1
Scope	350.1
Securing and Supporting	348.30
Trade Size	348.20
Trimming	348.28
Uses Not Permitted	348.12
Uses Permitted	348.10
Fountains	
Bonding	680.53
Cord-and-Plug-Connected Equipment	680.56
General	680.50
GFCI-Protected Receptacles	680.58
Luminaires, Submersible Pumps, and Other	
Submersible Equipment	680.51
Methods of Equipment Grounding.	680.55
Signs in or Adjacent to Fountains	680.57
Fuses	
Classification	240.61
Edison-Base Fuseholders	240.52
Edison-Base Fuses	240.51
General	240.50
General	240.60
Type S Fuses	240.53
Type S Fuses, Adapters, and Fuseholders	240.54

12

G

General Requirements	
Approval of Conductors and Equipment	110.2
Arc-Flash Hazard Warning	110.16
Available Fault Current	110.24
Boxes or Conduit Bodies	300.15
Circuit Impedance, Short-Circuit Current Rating	110.10
Code Arrangement	90.3
Conductor Sizes	110.6
Conductor Termination and Splicing	110.14
Conductors	300.3
Copper Conductors	110.5
Deteriorating Agents	110.11
Electrical Continuity	300.10
Enclosure Types	110.28
Enforcement	90.4
Examination of Equipment for Product Safety	90.7
Examination, Identification, Installation, and Use	
of Equipment	110.3
Formal Interpretations	90.6
Guarding	110.27
High-Leg Conductor Identification	110.15
Identification of Disconnecting Means	110.22
Induced Currents in Ferrous Metal Enclosures	
and Raceways	300.20
Inserting Conductors in Raceways	300.18
Interrupting Protection Rating	110.9
Length of Free Conductors	300.14
Lockable Disconnecting Means	110.25
Mandatory Requirements and Explanatory Material	90.5
Markings	110.21
Maximum Load on a Branch Circuit	220.18
Mechanical Continuity	300.12
Mechanical Execution of Work	110.12
Mounting and Cooling of Equipment	110.13
Not Permitted in Raceways	300.8
Panels Designed to Allow Access	300.23
Protection Against Corrosion and Deterioration	300.6
Protection Against Physical Damage	300.4
Purpose of the <i>NEC</i>	90.1
Raceway or Cable to Open or Concealed Wiring	300.16
Raceway Sizing	300.10
Raceway Sizing Raceways Exposed to Different Temperatures	300.17
naceways Exposed to Different reinperatures	500.7

Description

Rule

Rule

Raceways in Wet Locations Above Grade	300.9
Scope	110.1
Scope	300.1
Scope of the NEC	90.2
Securing and Supporting	300.11
Spaces About Electrical Equipment	110.26
Splices and Pigtails	300.13
Spread of Fire or Products of Combustion	300.21
Suitable Wiring Methods	110.8
Supporting Conductors in Vertical Raceways	300.19
Underground Installations	300.5
Units of Measurement	90.9
Voltages	110.4
Wiring in Ducts and Plenums Spaces	300.22
Wiring Integrity	110.7
Generators	
Ampacity of Conductors	445.13
Disconnecting Means	445.18
GFCI Protection 15 kW or Smaller Portable	
Generators	445.20
Marking	445.11
Overcurrent Protection	445.12
Scope	445.1

Visit www.MikeHolt.com



For All Your Electrical Training Needs

- · View free videos and graphics Get Exam Preparation tips & study material
 Take Continuing Education courses
- Review State Licensing information
 - Sign up for our free e-Newsletter
 Register for our free Code Forum to get your technical questions answered
- · Access Instructor and Curriculum support • Explore our complete product line And much more!
- Mike Holt Enterprises, Inc. www.MikeHolt.com 888.NEC.CODE (632.2633)

Grounding and Bonding

Buildings Supplied by a Feeder	250.32
Clean Surfaces	250.12
Definition	250.2
General Requirements for Grounding and Bonding	250.4
Generators—Portable and Vehicle-Mounted	250.34
High-Impedance Grounded Systems	250.36
Main Bonding Jumper and System Bonding	
Jumper	250.28
Objectionable Current	250.6
Other Enclosures	250.86
Permanently Installed Generators	250.35
Protection of Fittings	250.10
Scope	250.1
Separately Derived Systems—Grounding and	
Bonding	250.30
Service Equipment—Grounding and Bonding	250.24
Service Raceways and Enclosures	250.80
Systems Required to be Grounded	250.20
Termination of Grounding and Bonding Conductors	250.8
Ungrounded Systems	250.21
Grounding Electrode Conductor	
Grounding Electrode Conductor	250.62
Grounding Electrode Conductor Installation	250.64
Grounding Electrode Conductor Termination	
Fittings	250.70
Lightning Protection Electrode	250.60
Sizing Grounding Electrode Conductor	250.66
-	

Grounding Electrode System

Termination to the Grounding Electrode

Auxiliary Grounding Electrodes	250.54
Grounding Electrode Installation Requirements	250.53
Grounding Electrode System	250.50
Grounding Electrode Types	250.52

H

Hazardous (Classified) Locations	
Classifications of Locations	500.5
Definitions	500.2
Equipment	500.8
General	500.4
Material Groups	500.6
Other Articles	500.3

Description

Rule

250.68

	naio
Protection Techniques	500.7
Scope—Articles 500 Through 504	500.1
	500.1
Specific Occupancies	500.9
Hazardous (Classified) Locations—Class I	
Conductor Insulation	501.20
Control Transformers and Relays	501.120
Enclosures	501.115
Flexible Cords	501.140
Grounding and Bonding	501.30
Limited-Energy and Communications Systems	501.150
Luminaires	501.130
Meters, Instruments, and Relays	501.105
Motors	501.125
Raceway and Cable Seals	501.15
Receptacles and Attachment Plugs	501.145
Scope	501.1
Transformers and Capacitors	501.100
Utilization Equipment	501.135
Wiring Methods	501.10
ining include	001110
Hazardous (Classified) Locations—Class II	
Control Transformers	502.120
Explosionproof Equipment	502.5
Flexible Cords	502.140
Grounding and Bonding	502.30
Limited-Energy and Communications Systems	502.150
Luminaires	502.130
Motors	502.125
Receptacles and Attachment Plugs	502.145
Scope	502.1
Seals	502.15
Switches, Circuit Breakers, Motor Controllers,	
and Fuses	502.115
Wiring Methods	502.10
Upperdave (Olapsified) Lesstions Olaps III	
Hazardous (Classified) Locations—Class III Control Transformers	503.120
Flexible Cords	503.120
General	503.5
Grounding and Bonding	503.30
Limited-Energy and Communications Systems	503.150
Luminaires	503.130
Motors	503.125
Receptacles and Attachment Plugs	503.145

Description	Rule
Hazardous (Classified) Locations—Class III (continued)
Scope	503.1
Switches, Circuit Breakers, Motor Controllers,	
and Fuses	503.115
Wiring Methods	503.10
Health Care Facilities	
Applicability	517.10
Definitions	517.2
General Care Areas	517.18
Grounding of Equipment in Patient Care Spaces	517.13
Isolated Ground Receptacles	517.16
Scope	517.1
Wiring Methods	517.12
Hydromassage Bathtubs	
General	680.70
Accessibility	680.73
Equipotential Bonding	680.74
GFCI Protection	680.71
Other Electrical Equipment	680.72
1	

Information Technology Fourinment

Information Technology Equipment	
Cables Not in Information Technology Equipment	
Room	645.6
Definitions	645.2
Disconnecting Means	645.10
Equipment Grounding and Bonding	645.15
Information Technology Equipment Room	645.4
Other Articles	645.3
Scope	645.1
Supply Circuits and Interconnecting Cables	645.5
System Grounding	645.14
Uninterruptible Power Supplies (UPS)	645.11
Intermediate Metal Conduit	
Bends	342.24
Bushings	342.46
Couplings and Connectors	342.42
Definition	342.2
Dissimilar Metals	342.14
Listing Requirements	342.6
Number of Bends (360°)	342.26
Number of Conductors	342.22
Reaming	342.28
Scope	342.1
	0.2.1

Description	Rule
Securing and Supporting	342.30
Trade Size	342.20
Uses Permitted	342.10
L	
Lampholders	
Lampholders in Wet or Damp Locations	410.96
Lampholders Near Combustible Material	410.97
Screw-Shell Lampholders	410.90
Legally Required Standby Systems	
Accessibility	701.25
Capacity and Rating	701.4
Definitions	701.2
General Requirements	701.12
Ground-Fault Protection of Equipment	701.26
Scope	701.1
Selective Coordination	701.27
Signs	701.7
Tests and Maintenance	701.3
Transfer Equipment	701.5
Wiring	701.10
Liquidtight Flexible Metal Conduit	
Bends	350.24
Definition	350.2
Fittings	350.42
Grounding and Bonding	350.60
Listing Requirements	350.6
Number of Bends (360°)	350.26
Number of Conductors	350.22
Securing and Supporting	350.30
Trade Size	350.20
Uses Not Permitted	350.12
Uses Permitted	350.10
Liquidtight Flexible Nonetallic Conduit	
Bends	356.24
Definition	356.2
Equipment Grounding Conductor	356.60
Fittings	356.42
Listing Requirement	356.6
Number of Bends (360°)	356.26
Number of Conductors	356.22
Scope Securing and Supporting	356.1 356.30
Securing and Supporting	200.30

Description	Rule
Liquidtight Flexible Nonetallic Conduit (continued)	
Trade Size	356.20
Uses Not Permitted	356.12
Uses Permitted	356.10
Low-Voltage Lighting	
Branch Circuit	411.7
Listing Required	411.4
Low-Voltage Lighting Systems	411.3
Scope	411.1
Secondary Circuits	411.6
Specific Location Requirements	411.5
Luminaires	
Conductors and Ballasts	410.68
Connection of Electric-Discharge and LED	
Luminaires	410.24
Cord-Connected Luminaires	410.62
Definitions	410.2
Listing Required	410.6
Luminaires as Raceways	410.64
Luminaires in Clothes Closets	410.16
Luminaires in Specific Locations	410.10
Luminaires Near Combustible Material	410.11
Means of Support	410.36
Methods of Grounding	410.44
Outlet Boxes to be Covered	410.22
Polarization of Luminaires	410.50
Scope	410.1
Space for Cove Lighting	410.18
Supports	410.30
Luminaires—Recessed	
General	410.110
Recessed Luminaire Clearances	410.116
Thermally Protected	410.115
Wiring	410.117
M	
Manufactured Wiring Systems	
Construction	604.6
Definition	604.2
Scope	604.1

Description Rule Marinas and Boatyards **Boat Receptacle Disconnecting Means** 555.17 Definitions 555.2 **Electrical Connections** 555.9 **Electrical Equipment Enclosures** 555.10 **Ground-Fault Protection** 555.3 Grounding 555.15 Load Calculations for Service and Feeder Conductors 555.12 Location of Service Equipment 555.7 Receptacles 555.19 **Repair Facilities** 555.22 Scope 555.1 555.5 Transformers Wiring Methods and Installation 555.13 Metal Clad Cable Bends 330.24 **Conductor Ampacities** 330.80 Definition 330.2 330.108 Equipment Grounding Conductor Fittings 330.40 In Accessible Attics or Roof Spaces 330.23 Scope 330.1 Securing and Supporting 330.30 Through or Parallel to Framing Members 330.17 **Uses Not Permitted** 330.12 **Uses Permitted** 330.10 Mobile Homes, Manufactured Homes, and **Mobile Home Parks AFCI Protection** 550.25 Allowable Demand Factors 550.31 Definitions 550.2 Disconnect 550.32 **Distribution Systems** 550.30 Feeder 550.33 **General Requirements** 550.4 **Receptacle Outlets** 550.13 550.1 Scope Motor Control **Disconnect for Control Circuits** 430.75 **Overcurrent Protection for Control Circuits** 430.72 Protection of Conductors from Physical Damage 430.73

604.7

604.4

Securing and Supporting

Uses Permitted

Description	Rule	Description	Rule
Motor Controllers		Overload	430.31
Controller for Each Motor	430.87	Overload Sizing for Continuous-Duty Motors	430.32
Controller Rating	430.83	Scope	430.1
Need Not Open All Conductors of the Circuit	430.84	Several Motors—Conductor Size	430.24
Mater Discourset		Single Motor Conductor Size	430.22
Motor Disconnect		Single Overcurrent Device	430.55
Combination Controller and Disconnect	430.111	Table FLC versus Motor Nameplate Current Rating	430.6
Disconnect Requirement	430.102	The Highest Rated Motor	430.17
Disconnecting Means Rating	430.109	Use of Fuses for Overload Protection	430.36
Marking and Mounting	430.104		
Operation of Disconnect	430.103	Motor Fuel Dispensing Facilities	
Readily Accessible	430.107	Circuit Disconnect	514.11
Motors		Classification of Locations	514.3
Branch-Circuit Short-Circuit and Ground-Fault		Definition	514.2
Protection	430.52	Grounding and Bonding	514.16
		Maintenance and Service of Dispensing Equipment	514.13
Definitions	430.2	Raceway Seal	514.9
Feeder Protection	430.62	Scope	514.1
Location of Motors	430.14	Underground Wiring	514.8
Marking on Controllers	430.8	Wiring and Equipment Above Class I Locations	514.7
Motor Controller Terminal Requirements	430.9	Wiring and Equipment Within Class I Locations	514.4
Motor Feeder Taps	430.28	- · ·	
Number of Overload Devices	430.37		

NEED CONTINUING EDUCATION?

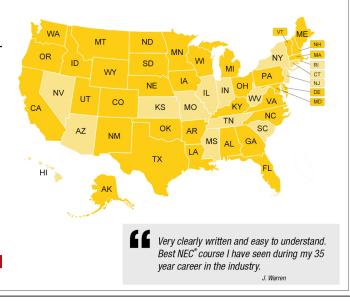
For over 25 years Mike Holt Enterprises has been the leader in Electrical Continuing Education.

Why should you choose a Mike Holt course?

- Available in Online and Homestudy DVD formats
- Extensive use of graphics and illustrations
- Convenient and Easy to Use
- Questions to test your progress
- Excellent customer support
- Approved in 32 states

10% off all CEU Courses Use Discount Code: NDXCE14 Visit: www.MikeHolt.com/ContinuingEd

Special cannot be combined with any other offer, or applied to previous orders



Description	Rule
Multioutlet Assemblies Scope	380.1
Through Partitions	380.76
Uses Not Permitted	380.12
Uses Permitted	380.10
N	
Neutral	
General	200.2
Identification of Terminals	200.10
Neutral Conductor Identification	200.10
Neutral Conductors	200.0
Polarity	200.4
Scope	200.11
Terminal Identification	200.1
Use of White or Gray Color	200.7
Nonmetallic Sheath Cable	
Attics and Roof Spaces	334.23
Bends	334.24
Boxes and Fittings	334.40
Conductor Ampacity	334.80
Conductors	334.104
Construction	334.100
Definition	334.2
Equipment Grounding Conductor	334.108
Exposed	334.15
Insulation	334.112
Listed	334.6
Scope	334.1
Securing and Supporting	334.30
Through or Parallel to Framing Members	334.17
Uses Not Permitted	334.12
Uses Permitted	334.10
	001.10
0	
Optical Fiber Cables and Raceways	
Abandoned Cable	770.25
Access to Electrical Equipment Behind Panels	
Designed to Allow Access	770.21

	110.20
Access to Electrical Equipment Behind Panels	3
Designed to Allow Access	770.21
Applications of Listed Optical Fiber Cables	770.154
Definitions	770.2
Innerduct	770.12
Installation of Optical Fiber Cables	770.113

18

Description

Installation of Optical Fiber Cables and Electrical	
Conductors	770.133
Listing and Marking of Optical Fiber Cables	770.179
Mechanical Execution of Work	770.24
Metallic Entrance Conduit Grounding	770.49
Other Articles	770.3
Raceways and Cable Routing Assemblies for	
Optical Fiber Cables	770.110
Scope	770.1
Spread of Fire or Products of Combustion	770.26
Unlisted Cables and Raceways Entering Buildings	770.48
Orthogol Freder Orleyde Kenne	
Optional Feeder Calculations	000.07
Determining Existing Loads Dwelling Unit—Optional Load Calculation	220.87 220.82
Existing Dwelling Unit Calculations	220.82
Multifamily—Optional Load Calculation	220.83
Optional Calculation—Two Dwelling Units	220.85
	220.00
Optional Standby Systems	
Capacity and Rating	702.4
Definition	702.2
Outdoor Generator Sets	702.12
Scope	702.1
Signs	702.7
Transfer Equipment	702.5
Wiring	702.10
Outlets	
Dwelling Unit Receptacle Outlet Requirements	210.52
Electrical Service Areas	210.64
General	210.50
Heating, Air-Conditioning, and Refrigeration (HACR)	
Equipment	210.63
Lighting Outlet Requirements	210.70
Receptacles in Guest Rooms, Guest Suites,	
Dormitories, and Similar Occupancies	210.60
Show Windows	210.62
Outside Circuits	
Attachment	225.16
Clearance for Overhead Conductors	225.10
Clearances from Buildings	225.10
Luminaires Installed Outdoors	225.19
Masts as Supports	225.17
Minimum Size of Conductors	225.17
	220.0

Outside Circuits (continued)

Other Articles	225.2
Raceway Seals	225.27
Raceways on Exterior Surfaces of Buildings or	
Other Structures	225.22
Scope	225.1
Supports Over Buildings	225.15
Trees for Conductor Support	225.26

Overcurrent Protection

Damp or Wet Locations	240.32
Definitions	240.2
Ground-Fault Protection of Equipment	240.13
Location of Overcurrent Devices	240.24
Overcurrent Protection Location in Circuit	240.21
Protection of Conductors	240.4
Protection of Equipment	240.3
Protection of Flexible Cords and Fixture Wires	240.5
Scope	240.1
Standard Ampere Ratings	240.6
Supplementary Overcurrent Protection	240.10
Ungrounded Conductors	240.15
Vertical Position	240.33

Р

Panelboards

Arrangement of Busbars and Conductors	408.3
Clearance for Conductors Entering Bus Enclosures	408.5
Equipment Grounding Conductor	408.40
Field Identification	408.4
Maximum Number of Overcurrent Devices	408.54
Neutral Conductor Terminations	408.41
Overcurrent Protection of Panelboards	408.36
Panelboards in Damp or Wet Locations	408.37
Scope	408.1
Unused Openings	408.7
PVC	
Bends	352.24
Bushings	352.46
Definition	352.2
Equipment Grounding Conductor	352.60
Expansion Fittings	352.44
Joints	352.48
Number of Bends (360°)	352.26

Description

Rule

Number of Conductors	352.22
Scope	352.1
Securing and Supporting	352.30
Trade Size	352.20
Trimming	352.28
Uses Not Permitted	352.12
Uses Permitted	352.10

R

Radio and Television EquipmentAntenna Lead-In Protectors810.6Community Television Antenna810.4Grounding Devices810.7Other Articles810.3Scope810.1

Antenna Discharge Unit810.20Avoid Contact with Conductors of Other Systems810.13Bonding Conductor and Grounding Electrode810.21Clearances810.18Metal Antenna SupportsGroundingSupports810.12

Receptacles

Attachment Plugs, Cord Connectors, and Flanged	
Surface Devices	406.7
Connecting Receptacle Grounding Terminal to	
Equipment Grounding Conductor	406.11
Definitions	406.2
Dimmer-Controlled Receptacles	406.15
General Installation Requirements	406.4
Receptacle Faceplates	406.6
Receptacle Mounting	406.5
Receptacle Rating and Type	406.3
Receptacles in Damp or Wet Locations	406.9
Scope	406.1
Tamper-Resistant Receptacles	406.12
Remote-Control, Signaling, and Power-Limited	
Circuits—General	
Abandoned Cable	725.25
Circuit Requirements	725.35
Definitions	725.2
Electrical Equipment Behind Access Panels	725.21

Description	Rule
Receptacles (continued)	
Mechanical Execution of Work	725.24
Other Articles	725.3
Safety-Control Equipment	725.31
Scope	725.1
Remote-Control, Signaling, and Power-Limited Circuits—Class 1 Circuit Requirements Class 1 Circuit Classifications and Power-Supply Requirements Class 1 Circuit Conductors	725.41 725.49
Class 1 Circuit Overcurrent Protection	725.43
Class 1 Circuit Wiring Methods	725.46
Conductors of Different Circuits in Same Cable,	
Cable Tray, Enclosure, or Raceway	725.48
Number of Conductors in a Raceway	725.51
Remote-Control, Signaling, and Power-Limited Circuits—Class 2 and Class 3 Circuit Requirements	
Applications of Class 2, Class 3, and PLTC Cables Conductors of Different Circuits in Same	725.154
Enclosure	725.139
Equipment Marking	725.124
Installation of Class 2 and Class 3 Cables Listing and Marking of Class 2 and Class 3	725.135
Cables	725.179
Power Sources for Class 2 and Class 3 Circuits	725.121
Separation from Power Conductors	725.136
Support	725.143
Wiring Methods on Load Side of the Class 2	
or Class 3 Power Source	725.130
Wiring Methods on Supply Side of the Class 2	
or Class 3 Power Source	725.127
Rigid Metal Conduit	
Bends	344.24
Bushings	344.46
Construction	344.100
Couplings and Connectors	344.42
Definition	344.2
Dissimilar Metals	344.14
Listing Requirements	344.6
Number of Bends (360°)	344.26
Number of Conductors	344.22
Reaming	344.28
Scope	344.1

Rule

Securing and Supporting	344.30
Standard Lengths	344.130
Trade Size	344.20
Uses Permitted	344.10

S

Servcie-Entrance Conductors

Cable Supports	230.51
High-Leg Identification	230.56
Number of Service-Entrance Conductor Sets	230.40
Overhead Service Locations	230.54
Protection Against Physical Damage	230.50
Size and Rating	230.42
Spliced Conductors	230.46
Wiring Methods	230.43
Service Conductors—Overhead	
Means of Attachment	230.27
Overhead Service Conductor Size and Rating	230.23
Point of Attachment	230.26
Service Masts Used as Supports	230.28
Vertical Clearance for Overhead Service	
Conductors	230.24
Service Conductors—Underground	
Protection Against Damage	230.32
Underground Service Conductor Size and Rating	230.31
Service Disconnect	
Connected on Supply Side of the Service	
Disconnect	230.82
Connection to Terminals	230.81
Disconnect Requirements	230.70
Grouping of Disconnects	230.72
Indicating	230.77
Manual or Power Operated	230.76
Number of Disconnects	230.71
Rating of Disconnect	230.79
Service Entrance Cable	
Bends	338.24
Definitions	338.2
Scope	338.1
Uses Not Permitted	338.12
Uses Permitted	338.1

Services

Clearance from Building Openings	230.9
Conductors Considered Outside a Building	230.6
Not to Pass Through a Building	230.3
Number of Services	230.2
Raceway Seals	230.8
Scope	230.1
Service Conductors Separate from Other Conductors	230.7
Vegetation as Support	230.10

Spas and Hot Tubs

680.41
680.40
680.44
680.43
680.42

Storage Batteries

0	
Battery and Cell Terminations	480.3
Battery Locations	480.9
Definitions	480.2
Racks and Trays	480.8
Scope	480.1
Wiring and Equipment Supplied from Batteries	480.4

Surface Metal Raceways

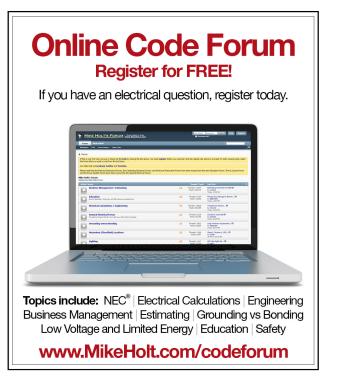
Definition	386.2
Equipment Grounding Conductor	386.60
Listing Requirements	386.6
Number of Conductors	386.22
Scope	386.1
Securing and Supporting	386.30
Separate Compartments	386.70
Size of Conductors	386.21
Splices and Taps	386.56
Uses Not Permitted	386.12
Uses Permitted	386.10
Surge Protection	
Listing	285.5
Location	285.11
Number Required	285.4
Routing of Conductors	285.12
Scope	285.1
Short-Circuit Current Rating	285.6
Type 1 SPD—Line Side of Service Equipment	285.23

Description

Rule

Rule

Type 2 SPD—Feeder Circuits	285.24
Type 3 SPDs—Branch Circuits	285.25
Type 4 and Other Component Type SPDs	285.13
Uses Not Permitted	285.3
Swimming Pools, Spas, Hot Tubs, Fountains, and	
Similar Installations	
Cord-and-Plug-Connected Equipment	680.7
Definitions	680.2
Electric Water Heaters	680.9
Equipment Rooms and Pits	680.11
Equipotential Bonding	680.26
Feeders	680.25
General	680.20
Junction Box, Transformer, or GFCI Enclosure	680.24
Lighting, Receptacles, and Equipment	680.22
Maintenance Disconnecting Means	680.12
Motors	680.21
Other Articles	680.3
Overhead Conductor Clearance	680.8
Scope	680.1
Specialized Equipment	680.27
Underground Wiring	680.10
Underwater Luminaires	680.23



Description	Rule
Swimming Storable Pools, Storable Spas, and Storable Hot Tubs	
General	680.30
donordi	680.30
GFCI-Protected Receptacles	
Pumps	680.31
Receptacle Locations	680.34
Switches	
Accessibility and Grouping	404.8
Circuit Breakers Used as Switches	404.11
Damp or Wet Locations	404.4
Grounding of Enclosures	404.12
Indicating	404.7
Mounting Snap Switches	404.10
Position of Knife Switches	404.6
Rating and Use of Snap Switches	404.14
Scope	404.1
Switch Connections	404.2
Switch Enclosures	404.3
Switch Faceplates	404.9
Switch Marking	404.15
ownon marking	101.10

T

Temporary Installations

All Installations	590.2
General	590.4
Ground-Fault Protection for Personnel	590.6
Listing of Decorative Lighting	590.5
Scope	590.1
Time Constraints	590.3
Track Lighting	

Fastening	410.154
Installation	410.151

Description Rule Transformers **Disconnecting Means** 450.14 Grounding and Bonding 450.10 Marking 450.11 **Overcurrent Protection** 450.3 Scope 450.1 **Transformer Accessibility** 450.13 Ventilation 450.9 U **Underground Feeder Cable** Ampacity 340.80 Bends 340.24 Definition 340.2 Insulation 340.112 Listing Requirements 340.6 Scope 340.1 **Uses Not Permitted** 340.12

W

Uses Permitted

Wireways	
Conductors—Maximum Size	376.21
Definition	376.2
Number of Conductors and Ampacity	376.22
Scope	376.1
Splices, Taps, and Power Distribution Blocks	376.56
Supports	376.30
Uses Not Permitted	376.12
Uses Permitted	376.10
Wireway Sizing	376.23

340.10

22