



770-22

Article 501.140(B)(4) Class I Locations - Flexible Cords (Class I, Div 2)

In Division 2 locations, the portable cord shall be terminated with a listed cord connector or listed attachment plug.

Interpretation: Expresses the need for a listed connector in a Class I, Div 2 location.

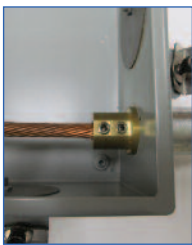


USL-120

Article 604.6(A)(2) Exception 3 Manufactured Wiring Systems - Construction

Listed manufactured wiring systems containing unlisted flexible metal conduit are permitted, as long as it is supplied with fittings and conductors at the time of manufacture.

Interpretation: Unlisted flexible metal conduit is allowed in a listed assembly as long as the fittings and conductors are part of the manufactured equipment/system.



MCC in Photovoltaic Application

Article 690.43 (A)-(F) Solar Photovoltaic (PV) Systems - Equipment Grounding

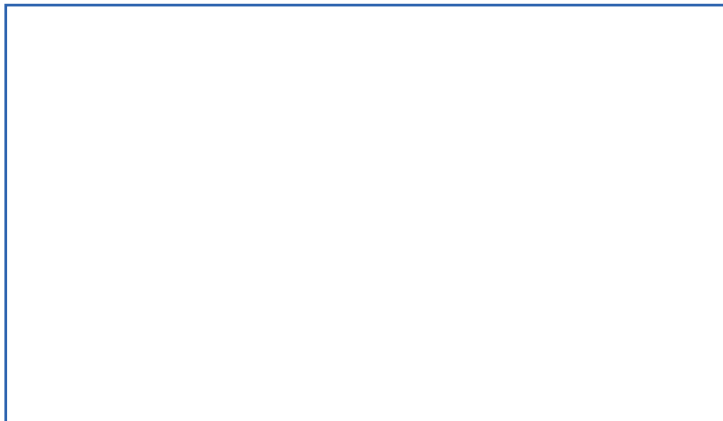
Equipment Grounding Conductors are required to be bonded to: (A) All parts that are non-current carrying; (B) An be installed between an array(panel) and other equipment; (C) All Exposed metal and frames shall be grounded; (D) All mounting structures shall be grounded; (E) Bonding is required of all adjacent modules; (F) Equipment grounding conductors shall be contained in the same raceway.

Interpretation: All metal components in Photovoltaic systems are required to be grounded and bonded. These conductors must be contained within the same raceway. This is often referred to as the ground ring and is often run in a continuous loop.

Recommended product solution: MCC-075. Our new equipment bonding enclosure coupling: The MCC-075 can function as a fitting to connect the end of the 3/4 inch rigid grounding-ring raceway to the array. It will also allow the conductor and raceway to be bonded together and also function as a equipment bonding lug or “choke” style fitting. This is proving to be a popular application of this product and can save PV installer time by negating the need for an installed lug.

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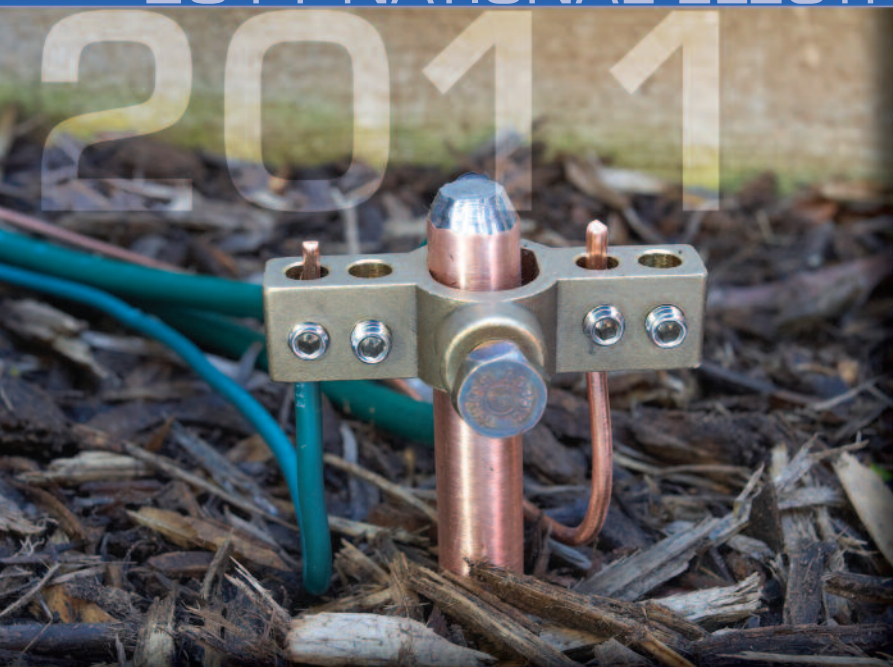
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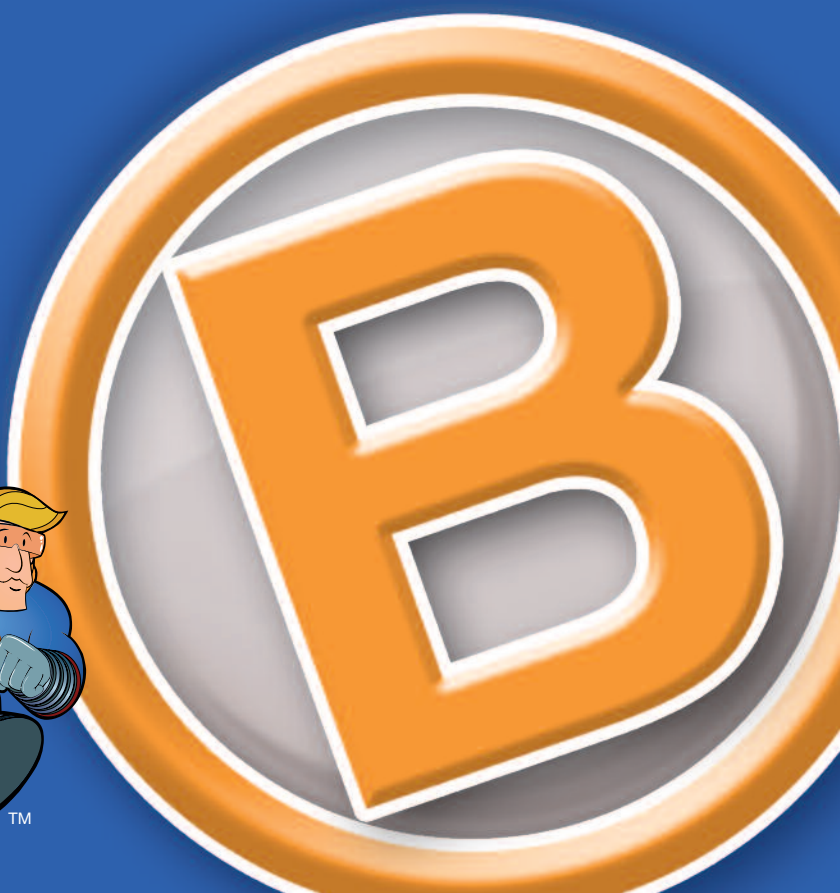
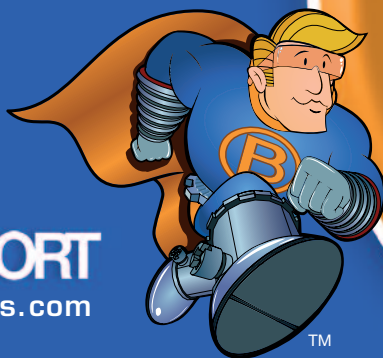


2011 NATIONAL ELECTRIC CODE® CHANGES



HOW 2011 CHANGES
IN THE CODE IMPACT
YOUR CHOICE OF
ELECTRICAL FITTINGS

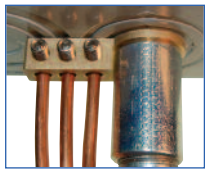
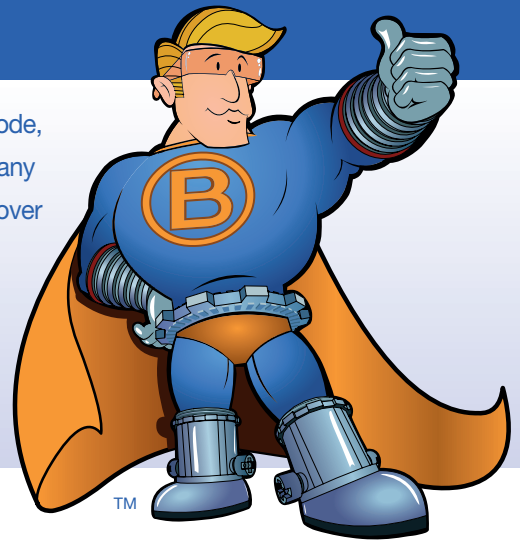
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2011 NATIONAL ELECTRIC CODE® CHANGES

Just as most jurisdictions have adapted to the changes of the 2008 National Electric Code, the 2011 version is released. Many of the changes are a simple rewording of entries, many others are important and their significance may not be fully understood for years. With over 500 changes, the 2011 *NEC*® represents one of the many challenges that we face in the electrical industry. The following is a discussion of some of the changes that specifically impact the fittings market.

Changes are cited from:
2011 *National Electrical Code*®, NFPA 70® National Fire Protection Association Quincy, Massachusetts 2010
NEC 2011 Analysis of Changes, International Association of Electrical Inspectors Richardson, Texas 2010



MCC-050 & IGB-050

Article 100 (Definitions) Intersystem Bonding Termination

A device that provides a means for connecting bonding conductors for communication systems to the grounding electrode conductor.

Interpretation: This is a grounding bar that will allow a common connection point between the ground system and cable TV, phone and data.



CSB Series

Article 225.27 Outside Branch Circuits and Feeders - Raceway Seal

Where a raceway enters a building from an underground distribution system, it shall be sealed.

Interpretation: Feeder and Branch Circuit raceways are required to be sealed anywhere a raceway enters a building. Spares or unused raceways should be closed off as well.



IGBC-063

Article 250.53(A)(2) Exception and 250.53(A)(3) Grounding and Bonding - Grounding Electrode System Installation

If a single ground rod is 25 ohms or less, a supplemental rod is not required.

Interpretation: This has often been one of the most misunderstood aspects of the code. After driving in a ground rod, it is required to test the installation using a ground rod continuity tester. If the reading is greater than 25 ohms then another rod must be driven at least six feet away.



SDB-1300B

Article 250.68(C) Grounding and Bonding - GEC and Bonding Jumper Connections

Grounding electrode conductors and bonding jumpers shall be permitted to be connected on interior metal piping located not more than 5 feet from the point of entrance to the building and can be used to extend the connection to an electrode.

Interpretation: Addresses connection locations for grounding electrode conductors and bonding jumpers that can be used to extend the connection to the grounding electrode.



SGB-386L

Article 250.92(B) Grounding and Bonding - Method of Bonding at the Service

Bonding jumpers around impaired connections such as reducing washers or oversized, concentric, or eccentric knockouts should be used.

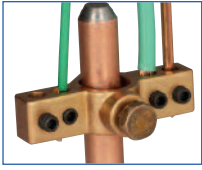
Interpretation: New requirements for bonding raceways containing service entrance conductors were added.

Standard locknuts are no longer a recognized method of bonding at service equipment. Threaded hubs, bonding bushings, bonding locknuts are still allowed.



121-S Series

Interpretation: Standard locknuts or bushings cannot be the only means of bonding at a service. They are still permitted to make a mechanical connection but an alternative means of bonding must be added. This is especially applicable when using concentric knockouts and reducing washers.



IGBC-063

Article 250.94(2) Grounding and Bonding - Bonding for Other Systems

*The intersystem bonding termination shall comply with the following:
 Consist of a set of terminals with capacity for connection of not less than three intersystem bonding conductors.*

Interpretation: It is required in this section that when installing the main grounding system (ground rod, ground wire, etc.) at any service that there be no less than three termination points for data, phone and cable TV. This requirement can be met with our intersystem bonding bridge and ground rod connector. It has 4 termination points. This change also cited in Articles 770, 800, 820 and 830.

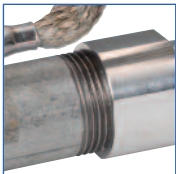


EC-100GRT

Article 300.4(H) Protection Against Physical Damage - Structural Joints

Expansion fittings shall be listed.

Interpretation: Listing is becoming a primary requirement in the *NEC*. The requirement that fittings be tested by UL, or approved equal is becoming common in the *NEC*. Note: Bridgeport Fittings expansion fittings are suitable for contraction and expansion applications only.


 Coated Conduit
 Thread Area

Article 300.6(A) Wiring Methods and Materials - Protection Against Corrosion and Deterioration

*Rigid Metallic Conduit field threading:
 When corrosion protection is necessary and the conduit is threaded in the field, the threads shall be coated with an approved electrically conductive corrosion resistant compound.*

Interpretation: When installing rigid conduit in wet locations or similarly corrosive environments, the electricians will field cut and thread their raceway. This removes the protective coating and exposes the threads to potential corrosion. Usually, a secondary coating is applied, like paint that needs time to dry. This adds considerable effort and delay and may ultimately promote the use of EMT in its place.



30-DC2

Article 344.46 Rigid Metal Conduit - Bushings

Where a rigid metal conduit (IMC) enters a box, fitting or enclosure, a bushing is used to protect the wires unless the fitting is designed to provide such protection.

Interpretation: On conductor sizes of less than No. 4 (Article 300.4G), no bushing is required on fittings having a smooth, non-chafing design.



802-DC2

Article 348.42 Flexible Metal Conduit - Couplings and Connectors

Conductors that angle at 90° or a 45° should not be concealed.

Interpretation: FMC connectors that make a 90° or a 45° change in direction cannot be installed behind a finished wall, or in any other location that does not allow access (Does not include suspended ceilings).



469-LT2

Article 350.42 Liquid Tight Flexible Metal Conduit - Couplings and Connectors

Conductors that angle at 90° or a 45° should not be concealed.

Interpretation: Liquid tight connectors connectors that make a 90° or a 45° change in direction cannot be installed behind a finished wall, or in any other location that does not allow access (Does not include suspended ceilings).



407-DC2G

Article 501.30(B) Class I Locations - Grounding and Bonding, Class I Div 2

Liquid tight flexible metal conduit and flexible metal conduit shall include a wire type bonding jumper as specified in Article 250.102.

Interpretation: In Class I, Div 2 locations, equipment bonding jumpers shall be sized in accordance with 250.102.