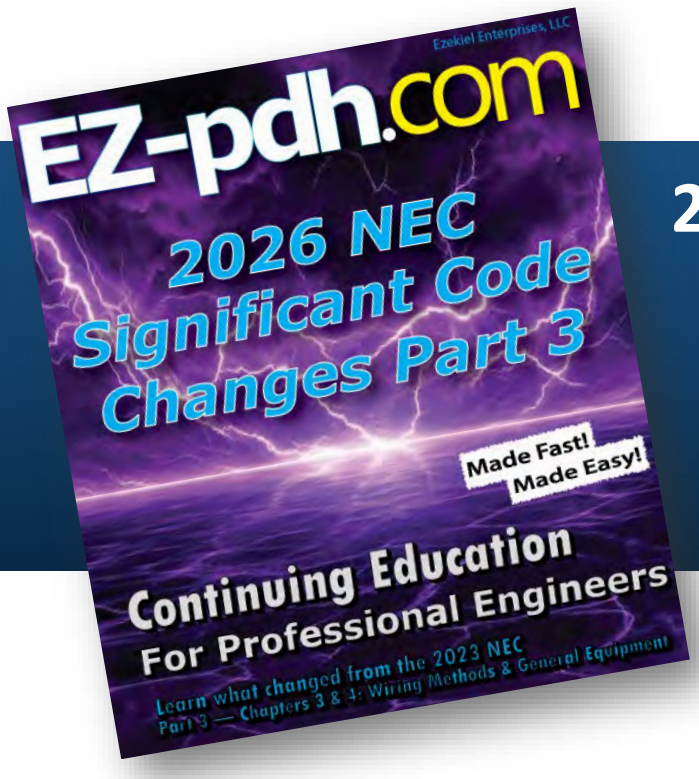

2026 NEC Significant Code Changes Part 3

Four (4) Continuing Education Hours
Course #EE2603

Approved Continuing Education for Licensed Professional Engineers

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Course Description:

The 2026 NEC Significant Code Changes Part 3 course satisfies four (4) hours of professional development. This third part covers Chapter 3 — Wiring Methods and Materials (Articles 300–393) and Chapter 4 — Equipment for General Use (Articles 404–495). Topics include general wiring method updates, conductor ampacity revisions, listing requirements for outlet boxes, new cable tie provisions, wiring method securing changes, receptacle and switch restructuring, luminaire GFCI requirements, appliance and motor circuit updates, generator and battery provisions, and the new consolidated medium-voltage equipment article.

Objectives:

The primary objective of this course is to enable the student to understand the significant changes including additions, deletions, and modifications in the 2026 Edition of NFPA 70: National Electrical Code (NEC) from the 2023 Edition. Upon completion, the student will be able to:

- Identify the Chapter 3 general wiring method changes including conduit condensation prevention, cable tie provisions, bend limitations, and roof decking protection
- Apply updated conductor ampacity requirements including neutral conductor sizing and corrected insulation temperature ratings
- Describe the new listing requirements for outlet boxes and boxes in reconditioned equipment
- Explain the significant changes to wiring device requirements in Article 406 including TR, WR, USB, and GFCI receptacle updates
- Identify the luminaire GFCI protection requirements and luminaire reconditioned equipment provisions
- Describe the appliance, motor, generator, and battery storage updates in Articles 422–480
- Explain the purpose and structure of new consolidated Article 495 for equipment over 1000 volts

Grading:

Students must achieve a minimum score of 70% on the online quiz to pass this course. The quiz may be taken as many times as necessary to successfully pass and complete the course. A copy of the quiz questions are attached to the last pages of this document.

Table of Contents

2026 NEC Significant Code Changes Part 3

Introduction

Chapters 3 and 4 of the NEC contain the most frequently applied installation requirements in day-to-day electrical work. Chapter 3 governs wiring methods and materials — how conductors are run, protected, and supported throughout a building. Chapter 4 covers the equipment connected to those circuits — receptacles, switches, panelboards, luminaires, motors, appliances, generators, and batteries. The 2026 edition updated both chapters significantly, with particular focus on listing requirements, reconditioned equipment provisions, wiring device restructuring, and new equipment categories.

Chapter 3 Overview

Part 3 of this series progresses through Chapters 3 and 4, presenting the most significant changes to Articles 300 through 495. The chapters cover general wiring method requirements, conductor ampacity, outlet boxes, cable assemblies, conduit fittings, cable trays, the new low-voltage suspended ceiling systems article, wiring devices, switchboards and panelboards, luminaires, appliances, motors, generators, capacitors, storage batteries, and the new consolidated equipment article for systems over 1000 volts.

Chapter 3 — Wiring Methods and Materials

Article 300 · Article 310 · Article 312 · Article 314 · Article 315 · Article 320 · Article 330 · Article 334 · Article 340· Articles 342–393

Article 300 — General Requirements for Wiring Methods and Materials

Article 300 contains the general installation requirements that apply to all wiring methods and materials. The 2026 edition added new provisions addressing scope, damaged conductor replacement, roof decking protection, condensation prevention, cable tie support, and bend limitations.

Revision – 300.1

Scope — Reference to Limited-Energy Systems Updated

> ***Change at a Glance:*** *Article 300 scope updated to reference the new Chapter 7 limited-energy articles instead of deleted Chapters 7 and 8 articles.*

❖ **What Changed:** Section 300.1 on scope was revised to update references to limited-energy systems. Previously, Article 300 cross-referenced Chapters 7 and 8 articles including Articles 770, 805, and 840 for optical fiber, communications, and broadband wiring. Since those articles were deleted in the 2026 NEC and their content absorbed into new Chapter 7 Articles 720–750, the scope reference in 300.1 was updated to reflect the new article structure. The general wiring method requirements of Article 300 continue to apply to limited-energy systems to the extent not modified by the specific limited-energy article.

❖ **Its Effect:** The updated scope reference ensures that code users applying Article 300 to limited-energy systems are directed to the correct articles. Telecommunications contractors, fire alarm installers, and AV/IT system designers who rely on Article 300 for general installation guidance now have an accurate reference to the Chapter 7 articles that govern their systems. This is particularly important as Chapter 8 is no longer independent from Chapters 1–7 — the

interaction between general wiring methods and limited-energy systems is now clearer and more consistently applied.

New – 300.5(K)

Underground Wiring — Replacement of Damaged Conductors Required

> ***Change at a Glance:*** *New Section 300.5(K) requires replacement of underground conductors or wiring methods no longer suitable due to damage.*

❖ **What Changed:** New Section 300.5(K) establishes a clear requirement for replacing underground conductors and wiring methods that are no longer suitable for use due to damage. This requirement ensures that electrical systems remain safe and reliable by addressing conditions that compromise the integrity of underground wiring. The provision requires replacement when damage has occurred to the insulation, jacket, or protective covering in a way that could create a hazard. Key aspects include: a clear replacement requirement triggered by defined types of damage, references to applicable installation requirements for the replacement wiring, and recognition that damage is not always immediately apparent — requiring inspectors to evaluate the overall condition of underground wiring when accessible.

❖ **Its Effect:** Underground wiring damage from construction activity, soil movement, freeze-thaw cycles, and deterioration over time is common. Previously, the NEC provided requirements for underground wiring installation but lacked a specific provision requiring replacement of damaged underground conductors. New Section 300.5(K) fills this gap, providing an enforceable basis for requiring replacement of damaged underground conductors that present a safety hazard. This is particularly relevant when excavation exposes existing underground wiring that shows evidence of damage.

Revision – 300.6(E)

Protection Against Physical Damage — Wiring in or Under Roof Decking

> ***Change at a Glance:*** *Section 300.6(E) updated with clearer requirements for wiring methods installed in or under roof decking.*

❖ **What Changed:** Section 300.6(E) on wiring methods and materials in or under roof decking was updated to clarify protection requirements. The revision addresses the significant thermal and UV exposure that wiring in roof assemblies experiences. Wiring methods installed in or under roof decking must be protected from the physical damage that can result from roofing activities, foot traffic during maintenance, and thermal expansion of roofing materials. A new exception was introduced for wiring methods and materials that are encased in at least 2 inches of concrete in concealed locations, providing an allowance where the electrical installation is adequately protected by the concrete encasement.

❖ **Its Effect:** Roof decking installations expose wiring to extreme temperature swings, UV radiation, physical damage from roofing contractors, and thermal expansion stresses. The clarified requirements ensure that wiring in these locations is adequately protected for the service life of the roof assembly. The concrete encasement exception recognizes that wiring fully embedded in at least 2 inches of concrete has sufficient physical and thermal protection to not require additional protective measures, consistent with the protection afforded by concrete encasement in other applications.

Revision – 300.7

Raceways in Wet Locations — Drainage and Condensation Prevention Updated

> ***Change at a Glance:*** *Section 300.7 updated with expanded condensation prevention requirements and new underground service conductor warning ribbon provisions.*

❖ **What Changed:** Section 300.7 was updated in two significant ways. First, the condensation prevention provisions were expanded. Raceways installed in locations where warm, moisture-laden air can enter and cool, causing condensation, now have more specific requirements for sealing and draining to prevent moisture accumulation. Previously, Section 300.9(A) only specified sealants as a method for preventing air circulation through raceways. The 2026 revision recognizes that moisture accumulation in raceways can lead to corrosion and potential electrical failures, particularly where raceways rise from below grade into conditioned spaces. Second, Section 300.7(D)(3) introduces clarifications regarding the

installation of underground service conductors requiring warning ribbon installation.

❖ **Its Effect:** Conduit condensation is a well-documented failure mechanism in electrical installations that cross temperature boundaries — such as raceways that enter a building from below grade or that run between conditioned and unconditioned spaces. Moisture that condenses inside raceways can cause corrosion of conductor terminations, tracking on insulation, and equipment damage. The expanded condensation prevention requirements ensure that installers address this hazard during installation rather than after moisture damage has occurred.

New – 300.13(E)

Cable Ties and Cable Tie Fixing Devices — New Provision Added

> ***Change at a Glance:*** *New Section 300.13(E) formally recognizes cable ties and cable tie fixing devices as permitted cable support methods.*

❖ **What Changed:** New subdivision 300.13(E) was added to formally recognize 'Cable Ties' and 'Cable Tie Fixing Devices' as permitted methods for supporting cables and wiring methods in accordance with their listing requirements. The subdivision references the new Article 100 definitions for these terms, ensuring that only cable ties and fixing devices evaluated and listed for the specific support application are used for this purpose. An Informational Note was added to direct users to the listing requirements for different cable tie types — specifically noting that Types 2S and 21S are the types evaluated for support and securing functions, while other types are evaluated only for bundling and cable management.

❖ **Its Effect:** Cable ties have been used for cable support and securing in electrical installations for decades, but the NEC previously lacked a specific provision recognizing them as a formal support method. New Section 300.13(E) provides the code basis for cable tie use as a support method, subject to listing requirements. The Informational Note about cable tie types is practically important — inspectors encountering cable ties used for structural support should verify that the cable ties are Types 2S or 21S, which are listed for this function. Standard cable

ties (Types 1 and 2) are not listed for structural cable support.

> 300.13(E) Cable Ties and Cable Tie Fixing Devices. Where permitted by this Code, cables and wiring methods shall be permitted to be supported and secured using listed cable ties or cable tie fixing devices in accordance with their listing.

New – 300.24

Bends — 360-Degree Limitation Clarified for All Raceways

> ***Change at a Glance:*** *New Section 300.24 clarifies that the 360-degree bend limitation between pull points applies to all raceways.*

❖ **What Changed:** New Section 300.24 clarifies that the total of all bends between pull points in any raceway system shall not exceed 360 degrees. This is not a new technical requirement — the 360-degree limitation has existed in individual raceway articles (EMT, RMC, IMC, PVC, etc.) for many code editions. The 2026 NEC adds this as a general requirement in Article 300 to ensure it applies universally to all raceways, including those whose specific articles may not have explicitly stated the limitation. The section also clarifies that the 360-degree limit applies between any two consecutive pull points, not just between the ends of a conduit run.

❖ **Its Effect:** The 360-degree bend limitation exists because each bend adds friction that makes pulling conductors more difficult. Excessive bends can make conductor installation impractical or can damage conductor insulation during pulling. By placing this requirement in Article 300 as a general rule, the 2026 NEC ensures consistent application across all raceway types and eliminates the interpretive uncertainty that arose when a raceway article was silent on this limitation.

> 300.24 Bends — Number. The number of bends (including offsets) between pull points shall not exceed 360 degrees. For conduits and tubing, pull points include access points at conduit bodies that are listed for pull point use.

Revision – 300.11(B)

Raceways in Wet Locations Above Grade — Drainage Required

> ***Change at a Glance:*** *Section 300.11(B) updated to require that raceways in wet locations above grade be designed to drain.*

❖ **What Changed:** Section 300.11(B) was revised to mandate that raceways installed in wet locations above grade must be designed to drain. Previously, this requirement was not explicitly stated for above-grade wet location raceways, although it was implied by general weatherproofing requirements. The 2026 NEC makes the drainage requirement explicit, addressing moisture accumulation in electrical conduits that can lead to corrosion and potential electrical failures. Raceways in above-grade wet locations — such as exterior conduit on building facades, conduit in carports and covered walkways, and conduit in outdoor electrical equipment enclosures — must be installed with weep holes, drain fittings, or proper pitch to allow water to drain rather than accumulate.

❖ **Its Effect:** Standing water in outdoor raceways accelerates corrosion of conductors, fittings, and enclosures. It can also create a shock hazard if the water provides a conductive path from an energized conductor to grounded metal components. The explicit drainage requirement eliminates the inconsistent enforcement that resulted from different inspectors interpreting general wet location requirements differently when applied to drainage design.

Article 310 — Conductors for General Wiring

Article 310 covers conductors used in general wiring applications. The 2026 edition updated minimum conductor size requirements, corrected an error in insulation temperature ratings, and clarified neutral conductor sizing for circuits with nonlinear loads.

Revision – 310.5

Minimum Conductor Sizes — Updated to Reflect Modern Practice

> ***Change at a Glance:*** *Section 310.5 relocated from 310.3 and updated to address aluminum conductor minimum sizes and 16 AWG copper historical use.*

❖ **What Changed:** Section 310.5 (formerly Section 310.3 in the 2023 NEC) was relocated as part of an effort to reorganize and streamline Article 310 for improved clarity. The section addresses minimum conductor sizes and was updated to acknowledge the historical use of 16 AWG copper conductors in specific applications and to address aluminum conductor minimum size requirements. The minimum conductor sizes have been adjusted to reflect modern practice, including the new permission for 16 AWG copper conductors in specific applications introduced by Section 210.24 for bathroom and laundry lighting and exhaust fan circuits in dwelling units.

❖ **Its Effect:** The relocation of the minimum conductor size requirements to Section 310.5 and their alignment with the new 210.24 provisions for 16 AWG copper ensures consistency throughout the NEC. The updated minimum sizes reflect actual field practice and the real-world applications where smaller conductors are appropriate. The relocation also improves Article 310's organization by grouping related conductor size requirements together.

Revision – 310.15(E)

Neutral Conductor Ampacity — Full-Sized Neutral for Nonlinear Loads

> ***Change at a Glance:*** *Section 310.15(E) updated to require full-sized neutral conductors on circuits supplying significant nonlinear loads.*

❖ **What Changed:** Section 310.15(E) on neutral conductor sizing was updated to address circuits that supply predominantly nonlinear loads. Nonlinear loads — such as variable frequency drives, switching power supplies, LED driver circuits, and electronic ballasts — generate harmonic currents that circulate in the neutral conductor. In three-phase wye systems, the third harmonic and its multiples add arithmetically on the neutral rather than canceling as fundamental frequency currents do. The 2026 revision identifies the specific circuit configurations that require a full-sized neutral conductor rather than a reduced neutral: these include 4-wire, 3-phase wye circuits where the major portion of the load consists of nonlinear loads. For other circuits, a neutral conductor that carries only unbalanced current may be smaller than the phase conductors.

❖ **Its Effect:** The full-sized neutral requirement for nonlinear load circuits addresses a real fire hazard. Undersized neutral conductors on circuits with heavy nonlinear loads can overheat from harmonic currents, particularly in commercial office buildings, data centers, and facilities with large numbers of LED lighting systems, computers, and variable speed drives. The neutral conductor failure mode from harmonic overheating has been documented in numerous electrical fires, and the 2026 NEC provision provides clear enforcement authority for requiring properly sized neutrals in these applications.

Revision – 310.15 Table

Conductor Ampacity — XHWN Insulation Temperature Rating Corrected

> ***Change at a Glance:*** *XHWN conductor insulation temperature rating corrected from 90°C to 75°C in ampacity tables.*

❖ **What Changed:** The conductor ampacity tables in Section 310.15 were corrected to fix an error in the insulation temperature rating for XHWN conductors. XHWN is rated for 75 degrees Celsius operation, not 90 degrees Celsius as was incorrectly listed in previous editions. This correction ensures accurate ampacity calculations by eliminating an unintentional error that previously listed XHWN as having a 90°C rating. Using the incorrect 90°C ampacity values from previous tables would result in conductors operating at temperatures exceeding their rated insulation temperature, potentially causing insulation degradation over time.

❖ **Its Effect:** Insulation temperature ratings are fundamental to ampacity calculations. Using the wrong temperature rating can result in conductors operating beyond their rated temperature, which accelerates insulation degradation and can eventually lead to insulation failure and fire. The correction of the XHWN rating to 75°C aligns the NEC with the actual product standard for this insulation type and ensures that ampacity calculations produce correct results. Installations designed using the incorrect 90°C rating from previous editions may need to be re-evaluated to confirm that conductors are not operating beyond their rated temperature.

Article 312 — Cabinets, Cutout Boxes, and Meter Socket Enclosures

Article 312 covers cabinets, cutout boxes, and meter socket enclosures. The 2026 edition added reconditioning provisions consistent with the global reconditioning framework introduced throughout the NEC.

New – 312.3

Reconditioned Cabinets and Enclosures — New Provisions Added

> ***Change at a Glance:*** *New Section 312.3 addresses reconditioned cabinets, cutout boxes, and meter socket enclosures.*

❖ **What Changed:** New Section 312.3 was added to Article 312 to address reconditioned cabinets, cabinet cutout boxes, and cabinet meter socket enclosures. The provision aligns with the global reconditioning framework added throughout the 2026 NEC. Reconditioned cabinets and enclosures must be labeled as reconditioned and must meet safety and performance standards equivalent to new equipment of the same type. The reconditioned equipment must be inspected for physical damage, corrosion, and structural integrity before reinstallation. Components that show wear or damage must be replaced with listed replacement components that meet original manufacturing standards.

❖ **Its Effect:** The addition of Section 312.3 reflects the growing market for reconditioned electrical enclosures, particularly in commercial and industrial renovation projects where reconditioned equipment can represent significant cost savings. By establishing clear requirements for reconditioned enclosures, the 2026 NEC ensures that AHJs have a consistent basis for approving or rejecting reconditioned enclosure use, and that reconditioned equipment meets minimum safety standards before being reinstalled in service.

Article 314 — Outlet, Device, Pull, and Junction Boxes

Article 314 covers outlet, device, pull, and junction boxes and conduit bodies. The 2026 edition added a formal listing requirement for boxes and covers, filling a long-standing gap in the NEC.

New – 314.2

Listing Requirements — Outlet Boxes and Covers Must Be Listed

> ***Change at a Glance:*** *New Section 314.2 requires that outlet boxes and covers be listed for their application.*

❖ **What Changed:** New Section 314.2 on listing requirements was added to Article 314. All outlet boxes, device boxes, pull boxes, junction boxes, and conduit bodies, along with their covers and canopies, must now be listed for their specific application. The listing requirement ensures that boxes and covers have been tested for their rated application — including volume ratings for conductor fill, wet or damp location ratings where applicable, structural strength requirements, and material suitability. Boxes made from concrete, heavy-duty thermoplastics depending on their environment rating (e.g., NEMA 6P for watertight enclosures), and similar materials are specifically addressed.

❖ **Its Effect:** The listing requirement for outlet boxes and covers addresses a long-standing gap in the NEC. While box fill calculations in Section 314.16 have always limited the number of conductors in a box, there was no explicit requirement that the box itself be listed. Reduced dimension and reduced wall-thickness boxes present challenges in cubic inch calculations that can lead to overcrowding of conductors if the box is not properly listed for its claimed volume. The listing requirement ensures that boxes are independently verified to have the cubic inch volume claimed by the manufacturer.

Revision – 314.16

Box Fill Calculations — Connectors Excluded from Fill Calculation

> ***Change at a Glance:*** *Section 314.16 updated to codify that small connectors such as locknuts and bushings are excluded from box fill.*

❖ **What Changed:** Section 314.16 on box fill calculations was updated to codify a widely applied practice that had been inconsistently enforced across different jurisdictions: small fittings such as locknuts and bushings are excluded from box fill calculations. These small connectors — the metal fittings that secure conduit or cable entries to the box knockout — are so small that including them in box fill calculations would create an overly restrictive result that does not reflect actual installation conditions. The provision codifies the practice that box fill is governed by conductors, devices, and fittings large enough to occupy meaningful volume within the box.

❖ **Its Effect:** The exclusion of small connectors from box fill calculations reflects the NEC's practical approach to enforceability. A locknut or bushing takes up negligible volume in a box compared to the conductors and devices that are the primary drivers of box fill concerns. Requiring inspectors to calculate the volume of locknuts and bushings would add complexity without meaningfully improving safety. The 2026 clarification provides a clear, consistent national standard that eliminates the inconsistency in how this had been applied across jurisdictions.

Article 315 — Medium Voltage Conductors and Cable Terminations

Article 315 covers conductors and cable terminations for systems operating over 1000 volts. The 2026 edition added reconditioning provisions for medium-voltage cable assemblies.

New – 315.3

Reconditioned Medium-Voltage Cable — New Provisions

> ***Change at a Glance:*** *New Section 315.3 addresses reconditioned medium-voltage cable and cable assemblies.*

❖ **What Changed:** New Section 315.3 was added to Article 315 to address reconditioned medium-voltage cable and cable assemblies. The provision aligns with the global reconditioning framework and with similar provisions added throughout the NEC. Reconditioned medium-voltage cable must be evaluated by a recognized third party against applicable safety standards and must meet the performance requirements of the original cable standard. The reconditioned cable must be labeled as reconditioned and the reconditioning entity must maintain documentation of the reconditioning process, tests performed, and test results. The reserved subdivision 315.3(A) indicates that the NEC may eventually clarify which types of reconditioned cable are specifically permitted.

❖ **Its Effect:** Medium-voltage cable reconditioning is practiced in industrial facilities and utilities where the cost of new cable for long runs is substantial. Establishing formal NEC requirements for reconditioned MV cable ensures that any reconditioned cable used in NEC-governed installations has been properly evaluated and meets minimum safety standards. The documentation requirements enable AHJs to verify compliance and provide a record for future maintenance and inspection personnel.

Articles 320, 330, 334 & 340 — Cable Assemblies

Articles 320 (Type AC), 330 (Type MC), 334 (Type NM), and 340 (Type UF) cover the most widely used cable assembly wiring methods in residential and commercial construction. The 2026 edition updated securing and supporting requirements across all four articles, clarified permitted uses for mass timber construction, and coordinated with the new cable tie provisions in Section 300.13(E).

Revision – 320.30

Type AC Cable — Securing and Supporting Requirements Updated

> ***Change at a Glance:*** *Section 320.30 updated with clearer securing and supporting requirements for Type AC cable.*

❖ **What Changed:** Section 320.30 on securing and supporting Type AC (armored) cable was updated to provide clearer requirements for the methods used to support and secure AC cable runs. The revised section specifies that AC cable must be supported and secured using listed cable ties, staples, straps, hangers, or similar fittings, or other approved means that are designed and installed to prevent cable damage. The update also affirms that listed cable fittings and connectors approved for the specific application must be used at all connection points. The revision references the new cable tie provisions in Article 100 and Section 300.13(E) to ensure consistent application of cable tie listing requirements when cable ties are used to support AC cable.

❖ **Its Effect:** The clearer securing and supporting requirements address inconsistent field practices in the support of Type AC cable. Improper support — using incorrect staple sizes, non-listed cable ties, or inadequate support spacing — can damage the cable's armor or insulation, potentially creating shock or fire hazards. The reference to listed cable ties ensures that only properly rated cable ties are used when cable ties are the chosen support method for AC cable runs.

Revision – 330.30

Type MC Cable — Securing and Supporting Requirements Revised

> ***Change at a Glance:*** *Section 330.30 updated to clarify securing and supporting requirements for Type MC cable.*

❖ **What Changed:** Section 330.30 on securing and supporting Type MC (metal-clad) cable was updated in parallel with the revisions to Section 320.30 for Type AC cable. The requirements for support spacing, fastener types, and connection methods were clarified to ensure consistent application. Listed cable ties, staples, straps, hangers, and similar listed fittings are permitted when they are designed and installed to prevent damage to the MC cable. Additional securement hardware requirements will reduce the risk of damage and undue stress on electrical connections at MC cable terminations and connection points.

❖ **Its Effect:** Type MC cable is one of the most widely used wiring methods in commercial construction. Consistent, clear securing requirements are essential for ensuring that MC cable installations maintain their mechanical and electrical integrity over the building's service life. The parallel revision to Type MC and Type AC cable securing requirements reflects the NEC's approach of maintaining consistent requirements for related wiring methods.

Revision – 334.10

Type NM Cable — Permitted Uses Updated for Construction Types

> ***Change at a Glance:*** *Section 334.10 updated to clarify NM cable use in Type IV construction (mass timber buildings).*

❖ **What Changed:** Section 334.10 on the permitted uses of Type NM (nonmetallic-sheathed) cable was updated to address the use of NM cable in Type IV construction — specifically, heavy timber and mass timber construction types that have become increasingly common with the growth of cross-laminated timber (CLT) and other engineered wood products in mid-rise commercial and residential construction. The revision clarifies the conditions under which NM cable may be used in Type IV construction, consistent with the IBC construction type

requirements and the fire resistance characteristics of mass timber.

❖ **Its Effect:** Mass timber construction — buildings using CLT, glulam, and similar engineered wood products — has expanded significantly with IBC 2021 provisions allowing tall wood buildings up to 18 stories in certain configurations. The use of NM cable in these buildings required clarification because the IBC's construction type requirements for Type IV buildings differ from those for the wood-frame Type V construction traditionally served by NM cable. The 2026 NEC clarification ensures that NM cable use in mass timber buildings is properly evaluated against the applicable construction type requirements.

Revision – 340.10

Type UF Cable — Direct Burial Depth Requirements Clarified

> ***Change at a Glance:*** *Section 340.10 updated to clarify direct burial depth requirements for Type UF cable in various applications.*

❖ **What Changed:** Section 340.10 on permitted uses of Type UF (underground feeder) cable was updated to clarify direct burial depth requirements for various applications. The revision coordinates with the updated Table 300.5 depth requirements and addresses specific installation scenarios where UF cable is used for outdoor branch circuits, pool and spa wiring, and similar applications. The section clarifies that UF cable used for GFCI-protected circuits may qualify for reduced burial depth requirements under Table 300.5 when the circuit is protected by a GFCI at the origin.

❖ **Its Effect:** The coordination between Section 340.10 and Table 300.5 reduces confusion about applicable burial depths for UF cable in residential installations. The GFCI protection credit for reduced depth recognizes that GFCI protection substantially reduces the risk associated with direct-buried circuits by limiting fault current duration. The clarification enables residential installers to correctly apply the reduced depth provisions while ensuring that the GFCI protection requirement is understood as a condition of the reduced depth allowance.

Articles 342, 352 & 358 — Conduit Types and Fittings

Articles 342 (IMC), 352 (PVC conduit), and 358 (EMT) cover three of the most commonly used conduit types in electrical installations. The 2026 edition updated fitting requirements across all three articles to require listed fittings appropriate to both the conduit type and the installation environment.

Revision – 342.14 / 352.14 / 358.14

Conduit Fittings — Listed Fittings Required to Match Conduit Type

> ***Change at a Glance:*** *Conduit articles updated to require listed fittings appropriate to the specific conduit type and application.*

❖ **What Changed:** Sections 342.14 (IMC), 352.14 (PVC), and 358.14 (EMT) on fittings were updated to require that conduit fittings be listed and identified for use with the specific conduit type and for the specific application environment (dry, wet, or hazardous). The revisions clarify that fittings must be compatible with both the conduit material and the installation environment. For example, EMT fittings used in wet locations must be specifically listed for wet location use — standard set-screw fittings listed for dry locations only are not acceptable in outdoor or other wet locations. The revisions also address the use of conduit fittings in concrete encasement applications.

❖ **Its Effect:** Using improper conduit fittings — whether wrong material, wrong rating, or wrong type for the conduit being used — creates long-term reliability problems. Fittings that are not listed for wet locations will corrode, loosening their connection and compromising the raceway's electrical continuity. Fittings that are not compatible with the specific conduit material can create stress concentrations that lead to conduit failure. The explicit listing and compatibility requirements in the 2026 NEC give inspectors a clear, enforceable basis for requiring the correct fittings.

Article 392 — Cable Trays

Article 392 covers cable tray systems used to support cables in commercial and industrial installations. The 2026 edition updated fill calculation requirements to coordinate with the new Chapter 7 limited-energy article structure.

Revision – 392.22

Cable Tray Fill — Limited-Energy Cables in Cable Trays Updated

> ***Change at a Glance:*** *Section 392.22 updated to address fill calculation when limited-energy cables share trays with power cables.*

❖ **What Changed:** Section 392.22 on the number of conductors and cables in cable trays was updated to address fill calculations for cable trays that contain both power cables and limited-energy cables. With the restructuring of limited-energy articles into Chapter 7 in the 2026 NEC, the cable tray fill provisions needed to be updated to reference the new Article 722 and 723 structure for limited-energy cables in trays. The revision clarifies which cables count toward the fill calculation, how limited-energy cables are segregated from power cables within the same tray, and when additional fill calculations are required for mixed-use trays.

❖ **Its Effect:** Mixed power and limited-energy cable trays are common in commercial and industrial facilities. The fill calculation update ensures that the presence of both cable types is accounted for in tray loading calculations and that proper segregation is maintained to prevent electromagnetic interference from power cables affecting sensitive limited-energy circuits. The coordination with new Articles 722 and 723 ensures consistent application of requirements across both the general cable tray article and the new limited-energy cable and raceway articles.

Article 393 — Low-Voltage Suspended Ceiling Power Distribution Systems

New Article 393 is one of the most significant new articles in Chapter 3, establishing the first dedicated NEC requirements for low-voltage suspended ceiling power distribution systems used for Power over Ethernet lighting and similar PoE ceiling infrastructure in commercial spaces.

New – Article 393

Low-Voltage Suspended Ceiling Power Distribution Systems — New Standalone Article

> ***Change at a Glance:*** *New Article 393 establishes requirements for low-voltage suspended ceiling power distribution systems including PoE lighting infrastructure.*

❖ **What Changed:** New Article 393 was created to establish requirements for low-voltage suspended ceiling power distribution systems — bus-track and tap-off systems increasingly used for Power over Ethernet lighting and similar low-voltage ceiling distribution in open-plan commercial spaces. The article includes: listing requirements for the power distribution system components; support and suspension requirements; connection methods for tap-off devices; provisions for system grounding and bonding; and coordination with Article 110.12(A) for workmanship. The systems governed by Article 393 typically carry both power (at low voltage) and data to LED luminaires, sensors, and other ceiling-mounted equipment through a continuous bus-track installed in the suspended ceiling grid.

❖ **Its Effect:** Previously, low-voltage suspended ceiling power distribution systems had no clear NEC home — they were neither standard Chapter 3 wiring methods nor traditional Chapter 8 communications systems. As PoE lighting and smart building ceiling infrastructure became common in commercial construction, the lack of specific requirements created inconsistency in installation and inspection. Article 393 provides a dedicated framework for these systems, ensuring that they are properly listed, supported, and connected to both the power system and the grounding system. The article coordinates with Chapter 8 for the

communications data aspects of these systems.

> Article 393.1 Scope. This article covers the installation of low-voltage suspended ceiling power distribution systems, including system components, wiring methods, and connection to premises power and data systems.

Chapter 4 — Equipment for General Use

Article 406 · Article 408 · Article 410 · Article 422 · Article 424 · Article 430 · Article 440 · Article 445 · Articles 460 & 480 · Article 495

Article 406 — Wiring Devices: Receptacles, Switches, and Connectors

Article 406 covers wiring devices — receptacles, switches, and connectors. The 2026 edition significantly restructured Article 406, updated tamper-resistant receptacle requirements, added new provisions for weather-resistant receptacles, formally recognized USB outlets, and updated GFCI and hospital-grade receptacle requirements.

Revision – 406.2

Wiring Devices — Definitions Expanded for USB and Measurement Platforms

> ***Change at a Glance:*** *Section 406.2 updated with new definitions for USB Type A and Type C receptacles and measurement platforms.*

❖ **What Changed:** Section 406.2 was updated with new and revised definitions to address the growing variety of wiring devices in common use. New definitions were added for USB Type A and Type C receptacles — the wall outlet devices that incorporate USB charging ports in addition to standard receptacle outlets. The definition of measurement platforms was revised to provide clearer guidelines for determining compliance. The revised measurement approach establishes consistent standards for measuring receptacle and switch dimensions that prevent confusion in outlet spacing determinations, particularly for countertop and wall space applications.

❖ **Its Effect:** The addition of USB outlet definitions reflects the widespread adoption of USB charging ports in residential and commercial receptacle devices. By formally defining USB Type A and Type C receptacles in Article 406, the NEC provides a consistent vocabulary for specifications, listing requirements, and

enforcement. This is particularly important as USB-C with Power Delivery becomes the dominant charging standard for mobile devices and laptops, and as the available power levels from wall-mounted USB chargers increase significantly.

Revision – 406.4

Receptacle Rating — General Provisions Part I Now Covers Both Receptacles and Switches

> ***Change at a Glance:*** *Article 406 restructured so Part I General provisions now apply to both receptacles and switches.*

❖ **What Changed:** Part I of Article 406 — General provisions — was revised to explicitly apply to both receptacles and switches. Previously, some provisions in Part I were ambiguous about whether they applied to switches as well as receptacles. The 2026 restructuring makes clear that the general provisions covering listing, ratings, installation, and identification apply to all wiring devices covered by Article 406, including both receptacles and switches. This structural improvement eliminates the interpretive uncertainty that arose when inspectors and designers had to determine whether a Part I provision applied to switches or only to receptacles.

❖ **Its Effect:** The restructuring of Article 406 reflects the NEC's ongoing effort to improve code clarity and eliminate interpretive ambiguity. By explicitly identifying the scope of Part I general provisions, the 2026 NEC ensures consistent application of general wiring device requirements across all device types covered by the article. This is particularly important for installers and inspectors who must apply listing, rating, and identification requirements to both receptacles and switches in every installation.

Revision – 406.9

Receptacles in Damp and Wet Locations — In-Use Covers Updated

> ***Change at a Glance:*** *Section 406.9 updated with revised requirements for in-use covers in wet locations for both 15A and 20A receptacles.*

❖ **What Changed:** Section 406.9 on receptacles in damp and wet locations was revised to update in-use cover requirements for both 15-ampere and 20-ampere receptacles. The revision addresses receptacles that are accessible to pedestrians and clarifies that receptacles in wet locations — including outdoor receptacles exposed to weather — must have in-use covers that protect the receptacle when an attachment plug cap is inserted. The in-use cover must be listed for the purpose and must maintain its weatherproof rating with the plug inserted. Covers that merely protect an unoccupied receptacle but are displaced when a plug is inserted do not satisfy the wet location requirement.

❖ **Its Effect:** The update to Section 406.9 addresses a practical installation concern: traditional flip-cover weatherproof plates protect an unoccupied receptacle but cannot cover the area around an inserted plug. Extension cords, power tools, and outdoor appliances connected to unprotected wet location receptacles can expose energized connections to rain, creating shock and fire hazards. Listed in-use covers that maintain weatherproof protection with a plug inserted provide continuous protection regardless of whether the receptacle is in use.

New – 406.9(C)

Receptacles — Tamper-Resistant Requirements Expanded

> ***Change at a Glance:*** *Tamper-resistant receptacle requirements expanded to additional occupancy types beyond dwelling units.*

❖ **What Changed:** Section 406.9(C) was revised to expand the tamper-resistant (TR) receptacle requirements beyond dwelling units to additional occupancy types where children may be present. Tamper-resistant receptacles use spring-loaded shutters that require simultaneous insertion in both slots to open — preventing children from inserting single objects such as keys, hairpins, or fingers into individual slots. The 2026 expansion extends the TR requirement to: hotel and motel guest rooms and guest suites, preschools and elementary education facilities, pediatric care areas in health care facilities, and other locations specified by the NEC. The expansion reflects evidence that child electrical contact injuries occur not only in homes but in all environments where young children are present.

❖ **Its Effect:** Tamper-resistant receptacles have been required in dwelling units since the 2008 NEC, with significant success in reducing child electrical contact injuries in residential settings. The expansion to additional occupancies where children are regularly present — hotels, schools, and healthcare facilities — extends this protection to environments outside the home where children are equally or more vulnerable. Hotel guests with young children, preschool students, and pediatric patients all benefit from TR protection in these settings.

Revision – 406.12

Receptacles — USB Type A and Type C Outlets Formally Recognized

> ***Change at a Glance:*** *Section 406.12 updated to formally recognize and establish requirements for USB Type A and Type C receptacle outlets.*

❖ **What Changed:** Section 406.12 was updated to formally recognize and establish listing and installation requirements for USB Type A and Type C receptacle outlets. USB outlets — devices that incorporate one or more USB charging ports, either alone or in combination with standard 15A or 20A receptacle outlets — must be listed for the application. The listing must verify the USB charging performance (voltage, current, power levels), the USB protocol compatibility (USB-C Power Delivery, Quick Charge, etc.), and the safety of the integrated charging electronics. USB outlets must be rated for the branch circuit they are installed on and must meet applicable temperature rise requirements under load.

❖ **Its Effect:** USB charging ports in wall outlets have become standard features in residential and commercial construction. By formally recognizing USB outlets in Article 406 and establishing listing requirements, the 2026 NEC ensures that these devices are evaluated against consistent safety standards before installation. The distinction between USB Type A (legacy 5V only) and USB Type C (capable of Power Delivery up to 100W or more) is practically important — USB-C outlets with high Power Delivery ratings generate significantly more heat than simple 5V Type A chargers and require more rigorous thermal management in the device design.

New – 406.15

Receptacles — Listed Locking Receptacles for Specific Applications

> ***Change at a Glance:*** *New Section 406.15 establishes requirements for listed locking-type receptacles in specific equipment applications.*

❖ **What Changed:** New Section 406.15 was added to address listed locking-type receptacles for specific equipment applications where a secure, inadvertent-disconnect-resistant connection is required. Locking receptacles — which require a twist-and-lock action to insert or remove the attachment plug — are used for medical equipment, industrial machinery, portable generators, and other equipment where accidental disconnection could cause injury or equipment damage. The new section establishes listing and application requirements to ensure that locking receptacles are properly rated for the loads they serve and compatible with the attachment plugs used.

❖ **Its Effect:** Locking receptacles have been widely used in industrial and commercial applications for decades, but specific listing and application requirements for their use were scattered through the NEC or implied by general listing requirements. Section 406.15 provides a dedicated provision that consolidates the requirements for locking receptacles and ensures consistent installation and inspection practices across the diverse applications where these devices are used.

Revision – 406.5 and 406.6

Receptacle and Switch Ratings — General Ratings Requirements Updated

> ***Change at a Glance:*** *Sections 406.5 and 406.6 updated to align with revised measurement platform standards and USB outlet provisions.*

❖ **What Changed:** Sections 406.5 (Receptacle Ratings) and 406.6 (Receptacle and Switch Installation) were updated to align with the revised measurement platform standards from Section 406.2 and to incorporate requirements applicable to the newly recognized USB outlet devices. The rating requirements were clarified to address the current rating of USB outlets — which draw current from the branch

circuit to supply their internal charging electronics in addition to any charging current delivered to connected devices. The installation requirements for wall-mounted switches were clarified in the context of the Part I restructuring that now explicitly covers both receptacles and switches.

❖ **Its Effect:** The alignment of receptacle and switch rating requirements with the revised measurement platform standards eliminates confusion about how USB outlets and other combination devices are rated. A USB outlet that draws 2.5 amperes for its internal electronics while delivering power to a connected device must have its total current draw accounted for in the branch circuit loading calculations. The clarified rating requirements ensure that installers and designers correctly account for all loads on a branch circuit, including the internal loads of combination receptacle/USB devices.

Revision – 406.10

Grounding-Type Receptacles — Ground Pin Continuity Requirements

> ***Change at a Glance:*** *Section 406.10 updated to reinforce ground pin continuity requirements for grounding-type receptacles.*

❖ **What Changed:** Section 406.10 on grounding-type receptacles was updated to reinforce ground pin continuity requirements. The equipment grounding contact of a grounding-type receptacle must be connected to an equipment grounding conductor in all installations. The revision addresses the specific prohibition on using the neutral conductor as a substitute for the equipment grounding conductor in new installations and replacements. Existing two-wire circuits without an equipment grounding conductor may only be upgraded with specific listed devices — GFCI receptacles with 'No Equipment Ground' markings — as an alternative to running a new equipment grounding conductor.

❖ **Its Effect:** The ground pin continuity requirement is fundamental to electrical safety. An ungrounded receptacle in a grounded enclosure — or a grounded receptacle that is not connected to an equipment grounding conductor — fails to provide the equipment grounding protection that users expect. This creates a shock hazard when a fault occurs in connected equipment. The reinforcement of

this requirement in 406.10 ensures that inspectors have a clear, specific provision to cite when grounding continuity deficiencies are found.

Article 408 — Switchboards, Switchgear, and Panelboards

Article 408 covers switchboards, switchgear, and panelboards — the primary distribution equipment in building electrical systems. The 2026 edition added reconditioning provisions and updated bus rating and interrupting rating requirements.

Revision – 408.3

Reconditioned Switchboards and Panelboards — Global Provisions Applied

> ***Change at a Glance:*** *New Section 408.3 addresses reconditioned switchboards, switchgear, and panelboards per the global reconditioning framework.*

❖ **What Changed:** New Section 408.3 was added to apply the global reconditioning framework to switchboards, switchgear, and panelboards. Reconditioned switchboards and panelboards are increasingly sought in commercial and industrial renovation projects where the cost of new equipment is prohibitive. Under Section 408.3, reconditioned switchboards and panelboards must be: labeled as reconditioned by the reconditioning entity; inspected for physical damage, arc damage, moisture damage, and corrosion; tested to verify insulation integrity and mechanical operation; and equipped with replacement components that meet the original equipment specifications. Bus bars, insulators, and circuit breakers must be inspected and tested; worn or damaged components must be replaced.

❖ **Its Effect:** The reconditioning of switchboards and panelboards is a legitimate practice with an established industry framework through the Electrical Apparatus Service Association (EASA) and similar organizations. By establishing formal NEC requirements for reconditioned switchgear under Section 408.3, the 2026 NEC provides AHJs with a clear basis for evaluating and approving reconditioned equipment, and establishes minimum standards that the reconditioning process must meet.

Revision – 408.20

Panelboard Ratings — Interrupting Rating Requirements Clarified

> ***Change at a Glance:*** *Section 408.20 clarified to require that panelboard interrupting ratings match or exceed available fault current.*

❖ **What Changed:** Section 408.20 on panelboard ratings was clarified to explicitly require that the interrupting rating of a panelboard — defined by the interrupting rating of the main overcurrent protective device or the panelboard's bus rating, whichever is more restrictive — must equal or exceed the available fault current at the point of installation. The revision coordinates with the fault current documentation requirements of Section 110.10, which requires documentation of available fault current at service equipment. For panelboards fed from service equipment, the interrupting rating must account for the actual fault current available at the panelboard location, which may be reduced from the service fault current due to feeder conductor and transformer impedances.

❖ **Its Effect:** Panelboards installed with inadequate interrupting ratings — where the available fault current exceeds the rated interrupting capacity of the panel's circuit breakers or fuses — are a serious safety hazard. In a fault condition, a circuit breaker asked to interrupt current above its rating can fail catastrophically, potentially causing a fire or explosion. The clarification in Section 408.20 ensures that the interrupting rating evaluation accounts for the actual fault current at the panelboard, not just at the service equipment.

Revision – 408.36

Panelboard Circuit Breakers — Overcurrent Protection Coordination with Bus Rating

> ***Change at a Glance:*** *Section 408.36 updated to require that circuit breaker ratings not exceed the panelboard bus rating.*

❖ **What Changed:** Section 408.36 on panelboard overcurrent protection was updated to explicitly require that circuit breakers installed in a panelboard must not be rated higher than the ampere rating of the panelboard bus. This addresses a common installation error where a large-frame circuit breaker with a high ampere

rating is installed in a panelboard whose bus is rated for a lower ampere. For example, installing a 200-ampere circuit breaker in a panelboard with a 150-ampere bus creates a condition where the bus can be overloaded beyond its rating without tripping the breaker. The revision provides clear enforcement authority for this requirement, which was previously implied but not explicitly stated.

❖ **Its Effect:** The mismatch between circuit breaker ratings and panelboard bus ratings is a persistent field problem in renovation work, where large-frame breakers may be available from removed equipment and are inserted into panelboards without verifying bus compatibility. A panelboard bus rated for 150 amperes that is subjected to 200-ampere loads — permitted by an oversized breaker — will overheat and potentially fail prematurely. The explicit requirement in 408.36 gives inspectors a clear, specific basis for requiring that breaker ratings match the bus rating.

Article 410 — Luminaires, Lampholders, and Lamps

Article 410 covers luminaires, lampholders, and lamps. The 2026 edition added reconditioning provisions, introduced new GFCI protection requirements for wet and damp location luminaires, and updated temperature marking requirements for modern LED technology.

Revision – 410.3

Reconditioned Luminaires — New Provisions Added

> ***Change at a Glance:*** *New Section 410.3 addresses reconditioned luminaires in accordance with the global reconditioning framework.*

❖ **What Changed:** New Section 410.3 was added to establish requirements for reconditioned luminaires. Reconditioned luminaires must be labeled as reconditioned and must meet applicable safety standards. The reconditioned luminaire must be inspected for physical damage, insulation deterioration, socket and lampholder integrity, and driver or ballast condition. Components that are damaged or deteriorated must be replaced with listed replacement components. The listing of the reconditioned luminaire as a complete assembly must be maintained — replacing components with non-listed alternatives that alter the luminaire's listing voids the reconditioning approval.

❖ **Its Effect:** Reconditioned luminaires are commonly used in commercial building renovations where existing luminaire enclosures are refurbished with new drivers, LED retrofit kits, or replacement lampholders. The formal reconditioning requirements in Section 410.3 ensure that reconditioned luminaires are properly evaluated before reinstallation, preventing the use of luminaires whose insulation has deteriorated or whose electrical components have been compromised.

New – 410.141

GFCI Protection for Luminaires — New Requirements for Wet and Damp Locations

> ***Change at a Glance:*** *New Section 410.141 requires GFCI protection for luminaires installed in specific wet and damp locations.*

❖ **What Changed:** New Section 410.141 establishes requirements for GFCI protection for luminaires installed in specific wet and damp locations. Luminaires installed in wet and damp locations where personnel may come in contact with the luminaire or where water may reach the luminaire's electrical components must be GFCI protected. This includes luminaires in bathrooms, kitchens, garages, outdoor areas, pools and spas, and similar locations. The GFCI protection must be provided by a Class A GFCI device (4–6 mA trip) in the branch circuit serving the luminaire or by a GFCI integral to the luminaire or its control device.

❖ **Its Effect:** The GFCI protection requirement for wet and damp location luminaires addresses a genuine shock hazard. Luminaires in bathrooms, kitchens, and outdoor areas can be contacted by persons who are also in contact with grounded surfaces — the classic scenario for electric shock. A ground fault in a wet location luminaire that is not GFCI protected can deliver a lethal shock to a person who touches the luminaire while standing on a wet floor or while in a pool or bathtub. GFCI protection provides the essential personnel protection that prevents the fault current from reaching hazardous levels before the circuit is interrupted.

Revision – 410.116

Luminaire Temperature Markings — Updated for Modern LED Technology

> ***Change at a Glance:*** *Section 410.116 updated to address temperature marking requirements in the context of LED luminaires and recessed lighting.*

❖ **What Changed:** Section 410.116 on luminaire temperature markings was updated to address the thermal characteristics of modern LED luminaires, particularly recessed downlights and junction boxes with integrated LED modules. LED luminaires generate significantly less heat than incandescent or halogen luminaires of equivalent light output, but their thermal management systems concentrate heat at specific points — particularly the driver electronics. The updated section addresses the temperature marking requirements for luminaire junction boxes in the context of LED driver thermal characteristics and the interaction between luminaire temperature ratings and the types of conductors permitted in the junction box.

❖ **Its Effect:** The thermal management of LED recessed luminaires is a complex interaction between the LED module, driver electronics, enclosure design, and the insulation in the ceiling cavity. Luminaires rated for installation in insulated ceiling (IC-rated) versus those not rated for this application (non-IC) present significantly different thermal environments for the conductors in the luminaire junction box. The updated temperature markings ensure that conductors connected to the luminaire are rated for the actual thermal conditions they will experience.

Article 422 — Appliances

Article 422 covers appliances used in residential, commercial, and industrial applications. The 2026 edition consolidated GFCI protection requirements and updated flexible cord provisions for modern appliance types.

Revision – 422.5

GFCI Protection for Appliances — Elevator Sump Pumps Relocated Here

> ***Change at a Glance:*** *Section 422.5 updated; elevator sump pump GFCI requirement relocated from Article 620 to Article 422.*

❖ **What Changed:** Section 422.5 on GFCI protection for appliances was updated to include elevator sump pumps in the list of appliances requiring GFCI protection. Previously, the GFCI requirement for elevator sump pumps was located in Article 620 (Elevators, Dumbwaiters, Escalators). The 2026 NEC relocates this requirement to Article 422 as part of the broader consolidation of appliance GFCI requirements in a single location. The relocation eliminates the duplicate requirement that previously appeared in both Article 620 and the general appliance GFCI provisions, and ensures that inspectors and designers find all appliance GFCI requirements in Article 422.

❖ **Its Effect:** The consolidation of appliance GFCI requirements in Article 422 improves code navigability. When determining whether a specific appliance requires GFCI protection, the designer or inspector can go directly to Section 422.5 rather than searching through multiple articles. The elimination of the Article 620 duplicate requirement also removes the potential for the two provisions to fall out of sync in future code editions, which could create contradictory requirements.

Revision – 422.16

Flexible Cords for Appliances — Updated for Modern Appliance Types

> ***Change at a Glance:*** *Section 422.16 updated to address flexible cord requirements for newer appliance categories.*

❖ **What Changed:** Section 422.16 on flexible cords for appliances was updated to address the flexible cord requirements for newer appliance categories that have become common since the previous code revision. The updates address portable appliances that incorporate USB-C Power Delivery connections, appliances with permanently attached cords, and the specific cord types, strain relief requirements, and protection methods for appliances in damp and wet locations. The revision also addresses appliance cord requirements in coordination with the updated countertop definition in Article 100 to ensure consistent application of cord protection requirements for countertop appliances.

❖ **Its Effect:** The update to Section 422.16 reflects the evolution of appliance design over the past code cycle. Modern kitchen appliances, personal care appliances, and portable electronic devices increasingly use USB-C connections and proprietary cord-and-plug configurations that were not contemplated in earlier code editions. Establishing clear cord requirements for these modern appliance types ensures consistent installation and inspection practices.

Article 424 — Fixed Electric Space-Heating Equipment

Article 424 covers fixed electric space-heating equipment including baseboard heaters, radiant heating systems, duct heaters, and heat pumps. The 2026 edition updated disconnecting means requirements to address modern heat pump and electronic control configurations.

Revision – 424.19

Disconnecting Means — Central Heating Equipment Updated

> ***Change at a Glance:*** *Section 424.19 updated with clarified disconnecting means requirements for central electric heating equipment.*

❖ **What Changed:** Section 424.19 on disconnecting means for central electric heating equipment was updated to clarify the location and accessibility requirements for the disconnecting means. The revision addresses the growing complexity of electric heating systems that incorporate heat pumps, electric resistance backup heating, and electronic controls. The disconnect must be within sight of the controller and must be accessible without hazard to the person reaching it. The update also addresses the specific requirement that the disconnecting means for electric heating equipment must be lockable in the open position to enable safe maintenance of the heating element without inadvertent energization.

❖ **Its Effect:** As electric space heating becomes more common with the electrification of buildings previously heated by natural gas or oil, the proper installation of disconnecting means for electric heating equipment becomes more critical. Large central electric heating systems — including whole-house heat pumps with auxiliary electric resistance backup — can draw substantial current, and safe maintenance requires a reliable, lockable disconnect within sight of the equipment being serviced.

Article 430 — Motors, Motor Circuits, and Controllers

Article 430 covers the comprehensive requirements for motor circuits including conductors, overcurrent protection, controllers, disconnecting means, and motor control centers. The 2026 edition updated medium-voltage motor requirements, added provisions for reconditioned motor control equipment, and updated motor circuit protection requirements to address modern motor drive technology.

Revision – 430.3

Reconditioned Motor Control Equipment — New Provisions

> ***Change at a Glance:*** *New Section 430.3 addresses reconditioned motor controllers, motor control centers, and related equipment.*

❖ **What Changed:** New Section 430.3 was added to establish requirements for reconditioned motor controllers, motor control centers (MCCs), and related motor control equipment. Reconditioned motor control equipment is common in industrial facilities where the cost of new MCC equipment is substantial. Under Section 430.3, reconditioned motor control equipment must be: labeled as reconditioned by the reconditioning entity; inspected for physical damage, arc damage, insulation condition, and mechanical integrity; tested to verify control circuit operation and main contact resistance; and equipped with replacement components that meet original equipment specifications. Arc-damaged contacts, deteriorated insulation, and worn mechanical components must be replaced.

❖ **Its Effect:** The reconditioning of motor control equipment is a major industry in facilities with large numbers of motors — manufacturing plants, water treatment facilities, and HVAC-heavy commercial buildings. Motor starters, contactors, and MCC components experience significant wear through normal operation and must be periodically reconditioned or replaced. By establishing formal NEC requirements for reconditioned motor control equipment, the 2026 NEC provides both the reconditioning industry and AHJs with clear standards for acceptable reconditioning practices.

Revision – 430.208

Over-1000V Motor Circuits — Updated Wiring Requirements

> ***Change at a Glance:*** *Section 430.208 updated with revised wiring method and protection requirements for motor circuits over 1000 volts.*

❖ **What Changed:** Section 430.208 on over-1000V motor circuit wiring was updated to align with the new Article 265 structure for medium-voltage branch circuits. The revision updates cross-references from the deleted Article 235 to the appropriate sections of new Article 265, and adds coordination with new Articles 266 and 270 for medium-voltage feeder and grounding requirements for motor circuits operating above 1000 volts. The update also addresses the wiring methods and conductor types appropriate for medium-voltage motor circuits, including the use of medium-voltage cable types now addressed in Article 315.

❖ **Its Effect:** Medium-voltage motors are commonly used in industrial facilities, water treatment plants, pumping stations, and large commercial buildings where 4160V or 13.8kV motors provide significant advantages in efficiency and power factor over equivalent low-voltage motors. The alignment of Section 430.208 with the new medium-voltage article structure ensures that designers and inspectors can find consistent, coordinated requirements for medium-voltage motor circuits in the new dedicated articles.

Revision – 430.52

Motor Branch-Circuit Short-Circuit and Ground-Fault Protection — Inverse-Time Breaker Tables Updated

> ***Change at a Glance:*** *Section 430.52 tables updated for modern motor types including electronically commutated motors.*

❖ **What Changed:** Section 430.52 tables for motor branch-circuit short-circuit and ground-fault protection were updated to address modern motor types. The updated tables include protection factors for electronically commutated motors (ECMs), permanent magnet motors, and variable frequency drive (VFD) systems that have different starting current characteristics than traditional induction motors.

ECMs and permanent magnet motors have lower locked-rotor current multipliers than equivalent induction motors, enabling the use of smaller protective devices when the motor nameplate specifies the appropriate protection factor.

❖ **Its Effect:** Traditional motor protection sizing in Section 430.52 was developed for AC induction motors with high locked-rotor current (LRC) — typically 600% to 800% of full-load current. Modern ECMs and permanent magnet motors have LRC values significantly lower than this, making the traditional sizing factors unnecessarily large. Using oversized protection devices for these motors creates nuisance tripping problems and safety concerns, as the large margin between operating current and trip point means that overload conditions may not be detected quickly enough to prevent motor damage.

Revision – 430.97

Motor Control Centers — Bus Ratings and Available Fault Current Updated

> ***Change at a Glance:*** *Section 430.97 updated to require bus ratings and short-circuit current ratings to match available fault current.*

❖ **What Changed:** Section 430.97 on motor control centers was updated to explicitly require that the bus ratings and short-circuit current ratings of MCCs match or exceed the available fault current at the point of installation. The revision coordinates with the fault current documentation requirements of Section 110.10 and the panelboard bus rating requirements of Section 408.20. MCC bus bars, which carry the full short-circuit current to each motor circuit bucket, must be rated for the actual available fault current at the MCC location — not just the nominal service fault current, which may be significantly higher than the actual fault current at the MCC after accounting for feeder impedance.

❖ **Its Effect:** MCCs with inadequate short-circuit ratings are a serious safety hazard in industrial facilities where high available fault currents are common. An MCC that is subjected to fault current above its rating can fail catastrophically, potentially causing fires, equipment destruction, and injuries to personnel in the vicinity of the equipment. The explicit requirement to verify bus ratings against available fault current ensures that this critical safety check is performed during design and verified during inspection.

Article 440 — Air-Conditioning and Refrigerating Equipment

Article 440 covers air-conditioning and refrigerating equipment, including hermetic refrigerant motor-compressors, condensing units, and heat pumps. The 2026 edition updated marking requirements to address the growing prevalence of inverter-driven variable-speed equipment.

Revision – 440.4

Markings Required on A/C Equipment — Updated for Modern Equipment

> ***Change at a Glance:*** *Section 440.4 updated to address marking requirements for modern inverter-driven A/C and heat pump equipment.*

❖ **What Changed:** Section 440.4 on markings required on air-conditioning and refrigerating equipment was updated to address modern inverter-driven variable-speed equipment. Modern air conditioners and heat pumps increasingly use variable-frequency drives and inverter technology rather than traditional single-speed compressors. These systems have different starting current characteristics, power factor profiles, and overcurrent protection requirements than single-speed equipment. The updated marking requirements ensure that the nameplate on inverter-driven equipment includes the information needed to correctly size the branch circuit conductors and overcurrent protection, including minimum circuit ampacity (MCA) and maximum overcurrent protection (MOP) values appropriate for the inverter-driven system.

❖ **Its Effect:** The shift from single-speed to variable-speed A/C and heat pump systems has outpaced the NEC's marking requirements in some areas. Installers accustomed to single-speed equipment have sometimes applied traditional sizing methods to inverter-driven equipment, resulting in oversized or undersized branch circuit protection. The updated marking requirements ensure that equipment manufacturers provide the specific MCA and MOP values needed for correct branch circuit design for their variable-speed products.

Article 445 — Generators

Article 445 covers generators used to supply premises wiring systems. The 2026 edition updated marking requirements to address modern generator sets incorporating AI, IoT connectivity, and machine learning, and clarified conductor sizing for generator output circuits.

Revision – 445.11

Generator Markings — Updated for IoT and AI-Integrated Generator Sets

> ***Change at a Glance:*** *Section 445.11 updated to address marking requirements for modern generator sets incorporating IoT and AI monitoring.*

❖ **What Changed:** Section 445.11 on markings required on generators was updated to align with the revised 'Generator Set' definition in Article 100, which now recognizes that modern generator sets may incorporate artificial intelligence, IoT connectivity, and machine learning for monitoring, predictive maintenance, and control. The updated marking requirements ensure that the nameplate on modern generator sets includes information about the control system interface, remote monitoring capabilities, and any AI or IoT systems that affect the generator's operation, protection, and maintenance requirements. The markings must identify the generator's output ratings, control system type, and any software or firmware requirements for proper operation.

❖ **Its Effect:** Modern generator sets are sophisticated systems that go far beyond a simple engine-alternator combination. AI-enabled generators can monitor engine performance, predict maintenance needs, optimize fuel consumption, and communicate with building management systems and utility demand response programs. The updated marking requirements ensure that owners, operators, and inspectors have the information needed to properly operate, maintain, and inspect these advanced systems.

Revision – 445.13

Generators — Conductor Ampacity for Generator Output Updated

> ***Change at a Glance:*** *Section 445.13 updated to clarify conductor sizing for generator output circuits.*

❖ **What Changed:** Section 445.13 on generator conductor ampacity was updated to clarify the requirements for sizing conductors connected to generator output terminals. The revision addresses the interaction between generator nameplate ratings, the 115% conductor sizing requirement for generator output conductors, and the specific requirements for conductors in transfer switch and paralleling applications. The updated section provides clearer guidance on the applicable conductor sizing method when a generator is connected through an automatic transfer switch versus a manual transfer switch, and when generators are paralleled for increased capacity.

❖ **Its Effect:** Proper conductor sizing for generator output circuits is critical for both safety and reliability. Undersized generator output conductors can overheat during peak loads, potentially causing insulation failure and fire. Oversized conductors are unnecessarily costly. The 115% sizing requirement for generator output conductors provides a consistent baseline that accounts for the generator's ability to deliver sustained output at its rated capacity without the continuous load derating that applies to utility-supplied circuits.

Articles 460 & 480 — Capacitors and Storage Batteries

Article 460 covers capacitors used in premises wiring systems. Article 480 covers storage batteries including lead-acid, nickel-cadmium, and advanced chemistry systems such as lithium-ion. The 2026 edition updated discharge requirements for modern capacitor technologies and added Battery Management System requirements for advanced battery chemistries.

Revision – 460.9

Capacitors — Discharge Requirements Updated

> ***Change at a Glance:*** *Section 460.9 updated with clearer discharge requirements for capacitors in premises wiring applications.*

❖ **What Changed:** Section 460.9 on capacitor discharge requirements was updated to clarify how quickly capacitors must discharge after de-energization and to address modern capacitor technologies including film capacitors, electrolytic capacitors, and supercapacitors used in power factor correction, motor starting, and energy storage applications. The discharge requirement specifies that capacitors must discharge to a safe voltage level within a defined time period after the supply voltage is removed. The update addresses specific discharge time requirements and the methods acceptable for ensuring discharge, including bleeder resistors, automatic discharge devices, and manual grounding procedures.

❖ **Its Effect:** Capacitors present a unique electrical hazard: they can retain dangerous voltage levels long after the supply is disconnected. This is particularly hazardous for maintenance personnel who may open equipment expecting it to be de-energized when significant charge remains in the capacitors. The updated discharge requirements ensure that capacitors in premises wiring applications are required to discharge to safe levels within timeframes appropriate to the hazard posed by the stored energy level.

Revision – 480.5

Storage Batteries — Battery Management System Requirements Added

> ***Change at a Glance:*** *Section 480.5 updated to require Battery Management Systems for lithium-ion and similar advanced battery chemistries*

❖ **What Changed:** Section 480.5 on installation requirements for storage batteries was updated to address Battery Management System (BMS) requirements for advanced battery chemistries including lithium-ion, lithium iron phosphate, and similar technologies. The BMS monitors cell voltage, temperature, and state of charge to prevent overcharge, over-discharge, and thermal runaway conditions. The 2026 revision establishes that storage batteries using chemistries that require a BMS for safe operation must have a listed BMS as part of the battery installation. The BMS must be maintained in accordance with the manufacturer's specifications to ensure its continued effectiveness.

❖ **Its Effect:** Lithium-ion batteries have fundamentally different safety characteristics than traditional lead-acid batteries. Without proper BMS monitoring and control, lithium-ion cells can enter thermal runaway — a self-sustaining exothermic reaction that can result in fire and toxic gas release. The requirement for a listed BMS for advanced battery chemistries ensures that the critical safety monitoring and control function is provided by equipment that has been evaluated against applicable safety standards. This is particularly important as lithium-ion batteries become increasingly common in residential and commercial energy storage systems.

Revision – 480.10

Storage Batteries — Grounding for Lithium-Ion Systems Updated

> ***Change at a Glance:*** *Section 480.10 updated to address grounding and bonding requirements specific to lithium-ion battery systems.*

❖ **What Changed:** Section 480.10 on grounding and bonding for storage batteries was updated to address the specific grounding characteristics of lithium-ion battery systems, which differ significantly from traditional

❖ lead-acid systems. Lithium-ion battery systems may be configured as ungrounded systems, grounded systems, or isolated systems depending on the voltage level and application. The updated section provides specific grounding and bonding requirements for each configuration, coordinating with the battery energy storage system requirements of Article 706 and the grounding requirements of Article 250. The update specifically addresses ground fault detection requirements for ungrounded lithium-ion battery systems.

❖ **Its Effect:** The grounding of lithium-ion battery systems requires careful attention because improper grounding can create safety hazards unique to this technology. In high-voltage battery strings, a ground fault on a lithium-ion cell or module can create significant fault current even in systems configured as 'ungrounded,' because the distributed capacitance of the battery string provides a fault current return path. Ground fault detection for lithium-ion systems must account for this characteristic to provide effective protection.

Article 495 — Equipment Over 1000 Volts

New Article 495 is one of the most significant structural additions in Chapter 4, consolidating all requirements for equipment operating over 1000 volts AC or 1500 volts DC into a single dedicated article. This completes the 2026 NEC medium-voltage framework alongside new Articles 265–270 in Chapter 2.

New – Article 495

Equipment Over 1000 Volts — New Consolidated Article

> ***Change at a Glance:*** *New Article 495 consolidates all requirements for equipment operating over 1000 volts into a single article.*

❖ **What Changed:** New Article 495 was created to consolidate requirements for equipment operating over 1000 volts AC or 1500 volts DC. This article covers transformers, switchgear, motor starters, and other equipment rated above these voltage thresholds. Content was relocated from former Article 230 (Services), former Article 235 (which was deleted and restructured), and various other articles that addressed

❖ medium-voltage equipment in scattered locations. Article 495 provides: listing requirements for medium-voltage equipment (495.2); installation requirements for equipment in wet and damp locations (495.4); overcurrent protection requirements; disconnecting means requirements; and reconditioned medium-voltage equipment provisions (495.3). The article also covers the safe grounding and testing of medium-voltage equipment before maintenance.

❖ **Its Effect:** The creation of Article 495 completes the 2026 NEC's comprehensive restructuring of medium-voltage requirements. With Articles 265–270 covering circuits and grounding, and new Article 495 covering the equipment connected to those circuits, the complete medium-voltage regulatory framework now has a logical, organized structure that parallels the Chapter 2/Chapter 4 structure for low-voltage systems. Engineers and inspectors working on medium-voltage installations can now find all applicable equipment requirements in Article 495, rather than searching through multiple scattered provisions.

Article 495.1 Scope. The provisions of this article apply to the installation of equipment operating at over 1000 volts ac, nominal, or 1500 volts dc, nominal, other than equipment covered in Chapter 9. Where the provisions of this article differ from those of Chapters 1 through 4 of this Code, the provisions of this article shall apply.

Quiz Questions

1. **New Section 300.5(K) requires which action when underground conductors are no longer suitable for use due to damage?**
   a) Installation of a permanent warning marker above the damaged conductors
   b) Installation of a GFCI device at the closest upstream panelboard
   c) Documentation of the damage in the building maintenance log
   d) Replacement of the damaged conductors or wiring methods

2. **New Section 300.24 clarifies that the 360-degree bend limitation between pull points applies to which types of raceways?**
   a) Only EMT and IMC raceways in commercial occupancies
   b) Only PVC conduit in underground direct burial applications
   c) All raceways covered by the NEC
   d) Only raceways over 2-inch trade size

3. **New Section 300.13(E) formally recognizes cable ties as permitted cable support devices. Which cable tie types are specifically listed for the support and securing function?**
   a) Types 1 and 11
   b) Types 2S and 21S
   c) All cable ties meeting UL 62275
   d) Any cable tie rated for the conductor weight being supported

4. **Section 310.15(E) requires a full-sized neutral conductor on which specific type of circuit?**
   a) All 3-phase, 4-wire wye circuits regardless of load type
   b) Single-phase circuits supplying motor loads over 1 horsepower
   c) Any circuit where the neutral carries unbalanced current
   d) 4-wire, 3-phase wye circuits where the major portion of the load consists of nonlinear loads

5. **The 2026 NEC correction to Section 310.15 ampacity tables changed the rated temperature of XHWN conductor insulation from 90°C to what?**
    a) 60°C
    b) 75°C
    c) 80°C
    d) 85°C

6. **New Section 314.2 requires that outlet boxes, device boxes, pull boxes, and junction boxes be what?**
    a) Listed for their specific application
    b) Constructed only from metallic materials in commercial occupancies
    c) Approved by the AHJ on a project-by-project basis
    d) Rated for a minimum of 1-hour fire resistance

7. **New Article 393 establishes requirements for which type of system that lacked a dedicated NEC article in previous editions?**
    a) Explosion-proof wiring in hazardous locations
    b) Underground conduit for medium-voltage distribution
    c) High-density raceway systems in data centers
    d) Low-voltage suspended ceiling power distribution systems for PoE lighting

8. **New Section 406.9(C) expanded tamper-resistant receptacle requirements to which occupancies beyond dwelling units?**
    a) All commercial occupancies regardless of whether children may be present
    b) Hotel/motel guest rooms, preschools, elementary schools, and pediatric care areas
    c) Hospital patient rooms and pediatric wards only
    d) Office buildings and retail stores

9. **New Section 410.141 requires GFCI protection for luminaires installed in which locations?**
    a) All luminaires in commercial buildings over 3 stories
    b) Luminaires in wet and damp locations where personnel may contact the luminaire
    c) All outdoor luminaires regardless of height above grade
    d) Luminaires supplied by circuits rated 20 amperes or more

10. **New Section 430.3 establishes requirements for reconditioned motor control equipment. Which of the following must be done?**
    a) It must be tested by the original manufacturer before reinstallation
    b) It must be installed only in locations not accessible to the public
    c) It must be replaced with new equipment within 5 years of reconditioning
    d) It must be labeled as reconditioned, inspected, tested, and have worn components replaced

11. **Section 406.12 was updated to formally recognize and establish listing requirements for which type of wiring device?**
    a) USB Type A and Type C receptacle outlets
    b) GFCI receptacles with tamper-resistant shutters
    c) Dimmer switches for LED lighting circuits
    d) Hospital-grade receptacles for patient care areas

12. **New Section 408.3 establishes reconditioning requirements for which equipment?**
    a) Circuit breakers and fuses installed in panelboards
    b) Switchboards, switchgear, and panelboards
    c) Metering equipment and current transformers
    d) Emergency generator sets and transfer switches

13. **Section 408.36 was updated to explicitly require that circuit breakers installed in a panelboard must not be rated higher than what?**
    a) The ampere rating of the panelboard bus
    b) The available fault current at the panelboard location
    c) 150% of the connected load current
    d) The main overcurrent protective device rating

14. **New Section 445.11 updated generator marking requirements in response to which change in the Article 100 Generator Set definition?**
    a) Addition of voltage and frequency rating requirements for portable generators
    b) Recognition that modern generator sets may incorporate AI, IoT, and machine learning
    c) Requirement for hour meters and maintenance log interfaces
    d) Addition of carbon monoxide detection requirements for indoor generators

15. **Section 480.5 was updated to require a listed Battery Management System for which type of battery chemistry?**
    a) Lead-acid batteries in systems over 48 volts
    b) Nickel-cadmium batteries in stationary applications
    c) Lithium-ion and similar advanced chemistries requiring BMS for safe operation
    d) All storage batteries regardless of chemistry or voltage

16. **New Article 495 was created in the 2026 NEC to consolidate requirements for which equipment type?**
    a) Solar photovoltaic systems over 1000 volts dc
    b) Equipment operating over 1000 volts ac or 1500 volts dc
    c) Emergency and legally required standby systems
    d) Energy storage systems over 100 kWh capacity

17. **Section 300.7 was updated to require raceways in wet locations above grade to have which design feature?**
    a) A minimum conduit wall thickness of Schedule 80
    b) Seals at all conduit bodies to prevent moisture migration
    c) Design that allows water to drain rather than accumulate
    d) Stainless steel fittings at all exposed connection points

18. **Section 334.10 was updated to clarify Type NM cable permitted use in which building construction type?**
    a) Type I — fire-resistive construction
    b) Type II — non-combustible construction
    c) Type IV — mass timber (heavy timber) construction
    d) Type V — wood-frame construction (no change)

19. **Sections 320.30 and 330.30 were updated to require which specific type of fastener when cable ties are used to support Type AC and MC cable?**
    a) Any commercially available cable tie rated for outdoor use
    b) Listed cable ties or cable tie fixing devices in accordance with their listing
    c) Stainless steel cable ties rated for the cable weight
    d) Only metal staples and straps — cable ties prohibited

20. **Section 422.5 was updated to relocate the elevator sump pump GFCI requirement from Article 620 to Article 422. What is the primary benefit of this relocation?**
    a) It consolidates all appliance GFCI requirements in one location for easier reference
    b) It reduces the GFCI protection requirement for elevator sump pumps
    c) It allows elevator sump pumps to be exempted from GFCI in certain installations
    d) It adds elevator sump pumps to the list of equipment that cannot be reconditioned