

Mike Holt's NEC 2005 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 all those difficult key words and gives you the section where these words appear in the 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 and you'll be in great shape!

About the Author

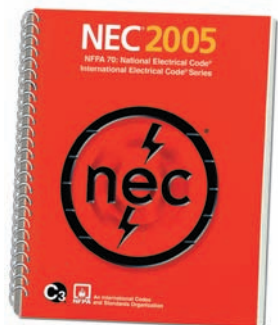
Mike Holt worked his way up through the electrical trade from an apprentice electrician to become one of the most recognized experts in the world as it relates to electrical power installation. He was a Journeyman Electrician, Master Electrician, and Electrical Contractor. Mike came from the real world, and his dedication to electrical training is the result of his own struggles as an electrician looking for a program that would help him succeed in this challenging industry.

It is for reasons like this that Mike continues to help the industry by providing free resources such as this index. It is the goal of Mike Holt and everyone on the Mike Holt Team to do everything in our power to aid in your pursuit of excellence.

For more great Free resources from Mike Holt visit www.NECcode.com

Code Book

This spiral edition makes the code book much easier to use. The spiral coil allows you to conveniently study by placing the book folded on your desk. It lays flat and you can even put it on a hook in your truck. 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 2005 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. NFPA product.



Tabs

These peel and stick tabs are a great way to customize your 2005 Code book. Included with the tabs is a 16" x 20" Raceway Poster and an Ohms Wheel Sticker.





The National Electrical Code

The *National Electrical Code (NEC)* 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* was not written to serve as an instructive or teaching manual for untrained individuals [90.1(C)].

Learning to use the *NEC* is somewhat like learning to play the game of chess; it's a great game if you enjoy mental warfare. You must first learn the names of the game pieces, how the pieces are placed on the board, and how each piece moves.

In the electrical world, this is equivalent to completing a comprehensive course on basic electrical theory, such as:

- What electricity is and how it is produced
- Dangers of electrical potential: fire, arc blast, arc fault, and electric shock
- Direct current
- Series and parallel circuits
- Electrical formulas
- Alternating current
- Induction, motors, generators, and transformers

Once you understand the fundamentals of the game of chess, you're ready to start playing the game. Unfortunately, at this point all you can do is make crude moves, because you really do not understand how all the information works together. To play chess well, you will 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.

Again, back to the electrical world, this is equivalent to completing a course on the basics of electrical theory. You have the foundation upon which to build, but now you need to take it to the next level, which you can do by reading this textbook.

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 that *Code* users understand their meanings and their applications. If you do not 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* Articles. For example, the term "Dwelling Unit" applies to many Articles. If you do not know what a Dwelling Unit is, how can you possibly apply the *Code* requirements for it?

In addition, many Articles have terms that are unique for that specific Article. This means that the definition of those terms is only applicable for that given Article. For example, Article 250 Grounding and Bonding has the definitions of a few terms that are only to be used within Article 250.

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 intent of a rule. The word "or" can imply alternate choices for equipment 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 do not use a word if you do not 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.

Figure 1

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 effectively. If you think

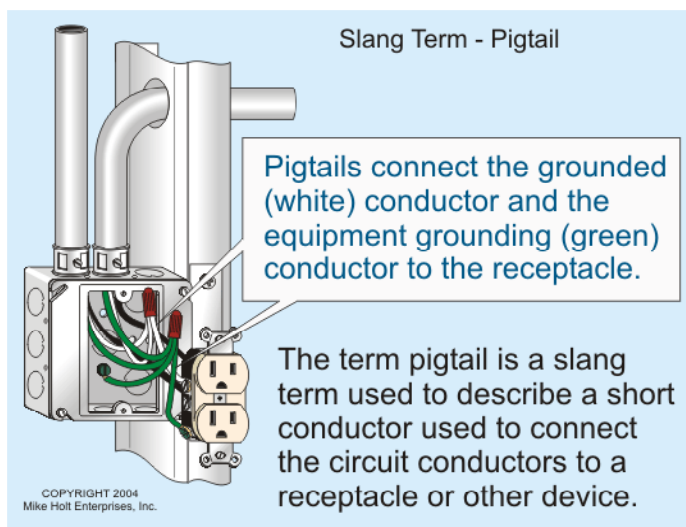


Figure 1

about it, how can you use something if you don't know how it works? Okay, let's get started. The *National Electrical Code* is organized into nine components.

- Table of Contents
- Chapters 1 through 9 (major categories)
- Articles 90 through 830 (individual subjects)
- Parts (divisions of an Article)
- Sections and Tables (*Code* requirements)
- Exceptions (*Code* permissions)
- Fine Print Notes (explanatory material)
- Index
- Annexes (information)

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* section that applies.

2. 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, and Cable TV)
- Chapter 9 Tables—Conductor and Raceway Specifications

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

- Article 110 General Requirements
- Article 250 Grounding
- Article 300 Wiring Methods
- Article 430 Motors
- Article 550 Mobile Homes, Manufactured Homes, and Mobile Home Parks.
- Article 680 Swimming Pools, Spas, Hot Tubs, and Fountains
- Article 725 Remote-Control, Signaling, and Power-Limited Circuits
- Article 800 Communications Systems

4. Parts. Larger Articles are subdivided into Parts. For example, Article 110 has been divided into multiple parts:

- Part I. General (Sections 110.1—110.23)
- Part II. 600 Volts, Nominal, or Less (110.26—110.27)
- Part III. Over 600 Volts, Nominal (110.30—110.59)

Note: 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 the 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 contains the requirements for Over 600 Volts, Nominal installations. The rules for working clearances for electrical equipment for systems 600V or less are contained in Table 110.26(A)(1), which is located in Part II. 600 Volts, Nominal, or Less.

5. 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), etc. Numbers in parentheses (1), (2), etc., may further break down a subsection, and lower-case letters (a), (b), etc., further breaks 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.”

Tables: Many *Code* requirements are contained within Tables, which are lists of *NEC* requirements placed in a systematic arrangement. The titles of the Tables are extremely important; they must be carefully read in order to understand the contents, applications, limitations, etc., of each Table in the *Code*. Many times notes are provided in a table; be sure to read them as well, since they are 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.

6. Exceptions. Exceptions are *Code* requirements that provide an alternative method to a specific requirement. 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 Exception: 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 term “shall not” means it isn’t permitted.

Permissive Exception: A permissive exception uses words such as “is permitted,” which means that it’s acceptable to do it in this way.

7. Fine Print Note (FPN). A Fine Print Note contains explanatory material intended to clarify a rule or give assistance, but it isn’t a *Code* requirement.

8. Index. The Index contained in the *NEC* is excellent and is helpful in locating a specific rule.

How to Locate a Specific Requirement

How to go about finding what you’re looking for in the *Code* depends, to some degree, on your experience with the *NEC*. *Code* experts typically know the requirements so well that they just go to the *NEC* rule without any outside assistance. The Table of Contents might be the only thing very experienced *Code* users need to locate their requirement. On the other hand, average *Code* users should use all of the tools at their disposal, and that includes 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 that Article 230 applies to “Services,” and because this Article is so large, it’s divided up into multiple parts (actually 8 parts). With this knowledge, you can quickly go to the Table of Contents (page 70-2) and see that it lists the Service Equipment Disconnecting Means requirements in Part VI, starting at page 70-77.

Note: The number 70 precedes all page numbers because the *NEC* is standard number 70 within the collection of *NFPA* standards.

Index: If you used the Index, which lists subjects in alphabetical order, to look up the term “service disconnect,” you would see that there’s no listing. If you tried “disconnecting means,” then “services,” you would find the Index specifies that the rule is located at 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 get the page number, or flip through the *Code* to Article 230, then continue to flip until you find Part VI.

As you can see, although the index is very comprehensive, it’s not that easy to use if you do not understand how the index works. But if you answer the 1,099 questions or 100-question final exam contained in the *Workbook to Accompany Understanding the National Electrical Code—Residential Wiring Edition* you’ll become a master at finding things in the *Code* quickly.

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 will find the *NEC* much easier to understand and use than you originally thought.

Customizing Your *Code* Book

One way to increase your comfort level with the *Code* is to customize it to meet your needs. You can do this by highlighting and underlining important *NEC* requirements, and by attaching tabs to important pages.

Highlighting: As you read through this textbook and answer the questions in the workbook, be sure you highlight those requirements in the *Code* that are most important to you. Use yellow for general interest and orange for important requirements you want to find quickly. Be sure to highlight terms in the Index and Table of Contents as you use them.



Because of the size of the 2005 *NEC*, I recommend you highlight in green the Parts of Articles that are important for your applications, particularly:

- Article 230 Services
- Article 250 Grounding
- Article 430 Motors

Underlining: Underline or circle key words and phrases in the *NEC* with a red pen (not a lead pencil) and use a 6-in. ruler to keep lines straight and neat. This is a very handy way to make important requirements stand out. A small 6-in. ruler also comes in handy for locating specific information in the many *Code* tables.

Tabbing the NEC: Placing tabs on important *Code* Articles, Sections, and Tables will make it very easy to access important *NEC* requirements. However, too many tabs will defeat the purpose. You can order a custom set of *Code* tabs, designed by Mike Holt, online at www.MikeHolt.com, or by calling us at 1.888.NEC.Code (1.888.632.2633)

Mike Holt's NEC 2005 Index

Subject

Code Section

A

Agricultural Buildings

Definitions	547.2
Equipotential Planes and Bonding of Equipotential Planes	547.10
Scope	547.1
Wiring Methods	547.5

Air-Conditioning—Room

Branch-Circuit Requirements	440.62
Disconnecting Means	440.63
Leakage Current Detection and Interruption, and Arc-Fault Circuit Interrupter	440.65
Supply Cord	440.64

Air-Conditioning and Refrigeration

Ampacity and Rating	440.6
Circuit Protection—General	440.21
Conductor Size—One Motor-Compressor	440.32
Conductor Size—Several Motor-Compressors	440.33
Definitions	440.2
Disconnect Location	440.14
Marking on Hermetic Refrigerant Motor-Compressors and Equipment	440.4
Short-Circuit and Ground-Fault Protection Device Size	440.22

Aircraft Hangars

Bonding	513.16
Classification of Locations	513.3
GFCI-Protected Receptacles	513.12
Scope	513.1
Sealing	513.9
Wiring and Equipment in Class I Locations	513.4
Wiring in or Under Hangar Floor	513.8
Wiring Not Within Class I Locations	513.7

Appliances

Branch-Circuit Rating	422.10
Central Vacuum	422.15
Cord-and-Plug Connected Appliance Disconnect	422.33
Cord-and-Plug Connected Vending Machines	422.51
Flexible Cords	422.16
Fossil Fuel Heating Equipment (Furnaces)	422.12
Overcurrent Protection	422.11
Permanently Connected Appliance Disconnect	422.31
Storage Water Heaters	422.13
Support of Ceiling-Suspended (Paddle) Fans	422.18
Unit Switch as Disconnect	422.34

Subject

Code Section

Armored Cable

Bends	320.24
Boxes and Fittings	320.40
Conductor Ampacities	320.80
Construction	320.100
Definition	320.2
Equipment Grounding (Bonding)	320.108
Exposed Work	320.15
In Accessible Attics or Roof Spaces	320.23
Secured and Supported	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

Access to Electrical Equipment	640.5
Audio Systems Near Bodies of Water	640.10
Definitions	640.2
Grounding (Earthing) 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
Protection of Electrical Equipment	640.4
Raceway Fill	640.23
Scope	640.1
Use of Flexible Cords and Flexible Cables	640.21
Wiring Methods	640.9
Wiring of Equipment Racks	640.22

B

Bonding—Equipment

Connecting Receptacle Grounding Terminal to Box	250.146
Continuity and Attachment of Equipment Grounding (Bonding) Conductors to Boxes	250.148
Equipment Connected by Cord and Plug	250.114
Equipment Grounding (Bonding) Conductor Connections	250.130
Fixed Equipment Connected by Permanent Wiring Methods—General	250.110

Fixed Equipment Connected by Permanent Wiring Methods—Specific	250.112
Grounding (Bonding)—Cord-and-Plug Connected Equipment	250.138
Grounding (Bonding)—Fixed Equipment	250.134
Grounding (Bonding)—Ranges, Ovens, and Clothes Dryers	250.140
Identification of Equipment Grounding (Bonding) Conductor	250.119
Identification of Wiring Device Terminals	250.126
Sizing Equipment Grounding (Bonding) Conductor	250.122
Types of Equipment Grounding (Bonding) Conductors	250.118
Use of Grounded Neutral Conductor for Equipment Grounding (Bonding)	250.142

Bonding—General

Bonding 277V/480V	250.97
Bonding Jumper	250.102
Bonding of Piping Systems and Exposed Structural Metal	250.104
Bonding Other Enclosures	250.96
Bonding—Hazardous (Classified) Locations	250.100
Grounding (Bonding) of Communications Systems	250.94
Lightning Protection System	250.106
Service Bonding	250.92

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, Wet, or Hazardous (Classified) 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 Gaps Around Boxes	314.21
Short-Radius Conduit Bodies	314.5
Support of Boxes and Conduit Bodies	314.23
Surface Extensions	314.22
Wiring to be Accessible	314.29

Branch Circuits—General

Arc-Fault Circuit-Interrupter (AFCI) Protection	210.12
Branch-Circuit Rating	210.3
Branch-Circuit Receptacle Requirements	210.7
Branch Circuit Required	210.11
Branch-Circuit Voltage Limitation	210.6
GFCI-Protected Receptacles	210.8
Guest Rooms and Guest Suites	210.18
Identification for Branch Circuits	210.5
Multiwire Branch Circuits	210.4

Branch Circuit—Ratings

Common Area Branch Circuits	210.25
Conductor Sizing	210.19
Outlet Device Rating	210.21
Overcurrent Protection	210.20
Permissible Loads	210.23

C

Cabinets, Cutout Boxes, and Meter Socket Enclosures

Damp, Wet, or Hazardous (Classified) Locations	312.2
Enclosures	312.5
Installed in Walls	312.3
Repairing Gaps Around Plaster, Drywall, or Plasterboard Edges	312.4
Used for Raceway and Splices	312.8

Cable Trays

Cable Installation	392.8
Definition	392.2
Grounding (Bonding)	392.7
Installation	392.6
Uses Not Permitted	392.4
Uses Permitted	392.3

Calculations

Commercial—Kitchen Equipment Load	220.56
Commercial—Receptacle Load	220.44
Commercial—Show Window and Track Lighting Load	220.43
Dwelling Unit—Appliance Load	220.53
Dwelling Unit—Electric Clothes Dryer Load	220.54
Dwelling Unit—Electric Ranges and Cooking Appliances	220.55

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Dwelling Unit—Small-Appliance and Laundry Load	220.52
Feeder/Service Neutral Unbalanced Load	220.61
Fixed Electric Space-Heating Load	220.51
General	220.40
General Lighting	220.12
General Lighting Demand Factors	220.42
Maximum Load on a Branch Circuit	220.18
Motor Load	220.50
Noncoincident Loads	220.60
Other Loads—All Occupancies	220.14

Calculations—Optional

Dwelling Unit—Optional Load Calculation	220.82
Multifamily—Optional Load Calculation	220.84
Optional Calculation—Two Dwelling Units	220.85

Capacitors

Conductors	460.8
Enclosing and Guarding	460.2
Rating or Setting of Motor Overload Device	460.9

Carnivals, Circuses, Fairs, and Similar Events

Equipment Bonding	525.30
Equipment Grounding (Bonding)	525.31
GFCI-Protected Receptacles and Equipment	525.23
Grounding (Bonding) Conductor Continuity	
Assurance	525.32
Multiple Sources of Supply	525.11
Other Articles	525.3
Outdoor Portable Distribution or Termination Boxes	525.22
Overhead Conductor Clearances	525.5
Protection of Electrical Equipment	525.6
Rides, Tents, and Concessions	525.21
Scope	525.1
Services	525.10
Wiring Methods	525.20

Circuit Breakers

Applications	240.85
Indicating	240.81
Markings	240.83
Method of Operation	240.80
Circuits and Equipment Operating at Less than 50 Volts	720

Class 1 Remote-Control, Signaling, and Power-Limited Circuits

Access to Electrical Equipment Behind Panels	
Designed to Allow Access	725.7
Circuit Requirements	725.15
Class 1 Circuit Classifications and Power Source Requirements	725.21
Class 1 Circuit Conductors	725.27
Class 1 Circuit Overcurrent Protection	725.23
Class 1 Circuit Wiring Methods	725.25

Conductors of Different Circuits in Same Cable, Enclosure, or Raceway	725.26
Definitions	725.2
Mechanical Execution of Work	725.8
Number of Conductors in a Raceway	725.28
Other Articles	725.3
Safety-Control Equipment	725.11
Scope	725.1

Class 2 and Class 3 Remote-Control, Signaling, and Power-Limited Circuits

Access to Electrical Equipment Behind Panels	
Designed to Allow Access	725.7
Applications of Class 2 and Class 3 Cables	725.61
Circuit Requirements	725.15
Class 2 or Class 3 Cables Exposed to Lightning	725.57
Conductors of Different Circuits in Same Cable, Enclosure, or Raceway	725.56
Definitions	725.2
Equipment Marking	725.42
Listing and Marking of Class 2 and Class 3 Cables	725.82
Mechanical Execution of Work	725.8
Other Articles	725.3
Power Sources for Class 2 and Class 3 Circuits	725.41
Safety-Control Equipment	725.11
Scope	725.1
Separation from Other Systems	725.55
Support	725.58
Wiring Methods on Load Side of the Class 2 or Class 3 Power Source	725.52
Wiring Methods on Supply Side of the Class 2 or Class 3 Power Source	725.51

Commercial Garages, Repair, and Storage

Classification of Hazardous Areas	511.3
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

Communications Circuits

Access to Electrical Equipment Behind Panels	
Designed to Allow Access	800.21
Applications of Listed Communications Wires, Cables, and Raceways	800.154
Cable and Primary Protector Grounding	800.100
Cable Grounding	800.93
Communications Raceways	800.182
Communications Wires and Cables	800.179
Definitions	800.2

Installation of Communications Circuits and Equipment	800.133
Installation of Equipment	800.18
Lightning Conductors	800.53
Listing of Communications Wires and Cables	800.113
Mechanical Execution of Work	800.24
Other Articles	800.3
Overhead Communications Wires and Cables	800.44
Primary Protection	800.90
Raceways for Communications Circuits	800.110
Scope	800.1
Underground Circuits Entering Buildings	800.47

Community Antenna Television (CATV)

Access to Electrical Equipment Behind Panels	
Designed to Allow Access	820.21
Applications of Listed CATV Cables and Raceways	820.154
Cable Grounding	820.100
CATV Raceways	820.182
Coaxial Cables	820.179
Definitions	820.2
Energy Limitations	820.15
Grounding Cable	820.93
Installation of Cables and Equipment	820.133
Listing and Markings	820.113
Locations and Other Articles	820.3
Mechanical Execution of Work	820.24
Overhead Cables	820.44
Raceways for Coaxial Cables	820.110
Scope	820.1
Underground Circuits Entering Buildings	820.47

Conductor Specifications

AC Impedance for Conductors in Conduit or Tubing	Chapter 9, Table 9
Conductor Cross-Sectional Area	Chapter 9, Table 5
Conductor Fill Percentage	Chapter 9, Table 1
Conductor Properties	Chapter 9, Table 8

Conductors

Conductor Ampacity	310.15
Conductor Construction	310.13
Conductor Identification	310.12
Conductors	310.2
Conductors in Parallel	310.4
Corrosive Conditions	310.9
Insulation Temperature Limitation	310.10
Location	310.8
Minimum Size Conductors	310.5
Stranded Conductors	310.3

E

Electric Vehicle Charging Systems

Definitions	625.2
Interactive Systems	625.26
Loss of Primary Source	625.25
Personnel Protection System	625.22
Scope	625.1

Electrical Metallic Tubing

Bends	358.24
Coupling and Connectors	358.42
Definition	358.2
Listing Requirement	358.6
Number of Bends (360°)	358.26
Number of Conductors	358.22
Reaming and Threading	358.28
Secured and Supported	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
Grounding (Bonding)	362.60
Joints	362.48
Number of Bends (360°)	362.26
Number of Conductors	362.22
Secured and Supported	362.30
Trade Sizes	362.20
Trimming	362.28
Uses Not Permitted	362.12
Uses Permitted	362.10

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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 Power Systems

Accessibility	700.25
Application of Other Articles	700.2
Capacity	700.5
Coordination	700.27
Emergency Illumination	700.16
Equipment Approval	700.3
General Requirements	700.12
Ground-Fault Protection of Equipment	700.26
Loads on Emergency Branch Circuits	700.15
Scope	700.1
Signs	700.8
Tests and Maintenance	700.4
Transfer Equipment	700.6
Wiring	700.9

F

Feeders

Ground-Fault Protection of Equipment	215.10
High-Leg Conductor Identification	215.8
Identification for Feeders	215.12
Minimum Rating	215.2
Overcurrent Protection	215.3

Fire Alarm—Nonpower-Limited Fire Alarm (NPLFA)

Access to Electrical Equipment Behind Panels	
Designed to Allow Access	760.7
Conductors of Different Circuits in Same Cable, Enclosure, or Raceway	760.26
Definitions	760.2
Fire Alarm Circuit and Equipment Grounding (Bonding)	760.9
Fire Alarm Circuit Cables Exposed to Lightning	760.11
Fire Alarm Circuit Identification	760.10
Fire Alarm Circuit Requirements	760.15
GFCI and AFCI Protection	760.21
Listing and Marking of NPLFA Cables	760.81
Mechanical Execution of Work	760.8
NPLFA Circuit Conductors	760.27
NPLFA Circuit Overcurrent Protection	760.23
NPLFA Circuit Wiring Methods	760.25
Number of Conductors in a Raceway	760.28
Other Articles	760.3
Scope	760.1

Fire Alarm—Power-Limited Fire Alarm (PLFA)

Access to Electrical Equipment Behind Panels	
Designed to Allow Access	760.7
Applications of Listed PLFA Cables	760.61
Definitions	760.2
Equipment Marking	760.42
Fire Alarm Circuit and Equipment Grounding (Bonding)	760.9
Fire Alarm Circuit Cables Exposed to Lightning	760.11
Fire Alarm Circuit Identification	760.10
Fire Alarm Circuit Requirements	760.15
Listing and Marking of PLFA Cables	760.82
Mechanical Execution of Work	760.8
Other Articles	760.3
PLFA Circuits, Class 2, Class 3, and Communications Circuits	760.56
Power Sources for PLFA Circuits	760.41
Scope	760.1
Separation from Other Circuit Conductors	760.55
Support	760.58
Wiring Methods and Materials on Load Side of the PLFA Power Source	760.52

Fire Pumps

Continuity of Power	695.4
Control Wiring	695.14
Power Sources	695.3
Power Wiring	695.6
Scope	695.1
Transformers	695.5
Voltage Drop	695.7

Fixed Electric Space-Heating Equipment

Branch Circuits	424.3
Disconnect for Electric Duct Heater Controller	424.65
Disconnecting Means	424.19
Installation of Cables in Concrete or Poured Masonry Floors	424.44
Permanently Installed Electric Baseboard Heaters with Receptacles	424.9

Fixture Wires

Allowable Ampacity of Fixture Wires	402.5
Grounded Neutral Conductor	402.8
Minimum Size	402.6
Overcurrent Protection	402.12
Raceway Size	402.7
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
Overcurrent Protection	400.13
Protection from Damage	400.14
Pull at Joints and Terminals	400.10

NEC Index

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
Bonding	348.60
Definition	348.2
Fittings	348.42
Listing Requirements	348.6
Number of Bends (360°)	348.26
Number of Conductors	348.22
Secured and Supported	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
Cord-and-Plug Connected Equipment	680.7
Definitions	680.2
Electric Water Heater	680.9
Equipment Rooms and Pits	680.11
General	680.50
GFCI-Protected Receptacles	680.58
Luminaires, Submersible Pumps, and Other Submersible Equipment	680.51
Maintenance Disconnecting Means	680.12
Methods of Grounding (Bonding)	680.55
Other Articles	680.3
Overhead Conductor Clearance	680.8

Flexible Cords and Cables - Generators

Scope	680.1
Signs in or Adjacent to Fountains	680.57
Underground Wiring Location	680.10

Fuel Cell Systems

Definitions	692.2
Listing Requirement	692.6
Scope	692.1

Fuses

Classification	240.61
Edison-Base Fuse	240.51
General	240.60
Type S Fuses	240.53
Type S Fuses, Adapters, and Fuseholders	240.54

G

General Requirements

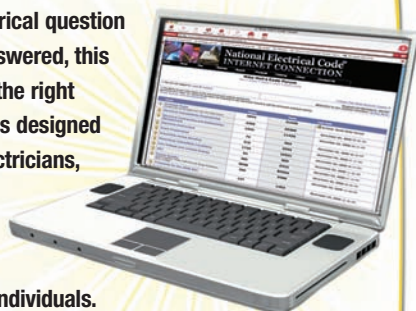
Approval of Equipment	110.2
Calculations	220.5
Code Arrangement	90.3
Conductor Insulation	110.7
Conductor Sizes	110.6
Conductor Termination	110.14
Copper Conductors	110.5
Deteriorating Agents	110.11
Enforcement	90.4
Examination of Equipment for Product Safety	90.7
Examination, Identification, Installation, and Use of Equipment	110.3
Flash Protection Warning	110.16
Formal Interpretations	90.6
Guarding	110.27
High-Leg Conductor Identification	110.15
Identification of Disconnecting Means	110.22
Interrupting Protection Rating	110.9
Mandatory Requirements and Explanatory Material	90.5
Manufacturer's Markings	110.21
Mechanical Execution of Work	110.12
Mounting and Cooling of Equipment	110.13
Purpose of the NEC	90.1
Raceway Dimensions	Chapter 9, Table 4
Scope	110.1
Scope of the NEC	90.2
Short-Circuit Current Rating	110.10
Spaces About Electrical Equipment	110.26
Suitable Wiring Methods	110.8
Units of Measurement	90.9
Voltages	110.4

Generators

Ampacity of Conductors	445.13
Disconnecting Means	445.18
Marking	445.11

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Overcurrent Protection	445.12
Grounding and Bonding	
Buildings or Structures Supplied by a Feeder or Branch Circuit	250.32
Clean Surface	250.12
Definitions	250.2
General Requirements for Grounding and Bonding	250.4
Generators—Portable and Vehicle-Mounted	250.34
High-Impedance Grounded Neutral Systems	250.36
Main Bonding Jumper and System Bonding Jumper	250.28
Objectionable Current	250.6
Other Enclosures	250.86
Protection of Fittings	250.10
Separately Derived AC Systems	250.30
Service Enclosures	250.80
Service Equipment	250.24
Systems Required to be Grounded and Bonded	250.20
Termination of Grounding and Bonding Conductors	250.8
Grounding Electrode Conductor	
Grounding Electrode Conductor Installation	250.64
Grounding Electrode Conductor Termination	250.68
Grounding Electrode Conductor Termination Fitting	250.70
Grounding Electrode Conductor—Material	250.62
Grounding Electrode Conductor—Size	250.66
Grounding Electrode System	
Common Grounding (Earthing) Electrode	250.58
Grounding (Earthing) Electrodes	250.52
Grounding Electrode System	250.50
Installation of Grounding Electrode System	250.53
Lightning Protection System Grounding (Earthing) Electrode	250.60
Resistance of Ground Rod Electrode	250.56
Supplementary Electrodes	250.54
H	
Hazardous Classified Locations—General	
Classifications of Locations	500.5
Definitions	500.2
Equipment	500.8
General	500.4
Material Groups	500.6
Other Articles	500.3
Protection Techniques	500.7
Scope—Articles 500 Through 504	500.1
Specific Occupancies	500.9
Hazardous Class I Locations	
Bonding	501.30
Conductor Insulation	501.20
Conduit and Cable Seals	501.15
Control Transformers and Relays	501.120
Enclosures	501.115

Flexible Cords	501.140
General	501.5
Low-Voltage, Limited-Energy, and Communications Systems	501.150
Luminaires	501.130
Meters, Instruments, and Relays	501.105
Motors and Generators	501.125
Multiwire Branch Circuits	501.40
Receptacles and Attachment Plugs	501.145
Scope	501.1
Surge Protection	501.35
Transformers and Capacitors	501.100
Wiring Methods	501.10
Hazardous Class II Locations	
Bonding	502.30
Control Transformers	502.120
Flexible Cords	502.140
General	502.5
Low-Voltage, Limited-Energy, and Communications Systems	502.150
Luminaires	502.130
Motors and Generators	502.125
Multiwire Branch Circuits	502.40
Receptacles and Attachment Plugs	502.145
Scope	502.1
Seals	502.15
Surge Protection	502.35
Switches, Circuit Breakers, Motor Controllers, and Fuses	502.115
Wiring Methods	502.10
Hazardous Class III Locations	
Bonding	503.30
Control Transformers	503.120
Flexible Cords	503.140
General	503.5
Luminaires	503.130
Motors and Generators	503.125
Receptacles and Attachment Plugs	503.145
Scope	503.1
Signaling, Alarm, Remote-Control, and Loudspeaker Systems	503.150
Switches, Circuit Breakers, Motor Controllers, and Fuses	503.115
Wiring Methods	503.10
Health Care Facilities	
Applicability	517.10
Definitions	517.2
Essential Electrical Systems for Hospitals	517.30
General Care Areas	517.18
Grounding (Bonding) Equipment in Patient Care Areas	517.13
Isolated Ground Receptacles	517.16
Scope	517.1

Wiring Methods	517.12
High-Density Polyethylene Conduit	
Bends—How Made	353.24
Bends—Number in One Run	353.26
Bushings	353.46
Definition	353.2
Grounding (Bonding)	353.60
Joints	353.48
Listing Requirements	353.6
Number of Conductors	353.22
Splices and Taps	353.56
Trade Size	353.20
Trimming	353.28
Uses Not Permitted	353.12
Uses Permitted	353.10

Hot Tubs—Indoors

Cord-and-Plug Connected Equipment	680.7
Definitions	680.2
Electric Water Heater	680.9
Emergency Switch for Spas and Hot Tubs	680.41
Equipment Rooms and Pits	680.11
General	680.40
GFCI Protection	680.44
Indoor Installations	680.43
Maintenance Disconnecting Means	680.12
Other Articles	680.3
Outdoor Installations	680.42
Scope	680.1
Underground Wiring Location	680.10

Hot Tubs—Outdoors

Area Lighting, Receptacles, and Equipment	680.22
Cord-and-Plug Connected Equipment	680.7

Definitions	680.2
Electric Water Heater	680.9
Emergency Switch for Spas and Hot Tubs	680.41
Equipment Rooms and Pits	680.11
Equipotential Bonding	680.26
Feeders	680.25
Junction Boxes	680.24
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 Location	680.10
Underwater Luminaires	680.23

Hydromassage Bathtubs

Accessibility	680.73
Bonding	680.74
Other Electric Equipment	680.71
Other Electrical Equipment	680.72
Protection	680.70

Information Technology Equipment

Cables Not in Information Technology	
Equipment Room	645.6
Disconnecting Means	645.10
Grounding (Bonding)	645.15
Information Technology Equipment Room	645.4
Penetrations	645.7
Scope	645.1
Supply Circuits and Interconnecting Cables	645.5
Uninterruptible Power Supplies (UPS)	645.11

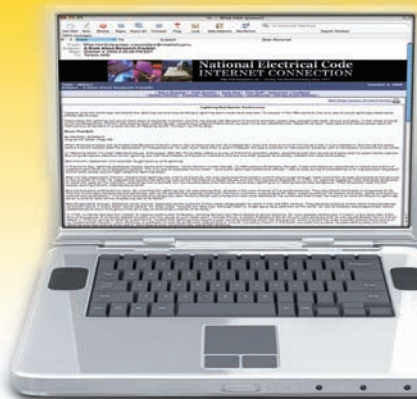
Intermediate Metal Conduit

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
Secured and Supported	342.30
Trade Size	342.20
Uses Permitted	342.10

Intrinsically Safe Systems

Application of Other Articles	504.3
Bonding	504.60
Definitions	504.2
Equipment Approval	504.4
Equipment Installation	504.10

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Grounding (Earthing)	504.50
Identification	504.80
Scope	504.1
Sealing	504.70
Separation of Intrinsically Safe Circuits	504.30
Wiring Methods	504.20

L

Legally Required Standby Power Systems

Accessibility	701.15
Application of Other Articles	701.3
Capacity and Rating	701.6
Coordination	701.18
Definitions	701.2
Equipment Approval	701.4
Ground-Fault Protection of Equipment	701.17
Legally Required Standby Systems	701.11
Scope	701.1
Signs	701.9
Tests and Maintenance	701.5
Transfer Equipment	701.7
Wiring	701.10

Liquidtight Flexible Metal Conduit

Bends	350.24
Bonding	350.60
Definition	350.2
Fittings	350.42
Listing Requirement	350.6
Number of Bends (360°)	350.26
Number of Conductors	350.22
Secured and Supported	350.30
Trade Size	350.20
Uses Not Permitted	350.12
Uses Permitted	350.10

Liquidtight Flexible Nonmetallic Conduit

Bends	356.24
Definition	356.2
Fittings	356.42
Grounding (Bonding)	356.60
Listing Requirement	356.6
Number of Bends (360°)	356.26
Number of Conductors	356.22
Secured and Supported	356.30
Trade Size	356.20
Uses Not Permitted	356.12
Uses Permitted	356.10

Low-Voltage Lighting

Definition	411.2
Listing Required	411.3
Locations Not Permitted	411.4
Secondary Circuits	411.5

Luminaires, Lampholders, and Lamps

Branch-Circuit Conductors and Ballast	410.33
Clothes Closets	410.8
Connection of Electric-Discharge Luminaires	410.14
Cord-Connected Luminaires	410.30
Electric Discharge—Luminaire Mounting	410.76
Grounding (Bonding) Exposed Luminaire Parts	410.18
Listing of Decorative Lighting	410.110
Luminaires in Specific Locations	410.4
Luminaires Used as a Raceway	410.31
Means of Support	410.16
Outlet Boxes to be Covered	410.12
Polarization of Luminaires	410.23
Recessed Luminaire Clearances	410.66
Recessed—Thermally Protected	410.65
Recessed—Wiring	410.67
Screw-Shell Lampholder	410.47
Supports	410.15
Track Lighting—Definition	410.100
Track Lighting—Fastening	410.104
Track Lighting—Installation	410.101
Wiring Luminaires Connected Together	410.32

M

Manufactured Wiring Systems

Construction	604.6
Definition	604.2
Other Articles	604.3
Scope	604.1
Uses Not Permitted	604.5
Uses Permitted	604.4

Marinas and Boatyards

Boat Receptacle Disconnecting Means	555.17
Definitions	555.2
Electrical Connections	555.9
Load Calculations for Service and Feeder Conductors	555.12
Motor Fuel Dispensing Stations	555.21
Receptacles	555.19
Repair Facilities	555.22
Scope	555.1
Transformers	555.5

Metal-Clad Cable

Bends	330.24
Conductor Ampacities	330.80
Definition	330.2
Equipment Grounding (Bonding)	330.108
Fittings	330.40
In Accessible Attics or Roof Spaces	330.23
Secured and Supported	330.30
Through or Parallel to Framing Members	330.17
Uses Not Permitted	330.12
Uses Permitted	330.10

Metal Wireways

Conductor—Maximum Size	376.21
Definition	376.2
Number of Conductors	376.22
Splices and Taps	376.56
Supports	376.30
Uses Not Permitted	376.12
Uses Permitted	376.10
Wireway Sizing	376.23

Mobile Homes, Manufactured Homes, and Mobile Home Parks

Allowable Demand Factors	550.31
Arc-Fault Circuit-Interrupter (AFCI) Protection	550.25
Definitions	550.2
Disconnect	550.32
Distribution Systems	550.30
Feeder	550.33
General Requirements	550.4
Receptacle Outlets	550.13
Scope	550.1

Motor Fuel Dispensing Facilities

Classification of Locations	514.3
Definition	514.2
Emergency Dispenser Disconnects	514.11
Grounding (Bonding)	514.16
Maintenance and Service of Dispensing Equipment	514.13
Raceway Seal	514.9
Scope	514.1
Underground Wiring	514.8
Wiring and Equipment Above Class I Locations	514.7

Wiring and Equipment Within Class I Locations	514.4
---	-------

Motors—Adjustable-Speed Drive

Conductors—Minimum Size and Ampacity	430.122
Disconnecting Means	430.128
General	430.120
Overload Protection	430.124

Motors—Control

Disconnect for Control Circuit	430.74
Overcurrent Protection for Control Circuits	430.72

Motors—Controllers

Controller for Each Motor	430.87
Controller Rating	430.83
Motor Controller Enclosure Types	430.91
Need Not Open All Conductors of the Circuit	430.84

Motors—Disconnect

Combination Controller-Disconnect	430.111
Disconnect Opens All Conductors	430.103
Disconnect Requirement	430.102
Disconnecting Means Rating	430.109
Marking and Mounting	430.104
Readily Accessible	430.107

Motors—General

Definitions	430.2
Highest Rated Motors	430.17
Location of Motors	430.14
Marking on Controllers	430.8
Motor Controller Terminal Requirements	430.9
Motor Feeder Taps	430.28
Several Motors—Conductor Size	430.24
Single Motor—Conductor Size	430.22
Table FLC Versus Motor Nameplate Current Rating	430.6

Motors—Overload

Number of Overload Devices	430.37
Overload	430.31
Overload Sizing—Continuous-Duty Motors	430.32
Use of Fuses for Overload Protection	430.36

Motors—Short-Circuit and Ground-Fault Protection

Branch-Circuit Short-Circuit and Ground-Fault Protection	430.52
Feeder Protection	430.62
General	430.51
Single Overcurrent Protective Device	430.55

Multioutlet Assembly

Through Partitions	380.3
Uses	380.2

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N
Network-Powered Broadband Communications Systems

Definitions	830.2
Maximum Number of THHN/THWN Conductors in EMT	Table C.1
Maximum Number of THHN/THWN Conductors in RNC	Table C.10
Scope	830.1

Neutral

Identification of Terminals	200.10
Identification of the Grounded Neutral Conductor	200.6
Polarity	200.11
Terminal Identification	200.9
Use of White or Gray Color	200.7

Nonmetallic Underground Conduit with Conductors

Bends	354.24
Bushings	354.46
Conductor Terminations	354.50
Definition	354.2
Joints	354.48
Listing Requirement	354.6
Number of Bends (360°)	354.26
Trade Size	354.20
Trimming	354.28
Uses Not Permitted	354.12
Uses Permitted	354.10

Nonmetallic Wireways

Conductor—Maximum Size	378.21
Definition	378.2
Expansion Fittings	378.44
Grounding (Bonding)	378.60
Number of Conductors	378.22
Splices and Taps	378.56
Supports	378.30
Uses Not Permitted	378.12
Uses Permitted	378.10
Wireway Sizing	378.23

Nonmetallic-Sheathed Cable

Attics and Roof Spaces	334.23
Bends	334.24
Conductor Ampacity	334.80
Conductors	334.104
Construction	334.100
Definition	334.2
Equipment Grounding	334.108
Exposed	334.15
Insulation	334.112
Listed	334.6
Secured or Supported	334.30
Through or Parallel to Framing Members	334.17

Uses Not Permitted	334.12
Uses Permitted	334.10

O
Office Furnishings (Wired Partitions)

Fixed-Type Partitions	605.6
Freestanding-Type Partitions	605.7
General	605.2
Partition Interconnections	605.4
Scope	605.1

Optical Fiber Cables and Raceways

Access to Electrical Equipment Behind Panels	
Designed to Allow Access	770.21
Applications of Listed Optical Fiber Cables and Raceways	770.154
Definitions	770.2
Installation of Optical Fibers and Electrical Conductors	770.133
Listing of Optical Fiber Cables	770.113
Listing Requirements for Optical Fiber Cables	770.179
Listing Requirements for Optical Fiber Raceways	770.182
Locations and Other Articles	770.3
Mechanical Execution of Work	770.24
Optical Fiber Cables	770.6
Raceways for Optical Fiber Cables	770.12
Scope	770.1
Types	770.9

Optional Standby Power Systems

Application of Other Articles	702.3
Capacity and Rating	702.5
Definition	702.2
Equipment Approval	702.4
Outdoor Generator Sets	702.11
Portable Generator Grounding and Bonding	702.10
Scope	702.1
Signs	702.8
Transfer Equipment	702.6
Wiring	702.9

Outlet Requirements

Dwelling Unit Receptacle Outlet	
Requirements	210.52
General	210.50
Heating, Air-Conditioning, and Refrigeration Equipment (HACR)	210.63
Lighting Outlet Requirements	210.70
Receptacles in Guest Rooms or Guest Suites for Hotels and Motels	210.60

Outside Wiring—General

Attachment	225.16
Clearances	225.18
Clearances from Buildings	225.19

Luminaires Installed Outdoors	225.7
Masts as Support	225.17
Minimum Size Conductors	225.6
Raceways on Exterior Surfaces of Buildings or Other Structures	225.22
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 Protection 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
Standard Ampere Ratings	240.6
Supplementary Overcurrent Protection	240.10
Ungrounded Conductors	240.20
Vertical Position	240.33

P

Panelboards

Classification of Panelboards	408.34
Grounded Neutral Conductor Terminations	408.41
Grounding (Bonding) of Panelboards	408.40
Number of Overcurrent Protection Devices	408.35
Overcurrent Protection of Panelboard	408.36
Panelboards in Damp or Wet Locations	408.37

Power and Control Tray Cable

Definition	336.2
------------	-------

Uses Not Permitted	336.12
Uses Permitted	336.10

R

Radio and Television Equipment

Antenna Discharge Unit	810.20
Avoid Contact with Conductors of Other Systems	810.13
Clearances	810.18
Community Television Antenna	810.4
Grounding	810.15
Grounding Conductors	810.21
Other Articles	810.3
Scope	810.1
Support of Lead-In Cables	810.12

Receptacles, Cords Connectors, and Attachment Caps

Attachment Plugs, Cord Connectors, and Flanged Surface Devices	406.6
Connecting Receptacle Grounding Terminal to Box	406.10
General Installation Requirements	406.3
Receptacle Faceplates	406.5
Receptacle Mounting	406.4
Receptacle Rating and Type	406.2
Receptacles in Damp or Wet Locations	406.8

Recreational Vehicles and Recreational Vehicle Parks

Calculated Load	551.73
Clearance for Overhead Conductors	551.79
Definitions	551.2
Other Articles	551.3
Scope	551.1
Type of Receptacles Required	551.71

Remote Building

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 Supplies	225.37
Identified as Suitable for Service Equipment	225.36
Maximum Number of Disconnects	225.33
Number of Supplies	225.30
Rating of Disconnecting Means	225.39

Rigid Metal Conduit

Bends	344.24
Bushings	344.46
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

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Secured and Supported	344.30
Trade Size	344.20
Uses Permitted	344.10

Rigid Nonmetallic Conduit

Bends	352.24
Bushings	352.46
Definition	352.2
Expansion Fittings	352.44
Grounding (Bonding)	352.60
Joints	352.48
Number of Bends (360°)	352.26
Number of Conductors	352.22
Secured and Supported	352.30
Trade Size	352.20
Trimming	352.28
Uses Not Permitted	352.12
Uses Permitted	352.10

S**Sensitive Electronic Equipment**

General	647.3
Grounding (Bonding)	647.6
Receptacles	647.7
Scope	647.1
Wiring Methods	647.4

Service-Entrance Conductors

Cable Trays	230.44
Connections at Weatherheads	230.54
High-Leg Identification	230.56
Number of Service-Entrance Conductor Sets	230.40
Protection Against Physical Damage—Aboveground	230.50
Service Cable Supports	230.51
Size and Rating	230.42
Spliced Conductors	230.46
Wiring Methods	230.43

Service-Drop Conductors

Clearances	230.24
Means of Attachment	230.27
Point of Attachment	230.26
Service Masts Used as Supports	230.28
Size and Rating	230.23

Service Equipment

Equipment Connected to the Supply Side of the Service Disconnect	230.82
General	230.70
Ground-Fault Protection of Equipment	230.95
Grouping of Disconnects	230.72
Identified as Suitable for Service Equipment	230.66
Manual or Power Operated	230.76
Number of Disconnects	230.71
Overload Protection Required	230.90

Rating of Disconnect	230.79
----------------------	--------

Service Lateral

Protection Against Damage	230.32
Size and Rating	230.31

Service-Entrance Cable

Bends	338.24
Definition	338.2
Uses Permitted	338.10

Services—General

Clearance from Building Openings	230.9
Conductors Considered Outside a Building	230.6
Number of Services	230.2
Pass Through a Building or Structure	230.3
Raceway Seals	230.8
Service Conductors Separate from Other Conductors	230.7
Vegetation as Support	230.10

Signs and Outline Lighting

Ballasts, Transformers, and Electronic Power Supplies	600.21
Branch Circuits	600.5
Definitions	600.2
Disconnects	600.6
Listing	600.3
Location	600.9
Markings	600.4
Portable or Mobile Signs	600.10
Scope	600.1

Spas—Indoors

Cord-and-Plug Connected Equipment	680.7
Definitions	680.2
Electric Water Heater	680.9
Emergency Switch for Spas and Hot Tubs	680.41
Equipment Rooms and Pits	680.11
General	680.40
GFCI Protection	680.44
Indoor Installations	680.43
Maintenance Disconnecting Means	680.12
Other Articles	680.3
Outdoor Installations	680.42
Overhead Conductor Clearance	680.8
Scope	680.1
Underground Wiring Location	680.10

Spas—Outdoors

Area Lighting, Receptacles, and Equipment	680.22
Cord-and-Plug Connected Equipment	680.7
Definitions	680.2
Electric Water Heater	680.9
Emergency Switch for Spas and Hot Tubs	680.41
Equipment Rooms and Pits	680.11
Equipotential Bonding	680.26
Feeders	680.25

Junction Boxes	680.24
Maintenance Disconnecting Means	680.12
Motors	680.21
Other Articles	680.3
Outdoor Installations	680.42
Overhead Conductor Clearance	680.8
Scope	680.1
Specialized Equipment	680.27
Underground Wiring Location	680.10
Underwater Luminaires	680.23

Solar Photovoltaic Systems

Scope	690.1
-------	-------

Strut-Type Channel Raceways

Conductor—Maximum Size	384.21
Definition	384.2
Grounding (Bonding)	384.60
Number of Conductors	384.22
Securing and Supporting	384.30
Splices and Taps	384.56
Uses Not Permitted	384.12
Uses Permitted	384.10

Surface Metal Raceways

Definition	386.2
Grounding (Bonding)	386.60
Listing Requirements	386.6
Number of Conductors	386.22
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
----------------	--------

Surface Nonmetallic Raceways

Definition	388.2
Grounding (Bonding)	388.60
Listing Requirements	388.6
Number of Conductors	388.22
Separate Compartments	388.70
Size of Conductors	388.21
Splices and Taps	388.56
Uses Not Permitted	388.12
Uses Permitted	388.10

Surge Arresters

Definition	280.2
Installed at Services of Less Than 1,000V	280.21
Installed on the Load Side of Services of Less Than 1,000V	280.22
Location	280.11
Number Required	280.3
Routing of Conductors	280.12
Surge Arrester Selection	280.4

Swimming Pools—Permanently Installed

Area Lighting, Receptacles, and Equipment	680.22
Cord-and-Plug Connected Equipment	680.7
Definitions	680.2
Electric Water Heater	680.9
Equipment Rooms and Pits	680.11
Equipotential Bonding	680.26
Feeders	680.25
Junction Boxes	680.24
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 Location	680.10
Underwater Luminaires	680.23

Swimming Pools—Storable

Cord-and-Plug Connected Equipment	680.7
Definitions	680.2
Electric Water Heater	680.9
Equipment Rooms and Pits	680.11
General	680.30
GFCI-Protected Receptacles	680.32
Maintenance Disconnecting Means	680.12
Other Articles	680.3
Overhead Conductor Clearance	680.8
Receptacle Locations	680.34
Scope	680.1
Underground Wiring Location	680.10

Switchboards and Panelboards

Arrangement of Busbars and Conductors	408.3
---------------------------------------	-------

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Circuit Directory or Circuit Identification	408.4
Clearance for Conductor Entering Bus Enclosures	408.5
Unused Openings	408.7

Switches

Accessibility and Grouping	404.8
Circuit Breakers Used as Switches	404.11
Grounding (Bonding) Metal 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
Switch Connections	404.2
Switch Cover Plates (Faceplate)	404.9
Switch Enclosures	404.3
Switch Marking	404.15
Wet Locations	404.4

T**Temporary Installations**

All Installations	590.2
General	590.4
Ground-Fault Protection for Personnel	590.6
Scope	590.1
Time Constraints	590.3

Transformers

Marking	450.11
Overcurrent Protection	450.3
Transformer Accessibility	450.13
Ventilation	450.9

Transformer Vaults

Doorways	450.43
Location	450.41
Storage in Vaults	450.48
Ventilation Openings	450.45
Walls, Roofs, and Floors	450.42
Water Pipes and Accessories	450.47

Transient Voltage Surge Suppressors

Connection	285.21
Definition	285.2
Listing	285.5
Location	285.11
Number Required	285.4
Routing of Conductors	285.12
Short-Circuit Current Rating	285.6
Uses Not Permitted	285.3

U**Underground Feeder and Branch-Circuit Cable**

Ampacity	340.80
Bends	340.24

Definition	340.2
Insulation	340.112
Listing Requirements	340.6
Uses Not Permitted	340.12
Uses Permitted	340.10

W**Welders—Arc**

Ampacity of Supply Conductors	630.11
Disconnecting Means	630.13
Overcurrent Protection	630.12

Welders—Resistance

Ampacity of Supply Conductors	630.31
Disconnecting Means	630.33
Overcurrent Protection	630.32

Wiring Methods

Boxes or Conduit Bodies	300.15
Conductors	300.3
Ducts, Plenums, and Air-Handling Spaces	300.22
Electrical Continuity	300.10
Induced Currents in Metal Parts	300.20
Inserting Conductors in Raceways	300.18
Length of Free Conductors	300.14
Mechanical Continuity	300.12
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
Raceway Sizing	300.17
Raceways Exposed to Different Temperatures	300.7
Securing and Supporting	300.11
Splices and Pigtails	300.13
Spread of Fire or Products of Combustion	300.21
Supporting Conductors in Vertical Raceways	300.19
Underground Installations	300.5

Notes:

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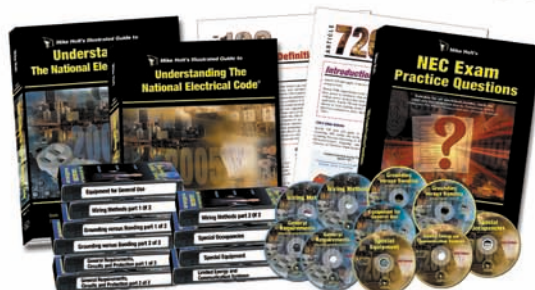
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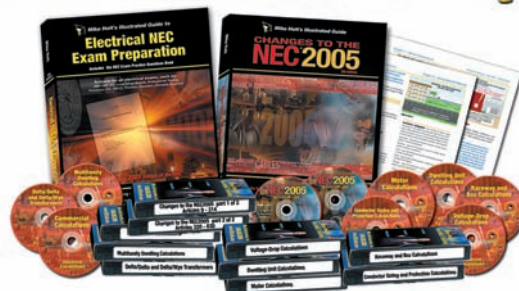
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