First Revision No. 8205-NFPA 70-2018 [Global Input]

Throughout Article 620, update the following references:

ASME A17.1-~~2013~~2016/CSA B44-~~13~~ 16

CSA B44.1-~~11~~ 14 /ASME-A17.5-2014

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 13:12:54 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This change will provide the reader with the most recent ASME 17.1, Safety Code for Elevators and Escalators, and CSA B44.1, Elevator and Escalator Electrical Equipment, and will aid in installation and Code enforcement.

Response Message:

Public Input No. 724-NFPA 70-2017 [Article 620]

Editorial Comment

Click here

First Revision No. 8391-NFPA 70-2018 [Global Input]

Delete the definitions of "Plug-In Hybrid Electric Vehicle (PHEV)" and "Rechargeable Energy Storage System" from Article 625.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 14:53:24 EST 2018

Committee Statement and Meeting Notes

Committee Statement: These definitions are only used in the definition of Electric Vehicle, and the Panel has now incorporated them into that definition.
Response Message:

First Revision No. 8410-NFPA 70-2018 [Global Input]

Delete 625.10, 625.15, 625.16, 625.18, and 625.19 from Article 625 Part II, along with the following definitions from 625.2:

Electric Vehicle Coupler

Electric Vehicle Inlet

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 15:58:25 EST 2018

Committee Statement and Meeting Notes

Committee Statement: Some of the construction requirements in Part II of Article 625 of NFPA 70-2017 address product features that are an integral part of the product listing requirements. With the elimination of these sections, two definitions that are not used elsewhere in the chapter are also removed.

Response Message:

Committee Notes:

Date	Submitted By	
Jan 17, 2018	NEC-CMP Panel 12	625.17 and 625.22 are staying IN this Article/Part. Do not delete or renumber these two sections.

Public Input No. 3364-NFPA 70-2017 [Section No. 625.15(A)]

Public Input No. 3562-NFPA 70-2017 [Section No. 625.19]

Public Input No. 3369-NFPA 70-2017 [Section No. 625.15(C)]

Public Input No. 2994-NFPA 70-2017 [Section No. 625.10(A)]

Public Input No. 3356-NFPA 70-2017 [Section No. 625.10(B)]

Public Input No. 3372-NFPA 70-2017 [Section No. 625.16]

Public Input No. 2448-NFPA 70-2017 [Section No. 625.16]

Public Input No. 3359-NFPA 70-2017 [Section No. 625.10(C)]

Public Input No. 3366-NFPA 70-2017 [Section No. 625.15(B)]

Public Input No. 3404-NFPA 70-2017 [Section No. 625.18]

Public Input No. 2468-NFPA 70-2017 [Section No. 625.19]

Public Input No. 3361-NFPA 70-2017 [Section No. 625.10(D)]

Public Input No. 3675-NFPA 70-2017 [Section No. 625.18]

Public Input No. 3642-NFPA 70-2017 [Section No. 625.10]

Public Input No. 2467-NFPA 70-2017 [Section No. 625.18]

Public Input No. 2461-NFPA 70-2017 [Section No. 625.10]

Public Input No. 3679-NFPA 70-2017 [Section No. 625.19]

First Revision No. 8383-NFPA 70-2018 [Detail]

Article 625 Electric Vehicle ~~Charging~~ Power Transfer System

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 13:41:44 EST 2018

Committee Statement and Meeting Notes

Committee Statement: With the addition of power export equipment and bidirectional current flow equipment, a change to the title of the Article is needed to clarify that they are included.

Response Message:

Public Input No. 2458-NFPA 70-2017 [Article 625]

First Revision No. 8142-NFPA 70-2018 [Section No. 610.11 [Excluding any Sub-Sections]]

Conductors shall be enclosed in raceways or be Type AC cable with insulated equipment grounding conductor, Type MC cable, or Type MI cable unless otherwise permitted or required in 610.11(A) through (E).

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 09:30:32 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The requirements in 610.11 were revised to clarify it is the equipment grounding conductor. Equipment grounding conductor is a defined term and provides this clarity.

Response Message:

Public Input No. 2414-NFPA 70-2017 [Section No. 610.11 [Excluding any Sub-Sections]]

First Revision No. 8214-NFPA 70-2018 [Definition: Machinery Space (for Elevator, Dumbwaiter).]

Machinery Space (for Elevator, Dumbwaiter, Platform Lift, and Stairway Chairlift).

A space inside or outside the hoistway, intended to be accessed with or without full bodily entry, that contains elevator ~~or dumbwaiter mechanical~~ , dumbwaiter, platform lift, or stairway chairlift equipment, and could also contain ~~electrical~~ equipment used directly in connection with the elevator ~~or dumbwaiter. This space could also contain the electrical driving machine or the hydraulic machine.~~ , dumbwaiter, platform lift, or stairway chairlift.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 13:42:51 EST 2018

Committee Statement and Meeting Notes

Committee Statement: Installations may include spaces that contain elevator electrical equipment but not mechanical equipment. These spaces were not previously included in the definition of any of the existing “defined spaces”. This change will allow for greater enforceability of Code requirements

Response Message:

Public Input No. 3654-NFPA 70-2017 [Definition: Machinery Space (for Elevator, Dumbwaiter).]

Editorial Comment

Click here

First Revision No. 8238-NFPA 70-2018 [Section No. 620.16(B)]

(B) Installation.

The elevator control panel shall not be installed where the available ~~short-circuit~~ fault current exceeds its short-circuit current rating, as marked in accordance with 620.16(A).

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 15:41:21 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This change is a result of work done by the Fault Current Working Group of the Correlating Committee. Replacement of the term “available short-circuit current” with the broader term “available fault current” will provide a higher level of clarity to users and will aid in achieving safety

Response Message:

Public Input No. 1275-NFPA 70-2017 [Section No. 620.16(B)]

First Revision No. 8240-NFPA 70-2018 [Section No. 620.21 [Excluding any Sub-Sections]]

Conductors, cables, and optical ~~fibers~~ fiber cables located in hoistways, ~~in~~ escalator and moving walk wellways, ~~in~~ platform lifts, stairway chairlift runways, machinery spaces, control spaces, in or on cars, ~~in~~ machine rooms, and control rooms, not including the traveling cables connecting the car or counterweight and hoistway wiring, shall be installed in rigid metal conduit, intermediate metal conduit, electrical metallic tubing, rigid nonmetallic conduit, or wireways, or shall be Type MC, MI, or AC cable unless otherwise permitted in 620.21(A) through (C). Unused conductors in an enclosure shall be insulated or protected from accidental contact with energized circuit components and/or conductors.

Exception: Cords and cables of listed cord- and plug-connected equipment shall not be required to be installed in a raceway.

Informational Note: When an elevator is classified as a fire service access elevator or occupant evacuation operation elevator, some building codes require additional protection for conductors that are located outside of the elevator hoistway and machine room.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 15:45:32 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This change specifies requirements for physical protection of unused conductors and will aid in Code enforcement.

The informational note was added to inform the user about the additional requirements in the building code for fire service access and occupant evacuation elevators.

The term cables was added where appropriate for better clarity and usability.

Response Message:

Public Input No. 754-NFPA 70-2017 [Section No. 620.21 [Excluding any Sub-Sections]]

Public Input No. 3637-NFPA 70-2017 [Section No. 620.21 [Excluding any Sub-Sections]]

Editorial Comment

Click here

First Revision No. 8260-NFPA 70-2018 [Section No. 620.25(B)]

(B) Overcurrent Devices.

The overcurrent devices protecting the branch circuit(s) shall be located in the elevator ~~machinery~~ machine room ~~or~~ , control room~~/~~ , machinery space, or control space.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 16:37:48 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This is an editorial change to align with language used in ASME A17 and definitions in this Article. This change will aid in installation and enforcement by aligning with accepted trade terms.

Response Message:

Public Input No. 2748-NFPA 70-2017 [Section No. 620.25(B)]

First Revision No. 8262-NFPA 70-2018 [Section No. 620.51(A)]

Global FR-8205

(A) Type.

The disconnecting means shall be an enclosed externally operable fused motor circuit switch or circuit breaker that is lockable only in the open position in accordance with 110.25.

The disconnecting means shall be a listed device.

Informational Note: For additional information, see ASME A17.1-~~2013~~2016/CSA B44-~~13~~16, *Safety Code for Elevators and Escalators*.

Exception No. 1: Where an individual branch circuit supplies a platform lift, the disconnecting means required by 620.51(C)(4) shall be permitted to comply with 430.109(C). This disconnecting means shall be listed and shall be lockable open in accordance with 110.25.

Exception No. 2: Where an individual branch circuit supplies a stairway chairlift, the stairway chairlift shall be permitted to be cord-and-plug-connected, provided it complies with 422.16(A) and the cord does not exceed 1.8 m (6 ft) in length.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 16:44:05 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This change will specify that disconnecting means for equipment under the Scope of Article 620 must not be lockable in the closed position to avoid possible injury to technicians or passengers.

Response Message:

Public Input No. 3622-NFPA 70-2017 [Section No. 620.51(A)]

Editorial Comment

Click here

First Revision No. 8263-NFPA 70-2018 [Section No. 620.51(D)(2)]

(2) Available ~~Short-Circuit~~ Fault Current Field Marking.

Where an elevator control panel is used, it shall be legibly marked in the field with the ~~maximum~~ available ~~short-circuit~~ fault current at its line terminals. The field marking(s) shall include the date the ~~short-circuit~~ available fault current calculation was performed and be of sufficient durability to withstand the environment involved.

When modifications to the electrical installation occur that affect the ~~maximum~~ available ~~short-circuit~~ fault current at the elevator control panel, the ~~maximum~~ available ~~short-circuit~~ fault current shall be verified or recalculated as necessary to ensure the elevator control panel's short-circuit current rating is sufficient for the ~~maximum~~ available ~~short-circuit~~ fault current at the line terminals of the equipment. The required field marking(s) shall be adjusted to reflect the new level of ~~maximum~~ available ~~short-circuit~~ fault current.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 16:48:11 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This change aligns with PI 1275 and replaces the term "short-circuit current" with the broader term "available fault current".
Response Message:

Public Input No. 1276-NFPA 70-2017 [Section No. 620.51(D)(2)]

First Revision No. 8267-NFPA 70-2018 [Section No. 620.51(E)]

(E) Surge Protection.

Where any of the disconnecting means in 620.51 has been designated as supplying an emergency system load, a legally required system load, or a critical operation power system load, listed surge protection shall be provided.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 17:03:59 EST 2018

Committee Statement and Meeting Notes

Committee Statement: Surge protection requirements were expanded to cover all loads that impact life safety to ensure the reliability necessary for these critical loads.

The addition of “listed” will aid in enforcement by specifying that surge protection equipment, where installed per Article 620.51, shall be listed

Response Message:

Public Input No. 3518-NFPA 70-2017 [Section No. 620.51(E)]

Public Input No. 2752-NFPA 70-2017 [Section No. 620.51(E)]

First Revision No. 8261-NFPA 70-2018 [Section No. 620.51 [Excluding any Sub-Sections]]

A single means for disconnecting all ungrounded main power supply conductors for each elevator, dumbwaiter, escalator, moving walk, platform lift, or stairway chairlift shall be provided and be designed so that no pole can be operated independently. Where multiple driving machines are connected to a single elevator, escalator, moving walk, or pumping unit, there shall be one disconnecting means to disconnect the motor(s) and control valve operating magnets.

The disconnecting means for the main power supply conductors shall not disconnect the branch ~~circuit~~ circuits required in 620.22, 620.23, and 620.24.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 16:42:52 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This is an editorial change to clarify that multiple branch circuits are permitted by 620.22, 620.23 and 620.24

Response Message:

Public Input No. 2749-NFPA 70-2017 [Section No. 620.51 [Excluding any Sub-Sections]]

First Revision No. 8292-NFPA 70-2018 [Section No. 620.53]

620.53 Car Light, Receptacle(s), and Ventilation Disconnecting Means.

Elevators shall have a single means for disconnecting all ungrounded car light, receptacle(s), and ventilation power-supply conductors for that elevator car.

The disconnecting means shall be an enclosed, externally operable, fused motor-circuit switch or circuit breaker that is lockable open in accordance with 110.25 and shall be located in the machine room or control room for that elevator car. Where there is no machine room or control room outside the hoistway, the disconnecting means shall be located ~~in a machinery space or control space~~ outside the hoistway ~~that is readily~~ and accessible to ~~only~~ qualified persons only.

Disconnecting means shall be numbered to correspond to the identifying number of the elevator car whose light source they control.

The disconnecting means shall be provided with a sign to identify the location of the supply side overcurrent protective device.

Exception: Where a separate branch circuit supplies car lighting, a receptacle(s), and a ventilation motor not exceeding 2 hp, the disconnecting means required by 620.53 shall be permitted to comply with 430.109(C). This disconnecting means shall be listed and shall be lockable open in accordance with 110.25.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 08:14:42 EST 2018

Committee Statement and Meeting Notes

Committee Statement: Where there is no machine room or control room, there is often no machine space or control space outside of the hoistway. This change will clarify Code requirements for location of disconnecting means and aid in installation and enforcement.

Response Message:

Public Input No. 3671-NFPA 70-2017 [Section No. 620.53]

Editorial Comment

Click here

First Revision No. 8294-NFPA 70-2018 [Section No. 620.54]

620.54 Heating and Air-Conditioning Disconnecting Means.

Elevators shall have a single means for disconnecting all ungrounded car heating and air-conditioning power-supply conductors for that elevator car.

The disconnecting means shall be an enclosed, externally operable, fused motor-circuit switch or circuit breaker that is lockable open in accordance with 110.25 and shall be located in the machine room or control room for that elevator car. Where there is no machine room or control room outside the hoistway, the disconnecting means shall be located ~~in a machinery space or control space~~ outside the hoistway ~~that is readily~~ and accessible to ~~only~~ qualified persons only.

Where there is equipment for more than one elevator car in the machine room, the disconnecting means shall be numbered to correspond to the identifying number of the elevator car whose heating and air-conditioning source they control.

The disconnecting means shall be provided with a sign to identify the location of the supply side overcurrent protective device.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 08:17:14 EST 2018

Committee Statement and Meeting Notes

Committee Statement: Where there is no machine room or control room, there is often no machine space or control space outside of the hoistway. This change clarifies requirements for location of heating and air conditioning disconnects. This will aid in clarity of Code requirements for installers and inspectors.

Response Message:

Public Input No. 3687-NFPA 70-2017 [Section No. 620.54]

Editorial Comment

Click here

First Revision No. 8322-NFPA 70-2018 [Section No. 620.85]

620.86 Ground-Fault Circuit-Interrupter Protection for Personnel.

Each 125-volt, single-phase, 15- and 20-ampere receptacle installed in pits, in hoistways, on the cars of elevators and dumbwaiters associated with wind turbine tower elevators, on the platforms or in the runways and machinery spaces of platform lifts and stairway chairlifts, and in escalator and moving walk wellways shall be of the ground-fault circuit-interrupter type.

All 125-volt, single-phase, 15- and 20-ampere receptacles installed in machine rooms, control spaces, machinery spaces, and control rooms shall have ground-fault circuit-interrupter protection for personnel.

A ~~single receptacle supplying a~~ permanently installed sump pump ~~shall not~~ be required to be permanently wired or to be supplied by a single receptacle that is require ground-fault circuit-interrupter ~~protection~~ protected .

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 09:33:28 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This change clarifies permitted wiring methods for sump pumps used to protect equipment within the scope of Article 620. The Panel revised this text to be clear that any receptacle in a pit must be GFCI protected. “Machinery space” was added because it was intended to be listed previously. This change will aid in safety, installation and in enforcement. The language is being moved under Part I General because it is more appropriately located for ground fault protection.

Response Message:

Committee Notes:

Date	Submitted By	
Jan 16, 2018	NEC-CMP Panel 12	This is moving to 620.6.

Public Input No. 3641-NFPA 70-2017 [Section No. 620.85]

First Revision No. 8619-NFPA 70-2018 [Section No. 620.91 [Excluding any Sub-Sections]]

~~An elevator(s)~~ Elevators shall be permitted to be powered by an emergency or standby power system.

Informational Note No. 1: See ASME A17.1-~~2013~~2016/CSA B44-~~13~~16, *Safety Code for Elevators and Escalators*, 2.27.2, for additional information.

Informational Note No. 2: When an elevator is classified as a fire service access elevator or occupant evacuation operation elevator, some building codes require the elevator equipment, elevator hoistway lighting, ventilation and cooling equipment for elevator machine rooms, control rooms, machine spaces, and control spaces as well as elevator car lighting to be supplied by standby power systems in compliance with Article 701.

Supplemental Information

File Name	Description	Approved
Panel_12_FR-8619_620.91_leg_changes.docx	For staff use	✓

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 16:21:59 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This revision is made to inform the user about the additional requirements in some local building codes for fire service access and occupant evacuation elevators.

Response Message:

Committee Notes:

Date	Submitted By	
Jan 17, 2018	NEC-CMP Panel 12	No change to Informational Note 1 in this revision except for adding "No. 1". (there is a global to update the date)

Public Input No. 3616-NFPA 70-2017 [Section No. 620.91 [Excluding any Sub-Sections]]

Editorial Comment

Click here

First Revision No. 8385-NFPA 70-2018 [Section No. 625.1]

625.1 Scope.

This article covers the electrical conductors and equipment external to an electric vehicle ~~that connect an electric vehicle to a supply of electricity by conductive, inductive, or wireless power transfer (contactless inductive charging) means, and the installation of equipment and devices related to electric vehicle charging.~~ for the purposes of charging, power export, and bidirectional current flow.

Informational Note No. 1: For industrial trucks, see NFPA 505-~~2013~~ 2018 , *Fire Safety Standard for Powered Industrial Trucks Including Type Designations, Areas of Use, Conversions, Maintenance, and ~~Operation~~ Operations* .

Informational Note No. 2: UL 2594-2013, *Standard for Electric Vehicle Supply Equipment*, is a safety standard for conductive electric vehicle supply equipment. UL 2202-2009, *Standard for Electric Vehicle Charging System Equipment*, is a safety standard for conductive electric vehicle charging equipment.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 13:52:56 EST 2018

Committee Statement and Meeting Notes

Committee Statement: With the addition of power export equipment and bidirectional current flow equipment, a change to the scope of the Article is needed to clarify that they are included.

Response Message:

Public Input No. 2443-NFPA 70-2017 [Section No. 625.1]

Editorial Comment

Click here

First Revision No. 8397-NFPA 70-2018 [Definition: Electric Vehicle Supply Equipment.]

Electric Vehicle Supply Equipment (EVSE) .

The conductors, including the ungrounded, grounded, and equipment grounding conductors, and the electric vehicle connectors, attachment plugs, personnel protection system, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle. The EVSE can also contain electric vehicle power export equipment (EVPE) to achieve bidirectional power transfer.

~~Informational Note No. 1: For further information, see 625.48 for interactive systems.~~

~~Informational Note No. 2: Within this article, the terms *electric vehicle supply equipment* and *electric vehicle charging system equipment* are considered to be equivalent.~~

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 15:07:28 EST 2018

Committee Statement and Meeting Notes

Committee Statement: Electrical Vehicle Supply Equipment is consistently abbreviated into the EVSE mnemonic so it is added as an appropriate clarification. Further, with the advent and incorporation of Electrical Vehicle Power Export Equipment (EVPE) that term was introduced within the body of the EVSE definition. Informational notes, which are not enforceable parts of code, were eliminated as they did not provide greater clarity.

Response Message:

Public Input No. 441-NFPA 70-2017 [Definition: Electric Vehicle Supply Equipment.]

Public Input No. 2445-NFPA 70-2017 [Definition: Electric Vehicle Supply Equipment.]

Public Input No. 608-NFPA 70-2017 [Definition: Electric Vehicle Supply Equipment.]

Editorial Comment

Click here

First Revision No. 8420-NFPA 70-2018 [Definition: Fastened in Place.]

Fastened in Place.

Mounting means of ~~an EVSE~~ equipment in which the fastening means are specifically designed to permit periodic removal ~~for~~ , without the use of a tool, for relocation, interchangeability, maintenance, or repair ~~without the use of a tool~~ .

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 16:19:51 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The wording was revised to provide for better grammatical structure. The original sentence could be read that the actual “repair” was to be done without the use of a tool. Structuring the sentence this way indicates that the tool is not used to remove the fastening means regardless of why it is being removed.

Response Message:

Public Input No. 2460-NFPA 70-2017 [Definition: Fastened in Place.]

First Revision No. 8597-NFPA 70-2018 [New Definition after Definition: Electric Vehicle Storage B...]

Electric Vehicle Power Export Equipment (EVPE).

The equipment, including the outlet on the vehicle, that is used to provide power to external loads using the vehicle as the source of supply.

Informational Note: Electric vehicle power export equipment and electric vehicle supply equipment may be contained in one piece of equipment, sometimes referred to as a bidirectional EVSE.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 15:06:34 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This definition is added to recognize the power export capability of electric vehicles and aid in the use of new requirements in this Article.

Response Message:

Public Input No. 2444-NFPA 70-2017 [New Definition after Definition: Electric Vehicle Storage B...]

Editorial Comment

Click here

First Revision No. 8399-NFPA 70-2018 [Section No. 625.5]

625.5 Listed.

~~EVSE or WPTE~~ All electric vehicle power transfer system equipment shall be listed.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 15:13:34 EST 2018

Committee Statement and Meeting Notes

Committee Statement: With the maturing of the Electric Vehicle industry and product standards, it is consistent with other NEC references to expect all associated equipment to meet listing requirements. Thus, specific equipment references have been eliminated and a more general, all encompassing statement is provided to address the requirement.

Response Message:

Committee Notes:

Date	Submitted By	
Jan 16, 2018	NEC-CMP Panel 12	remove extraneous line break

Public Input No. 2446-NFPA 70-2017 [Section No. 625.5]

Editorial Comment

Click here

First Revision No. 8496-NFPA 70-2018 [Section No. 625.17(A)]

(A) Power-Supply Cord.

The cable for cord-connected equipment shall comply with all of the following:

(1) Be any of the types specified in 625.17(B)(1) or hard service cord, junior hard service cord, or portable power cable types in accordance with Table 400.4. Hard service cord, junior hard service cord, or portable power cable types shall be listed, as applicable, for exposure to oil and damp and wet locations.

(2) Have an ampacity as specified in Table 400.5(A)(a) or, for 8 AWG and larger, in the 60°C columns of Table 400.5(A)(b).

(3) Have an overall length as specified in ~~625.17(A)(3)a. or b as follows~~ either of the following :

a. When the interrupting device of the personnel protection system specified in 625.22 is located within the enclosure of the supply equipment or charging system, the power-supply cord shall be not more than ~~300 mm (12 in.) long,~~ the length indicated in (i) or (ii):

i. For portable equipment in accordance with 625.44(A), the power supply cord shall be not more than 300 mm (12 in.) long.

ii. For stationary equipment in accordance with 625.44(B), the power supply cord shall be not more than 1.8 m (6 ft) long and the equipment shall be installed at a height that prevents the power supply cord from contacting the floor when it is connected to the proper receptacle.

b. When the interrupting device of the personnel protection system specified in 625.22 is located at the attachment plug, or within the first 300 mm (12 in.) of the power-supply cord, the overall cord length shall be ~~a minimum of 1.8 m (6 ft) and shall be~~ not greater than 4.6 m (15 ft).

Supplemental Information

File Name	Description	Approved
CMP_12_FR_8496.docx	For staff use	✓

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 09:02:45 EST 2018

Committee Statement and Meeting Notes

Committee Statement: In item (A)(1), an editorial change is needed to correlate to the revision on 625.17(B).

The rationale for the maximum cord length on EVSE is that the cord could be subjected to abuse in a vehicle parking area that could damage the power supply cord; and any damaged cord prior to the interrupting device would remain live after the interrupting device was to open. With this in mind, a maximum of 12 inches was assigned as the suitable cord length for unprotected cord such that hazards would be mitigated due to the probability of damage occurring to the initial 12 inches of cord length. The concept was that the first 12 inches of the cord length would be off the floor due to plugging into a receptacle and that the possibility and frequency of damage to the portion of the cord off the floor and against the wall was considered to be reduced to an acceptable level. Therefore, when the interrupting

device is located in the EVSE enclosure, the power cord is limited to 12 inches based on this rationale.

Expanding on this same concept and rationale, if the EVSE is fastened in place on the wall in a manner (height, location, etc.) that will keep the power supply cord off the floor when it is plugged in and the EVSE is being used, we would be addressing the risk of damage to the power supply cord prior to the interrupting device in the same manner as the argument for 12 inches above. However, additional controls such as fastening in place of the EVSE and requiring the cord length to be of an overall length that would allow it to be suspended and not touch the floor, would relax the need to control the power supply cord to 12 inches.

In this manner, fastened in place EVSE could have a 6 foot power supply cord without any increased risk to the user due to damage on the unprotected length of power cord.

Response Message:

Public Input No. 2462-NFPA 70-2017 [Section No. 625.17(A)]

Editorial Comment

Click here

First Revision No. 8487-NFPA 70-2018 [Section No. 625.17(B)]

(B) Output Cable to ~~the~~ Electric Vehicle.

The output cable to the electric vehicle shall be one of the following: .

(1) Listed Type EV, EVJ, EVE, EVJE, EVT, or EVJT flexible cable as specified in Table 400.4

(2) An integral part of listed electric vehicle supply equipment

Informational Note: ~~Listed electric vehicle supply equipment may incorporate output cables having ampacities greater than 60°C based on the permissible temperature limits for the components and the cable.~~ For information and listing requirements for electric vehicle supply equipment, see UL 2594-2016, *Standard for Electric Vehicle Supply Equipment,* and UL 2202-2009, *Standard for Electric Vehicle (EV) Charging System Equipment* .

Supplemental Information

File Name	Description	Approved
CMP_12_FR_8487.docx	For staff use	✓

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 08:32:00 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This revision is confirming the TIA on the 2017 edition of the NEC.

The introduction of multiple long range, mass-market priced Electric Vehicles (EVs) requires an exponential growth in the number of fast charge stations. Due to the larger batteries, fast charges must increase the power delivery rates in order to keep the charging times reasonable.

Using the cable types and constructions presently described in Section 625.17(B) for fast charging long range EVs would result in cables so large and heavy that they would be practically unusable.

Furthermore, the language used in Section 625 .17 (B) is overly restrictive and precludes any innovation or progress to deliver smaller, lighter, and safer cables to the public.

The language in this TIA recognizes the fast evolving EV charging technology while addressing the safety concerns by allowing the use of engineered cabling solutions that are an integral (nondetachable) part of the listed electric vehicle supply equipment (EVSE).

Response Message:

Public Input No. 1203-NFPA 70-2017 [Section No. 625.17(B)]

Public Input No. 1204-NFPA 70-2017 [Section No. 625.17(B)]

Public Input No. 2464-NFPA 70-2017 [Section No. 625.17(B)]

Public Input No. 4307-NFPA 70-2017 [Section No. 625.17(B)]

Public Input No. 3670-NFPA 70-2017 [Section No. 625.17(B)]

Editorial Comment

Click here

First Revision No. 8509-NFPA 70-2018 [New Section after 625.17(C)]

(D) Interconnecting Cabling Systems.

Other cabling systems that are integral parts of listed EVSE and are intended to interconnect pieces of equipment within an EVSE system using approved installation methods shall be permitted.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 09:39:14 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This addition permits these engineered solutions to be implemented in the field based on product listing as required by 625.5. Language has been added for approved installation to ensure that wiring methods in the Code are utilized when installing interconnecting cables.

Response Message:

Public Input No. 2466-NFPA 70-2017 [New Section after 625.17(C)]

Public Input No. 4319-NFPA 70-2017 [New Section after 625.17(C)]

Editorial Comment

Click here

First Revision No. 8506-NFPA 70-2018 [Section No. 625.17(C)]

(C) Overall Cord and Cable Length.

The overall usable length shall not exceed 7.5 m (25 ft) unless equipped with a cable management system that is part of the listed electric vehicle supply equipment.

(1) ~~Not Fastened in Place~~ Portable Equipment .

~~Where the electric vehicle supply equipment or charging system is not fastened in place~~ For portable EVSE , the cord-exposed usable length shall be measured from the face of the attachment plug to the face of the electric vehicle connector.

(2) Fastened in Place.

Where the electric vehicle supply equipment ~~or charging system~~ is fastened in place, the usable length of the output cable shall be measured from the cable exit of the electric vehicle supply equipment ~~or charging system~~ to the face of the electric vehicle connector.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 09:29:01 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The first change is to remove the designation of equipment not fastened in place. The Article designates three types of products: portable, fastened in place, and fixed. Therefore, when referring to power cords and “not fastened in place” we are simply discussing portable devices, which is a defined term. The second change has to do with the elimination of the words “or charging system.” This wording is redundant and can be removed.

Public Input No. 2465-NFPA 70-2017 [Section No. 625.17(C)]

First Revision No. 8554-NFPA 70-2018 [Section No. 625.41]

625.41 Overcurrent Protection.

Overcurrent protection for feeders and branch circuits supplying ~~equipment~~ EVSE, including bidirectional EVSE, and WPTE shall be sized for continuous duty and shall have a rating of not less than 125 percent of the maximum load of the equipment. Where noncontinuous loads are supplied from the same feeder, the overcurrent device shall have a rating of not less than the sum of the noncontinuous loads plus 125 percent of the continuous loads.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 13:11:58 EST 2018

Committee Statement and Meeting Notes

Committee Statement: With the expansion of the scope over the last two code cycles, additional equipment types were added to Article 625. This revision is needed to remove the all-encompassing word “equipment” and replace this with the specific equipment types that are covered by the requirement. For overcurrent protection provided in the building installation to be relevant, the equipment must connect to the branch circuit. Specific Vehicle-to-load type equipment is not connected to the branch circuit at any time, as this equipment is used with the vehicle as the electric source and the output is a receptacle located in the vehicle or in off board equipment, it must be excluded from the requirements.

Response Message:

Public Input No. 2452-NFPA 70-2017 [Section No. 625.41]

Editorial Comment

Click here

First Revision No. 8556-NFPA 70-2018 [Section No. 625.42]

625.42 Rating.

The power transfer equipment shall have sufficient rating to supply the load served. Electric vehicle charging loads shall be considered to be continuous loads for the purposes of this article. Service and feeder shall be sized in accordance with the product ratings. Where an automatic load management system is used, the maximum equipment load on a service and feeder shall be the maximum load permitted by the automatic load management system.

Adjustable settings shall only be allowed on fixed-in-place equipment. If adjustments have an impact on the rating label, those changes shall be in accordance with manufacturer's instructions and the adjusted rating shall appear with sufficient durability to withstand the environment involved on the rating label. Electric vehicle supply equipment with restricted access to an ampere adjusting means shall be permitted to have an ampere rating(s) that is equal to the adjusted current setting. Sizing the service and feeder to match the adjusting means is allowed. Restricted access shall prevent the user from gaining access to the adjusting means. Examples of restricted access are as follows:

(1) Removable cover or door that is secured by screw(s) or bolt(s) and must be removed to access the adjusting means

(2) Bolted equipment enclosure doors

(3) Locked doors accessible only to qualified personnel

(4) Password protected commissioning software accessible only to qualified personnel

Supplemental Information

File Name	Description	Approved
Panel_12_FR-8556_625.42_leg_changes.docx	For staff use	✓

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 13:16:53 EST 2018

Committee Statement and Meeting Notes

Committee Statement: AC rated EVSE products are pass through devices, with the output and input current ratings correlated. These EVSE may be provided with an adjustment means that limits the output of the EVSE to the vehicle, and thereby limits the input current draw as well. In order to reduce hardship on the user and promote the use of EVSE, these adjustment means allow for the product to be adjusted at the time of installation in order to limit the output of the EVSE to match the branch circuit sizing. This reduces the need to rewire the user's connection in order to utilize the EVSE. However, this only works when the user cannot access the adjusting means, therefore restricted access is required. Additionally, this adjusted rating must be indicated so that the authority understand how the product is being installed.

Response Message:

Committee Notes:

Date	Submitted By	
Jan 17, 2018	NEC-CMP Panel 12	Extra line breaks are appearing in the first paragraph in Terra. The line starting "Adjustable settings shall only be allowed..." is starting a new paragraph.

Public Input No. 4285-NFPA 70-2017 [Section No. 625.42]

Editorial Comment

Click here

First Revision No. 8569-NFPA 70-2018 [Section No. 625.43]

625.43 Disconnecting Means.

~~For equipment~~ For EVSE, including bidirectional EVSE, and WPTE rated more than 60 amperes or more than 150 volts to ground, the disconnecting means shall be provided and installed in a readily accessible location. The disconnecting means shall be lockable open in accordance with 110.25.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 13:39:25 EST 2018

Committee Statement and Meeting Notes

Committee Statement: With the expansion of the scope over the last two code cycles, additional equipment types were added to Article 625. This revision is needed to remove the all-encompassing word “equipment” and replace this with the specific equipment types that are covered by the requirement. Disconnection means provided to safely remove power from equipment connected to the branch circuit is not applicable to products that are not connected to the branch circuit. Specific Vehicle-to-load type equipment is not connected to the branch circuit at any time, as this equipment is used with the vehicle as the electric source and the output is a receptacle located in the vehicle or in off board equipment, it must be excluded from the requirements.

Response Message:

Public Input No. 2454-NFPA 70-2017 [Section No. 625.43]

Editorial Comment

Click here

First Revision No. 8576-NFPA 70-2018 [Section No. 625.48]

625.48 Interactive Systems.

~~Electric vehicle supply equipment~~ EVSE that incorporates a power export function and that is part of an interactive system that serves as an optional standby system, an electric power production source, or a bidirectional power feed shall be listed, evaluated for use with the specific electric vehicles, and marked as suitable for that purpose. When used as an optional standby system, the requirements of Article 702 shall apply; when used as an electric power production source, the requirements of Article 705 shall apply. EVPE that consists of a receptacle outlet only shall be in accordance with 625.60.

Informational Note: For further information on supply equipment, see ANSI/UL 1741, *Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources*, and ANSI/UL 9741, *Bidirectional Electric Vehicle (EV) Charging System Equipment*; for vehicle interactive systems, see SAE J3072, *Standard for Interconnection Requirements for Onboard, Utility-Interactive Inverter Systems*.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 13:59:23 EST 2018

Committee Statement and Meeting Notes

Committee Statement: CMP 12 revises the term electric vehicle supply equipment and replaces it with the initials EVSE as done in other instances within Article 625. Further, a new sentence is added at the end of the paragraph to indicate that the receptacle in the vehicle that is considered to be part of a power export system needs to comply with the new requirements for those receptacles as indicated.

Response Message:

Public Input No. 2456-NFPA 70-2017 [Section No. 625.48]

Editorial Comment

Click here

First Revision No. 8577-NFPA 70-2018 [Section No. 625.50]

625.50 Location.

The ~~electric vehicle supply equipment~~ EVSE shall be located for direct electrical coupling of the EV connector (conductive or inductive) to the electric vehicle. Unless specifically listed and marked for the location, the coupling means of the ~~electric vehicle supply equipment~~ EVSE shall be stored or located at a height of not less than 450 mm (18 in.) above the floor level for indoor locations or 600 mm (24 in.) above the grade level for outdoor locations. This requirement does not apply to portable ~~electric vehicle supply equipment~~ EVSE constructed in accordance with 625.44(A).

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 14:01:29 EST 2018

Committee Statement and Meeting Notes

Committee Statement: CMP 12 revises the term electric vehicle supply equipment and replaces it with the initials EVSE as done in other instances within Article 625.

Response Message:

Public Input No. 2470-NFPA 70-2017 [Section No. 625.50]

First Revision No. 8586-NFPA 70-2018 [Section No. 625.52(A)]

(A) Ventilation Not Required.

Where electric vehicle storage batteries are used or where the equipment is listed for charging electric vehicles indoors without ventilation ~~and marked in accordance with 625.15(B)~~ , mechanical ventilation shall not be required.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 14:43:40 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This reference to 625.15(B) was removed since the requirements have been removed from Part II.

Response Message:

Public Input No. 3779-NFPA 70-2017 [Section No. 625.52(A)]

First Revision No. 8588-NFPA 70-2018 [Section No. 625.52(B) [Excluding any Sub-Sections]]

Where the equipment is listed for charging electric vehicles that require ventilation for indoor charging, ~~and is marked in accordance with 625.15(C)~~ , mechanical ventilation, such as a fan, shall be provided. The ventilation shall include both supply and exhaust equipment and shall be permanently installed and located to intake from, and vent directly to, the outdoors. Positive-pressure ventilation systems shall be permitted only in vehicle charging buildings or areas that have been specifically designed and approved for that application. Mechanical ventilation requirements shall be determined by one of the methods specified in 625.52(B)(1) through (B)(4).

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 14:47:07 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This reference to 625.15(C) was removed since the requirements have been removed from Part II.

Response Message:

Public Input No. 3785-NFPA 70-2017 [Section No. 625.52(B) [Excluding any Sub-Sections]]

First Revision No. 8584-NFPA 70-2018 [Section No. 625.56]

625.56 Receptacle Enclosures.

All receptacles installed in a wet location for electric vehicle charging shall have an enclosure that is weatherproof with the attachment plug cap inserted or removed. An outlet box hood installed for this purpose shall be listed and shall be identified as extra duty. Other listed products, enclosures, or assemblies providing weatherproof protection that do not utilize an outlet box hood shall not be required to be marked extra duty.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 14:38:05 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This section was originally added by TIA 17-2 for the 2017 NEC. The addition of the last two sentences indicates requirements needed for proper installation and modifies the text in 406.9(B) by making the requirement additionally applicable to all receptacle types.

Response Message:

Public Input No. 667-NFPA 70-2017 [Section No. 625.56]

Public Input No. 3966-NFPA 70-2017 [New Section after 625.50]

Editorial Comment

Click here

First Revision No. 8589-NFPA 70-2018 [Section No. 625.102]

625.102 ~~Construction~~ Installation .

(A) Type.

The charger power converter, where integral to the primary pad, shall comply with 625.102(C). The charger power converter, if not integral to the primary pad, shall be provided with a minimum Type 3R enclosure rating.

(B) ~~Installation~~ General .

If the charger power converter is not integral to the primary pad, it shall be mounted at a height of not less than 450 mm (18 in.) above the floor level for indoor locations or 600 mm (24 in.) above grade level for outdoor locations. The charger power converter shall be mounted in one of the following forms:

(1) Pedestal

(2) Wall or pole

(3) Building or structure

(4) Raised concrete pad

(C) Primary Pad.

The primary pad shall be installed on the surface, embedded in the surface of the floor with its top flush with the surface, or embedded in the surface of the floor with its top below the surface. This includes primary pad constructions with the charger power converter located in the primary pad enclosure.

(1) If the primary pad is located in an area requiring snow removal, it shall not be located on or above the surface.

Exception: Where installed on private property where snow removal is done manually, the primary pad shall be permitted to be located on or above the surface.

(2) The enclosure shall be provided with a suitable enclosure rating minimum Type 3. If the primary pad is located in an area subject to severe climatic conditions (e.g., flooding), it shall be suitably rated for those conditions or be provided with a suitably rated enclosure.

(D) Protection of ~~the~~ Output Cable.

The output cable to the primary pad shall be secured in place over its entire length for the purpose of restricting its movement and to prevent strain at the connection points. If installed in conditions where drive-over could occur, the cable shall be provided with supplemental protection. Where the charger power converter is a part of the primary pad assembly, the power supply cord to the primary pad shall also be protected.

(E) Other Wiring Systems.

Other wiring systems and fittings specifically listed for use on the WPTE shall be permitted.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 14:51:58 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The change revises the “construction” title to the “installation” title to better define what is covered in the paragraph. With this change, the additional title change to “general” in item (B) is required to avoid redundant titles.

Response Message:

Public Input No. 442-NFPA 70-2017 [Section No. 625.102]

Editorial Comment

Click here

First Revision No. 8605-NFPA 70-2018 [Section No. 626.11(B)]

(B) Demand Factors.

Electrified truck parking space electrical wiring system demand factors shall be based upon the climatic temperature zone in which the equipment is installed. The demand factors set forth in Table 626.11(B) shall be the minimum allowable demand factors that shall be permitted for calculating load for service and feeders. No demand factor shall be allowed for any other load, except as provided in this article.

Table 626.11(B) Demand Factors for Services and Feeders

Climatic Temperature Zone (USDA Hardiness Zone) (See Note)	Demand Factor (%)
1	70%
2a	67%
2b	62%
3a	59%
3b	57%
4a	55%
4b	51%
5a	47%
5b	43%
6a	39%
6b	34%
7a	29%
7b	24%
8a	21%
8b	20%
9a	20%
9b	20%
10a	21%
10b	23%
11	24%

Note: The climatic temperature zones shown in Table 626.11(B) correlate with those found on the “USDA Plant Hardiness Zone Map,” and the climatic temperature zone selected for use with the table shall be determined through the use of this map based on the installation location.

Informational Note: The U.S. Department of Agriculture (USDA) has developed a commonly used “Plant Hardiness Zone” map that is publicly available. The map provides guidance for determining the Climatic Temperature Zone. Data indicate that the HVAC has the highest power requirement in cold climates, with the heating demand representing the greatest load, which in turn is dependent on outside temperature. In very warm climates, where no heating load is necessary, the cooling load increases as the outdoor temperature rises. These demand factors do not apply to the portion of electrical wiring systems that supply the transport refrigerated units (TRUs).

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jan 17 15:23:48 EST 2018

Committee Statement and Meeting Notes

Committee Statement: From field experience, the demand factors have been applied to the refrigeration unit loads. In some areas, during very warm days, the duty cycle will approach 100% therefore exceeding the demand factors in the table which is misleading to the authority and causes inconsistent application of the requirement. The revision to the note, although not a requirement, explains and clarifies that the demand factors are really only intended to be applied to the power requirement associated with the cab of the truck.

Response Message:

Public Input No. 3681-NFPA 70-2017 [Section No. 626.11(B)]

Editorial Comment

Click here

First Revision No. 8607-NFPA 70-2018 [Section No. 626.24(B)]

(B) Receptacle.

All receptacles shall be listed and of the grounding type. Every truck parking space with electrical supply shall be equipped with 626.24 (B)(1) and (B)(2).

(1) A maximum of three receptacles, each 2-pole, 3-wire grounding type and rated 20 amperes, 125 volts, and two of the three connected to two separate branch circuits.

Informational Note: For the non-locking-type and grounding-type 20-ampere receptacle configuration, see ANSI/NEMA WD 6-~~2012~~ 2016 , *Wiring Devices — Dimensional Specifications*, Figure 5-20.

(2) One single receptacle, 3-pole, 4-wire grounding type, single phase rated either 30 amperes 208Y/120 volts or 125/250 volts. The 125/250-volt receptacle shall be permitted to be used on a 208Y/120-volt, single-phase circuit.

Informational Note: For various configurations of 30-ampere pin and sleeve receptacles, see ANSI/UL1686–2012 , *Standard for Pin and Sleeve Configurations*, Figure C2.9 or Part C3.

Exception: Where electrified truck parking space supply equipment provides the heating, air-conditioning, and comfort-cooling function without requiring a direct electrical connection at the truck, only two receptacles identified in 626.24(B)(1) shall be required.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 15:27:21 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The revision provides an update to the most recent version of the NEMA WD6 document.
Response Message:

Committee Notes:

Date	Submitted By	
Jan 17, 2018	NEC-CMP Panel 12	The only changes are to add a hyphen to non-locking and to update the date of the NEMA standard from 2012 to 2016.

Public Input No. 725-NFPA 70-2017 [Section No. 626.24(B)]

Editorial Comment

Click here

First Revision No. 8609-NFPA 70-2018 [Section No. 626.25(B)(4)]

(4) Attachment Plug.

The attachment plug(s) shall be listed, by itself or as part of a cord set, for the purpose and shall be molded to or installed on the flexible cord so that it is secured tightly to the cord at the point where the cord enters the attachment plug. If a right-angle cap is used, the configuration shall be oriented so that the grounding member is farthest from the cord. Where a flexible cord is provided, the attachment plug shall comply with 250.138(A).

(a) *Connection to ~~a~~ 20-Ampere Receptacle.* A separable power-supply cable assembly for connection to a truck flanged surface inlet, rated at 20 amperes, shall have a non-locking-type attachment plug that shall be 2-pole, 3-wire grounding type rated 20 amperes, 125 volts and intended for use with the 20-ampere, 125-volt receptacle.

Exception: A separable power-supply cable assembly, rated 15 amperes, provided for the connection of an engine block heater only shall have an attachment plug that shall be 2-pole, 3-wire grounding type rated 15 amperes, 125 volts.

Informational Note: For non-locking- and grounding-type 15- or 20-ampere plug and receptacle configurations, see ANSI/NEMA WD 6-~~2002~~ 2016 , ~~*Standard for Dimensions of Attachment Plugs and Receptacles*~~ *Wiring Devices — Dimensional Specifications* , Figure 5-15 or Figure 5-20.

(b) *Connection to ~~a~~ 30-Ampere Receptacle.* A separable power-supply cable assembly for connection to a truck flanged surface inlet, rated at 30 amperes, shall have an attachment plug that shall be 3-pole, 4-wire grounding type rated 30 amperes, 208Y/120 volts or 125/250 volts, and intended for use with the receptacle in accordance with 626.24(B)(2). The 125/250-volt attachment plug shall be permitted to be used on a 208Y/120-volt, single-phase circuit.

Informational Note: For various configurations of 30-ampere pin and sleeve plugs, see ANSI/UL 1686-2012, *Standard for Pin and Sleeve Configurations*, Figure C2.10 or Part C3.

Supplemental Information

File Name	Description	Approved
Panel_12_FR-8609_626.25_B_4_leg_changes.docx	For staff use	✓

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 15:31:06 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The revision provides an update to the most recent version of the NEMA WD6 document and fixes the title.

Response Message:

Committee Notes:

Date	Submitted By

Jan 17, 2018	NEC-CMP Panel 12	The only changes are to fix non-interlocking x2, the title of the NEMA standard, and to change the date of the standard from 2002 to 2016

Public Input No. 726-NFPA 70-2017 [Section No. 626.25(B)(4)]

Editorial Comment

Click here

First Revision No. 8610-NFPA 70-2018 [Section No. 626.30(A)]

(A) Branch Circuits.

TRU spaces shall be supplied from 208-volt, 3-phase, 240-volt, 3-phase, or 480-volt, 3-phase branch circuits and with an equipment grounding conductor.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 15:40:48 EST 2018

Committee Statement and Meeting Notes

Committee Statement: TRUs exist today that are powered by 240-volt, 3 phase supplies and these TRUs should be allowed at truck parking spacings that provide power to TRUs. The addition of alternate power supply options provides for better application of the requirement.

CMP 12 excludes the exception to allow any type of rating for private facilities as it does not agree that electrified truck parking spaces that are part of a private facility need not comply with the requirements contained in Article 626. The needs of this type of use location and equipment were purposefully added to Article 626 with the intent of modifying the previous chapters of the Code, and removing a specific type of location from the scope of Article 626 does not add to the safety of these installations.

Response Message:

Public Input No. 3765-NFPA 70-2017 [Section No. 626.30(A)]

Editorial Comment

Click here

First Revision No. 8611-NFPA 70-2018 [Section No. 626.31(C)]

(C) Receptacles.

All receptacles shall be listed and of the grounding type. Every electrified truck parking space intended to provide an electrical supply for ~~transport refrigerated units~~ TRUs shall be equipped with one or more of the following:

(1) A 30-ampere, 480-volt, 3-phase, 3-pole, 4-wire receptacle

(2) A 60-ampere, 208-volt, 3-phase, 3-pole, 4-wire receptacle

(3) A 20-ampere, 1000-volt, 3-phase, 3-pole, 4-wire receptacle, pin and sleeve type

(4) A 60-ampere, 250-volt, 3-phase, 3-pole, 4-wire receptacle

(5) A 60-ampere, 480-volt, 3-phase, 3-pole, 4-wire receptacle

Informational Note: Complete details of the 30-ampere pin and sleeve receptacle configuration for refrigerated containers (~~transport refrigerated units~~ TRUs) can be found in ANSI/UL 1686-2012, *Standard for Pin and Sleeve Configurations*, Figure C2.11. For various configurations of 60-ampere pin and sleeve receptacles, see ANSI/UL1686.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 15:43:29 EST 2018

Committee Statement and Meeting Notes

Committee Statement: Transport refrigeration units exist today that are powered from the 60 ampere receptacles included in the revision. Without the allowance of these receptacle types, trucks with refrigeration units that require this connection would not be allowed to park at the electrified truck parking space. The allowance makes the parking spaces more accessible and useable without constraints on power.

Response Message:

Public Input No. 3767-NFPA 70-2017 [Section No. 626.31(C)]

Editorial Comment

Click here

First Revision No. 8612-NFPA 70-2018 [Section No. 626.32(A)]

(A) Rating(s).

The power supply cable assembly shall be listed and ~~be~~ rated in accordance with one of the following:

(1) A 30-ampere, 480-volt, 3-phase assembly

(2) A 60-ampere, 208-volt, 3-phase assembly

(3) A 20-ampere, 1000-volt, 3-phase assembly

(4) A 60-ampere, 480-volt, 3-phase assembly

(5) A 60-ampere, 250-volt, 3-phase assembly

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 15:45:02 EST 2018

Committee Statement and Meeting Notes

Committee Statement: Transport refrigeration units exist today that are powered from 60 ampere receptacles. Without the allowance of these ratings, trucks with refrigeration units that require this connection would not be allowed to park at the electrified truck parking space. The allowance makes the parking spaces more accessible and useable without constraints on power.

Response Message:

Public Input No. 3769-NFPA 70-2017 [Section No. 626.32(A)]

Editorial Comment

Click here

First Revision No. 8613-NFPA 70-2018 [Section No. 626.32(C)]

(C) Attachment Plug(s) and Cord Connector(s).

Where a flexible cord is provided with an attachment plug and cord connector, they shall comply with 250.138(A). The attachment plug(s) and cord connector(s) shall be listed, by itself or as part of the power-supply cable assembly, for the purpose and shall be molded to or installed on the flexible cord so that it is secured tightly to the cord at the point where the cord enters the attachment plug or cord connector. If a right-angle cap is used, the configuration shall be oriented so that the grounding member is farthest from the cord. An attachment plug and cord connector for the connection of a truck or trailer shall be rated in accordance with one of the following:

(1) 30-ampere, 480-volt, 3-phase, 3-pole, 4-wire and intended for use with ~~a~~ 30-ampere, 480-volt, 3-phase, 3-pole, 4-wire receptacles and inlets, respectively

(2) 60-ampere, 208-volt, 3-phase, 3-pole, 4-wire and intended for use with ~~a~~ 60-ampere, 208-volt, 3-phase, 3-pole, 4-wire receptacles and inlets, respectively~~, or~~

(3) 20-ampere, 1000-volt, 3-phase, 3-pole, 4-wire and intended for use with ~~a~~ 20-ampere, 1000-volt, 3-phase, 3-pole, 4-wire receptacles and inlets, respectively~~.~~

(4) 60-ampere, 480-volt, 3-phase, 3-pole, 4-wire and intended for use with 60-ampere, 480-volt, 3-phase, 3-pole, 4-wire receptacles and inlets, respectively

(5) 60-ampere, 250-volt, 3-phase, 3-pole, 4-wire and intended for use with 60-ampere, 250-volt, 3-phase, 3-pole, 4-wire receptacles and inlets, respectively

Informational Note: Complete details of the 30-ampere pin and sleeve attachment plug and cord connector configurations for refrigerated containers (~~transport refrigerated units~~ TRUs) can be found in ANSI/UL 1686-2012, *Standard for Pin and Sleeve Configurations*, Figures C2.12 and C2.11. For various configurations of 60-ampere pin and sleeve attachment plugs and cord connectors, see ANSI/UL1686.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 15:46:29 EST 2018

Committee Statement and Meeting Notes

Committee Statement: Transport refrigeration units exist today that are powered from the 60 ampere receptacles included in the revision. Without the allowance of these receptacle types, trucks with refrigeration units that require this connection would not be allowed to park at the electrified truck parking space. The allowance makes the parking spaces more accessible and useable without constraints on power.

Response Message:

Public Input No. 3775-NFPA 70-2017 [Section No. 626.32(C)]

Editorial Comment

Click here

First Revision No. 8150-NFPA 70-2018 [Section No. 630.31(A)]

(A) Individual Welders.

The ~~rated~~ ampacity ~~for~~ of conductors for individual welders shall comply with the following:

(1) The ampacity of the supply conductors for a welder that ~~may~~ can be operated at different times at different values of primary current or duty cycle shall not be less than 70 percent of the rated primary current for seam and automatically fed welders, and 50 percent of the rated primary current for manually operated nonautomatic welders.

(2) The ampacity of the supply conductors for a welder wired for a specific operation for which the actual primary current and duty cycle are known and remain unchanged shall not be less than the product of the actual primary current and the multiplier specified in Table 630.31(A) for the duty cycle at which the welder will be operated.

Table 630.31(A) Duty Cycle Multiplication Factors for Resistance Welders

Duty Cycle (%)	Multiplier
50	0.71
40	0.63
30	0.55
25	0.50
20	0.45
15	0.39
10	0.32
7.5	0.27
5 or less	0.22

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 09:59:26 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The first revision was created to align with the Ampacity Task Group. The use of the word “rated” to describe ampacity is not appropriate when addressing the ampacity of a conductor.

Response Message:

Committee Notes:

Date	Submitted By	
Jan 15, 2018	NEC-CMP Panel 12	No changes to table heading.

Public Input No. 923-NFPA 70-2017 [Section No. 630.31(A)]

Editorial Comment

Click here

First Revision No. 8335-NFPA 70-2018 [Definition: Equipment Rack.]

Equipment Rack.

A framework for the support, enclosure, or both, of equipment; can be portable or stationary.

Informational Note: See ~~EIA/ECIA~~ EIA/ECA 310-E-2005, *Cabinets, Racks, Panels and Associated Equipment*.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 10:25:49 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The Panel corrected the reference.
Response Message:

Public Input No. 727-NFPA 70-2017 [Definition: Equipment Rack.]

First Revision No. 8337-NFPA 70-2018 [Definition: Technical Power System.]

Technical Power System.

An electrical distribution system ~~with grounding in accordance with 250.146(D)~~ where the equipment grounding conductor is isolated from the premises grounded conductor and the premises equipment grounding conductor except at a single grounded termination point within a branch-circuit panelboard, at the originating (main breaker) branch-circuit panelboard, or at the premises grounding electrode.

Informational Note: See 250.146(D) for installation requirements for isolated ground receptacles.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 10:27:35 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The Panel revised the definition and added an informational note to improve clarity. Also definitions cannot contain requirements as per the Style Manual.

Response Message:

Public Input No. 2040-NFPA 70-2017 [Definition: Technical Power System.]

First Revision No. 8340-NFPA 70-2018 [Section No. 640.9(C)]

(C) Output Wiring and Listing of Amplifiers.

Amplifiers with output circuits carrying audio program signals shall be permitted to employ Class 1, Class 2, or Class 3 wiring where the amplifier is listed and marked for use with the specific class of wiring method. Such listing shall ensure the energy output is equivalent to the shock and fire risk of the same class as stated in Article 725. Overcurrent protection shall be provided and shall be permitted to be inherent in the amplifier.

Audio amplifier output circuits wired using Class 1 wiring methods shall be considered equivalent to Class 1 circuits and shall be installed in accordance with 725.46, where applicable.

Audio amplifier output circuits wired using Class 2 or Class 3 wiring methods shall be considered equivalent to Class 2 or Class 3 circuits, respectively. They shall use conductors insulated at not less than the requirements of 725.179 and shall be installed in accordance with 725.133 and 725.154.

Informational Note No. 1: ANSI/UL 1711-~~2006~~ 2016 , *Amplifiers for Fire Protective Signaling Systems*, contains requirements for the listing of amplifiers used for fire alarm systems in compliance with *NFPA 72*-~~2013~~ 2016 , *National Fire Alarm and Signaling Code*.

Informational Note No. 2: Examples of requirements for listing amplifiers used in residential, commercial, and professional use are found in ANSI/UL 813-1996, *Commercial Audio Equipment*; ANSI/UL 1419-~~2011~~ 2016 , *Professional Video and Audio Equipment*; ANSI/UL 1492-~~2010~~ 1996 revised 2013 , *Audio-Video Products and Accessories*; ANSI/UL 6500-~~2006~~ 1999 revised 2013 , *Audio/Video and Musical Instrument Apparatus for Household, Commercial, and Similar Use*; and UL 62368-1-~~2012~~ 2014 , *Audio/Video, Information and Communication Technology Equipment — Part 1: Safety Requirements*.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 10:34:50 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The panel updated issue dates of the referenced standards by referring to www.shopulstandards.com.

Response Message:

Public Input No. 728-NFPA 70-2017 [Section No. 640.9(C)]

Editorial Comment

Click here

First Revision No. 8347-NFPA 70-2018 [Section No. 645.5(E) [Excluding any Sub-Sections]]

Where the area under the floor is accessible and openings minimize the entrance of debris beneath the floor, power cables, ~~communication~~ communications cables, connecting cables, interconnecting cables, cord-and-plug connections, and receptacles associated with the information technology equipment shall be permitted under a raised floor of approved construction. The installation requirement shall comply with 645.5(E)(1) through (E) (3).

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 11:05:58 EST 2018

Committee Statement and Meeting Notes

Committee Statement: "Communication" should be "communications" to be consistent with usage throughout the NEC and also to comply with the NEC Style Manual Annex B, Standard Terms.

Response Message:

Public Input No. 175-NFPA 70-2017 [Section No. 645.5(E) [Excluding any Sub-Sections]]

Editorial Comment

Click here

First Revision No. 8351-NFPA 70-2018 [Section No. 645.11]

645.11 Uninterruptible Power ~~Supplies (UPSs)~~ Supply (UPS) .

~~Except for installations and constructions covered in 645.11(1) or (2),~~ UPS systems installed within the information technology equipment room, and their supply and output circuits, shall comply with 645.10, except for the following installations and constructions:

(1) Installations ~~qualifying under the provisions of~~ complying with Article 685

(2) Power sources limited to 750 volt-amperes or less derived either from UPS equipment or from battery circuits integral to electronic equipment

The disconnecting means shall also disconnect the battery from its load.

Informational Note: Specific electronic equipment disconnecting means requirements for backup battery power sources are found in UL 1778-2014 (R2017), *Uninterruptible Power Systems.*

Supplemental Information

File Name	Description	Approved
Panel_12_FR-8351_645.11_leg_changes.docx	For staff use	✓

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 11:26:43 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The informational note improves clarity.

"The provisions of" was deleted from exception to 645.11 to improve clarity.

Response Message:

Public Input No. 3488-NFPA 70-2017 [Section No. 645.11]

Editorial Comment

Click here

First Revision No. 8358-NFPA 70-2018 [Section No. 645.18]

645.18 Surge Protection for Critical Operations Data Systems.

~~Surge~~ Listed surge protection shall be provided for critical operations data systems.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 11:45:11 EST 2018

Committee Statement and Meeting Notes

Committee Statement: Surge protection is required to be listed per 285.6.
Response Message:

Public Input No. 3520-NFPA 70-2017 [Section No. 645.18]

First Revision No. 8371-NFPA 70-2018 [Section No. 645.27]

645.27 Selective Coordination.

Critical operations data system(s) overcurrent protective devices shall be selectively coordinated with all supply-side overcurrent protective devices.

Selective coordination shall be selected by a licensed professional engineer or other qualified persons engaged primarily in the design, installation, or maintenance of electrical systems. The selection shall be documented and made available to those authorized to design, install, inspect, maintain, and operate the system.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 13:06:44 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The panel added a second paragraph to correlate with sections 620.62. The exceptions recommended by the submitter of PI 2084 are not needed because the definition of selective coordination is clear and encompasses the situations the submitter of PI 2084 includes in the recommended exceptions.

Response Message:

Public Input No. 2084-NFPA 70-2017 [Section No. 645.27]

First Revision No. 8375-NFPA 70-2018 [Section No. 647.6(B)]

(B) Equipment Grounding Conductors Required.

Permanently wired utilization equipment and receptacles shall be grounded by means of an equipment grounding conductor run with the circuit conductors and connected to an equipment grounding bus prominently marked “Technical Equipment Ground” in the ~~originating~~ branch-circuit panelboard. The equipment grounding bus shall be connected to the grounded conductor on the line side of disconnecting means supplied by the separately derived ~~system's disconnecting means~~ system . The equipment grounding conductor shall not be smaller than that specified in Table 250.122 and run with the feeder conductors. The technical equipment grounding bus ~~need~~ shall not be required to be bonded to the panelboard enclosure. Other equipment grounding methods authorized elsewhere in this *Code* shall be permitted where the impedance of the equipment grounding return path does not exceed the impedance of equipment grounding conductors sized and installed in accordance with this article.

Informational Note No. 1: See 250.122 for equipment grounding conductor sizing requirements where circuit conductors are adjusted in size to compensate for voltage drop.

Informational Note No. 2: These requirements limit the impedance of the ground fault return path where only 60 volts apply to a fault condition instead of the usual 120 volts.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 13:19:37 EST 2018

Committee Statement and Meeting Notes

Committee Statement: Equipment grounding conductor is a defined term and the proper term that should be inserted to replace a vague and misleading term whose definition was removed from the NEC. The other changes are only editorial and not meant to change the intent of this section. These changes provide clarity and remove possibly vague terms.

Response Message:

Public Input No. 3594-NFPA 70-2017 [Section No. 647.6(B)]

Public Input No. 2415-NFPA 70-2017 [Section No. 647.6(B)]

First Revision No. 8160-NFPA 70-2018 [Section No. 650.6(D)]

(D) Cable Covering.

Each cable shall be provided with an outer covering, either overall or on each of any subassemblies of grouped conductors. Tape shall be permitted in place of a covering. Where not installed in metal raceway, the covering shall be resistant to flame spread, or the cable or each cable subassembly shall be covered with a closely wound listed fireproof tape.

Informational Note: One method of determining that cable is resistant to flame spread is by testing the cable to the VW-1 (vertical-wire) flame test in ANSI/UL 1581-~~2011~~ 2017 , *Reference Standard for Electrical Wires, Cables and Flexible Cords*.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 10:32:53 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The first revision was created to update the date of the standard to the latest version.
Response Message:

Public Input No. 730-NFPA 70-2017 [Section No. 650.6(D)]

First Revision No. 8161-NFPA 70-2018 [Section No. 660.5]

660.5 Disconnecting Means.

A disconnecting means of adequate capacity for at least 50 percent of the input required for the momentary rating, or 100 percent of the input required for the long-time rating, of the X-ray equipment, whichever is greater, shall be provided in the supply circuit. The disconnecting means shall be located within sight from the X-ray control and readily accessible.

Exception: The disconnecting means for the X-ray equipment shall not be required under either of the following conditions, provided that the controller disconnecting means is lockable open in accordance with 110.25:

(1) Where such a location of the disconnecting means for the X-ray equipment is impracticable or introduces additional or increased hazards to persons or property

(2) In industrial installations, with written safety procedures, where conditions of maintenance and supervision ensure that only qualified persons service the equipment

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 10:38:28 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This revision clarifies the rule as lockable open to ensure the provisions of 110.25 apply.

Response Message:

Public Input No. 1582-NFPA 70-2017 [Section No. 660.5]

First Revision No. 8162-NFPA 70-2018 [Section No. 660.6(B)]

(B) Feeder Conductors.

The ~~rated~~ ampacity of conductors and the rating of overcurrent devices of a feeder for two or more branch circuits supplying X-ray units shall not be less than 100 percent of the momentary demand rating [as determined by 660.6(A)] of the two largest X-ray apparatus plus 20 percent of the momentary ratings of other X-ray apparatus.

Informational Note: The minimum conductor size for branch and feeder circuits is also governed by voltage regulation requirements. For a specific installation, the manufacturer usually specifies minimum distribution transformer and conductor sizes, rating of disconnect means, and overcurrent protection.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 10:40:43 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The first revision was created to align with the Ampacity Task Group. The use of the word “rated” to describe ampacity is not appropriate when addressing the ampacity of a conductor. In addition overcurrent devices are tested to determine their rating and language was added to clarify.

Response Message:

Public Input No. 924-NFPA 70-2017 [Section No. 660.6(B)]

First Revision No. 8163-NFPA 70-2018 [Section No. 665.23]

665.23 ~~Warning~~ Hazard Labels or Signs.

~~Warning labels~~ Labels or signs that read “DANGER — HIGH VOLTAGE — KEEP OUT” shall be attached to the equipment and shall be plainly visible where persons might come in contact with energized parts when doors are open or closed or when panels are removed from compartments containing over 150 volts ac or dc. ~~The warning sign(s) or label(s)~~ Hazard signs or labels shall comply with 110.21(B).

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 10:44:54 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The term “Hazard” replaced the term “Warning” to align with ANSI Z535 and 110.21(B). The requirements in this section where also revised to reflect the change in the title.

Response Message:

Public Input No. 3598-NFPA 70-2017 [Section No. 665.23]

First Revision No. 8166-NFPA 70-2018 [Section No. 668.11]

668.11 Direct-Current Cell Line Process Power Supply.

(A) Not Grounded.

The direct-current cell line process power-supply conductors shall not be required to be grounded.

(B) Metal Enclosures Grounded.

All metal enclosures of power-supply apparatus for the direct-current cell line process operating with a power supply over 50 volts shall be grounded by either of the following means:

(1) Through protective relaying equipment

(2) By a minimum 2/0 AWG copper grounding electrode conductor or a conductor of equal or greater conductance

(C) Grounding Requirements.

The grounding electrode connections required by 668.11(B) shall be installed in accordance with 250.8, 250.10, 250.12, 250.68, and 250.70.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 10:55:33 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The requirements in 668.11 were revised to clarify that the minimum 2/0 conductor size applies to the grounding electrode conductor. Grounding electrode conductor is a defined term and provides this clarity.

Response Message:

Public Input No. 2416-NFPA 70-2017 [Section No. 668.11]

First Revision No. 8167-NFPA 70-2018 [Section No. 668.21(B)]

(B) Noninterchangeability.

Receptacles and their mating plugs for ungrounded equipment shall not have provision for ~~a~~ an equipment grounding conductor and shall be of a configuration that prevents their use for equipment required to be grounded.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 10:59:09 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The requirements in 668.21(B) were revised to clarify it is the equipment grounding conductor. Equipment grounding conductor is a defined term and provides this clarity.

Response Message:

Public Input No. 2417-NFPA 70-2017 [Section No. 668.21(B)]

First Revision No. 8184-NFPA 70-2018 [Section No. 670.3(A)]

(A) Permanent Nameplate.

A permanent nameplate shall be attached to the control equipment enclosure or machine and shall be plainly visible after installation. The nameplate shall include the following information:

(1) Supply voltage, number of phases, frequency, and full-load current

(2) Maximum ampere rating of the short-circuit and ground-fault protective device

(3) Ampere rating of largest motor, from the motor nameplate, or load

(4) Short-circuit current rating of the machine industrial control panel based on one of the following:

a. Short-circuit current rating of a listed and labeled machine control enclosure or assembly

b. Short-circuit current rating established utilizing an approved method

Informational Note: UL 508A-~~2001~~ 2017 , *Standard for Industrial Control Panels* , Supplement SB, is an example of an approved method.

(5) Electrical diagram number(s) or the number of the index to the electrical drawings

The full-load current shown on the nameplate shall not be less than the sum of the full-load currents required for all motors and other equipment that may be in operation at the same time under normal conditions of use. Where unusual type loads, duty cycles, and so forth require oversized conductors or permit reduced-size conductors, the required capacity shall be included in the marked “full-load current.” Where more than one incoming supply circuit is to be provided, the nameplate shall state the preceding information for each circuit.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 11:32:21 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The informational note was revised to represent the most current edition of UL508A.
Response Message:

Committee Notes:

Date	Submitted By	
Jan 15, 2018	NEC-CMP Panel 12	Only change is to the date in the informational note.

Public Input No. 731-NFPA 70-2017 [Section No. 670.3(A)]

Editorial Comment

Click here

First Revision No. 8189-NFPA 70-2018 [Section No. 670.6]

670.6 Surge Protection.

Industrial machinery with safety interlock ~~circuits~~ control devices not effectively isolated from voltage surges on the incoming supply circuit shall have surge protection installed.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 11:49:03 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The surge protection requirement was revised to clarify that only devices not effectively isolated from incoming voltage surges shall be required to have surge protection. The committee does not agree with the addition of the informational note as isolation transformers or power supplies do not eliminate surges that occur on the secondary side of the transformer or power supply and therefore do not effectively isolate the safety control devices from possible damaging surges.

Response Message:

Public Input No. 2849-NFPA 70-2017 [Section No. 670.6]

First Revision No. 8201-NFPA 70-2018 [Section No. 685.1]

685.1 Scope.

This article covers integrated electrical systems, other than unit equipment, in which orderly shutdown is necessary to ensure safe operation. An *integrated electrical system* as used in this article is a unitized segment of an industrial wiring system where all of the following conditions are met:

(1) An orderly shutdown is required to minimize personnel hazard and equipment damage.

(2) The conditions of maintenance and supervision ensure that qualified persons service the system. The name(s) of the qualified person(s) shall be kept in a permanent record at the office of the establishment in charge of the completed installation.

A person designated as a qualified person shall possess the skills and knowledge related to the construction and operation of the electrical equipment and installation and shall have received documented safety training on the hazards involved. Documentation of their qualifications shall be on file with the office of the establishment in charge of the completed installation.

(3) Effective safeguards ~~acceptable to~~ approved by the authority having jurisdiction are established and maintained.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 13:04:34 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The scope was revised in 685.1(3) to use the term “approved” since it is defined in Article 100 and used throughout the code and understood by installers and inspectors. The committee understands that scope statements are under the purview of the correlating committee and recommend this change to provide clarity.

Response Message:

Public Input No. 382-NFPA 70-2017 [Section No. 685.1]

First Revision No. 8207-NFPA 70-2018 [Part IX.]

Part IX. Grounding and Bonding

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 13:20:22 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This change will clarify that requirements for Grounding AND Bonding must both be satisfied, and will improve clarity and enforceability for this Section

Response Message:

Committee Notes:

Date	Submitted By	
Jan 15, 2018	NEC-CMP Panel 12	This is in article 620

Public Input No. 4073-NFPA 70-2017 [Part IX.]

First Revision No. 8147-NFPA 70-2018 [Section No. 610.61]

610.61 Grounding and Bonding .

All exposed non–current-carrying metal parts of cranes, monorail hoists, hoists, and accessories, including pendant controls, shall be bonded either by mechanical connections or bonding jumpers, where applicable, so that the entire crane or hoist is ~~a~~ an effective ground-fault current path by connection to the equipment grounding conductor of the branch circuit or feeder as required or permitted by Article 250, ~~Parts V~~ Parts I, V, VI, and VII.

Moving parts, other than removable accessories, or attachments that have metal-to-metal bearing surfaces, shall be considered to be electrically bonded to each other through bearing surfaces for ~~grounding purposes~~ the purpose of establishing an effective ground-fault current path . The trolley frame and bridge frame shall not be considered as electrically ~~grounded~~ bonded through the bridge and trolley wheels and its respective tracks. A separate bonding conductor shall be provided.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 09:53:53 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The title of 610.61 was revised to clarify that both grounding and bonding requirements are addressed. This section was revised to clarify the ground fault current path should be intentionally constructed to align with Article 250. In addition language was added to clarify the connection to the system equipment grounding conductor.

Response Message:

Public Input No. 4059-NFPA 70-2017 [Part VII.]

Public Input No. 4061-NFPA 70-2017 [Section No. 610.61]

Public Input No. 2516-NFPA 70-2017 [Section No. 610.61]

Editorial Comment

Click here

First Revision No. 8248-NFPA 70-2018 [Section No. 620.21(A)(1)]

(1) Hoistways and Pits.

(a) Cables used in Class 2 power-limited circuits shall be permitted, provided the cables are supported and protected from physical damage and are of a jacketed and flame-retardant type.

(b) Flexible cords and cables that are components of listed equipment and used in circuits operating at 30 volts rms or less or 42 volts dc or less shall be permitted, provided the cords and cables are supported and protected from physical damage and are of a jacketed and flame-retardant type.

(c) The following wiring methods shall be permitted in the hoistway in lengths not to exceed 1.8 m (6 ft):

(1) Flexible metal conduit.

(2) Liquidtight flexible metal conduit.

(3) Liquidtight flexible nonmetallic conduit.

(4) Flexible cords and cables, or conductors grouped together and taped or corded, shall be permitted to be installed without a raceway. They shall be located to be protected from physical damage ~~and~~ , shall be of a flame-retardant type, and shall be part of the following:

a. Listed equipment

b. ~~A driving~~ Driving machine~~, or~~

c. ~~A driving~~ Driving machine brake

Exception 620.21(A)(1)(c)(1), (2), and (3): The conduit length shall not be required to be limited between risers and limit switches, interlocks, operating buttons, and similar devices.

(d) A sump pump or oil recovery pump located in the pit shall be permitted to be cord connected. The cord shall be a hard usage oil-resistant type, of a length not to exceed 1.8 m (6 ft), and shall be located to be protected from physical damage.

(e) Hard-service cords and junior hard-service cords that conform to the requirements of Article 400 (Table 400.4) shall be permitted as flexible connections between the fixed wiring in the hoistway and hoistway access switches when located in the hoistway door sight guard.

Informational Note: See ASME A17.1-2016/CSA B44-16, *Safety Code for Elevators and Escalators* .

Supplemental Information

File Name	Description	Approved
CMP12_FR_8248.docx	For staff use	✓

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 16:05:41 EST 2018

Committee Statement and Meeting Notes

Committee Statement: Elevator hoistway access switches are permitted to be in the elevator hoistway door sight guard. This change specifies the permitted cable types for this installation, aiding in Code usability and enforceability.

Committee Notes:

Date	Submitted By	
Jan 15, 2018	NEC-CMP Panel 12	This revision is just adding (e) and the informational note at the end. See word file.

Public Input No. 4064-NFPA 70-2017 [New Section after 620.21(A)(1)]

Editorial Comment

Click here

First Revision No. 8255-NFPA 70-2018 [Section No. 620.22(A)]

(A) Car Light ~~Source~~ Receptacles, Auxiliary Lighting, and Ventilation .

A separate branch circuit shall supply the car lights~~, receptacle(s),~~ . The car light(s) branch circuit is permitted to supply receptacle(s), accessory equipment (alarm devices/bells, monitoring devices not part of the control system), auxiliary lighting power source, and ventilation on each elevator car or inside the operation controller . The overcurrent device protecting the branch circuit shall be located in the elevator machine room ~~or~~ , control room~~/machinery~~ , machinery space, or control space. Where there is no machine room, control room, machinery space, or control space outside the hoistway, the overcurrent device shall be located outside the hoistway and accessible to qualified persons.

Required lighting shall not be connected to the load side of a ground-fault circuit interrupter.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 16:26:53 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This change clarifies which types of equipment are permitted to be supplied by the required branch lighting circuit, and specifies the location of the overcurrent device in those situations where there is no machine room/machine space. This will aid in clarifying Code requirements for installers and aid in enforcement.

Response Message:

Public Input No. 4082-NFPA 70-2017 [Section No. 620.22(A)]

Editorial Comment

Click here

First Revision No. 8244-NFPA 70-2018 [Section No. 620.41]

620.41 Suspension of Traveling Cables.

Traveling cables shall be suspended at the car and hoistways' ends, or counterweight end where applicable, so as to reduce the strain on the individual copper conductors to a minimum.

Traveling cables shall be supported, utilizing listed components, by one of the following ~~means~~ methods :

(1) By their steel supporting member(s)

(2) By looping the cables around supports for unsupported lengths less than 30 m (100 ft)

(3) By suspending from the supports by a means that automatically tightens around the cable when tension is increased for unsupported lengths up to 60 m (200 ft)

Unsupported length for the hoistway suspension means shall be that length of cable measured from the point of suspension in the hoistway to the bottom of the loop, with the elevator car located at the bottom landing. Unsupported length for the car suspension means shall be that length of cable measured from the point of suspension on the car to the bottom of the loop, with the elevator car located at the top landing.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 15:59:48 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This change requires all support hardware to be listed, and will aid in Code enforcement.
Response Message:

First Revision No. 8317-NFPA 70-2018 [New Section after 620.62]

620.65 Signage.

Equipment enclosures containing selectively coordinated overcurrent devices shall be legibly marked in the field to indicate that the overcurrent devices are selectively coordinated. The marking shall meet the requirements of 110.21(B), shall be readily visible, and shall state the following: CAUTION: OVERCURRENT DEVICES IN THIS ENCLOSURE ARE SELECTIVELY COORDINATED. EQUIVALENT REPLACEMENTS AND TRIP SETTINGS ARE REQUIRED.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 09:23:18 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This change requiring field marking of enclosures for selectively coordinated overcurrent devices will provide a higher level of safety to those authorized to maintain or inspect such systems. This change will also aid in enforcement by making information readily available to inspectors.

Response Message:

Public Input No. 2864-NFPA 70-2017 [New Section after 620.62]

Editorial Comment

Click here

First Revision No. 8309-NFPA 70-2018 [Section No. 620.62]

620.62 Selective Coordination.

Where more than one driving machine disconnecting means is supplied by ~~a single feeder~~ the same source , the overcurrent protective devices in each disconnecting means shall be selectively coordinated with any other supply side overcurrent protective devices.

Selective coordination shall be selected by a licensed professional engineer or other qualified person engaged primarily in the design, installation, or maintenance of electrical systems. The selection and device settings shall be documented and made available to those authorized to design, install, inspect, maintain, and operate the system.

Exception No. 1: Selective coordination shall not be required between transformer primary and secondary overcurrent protective devices where only one overcurrent device or set of overcurrent devices exists on the transformer secondary.

Exception No. 2: Selective coordination shall not be required between overcurrent protective devices of the same rating located in series where no loads are connected in parallel with the downstream device.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 09:00:35 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This change will aid in design, installation, maintenance, and enforcement by clarifying those situations where selective coordination is required, and the means permitted to achieve compliance. The change from “single feeder” to “same source” clarifies that this section requires selective coordination for the entire system, not just to the feeder level. The addition of “device settings” clarifies that device settings need to be available to ensure proper installation. The exceptions are added to clarify specific situations where selective coordination cannot be achieved.

Response Message:

Public Input No. 3668-NFPA 70-2017 [Section No. 620.62]

Public Input No. 691-NFPA 70-2017 [Section No. 620.62]

Public Input No. 3451-NFPA 70-2017 [Section No. 620.62]

Public Input No. 3721-NFPA 70-2017 [Section No. 620.62]

Public Input No. 1945-NFPA 70-2017 [Section No. 620.62]

Public Input No. 4352-NFPA 70-2017 [Section No. 620.62]

Public Input No. 3688-NFPA 70-2017 [Section No. 620.62]

Public Input No. 3463-NFPA 70-2017 [Section No. 620.62]

Editorial Comment

Click here

First Revision No. 8389-NFPA 70-2018 [Definition: Electric Vehicle.]

Electric Vehicle (EV) .

An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are ~~considered~~ electric vehicles~~. For the purpose of this article, off~~ having a second source of motive power. Off -road, self-propelled electric ~~vehicles~~ mobile equipment , such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not ~~included~~ considered electric vehicles . (CMP-12)

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 14:48:18 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The NEC Style Manual clearly states that in general definitions that appear in two or more articles shall be located in Article 100. In moving the definition to Article 100 the reference to use in this article needs to be removed. It will also leave two other definitions from 625.2 dangling as the terms are only used within the definition of Electric Vehicle. Thus definition of Electric Vehicle was written in a manner to “stand alone” so the other two definitions can also be eliminated from 625.2.

Response Message:

First Revision No. 8516-NFPA 70-2018 [Section No. 625.22]

625.22 Personnel Protection System.

The equipment shall have a listed system of protection against electric shock of personnel. Where cord-and-plug-connected equipment is used, the interrupting device of a listed personnel protection system shall be provided ~~and shall be an integral part of the attachment plug or shall be located in the power-supply cord not more than 300 mm (12 in.) from the attachment plug~~ according to 625.17(A) . A personnel protection system shall not be required for supplies less than 60 volts dc.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 10:18:59 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This revision harmonizes with changes made to 625.17(A).
Response Message:

First Revision No. 8573-NFPA 70-2018 [Section No. 625.44]

625.44 Equipment Connection.

~~Equipment~~ EVSE and WPTE shall be connected to the premises wiring system in accordance with one of the ~~following:~~ methods in 625.44(A) through (C).

(A) Portable Equipment.

Portable equipment shall be connected to the premises wiring ~~systems~~ system by one or more of the following methods:

(1) A nonlocking, 2-pole, 3-wire grounding-type receptacle outlet rated at 125 volts, single phase, 15 or 20 amperes

(2) A nonlocking, 2-pole, 3-wire grounding-type receptacle outlet rated at 250 volts, single phase, 15 or 20 amperes

(3) A nonlocking, 2-pole, 3-wire or 3-pole, 4-wire grounding-type receptacle outlet rated at 250 volts, single phase, 30 or 50 amperes

(4) A nonlocking, 2-pole, 3-wire grounding-type receptacle outlet rated at 60 volts dc maximum, 15 or 20 amperes

~~The length of the power supply cord, if provided, between the receptacle outlet and the equipment shall be in accordance with 625.17(A)(3) .~~

(B) ~~Stationary~~ Fastened-in-Place Equipment.

~~Stationary equipment intended to be~~ Equipment that is fastened in place ~~in such a way as to permit ready removal for interchange, facilitation of maintenance or repair, or repositioning~~ shall be connected to the premises wiring system by one of the following methods:

(1) A nonlocking, 2-pole, 3-wire grounding-type receptacle outlet rated 125 ~~volt~~ volts or 250 ~~volt~~ volts , single phase, up to 50 amperes

(2) A nonlocking, 3-pole, 4-wire grounding-type receptacle outlet rated 250 ~~volt~~ volts , three phase, up to 50 amperes

(3) ~~Any of the receptacle outlets in 625.44(A) (1) or (2)~~ A nonlocking, 3-pole, 4-wire grounding-type receptacle outlet rated 250 volts, single phase, 30 or 50 amperes

(4) A nonlocking, 2-pole, 3-wire grounding-type receptacle outlet rated 60 volts dc maximum, 15 or 20 amperes

~~The length of the power supply cord, if provided, between the receptacle outlet and the equipment shall be in accordance with 625.17(A)(3) .~~

(C) Fixed Equipment.

All other ~~equipment~~ EVSE and WPTE shall be permanently wired and fixed in place to the supporting surface.

Supplemental Information

File Name	Description	Approved
CMP_12_FR_8573.docx	For staff use	✓

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:

State:

Zip:

Submittal Date: Wed Jan 17 13:49:07 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This first revision incorporates multiple changes that are all editorial in nature. These include specifying the equipment that is intended to be cord connected to the branch circuit, which excludes vehicle-to-load type applications; second, revising stationary equipment, which is not defined, and replacing it with the defined term “fastened in place;” third, adding text from published TIA 17-2 from the 2017 code; and lastly, removing the reference to 625.17(A)(3) as this is redundant and does not add to the requirements since that clause already applies. No technical changes to the paragraph exist and the revision provides clarification with the editorial changes.

Response Message:

Public Input No. 2469-NFPA 70-2017 [Section No. 625.44(B)]

Public Input No. 3790-NFPA 70-2017 [Section No. 625.44(B)]

Public Input No. 3963-NFPA 70-2017 [Section No. 625.44(A)]

Public Input No. 609-NFPA 70-2017 [Section No. 625.44(B) Stationary Eq...]

Public Input No. 3788-NFPA 70-2017 [Section No. 625.44(A)]

Public Input No. 2455-NFPA 70-2017 [Section No. 625.44]

Editorial Comment

Click here

First Revision No. 8591-NFPA 70-2018 [Section No. 625.52(B)(4)]

(4) Supply Circuits.

The supply circuit to the mechanical ventilation equipment shall be electrically interlocked with the equipment and shall remain energized during the entire electric vehicle charging cycle. Equipment ~~shall be marked in accordance with~~ ~~625.15~~ ~~. Equipment~~ receptacles rated at 125 volts, single phase, 15 and 20 amperes shall be ~~marked in accordance with~~ ~~625.15~~ ~~and shall be~~ switched and the mechanical ventilation system shall be electrically interlocked through the switch supply power to the receptacle. Equipment supplied from less than 50 volts dc shall be ~~marked in accordance with~~ ~~625.15(C)~~ ~~and shall be~~ switched and the mechanical ventilation system shall be electrically interlocked through the switch supply power to the equipment.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 14:56:16 EST 2018

Committee Statement and Meeting Notes

Committee Statement: These references to 625.15 were removed since the requirements have been removed from Part II.
Response Message:

First Revision No. 8581-NFPA 70-2018 [Section No. 625.54]

625.54 Ground-Fault Circuit-Interrupter Protection for Personnel.

All ~~single-phase~~ receptacles installed for the connection of electric vehicle charging ~~that are rated 150 volts to ground or less, and 50 amperes or less~~ shall have ground-fault circuit-interrupter protection for personnel.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 14:25:22 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The requirements were changed to clarify the intent of providing GFCI protection for personnel for all cord and plug connected electric vehicle power transfer equipment.

Response Message:

Public Input No. 3964-NFPA 70-2017 [New Section after 625.50]

First Revision No. 8534-NFPA 70-2018 [New Section after 625.56]

625.60 AC Receptacle Outlets Used for EVPE.

AC receptacles installed in electric vehicles and intended to allow for connection of off-board utilization equipment shall comply with 625.60(A) through (F).

(A) Type.

The receptacle outlet shall be a listed grounding-type receptacle.

(B) Rating.

The receptacle outlet shall be rated 250 volts maximum, single phase 50 amperes maximum.

(C) Overcurrent Protection.

Electric vehicles provided with receptacle outlets for power export shall be provided with integral overcurrent protection. The overcurrent protection shall have a nominal rating sufficient for the receptacle it protects. The overcurrent protection shall also be sufficiently rated for the maximum available short-circuit current at the receptacle and shall be included in the interactive equipment evaluation. See 625.48 .

(D) GFCI Protection for Personnel.

All receptacle outlets shall have ground-fault circuit-interrupter protection for personnel, integral to the receptacle, or have a readily accessible means for indication and reset.

(E) On-Board Inverters.

The on-board inverter intended to supply the receptacle shall be listed and included in the interactive equipment evaluation. See 625.48 .

(F) Marking.

Marking shall be provided to inform the user of the maximum total supply current. The marking shall be located where visible to the user when using the receptacle.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 11:24:51 EST 2018

Committee Statement and Meeting Notes

Committee Statement: CMP12 adds a new section to cover receptacles located in a vehicle. Although these receptacles are located on the vehicle, they need to be provided with some protections in order to be installed and used in the same manner as receptacles in the building infrastructure. Safety requirements for the end product that is plugged into these receptacles count on specific features and safety devices in the installation, and plugging into a receptacle on the vehicle needs to be controlled in the same manner. This is similar to the approach used for portable generators and is required for safe use of products. Additionally, PI 2442 is submitted to CMP 1 for processing. PI 2442 revises 90.2(A) to include the receptacle on the vehicle under the scope of the NEC. CMP-12 requests this action be shared with CMP-1 regarding the scope in 90.2. This receptacle is a critical piece of interaction with NEC installations and it is critical to contain rules in the NEC to cover the proper configuration, rating, protection, and marking for these receptacles.

Response Message:

Public Input No. 2449-NFPA 70-2017 [New Section after 625.40]

Editorial Comment

Click here

First Revision No. 8601-NFPA 70-2018 [Section No. 626.1]

626.1 Scope.

~~The provisions of this article cover~~ This article covers the electrical conductors and equipment external to the truck or transport refrigerated unit that connect trucks or transport refrigerated units to a supply of electricity, and the installation of equipment and devices related to electrical installations within an electrified truck parking space.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 15:13:53 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The phrase “The provisions of” is unnecessary and redundant and is being deleted to increase usability.
Response Message:

First Revision No. 8604-NFPA 70-2018 [Section No. 626.4]

626.4 General Requirements.

(A) Not Covered.

~~The provisions of this~~ This article shall not apply to that portion of other equipment in residential, commercial, or industrial facilities that requires electric power used to load and unload cargo, operate conveyors, and for other equipment used on the site or truck.

(B) Distribution System Voltages.

Unless other voltages are specified, the nominal ac system voltages of 120, 120/240, 208Y/120, 240, or 480Y/277 shall be used to supply equipment covered by this article.

(C) Connection to Wiring System.

~~The provisions of this~~ This article shall apply to the electrified truck parking space supply equipment intended for connection to a wiring system as defined in 626.4(B).

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 17 15:21:13 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The phrase “The provisions of” is unnecessary and redundant and is being deleted to increase usability.
Response Message:

First Revision No. 8339-NFPA 70-2018 [Section No. 640.3(B)]

(B) Ducts, Plenums, and Other Air-Handling Spaces.

Section 300.22(B) shall apply to circuits and equipment installed in ducts specifically fabricated for environmental air. Section 300.22(C) shall apply to circuits and equipment installed in other spaces used for environmental air (plenums).

Exception No. 1: Class 2 and Class 3 cables installed in accordance with 725.135(B) and Table 725.154 shall be permitted to be installed in ducts specifically fabricated for environmental air.

Exception No. 2: Class 2 and Class 3 cables installed in accordance with 725.135(C) and Table 725.154 shall be permitted to be installed in other spaces used for environmental air (plenums).

Informational Note: NFPA 90A-~~2015~~ 2018 , *Standard for the Installation of Air-Conditioning and Ventilating Systems*, ~~4.3.10.2.6.5~~ 4.3.11.2.6.5 , permits loudspeakers, loudspeaker assemblies, and their accessories listed in accordance with UL 2043-2013, *Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces*, to be installed in other spaces used for environmental air (ceiling cavity plenums).

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 10:30:33 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The 2018 edition of NFPA 90A was issued on August 10, 2017.
Response Message:

Editorial Comment

Click here

First Revision No. 8348-NFPA 70-2018 [Sections 645.5(E)(2), 645.5(E)(3)]

(2) Installation Requirements for Electrical Supply Cords, Data Cables, Interconnecting Cables, and Grounding Conductors Under a Raised Floor.

The following cords, cables, and conductors shall be permitted to be installed under a raised floor:

(1) Supply cords of listed information technology equipment in accordance with 645.5(B).

(2) Interconnecting cables enclosed in a raceway.

(3) Equipment grounding conductors.

(4) ~~In~~ Where the air space under a raised floor is protected by an automatic fire suppression system, in addition to wiring installed in compliance with 725.135(C), Types CL2R, CL3R, CL2, and CL3 and substitute cables including CMP, CMR, CM, and CMG installed in accordance with 725.154(A) shall be permitted under raised floors.

Informational Note: Figure 725.154(A) illustrates the cable substitution hierarchy for Class 2 and Class 3 cables.

(5) Where the air space under a raised floor is not protected by an automatic fire suppression system, in addition to wiring installed in compliance with 725.135(C) , substitute cable Type CMP installed in accordance with 725.154(A) shall be permitted under raised floors.

(6) Listed Type DP cable having adequate fire-resistant characteristics suitable for use under raised floors of an information technology equipment room.

Informational Note: One method of defining *fire resistance* is by establishing that the cables do not spread fire to the top of the tray in the “UL Flame Exposure, Vertical Tray Flame Test” in UL 1685-~~2011~~ 2015 , *Standard for Safety for Vertical-Tray Fire-Propagation and Smoke-Release Test for Electrical and Optical-Fiber Cables*. The smoke measurements in the test method are not applicable.

Another method of defining *fire resistance* is for the damage (char length) not to exceed 1.5 m (4 ft 11 in.) when performing the CSA “Vertical Flame Test — Cables in Cable Trays,” as described in CSA C22.2 No. 0.3-~~09~~ 2014 , *Test Methods for Electrical Wires and Cables*.

(3) Installation Requirements for Optical Fiber Cables Under a Raised Floor.

The installation of optical fiber cables shall comply with either of the following:

(1) ~~In addition to~~ Where the air space under a raised floor is protected by an automatic fire suppression system, optical fiber cables installed in accordance with 770.113(C), Types OFNR, OFCR, OFN, and OFC shall be permitted under raised floors.

(2) Where the air space under a raised floor is not protected by an automatic fire suppression system, only optical fiber cables installed in accordance with 770.113(C) shall be permitted under raised floors.

Supplemental Information

File Name	Description	Approved
CMP_12_FR_8348.docx	For staff use	✓

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:

Zip:

Submittal Date: Tue Jan 16 11:11:33 EST 2018

Committee Statement and Meeting Notes

Committee Statement: This revision removes a conflict between the installation rules in section 645.5(E)(2) & (3) in the 2017 NEC (NFPA 70) and sections 11.3.7 through 11.3.7.3 in the 2017 edition of NFPA 75, Standard for the Fire Protection of Information Technology Equipment. NFPA 75 permits non-plenum wiring under a raised floor when an automatic fire suppression system is present, otherwise plenum wiring is required. The Standards Council has assigned primary responsibility for these requirements to NFPA 75.

The text of sections 11.3.7, 11.3.7.1, 11.3.7.2 and 11.3.7.3 are:

11.3.7 Signal wiring and cabling, including optical fiber cables, installed in an air space below a raised floor shall be listed. 11.3.7.1 Where the air space below a raised floor is protected by an automatic fire suppression system, signal wiring and cabling listed for plenum, riser and general-purpose use shall be permitted to be installed exposed to the airflow in the air space.

11.3.7.2 Where the air space below a raised floor is not protected by an automatic fire suppression system, only signal wiring and cabling listed for plenum use shall be permitted to be installed exposed to the airflow in the air space.

11.3.7.3 Where the air space below a raised floor in not protected by an automatic fire suppression system, signal wiring and cabling listed for plenum, riser, and general-purpose use shall be permitted to be installed in metal raceways in the air space.
****

Standards Council Minute Item 89-50, April 1991 states: “The council reviewed correspondence from the Chairman of the Air Conditioning Committee on the jurisdiction of combustibles in raised floor areas of computer rooms and voted that this jurisdiction should be the responsibility of the Committee on Electronic Computer Systems as recommended by the Chairmen of the Air Conditioning and Electronic Computer Systems Committees.”

Response Message:

Public Input No. 729-NFPA 70-2017 [Section No. 645.5(E)(2)]

Public Input No. 3244-NFPA 70-2017 [Section No. 645.5(E)(2)]

Public Input No. 3245-NFPA 70-2017 [Section No. 645.5(E)(3)]

Editorial Comment

Click here

First Revision No. 8352-NFPA 70-2018 [Section No. 645.10 [Excluding any Sub-Sections]]

An approved means shall be provided to disconnect power to all electronic equipment in the information technology equipment room or in designated zones within the room. There shall also be a similar approved means to disconnect the power to all dedicated HVAC systems serving the room or designated zones and to cause all required fire/smoke dampers to close. The disconnecting means shall comply with either 645.10(A) or (B).

Exception: Installations ~~qualifying under the provisions of~~ complying with Article 685.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 11:30:35 EST 2018

Committee Statement and Meeting Notes

Committee Statement: “The provisions of” was deleted from the exception to improve clarity.
Response Message:

First Revision No. 8355-NFPA 70-2018 [Section No. 645.14]

645.14 System Grounding.

Separately derived power systems shall be installed in accordance with ~~the provisions of~~ Parts I and II of Article 250. Power systems derived within listed information technology equipment that supply information technology systems through receptacles or cable assemblies supplied as part of this equipment shall not be considered separately derived for the purpose of applying 250.30.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 11:35:14 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The phrase “the provisions of” is unnecessary and redundant and is being deleted to increase usability.
Response Message:

First Revision No. 8373-NFPA 70-2018 [Section No. 646.4]

646.4 Applicable Requirements.

All MDCs shall~~:~~ be listed and labeled and comply with 646.3(N) and 646.5 through 646.9 , or comply with this article.

Informational Note: For information on listing requirements for ~~modular data centers~~ MDCs , see UL Subject 2755, *Outline of Investigation for Modular Data Centers*.

(0) ~~Be listed and labeled and comply with 646.3(N) and 646.5 through 646.9 , or~~

(0) ~~Comply with the provisions of this article.~~

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 16 13:12:32 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The phrase “the provisions of” is unnecessary and redundant and is being deleted to increase usability.
Response Message:

Editorial Comment

Click here

First Revision No. 8177-NFPA 70-2018 [Section No. 668.3(B)]

(B) Systems Not Electrically Connected.

Those elements of a cell line power-supply system that are not electrically connected to the cell supply system, such as the primary winding of a two-winding transformer, the motor of a motor-generator set, feeders, branch circuits, disconnecting means, motor controllers, and overload protective equipment, shall be required to comply with all applicable ~~provisions~~ sections of this *Code*.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 11:16:50 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The term “provisions” is unnecessary and redundant and is being deleted to increase usability.
Response Message:

First Revision No. 8173-NFPA 70-2018 [Sections 668.3(C)(1), 668.3(C)(2), 668.3(C)(3)]

(1) Conductors.

The electrolytic cell line conductors shall not be required to comply with ~~the provisions of~~ Articles 110, 210, 215, 220, and 225. See 668.12~~668.11~~ .

(2) Overcurrent Protection.

Overcurrent protection of electrolytic cell dc process power circuits shall not be required to comply with the requirements of Article 240.

(3) Grounding.

~~Equipment~~ Except as required by this article, equipment located or used within the electrolytic cell line working zone or associated with the cell line ~~direct-current~~ dc power circuits shall not be required to comply with ~~the provisions of~~ Article 250.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 11:10:32 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The reference in 668.3(C)(1) was corrected to the proper section. Wording was added to 668.3 to clarify that the grounding requirements in the remainder of 668 do apply. The phrase “the provisions of” is unnecessary and redundant and is being deleted to increase usability.

Response Message:

Editorial Comment

Click here

First Revision No. 8182-NFPA 70-2018 [Section No. 668.3(C)(4)]

(4) Working Zone.

The electrolytic cells, cell line attachments, and the wiring of auxiliary equipment and devices within the cell line working zone shall not be required to comply with ~~the provisions of~~ Articles 110, 210, 215, 220, and 225. See 668.30.

Informational Note: See 668.15 for equipment, apparatus, and structural component grounding.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 11:28:21 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The phrase “the provisions of” is unnecessary and redundant and is being deleted to increase usability.
Response Message:

Editorial Comment

Click here

First Revision No. 8170-NFPA 70-2018 [Section No. 668.15]

668.15 Grounding.

For equipment, apparatus, and structural components that are required to be grounded ~~by provisions of~~ in accordance with Article 668, ~~the provisions of~~ Article 250, Part III, for a local grounding electrode system shall apply, except a water pipe electrode shall not be required to be used. Any electrode or combination of electrodes described in 250.52 shall be permitted.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 11:02:40 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The wording “for a local grounding electrode system” was added to 668.15 to clarify that the grounding electrode connections are not intended to be connected to the overall premises grounding electrode system. The phrase “the provisions of” is unnecessary and redundant and is being deleted to increase usability.

Response Message:

Editorial Comment

Click here

First Revision No. 8178-NFPA 70-2018 [Section No. 669.1]

669.1 Scope.

~~The provisions of this article apply~~ This article applies to the installation of the electrical components and accessory equipment that supply the power and controls for electroplating, anodizing, electropolishing, and electrostripping. For purposes of this article, the term *electroplating* shall be used to identify any or all of these processes.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 11:21:45 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The phrase “The provisions of” is unnecessary and redundant and is being deleted to increase usability. The Panel understands that scope statements are under the purview of the correlating committee and recommends this change to provide clarity.

Response Message:

First Revision No. 8185-NFPA 70-2018 [Section No. 670.5]

670.5 Short-Circuit Current Rating.

(1)

Industrial machinery shall not be installed where the available ~~short-circuit~~ fault current exceeds its short-circuit current rating as marked in accordance with 670.3(A)(4).

(2)

Industrial machinery shall be legibly marked in the field with the ~~maximum~~ available ~~short-circuit~~ fault current. The field marking(s) shall include the date the ~~short-circuit~~ available fault current calculation was performed and be of sufficient durability to withstand the environment involved.

Submitter Information Verification

Submitter Full Name: NEC-CMP Panel 12
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 15 11:36:29 EST 2018

Committee Statement and Meeting Notes

Committee Statement: The term short-circuit current was revised to fault current to provide clarity and consistency for the use of these terms and align with the NEC Correlating Committee – Fault Current Working Group.

Response Message:

Public Input No. 1277-NFPA 70-2017 [Sections 670.5(1), 670.5(2)]