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- Building Infrastructure
- Lighting Systems
- Industrial Products & Systems
- Utility Products & Systems
- Transportation Systems
- Medical Imaging

Members in our combined industries account for more than 370,000 American jobs in more than 6,100 facilities across every State. These industries produce $124 billion in shipments and $42 billion in exports of electrical equipment and medical imaging technologies per year.

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Top 10 Standards by Volume

- ANSI Z535 Safety Alerting Standards, a series of American National Standards for safety signs, symbols, and colors
- ANSI/NEMA MW 1000 Magnet Wire
- NEMA 250 Enclosures for Electrical Equipment
- NEMA MG 1 Motors & Generators
- NEMA PB 1.1 General Instructions for Proper Installation, Operation, and Maintenance of Panelboards Rated 600 V or Less
- NEMA NU 2 Performance Measurements of Positron Emission Tomographs (PET)
- ANSI C84.1 American National Standard for Electric Power Systems and Equipment—Voltage Ratings (60 Hz)
- ANSI C12.20 American National Standard for Electricity Meters—0.1, 0.2, and 0.5 Accuracy Classes
- NEMA BU 1.1 General Instructions for Handling, Installation, Operation and Maintenance of Busway Rated 600 V or Less
- NEMA VE 1 Metal Cable Tray Systems

New Releases in 2021

COVID-19 Cleaning and Disinfecting Guidance for Electrical Equipment
NEMA GD 4-2020

American National Standard for Lighting Equipment—Electrostatic Discharges
ANSI C82.77-2-2020

Power Quality Monitors: From a Transient Perspective
NEMA VSP P3-2020

5G Best Practices Technical Guidance Report
NEMA 5G 1-2020

NEMA LSD T 83-2020

American National Standard for Lighting Equipment—Fast Transients
ANSI C82.77-8-2020

American National Standard for Lighting Equipment—Harmonic Emission Limits—Related Power Quality Requirements
ANSI C82.77-10-2020

American National Standard for Composite Insulators—Station Post Type
ANSI/NEMA C29.19-2020

American National Standard for Electric Lamps—LED Lamp Specification Sheets for HID Replacement and Retrofit Applications
ANSI C78.55-2020

American National Standard for Portable Lithium Rechargeable Cells and Batteries—General and Specifications
ANSI C18.5M, Part 1-2020

Suggested Purchase Specification Guidelines for High Voltage Insulators
NEMA HV 3-2019

Cable Ties and Fixing Devices for Electrical Installations—Type Classification Guide
NEMA CTTC P1-2020

Prioritization with a Sense of Proportion: Anhydrides MHHPA and HHPA under the European REACH Directive
NEMA MG P1-2020
2021 ELECTRICAL STANDARDS & PRODUCTS GUIDE

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About NEMA:
The National Electrical Manufacturers Association (NEMA) represents nearly 325 electrical equipment and medical imaging manufacturers that make safe, reliable, and efficient products and systems in seven sectors. Our combined industries account for more than 370,000 American jobs in more than 6,100 facilities covering every state. These industries produce $124 billion in electrical and medical imaging shipments per year, with $42 billion exported.

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AFCIs

Circuit Breakers (CB)
Addresses CB AFCIs. AFCIs are available as circuit breakers and as receptacles (Outlet Branch Receptacle [OBR]). CB AFCIs are tested and Listed to UL-1699 requirements. Both types can be installed per the 2014 National Electrical Code®. A stand alone paper is available for each AFCI type. This paper addresses CB AFCIs. The OBC AFCI is described in a similar document available at www.nema.org/Standards/Pages/Outlet-Branch-Receptacle.aspx. Cross-referencing the two papers provides the user/specifier/installer with all the important facts to decide which type best suits the intended installation.
No charge

Outlet Branch Receptacle (OBC)
Addresses OBC AFCIs. AFCIs are available as circuit breakers (CBs) and as receptacles. OBC AFCIs are tested and Listed to UL 1699A requirements. Both types can be installed per the 2014 National Electrical Code®. A stand alone paper is available for each AFCI type. The CB AFCI is described in a similar document available at www.nema.org/Standards/Pages/Circuit-Breakers.aspx. Cross-referencing the two papers provides the user/specifier/installer with all the important facts to decide which type best suits the intended installation.
No charge

Arc Welding

ANSI C78.5-2017
American National Standard for Electric Lamps—Specifications for Performance of Self-ballasted Compact Fluorescent Lamps
This Standard specifies the performance requirements together with the test methods and conditions required to show compliance of self-ballasted compact fluorescent lamps up to 60 W which are intended for domestic and similar general lighting purposes.
$65

ANSI C82.5-2016
American National Standard for Reference Ballasts—High-Intensity-Discharge and Low-Pressure Sodium Lamps
Describes the essential features and operating characteristics of reference ballasts for high-intensity discharge and low-pressure sodium lamps to operate on 60-Hz sinusoidal ballast systems.
$160

ANSI/IEC 60974-1-2019
This part of IEC 60974 is applicable to power sources for arc welding and allied processes designed for industrial and professional use, and supplied by a voltage not exceeding 1000 V, battery supplied or driven by mechanical means.
$212

ANSI/IEC 60974-2-2009
American National Standard for Arc-Welding Equipment—Part 2: Liquid Cooling Systems
Specifies safety and construction requirements for industrial and professional liquid cooling systems used in arc welding and allied processes to cool torches. An adoption, with U.S. differences, of the second edition of IEC 60974-2 (2007).
$92

ANSI/IEC 60974-3-2009
$92

ANSI/IEC 60974-5-2009
American National Standard for Arc-Welding Equipment—Part 5: Wire Feeders
Details requirements for safety and performance for industrial and professional equipment used in arc welding and allied processes to feed filler wire. An adoption, with U.S. differences, of the second edition of IEC 60974-5 (2007).
$92
ANSI/NEMA/IEC 60974-6 2019
Arc Welding Equipment—Part 6: Limited Duty Equipment
This part of IEC 60974 specifies safety and performance requirements applicable to limited duty arc welding and cutting power sources and auxiliaries designed for use by laymen. Electrically powered equipment is intended to be connected to the single phase public low-voltage supply system. Engine driven power sources cannot exceed output power of 7.5 kVA.
$158

ANSI/NEMA/IEC 60974-7-2009
American National Standard for Arc-Welding Equipment—Part 7: Torches
Specifies safety and construction requirements for torches (consisting of torch bodies, cable-hose assemblies and other components) used in arc welding, plasma cutting and other allied processes. An adoption, with U.S. differences, of the second edition of IEC 60974-7 (2005).
$106

ANSI/NEMA/IEC 60974-8-2009 (R2020)
American National Standard for Arc-Welding Equipment—Part 8: Gas Consoles for Welding and Plasma Cutting Systems
 Specifies requirements for safety and performance for gas consoles intended to be used with combustible gases or oxygen. An adoption, with U.S. differences, of the first edition of IEC 60974-8 (2004).
$100

ANSI/NEMA/IEC 60974-11-2009 (R2020)
American National Standard for Arc-Welding Equipment—Part 11: Electrode Holders
$80

ANSI/NEMA/IEC 60974-12-2009 (R2020)
American National Standard for Arc-Welding Equipment—Part 12: Coupling Devices for Welding Cables
Enumerates safety and performance requirements of coupling devices for cables used in welding (except underwater welding) and allied processes. The coupling devices covered are designed for connection and disconnection without the use of tools. An adoption, with U.S. differences, of the second edition of IEC 60974-12 (2005).
$80

Semi-Automatic Wire-Feed Systems for Arc Welding
Defines construction standards, performance characteristics and test procedures for wire-feed systems used in most types of arc-welding processes.
$56

NEMA EW 6-2006
Guidelines for Precautionary Labeling for Arc-Welding and Cutting Products
Provides guidelines for manufacturers and suppliers in the arc-welding and cutting industry to assist them in preparation of precautionary labels for their products. Guidelines cover content, format and placement of text-only, text-and-symbol, symbol-only and multi-language labels.
$111

NEMA EW 9-2012
Arc Welding Power Sources—Energy Consumption Testing and Labeling
Provides the necessary guidance for manufacturers and importers of arc welding power source equipment to uniform energy consumption reporting requirements of the Mexican Law for Sustainable Energy Use, published in the Official Gazette of Federation, on November 28, 2008, article 23.
$70

Own a complete set of all NEMA Standards.
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### Batteries

**American National Standard for Portable Primary Cells and Batteries with Aqueous Electrolyte—General and Specifications**
Applies to portable primary cells and batteries with aqueous electrolyte and a zinc anode.

$154  
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#### ANSI C18.1M, Part 2-2019
**American National Standard for Portable Primary Cells and Batteries with Aqueous Electrolyte—Safety Standard**
Specifies performance requirements for portable primary batteries with aqueous electrolyte and zinc anode (non-lithium) to ensure their safe operation under normal use and reasonably foreseeable misuse.

$120  
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#### ANSI C18.2M, Part 1-2019
**American National Standard for Portable Rechargeable Cells and Batteries—General and Specifications**
Applies to portable rechargeable or secondary cells and batteries based on the following electrotechnical systems: nickel cadmium, nickel metal hydride and lithium ion.

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#### ANSI C18.2M, Part 2-2014
**American National Standard for Portable Rechargeable Cells and Batteries—Safety Standard**
Specifies performance requirements for standardized portable lithium ion, nickel cadmium and nickel metal hydride rechargeable cells and batteries to ensure their safe operation under normal use and reasonably foreseeable misuse.

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#### ANSI C18.3M, Part 1-2019
**American National Standard for Portable Lithium Primary Cells and Batteries—General and Specifications**
Applies to portable lithium primary cells and batteries, including the following electrochemical systems: lithium carbon monofluoride, lithium manganese dioxide and lithium iron disulfide.

$123  
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#### ANSI C18.3M, Part 2-2019
**American National Standard for Portable Lithium Primary Cells and Batteries—Safety Standard**
Specifies tests and requirements for primary cells and batteries, including lithium carbon monofluoride, lithium manganese dioxide and lithium iron disulfide, to ensure their safe operation under normal use and reasonably foreseeable misuse.

$120  
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#### ANSI C18.4M-2017
**American National Standard for Portable Cells and Batteries—Environmental**
Sets forth some general considerations that should be taken into account when developing battery standards that balance the need to achieve the intended product performance while reducing adverse environmental effects, and outlines ways in which provisions in battery standards might affect the environment during the stages of its life cycle.

$119  
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#### ANSI C18.5M, Part 1-2020
**American National Standard for Portable Lithium Rechargeable Cells and Batteries—General and Specifications**
Applies to portable rechargeable, or secondary, lithium cells and batteries, covering secondary lithium cells and batteries with a range of chemistries. Defines a minimum required level of performance and a standardized methodology.

$95  
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### Busways & Accessories

#### NEMA BU 1.1-2005 (Spanish)
**Instrucciones Generales para el Manejo, Instalacion, Operacion y Mantenimiento de Electroductos Hasta 600 V Nominales o Menos**
Esta norma se aplica a productos para la distribución de energía eléctrica hasta 600 V o menores, compuestos de electroductos cerrados en secciones prefabricadas con una capacidad nominal de 100 A o más y estructuras y accesorios asociados, clasificados en la forma siguiente: a) electroducto alimentador (interior o exterior), b) electroducto conectador (solamente interior), y c) accesorios necesarios para completar el sistema de electroducto. Esta norma no aplica a los electroductos metálicos cerrados como se describe en la Norma C37.23 de la ANSI/IEEE.

$116  
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NEMA BU 1.1-2010
General Instructions for Handling, Installation, Operation and Maintenance of Busway Rated 600 V or Less
Covers products for distribution of electric power at 600 V or less, consisting of enclosed sectionalized prefabricated busbars rated at 100 A or more and associated structures and fittings, classified as follows feeder busways (indoor or outdoor), plug-in busways (indoor only) and accessories required to complete the busway system.
$116

NEMA BU 1.2-2002 (R2008, R2013)
Application Information for Busway Rated 600 V or Less
Covers products for distribution of electric power at 600 V or less, consisting of enclosed sectionalized prefabricated busbars rated at 100 A or more.
$86

Carbon/Manufactured Graphite

NEMA CB 1-2000 (R2012)
Brushes for Electrical Machines
Provides definitions, dimensions and tolerances, test procedures for physical properties, and test procedures for shunt connections for brushes used in the electrical manufacturing industry. Included are carbon, carbon graphite, graphite, electrographite, metal graphite, metal impregnated and resin-bonded brushes.
$249

NEMA CG 1-2013
Manufactured Graphite/Carbon Electrodes
This edition of NEMA CG 1 harmonized dimensions with two IEC documents (IEC/TR 62157 – Cylindrical Machined Carbon Electrodes—Nominal Dimensions and IEC 60239—Graphite electrodes for electric arc furnaces—Dimensions and designation). Therefore electrode dimensions are not contained in this document and instead reference directly to these IEC document.
$91

NEMA CG 2-2004
Powdered Graphite
Covers terminology and test methods for those physical and chemical properties relevant to the material characterization of powdered graphite, generally less than 75 microns, used in the electrical industry.
$96

Communications & Signaling

ANSI/NEMA SB 40-2015
Communications Systems for Life Safety in Schools
Covers the application, installation, location, performance and maintenance of school communications systems and their components associated with the life safety of students, faculty, administrative staff and all other occupants affiliated with educational facilities.
$38

NEMA GD 3-2019
Evaluating Earthquake Damaged Electrical Equipment Guide
Provides information on how to evaluate electrical equipment that has been exposed to earthquakes. This guide is designed for suppliers, installers, inspectors, and users of electrical products. *Also available in Spanish.
No Charge

NEMA GD 3-2019 (Spanish)
Guía de evaluación de equipos eléctricos dañados por terremotos
Proporciona información sobre cómo evaluar equipos eléctricos que han estado expuestos a terremotos. Esta guía está diseñada para proveedores, instaladores, inspectores y usuarios de productos eléctricos.
No Charge

NEMA SB 1-2014
Quality Informational Guide for Automatic Fire Detection and Alarm Systems
Provides guidance to Authorities Having Jurisdiction (AHJ) for establishing programs to ensure highly reliable fire detection and alarm systems in his or her community. This document contains a recommended model ordinance to assist AHJ through improving the reliability of existing systems, including dealing with false, or nuisance, alarms.
$38

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NEMA SB 2-2016
Training Manual on Fire Alarm Systems
Covers terminology, basic theory of operation, installation details, system start-up techniques and general maintenance of fire alarms, and is intended to be used as source material for the fire service, fire marshals and all fire alarm sales, design and installation organizations. It is ideal as a reference guide and can be used in a classroom setting for learning about fire alarm systems.
$38

NEMA SB 7-2018
Applications Guide for Carbon Monoxide Alarms and Detectors
Covers carbon monoxide (CO) detection devices, including single- and multiple-station CO alarms and system-connected CO detectors and sensors connected to a control unit.
$38

NEMA SB 10-2016
Audio Standard for Nurse Call Systems
Contains requirements and test procedures for evaluating audio quality of installed nurse call systems.
$57

NEMA SB 11-2017
Guide for Proper Use of System Smoke Detectors
Provides information about applications of smoke detectors used in conjunction with fire alarm systems. Outlines operating characteristics of detectors and environmental factors that aid or prevent their operation.
$38

NEMA SB 13-2012
Guide for Proper Use of Smoke Detectors in Duct Applications
Provides information concerning the proper use of smoke detectors in duct applications.
$38

NEMA SB 20-2015
Guide to Understanding Smoke Control Systems
This guide is intended to offer a general understanding of smoke control systems to individuals who have a need or desire for solid basic information but do not need the in-depth knowledge necessary to design smoke control systems.

NEMA SB 23-2016
Guide for Application of Flame Detection
Provides information concerning the proper use of flame-detection systems. It covers the major technologies used for flame detection, application, selection, installation, and testing.

NEMA SB 50-2014
Emergency Communications Audio Intelligibility Applications Guide
Assists specifiers and Authorities Having Jurisdiction with the concepts and terminology used to enhance intelligibility for emergency voice paging systems.
$38

NEMA SB 25-2012
Looking Ahead to UL 2560
Discusses the upcoming UL Standard for minimum performance of emergency call systems in senior living communities, including likely requirements.

NEMA SBP 2-2014
Multi-Criteria Detectors (MCD)
Provides an introduction to the next evolution in life saving early warning smoke and fire detection.
No charge

NEMA SBP 3-2017
The Changing Communications within Fire Alarm System Reporting
Explains options for fire alarm system communications.
No charge

NEMA SBP 4-2015
Low Frequency Audible Signals
Addresses the need for and the development of the low-frequency audible signal used in fire alarms, carbon monoxide (CO) alarms, and fire or CO alarm systems.

NEMA SBP 5-2015
Considerations in Planning Code Call Implementation in Health Care Facilities
Assists facility developers and owners in designing a code call system and associated call handling processes, with the purposes of optimizing response time and complying with regulatory requirements.
$44

NEMA SBP 6-2008
UL 1069 Standard for Hospital Signaling and Nurse Call Equipment White Paper
These requirements cover the individual units employed to form a hospital nurse call system (NCS) intended to provide audible and visual communication between patients and hospital personnel. They also cover miscellaneous signaling equipment employed in hospitals.
No charge
Conduits

Annular Space Protection of Openings Created by Penetrations of Tubular Steel Conduit, A Review of UL Special Service Investigation, File NC 546, Project 90NK11650
Summarizes the results of a study of various annular space protection materials installed in a concrete block wall, concrete floor assemblies, gypsum wallboard/wood joist/plywood deck floor-ceiling assemblies and two varieties of gypsum wallboard/steel stud wall assemblies.
No charge

Conduit-in-Casing Construction
Lists the types of casings, conduits and spacers that are used, provides details about how the conduit-in-casing process works, and explains the process of laying power/communication cables under a surface obstruction.
No charge

ANSI/NEMA FB 1-2014
Fittings, Cast Metal Boxes and Conduit Bodies for Conduit, Electrical Metallic Tubing (EMT) and Cable
Covers fittings that are a part of electrical raceway and cable systems designed for use as intended by the requirements of NFPA 70. Specifically covers fittings for use with non-flexible tubular raceways—rigid and intermediate metal conduit and EMT—and with flexible raceways and cable. Adopted by the U.S. Department of Defense.
$129

NEMA EN P1-2020
NEMA 250 Enclosure Types
Provides general information on the definitions of NEMA Enclosure Types, is a guide for comparing specific applications of enclosures, and provides a comparison between NEMA Enclosure Type Numbers and ANSI/IEC Enclosure Classification Designations. The document is intended to be used by architects, engineers, installers, inspectors and other interested parties.
No Charge

NEMA FB 2.10-2013
Selection and Installation Guidelines for Fittings for Use with Non-Flexible Electrical Metal Conduit or Tubing (Rigid Metal Conduit, Intermediate Metal Conduit and Electrical Metallic Tubing)
Offers practical information on correct product selection and industry-recommended practices for installation of fittings for non-flexible conduit and electrical metallic tubing in accordance with the NEC®.
$92

NEMA FB 2.20-2014
Selection and Installation Guidelines for Fittings for Use with Flexible Electrical Conduit and Cable
Offers practical information on correct product selection and industry-recommended practices for installation of fittings for flexible conduit or cable in accordance with the NEC®.
$139

NEMA FB 2.40-2019
Installation Guidelines for Expansion and Expansion/Deflection Fittings
Provides recommended installation practices for fittings used to compensate for expansion and contraction in electrical raceways due to shear and lateral forces. When properly selected and installed, these fittings prevent harmful stresses in the raceway system and to supporting structures by safely permitting three-dimensional (linear, angular, and parallel) movement of the raceway.
$92

NEMA 5RN 2189-2003
User Guide to Product Specifications for Metal Electrical Conduit and Tubing
Provides information on the proper identification of U.S. Standards applicable to metal electrical conduit and tubing.
$43

NEMA RN 1-2018
Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit
Covers continuous PVC exterior coatings and corrosion-resistant interior coatings, as well as galvanized steel conduit, galvanized steel IMC, threaded couplings and elbows to which they may be applied.
$67

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$39,055
Packaging of Master Bundles for Electrical Rigid Metal Conduit (ERMC)—Steel, Electrical Intermediate Metal Conduit (EIMC)—Steel and Electrical Metallic Tubing (EMT)—Steel
Covers recommendations for the size and banding of master bundles of electrical rigid metal conduit (ERMC)—steel, electrical intermediate metal conduit (EIMC)—steel and electrical metallic tubing (EMT)—steel, in 10-foot (3.05 m) lengths and the size and banding of master bundles of ERMC—steel and EMT—steel, in 20-foot (6.10 m) lengths.
$70

NEMA SCMC 1-2020
Steel Conduit Materials and Coatings
Provides information on the internal and external coatings of steel conduit and metallic tubing designed for corrosion protection. It highlights zinc and conversion coatings bearing hexavalent or trivalent chromium to protect against rust.
No Charge

NEMA TC 2-2020
Electrical Polyvinyl Chloride (PVC) Tubing and Conduit
Covers electrical PVC conduit of types EPC-40 designed for normal-duty applications above ground and concrete encased applications or direct burial, and EPC-80 designed for heavy-duty (areas of physical damage) applications above ground and concrete encased applications or direct burial.
$100

NEMA TC 3-2016
Polyvinyl Chloride (PVC) Fittings for Use with Rigid PVC Conduit and Tubing
Covers PVC fittings intended to be joined in the field by means of a solvent cement system to PVC rigid conduit tubing and other fittings, based on the outside diameters given in NEMA TC 2-2013.
$100

NEMA TC 6 & 8-2020
Polyvinyl Chloride (PVC) Plastic Utilities Duct for Underground Installations
Defines general requirements, performance requirements, test methods and marking for the following types of PVC plastic utilities duct intended for underground installation for communications and electrical wire and cable: EB-20 and EB-35, designed for burial encased in concrete; DB-60; and DB-100 and DB-120, designed for direct burial without encasement in concrete.
$98

NEMA TC 7-2016
Smooth Wall Coilable Electrical Polyethylene Conduit
Covers several types of high-density polyethylene (HDPE) conduit for use in providing a protective raceway for electrical cables buried underground. The HDPE conduit types in this specification can be installed direct buried or concrete encased. They are EPEC-17, EPEC-13.5, EPEC-40, EPEC-80, EPEC-11.
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NEMA TC 9-2020
Fittings for Polyvinyl Chloride (PVC) Plastic Utilities Duct for Underground Installation
Defines general requirements, including materials, trade sizes, dimensions and workmanship for the following types of fittings for PVC plastic utilities duct used for underground installation of communications and electrical wire and cable: EB, designed for encased burial in concrete when installed in trenches underground, and DB, designed for direct burial in trenches underground without a requirement for encasement in concrete.
$91

NEMA TC 13-2014 (R2019)
Electrical Nonmetallic Tubing (ENT)
Covers ENT materials, dimensions and physical properties.
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NEMA TC 14-2015 Series
Reinforced Thermosetting Resin Conduit and Fittings Series
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NEMA TC 19-2017
Nonmetallic Riser U-Type Guards
Lists dimensions, sets forth properties, outlines performance requirements and test methods, and assists in selecting and obtaining the proper PVC and PE nonmetallic riser U-type guards intended to protect riser cables on utility poles.
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NEMA TCB 2-2017
Guidelines for the Selection and Installation of Underground Nonmetallic Raceways
Covers recommendations for shipping, handling, storage, installation and joining of underground single-bore nonmetallic duct for power, lighting, signaling and communications applications.
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NEMA TCB 3-2001 (R2009, R2016)
Covers recommendations for shipping, handling, storage, installation and joining of underground CCD for power, lighting, signaling and communications applications.
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NEMA TCB 4-2016
Guidelines for the Selection and Installation of Smooth-Wall Coilable High-Density Polyethylene (HDPE) Conduit
Provides recommendations for the selection, handling and installation of underground High Density Polyethylene (HDPE) conduit or raceway for power, lighting, signaling, and communications applications.
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NEMA VE 1-2017
Metal Cable Tray Systems
Specifies requirements for metal cable trays and associated fittings designed for use in accordance with the rules of the CEC, Part I, and the NEC®.
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NEMA VE 2-2018
Cable Tray Installation Guidelines
Addresses shipping, handling, storing and installing cable tray systems. Information on maintenance and system modification is also provided.
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Connectors

ANSI C119.0-2015
Testing Methods and Equipment Common to the ANSI C119 Family of Standards
Covers methods and equipment for performing connector qualification tests common to the ANSI C119 family of Standards. A complimentary copy will be given with purchase of any ANSI C119 Standard.
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ANSI C119.1-2016
American National Standard for Electric Connectors—Sealed Insulated Underground Connector Systems Rated 600 V
Covers sealed insulated underground connector systems rated at 600 V for utility applications and establishes electrical, mechanical and sealing requirements.
$141

ANSI C119.4-2016
American National Standard for Electric Connectors—Connectors for Use Between Aluminum-to-Aluminum and Aluminum-to-Copper Conductors Designed for Normal Operation at or Below 93°C and Copper-to-Copper
Covers connectors used to make electrical connections between aluminum-to-aluminum, aluminum-to-copper and copper-to-copper conductors on distribution and transmission lines. Establishes electrical and mechanical test requirements for electrical connectors.
$164

ANSI C119.5-2018
American National Standard for Electric Connectors—Insulation-Piercing Connector Systems, Rated 600 V or Less (Low Voltage Aerial Bundled Cables and Insulated and Non-Insulated Line Wires)
Establishes the electrical, mechanical and environmental test requirements for electrical insulation-piercing connectors. Covers insulation-piercing connectors used for making electrical connections between insulated, insulated-to-bare and bare-to-bare conductors rated 600 V or less and 90°C (low voltage aerial bundled cables and bare and insulated line wires) on overhead distribution lines for electric utilities.
$106

ANSI C119.6-2018
American National Standard for Electric Connectors—Non-Sealed, Multiport Connector Systems Rated 600 V or Less for Aluminum and Copper Conductors
Covers non-sealed, multiport distribution connectors rated 600 V or less used to make electrical connections between aluminum-to-aluminum, aluminum-to-copper or copper-to-copper conductors for above-grade electric utility applications.
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ANSI/NEMA CC 1-2018
Electric Power Connectors for Substations
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NEMA CTTC P1-2020
Cable Ties and Fixing Devices for Electrical Installations—Type Classification Guide
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Distribution Equipment

Use of Temporary Covers on Panelboards
Explains use of temporary covers on panelboards.
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ANSI C37.50-2018
American National Standard for Switchgear—Low Voltage AC Power Circuit Breakers Used in Enclosures—Test Procedures
Covers the test procedures for enclosed low voltage AC power circuit breakers as follows: stationary or drawout circuit breakers of two- or three-pole construction; unfused or fused circuit breakers; and manually operated or power-operated circuit breakers with or without electromechanical or solid state trip devices.
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ANSI C37.51-2018
American National Standard for Switchgear—Metal-Enclosed Low Voltage AC Power Circuit Breaker Switchgear Assemblies—Conformance Test Procedures
Applies to all metal-enclosed low voltage AC power circuit breaker switchgear assemblies designed, tested and manufactured in accordance with ANSI/IEEE C37.20.1-2002.
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ANSI C37.51a-2010
Amends ANSI C37.51 to coordinate with selected conformance tests and procedures from ANSI/IEEE C37.20.1 and the amendment C37.20.1a.
$29

ANSI C37.54-2002 (R2010)
American National Standard for Indoor AC High Voltage Circuit Breakers Applied as Removable Elements in Metal-Enclosed Switchgear—Conformance Test Procedures
Specifies tests to demonstrate that the circuit breaker being tested conforms with the ratings assigned to it in accordance with ANSI/IEEE C37.04.
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ANSI C37.55-2020
American National Standard for Switchgear—Medium Voltage Metal-Clad Assemblies—Conformance Test Procedures
Applies to all medium voltage metal-clad switchgear assemblies designed, tested and manufactured in accordance with IEEE C37.20.2. Covers selected tests to demonstrate conformance with Section 6 of IEEE C37.20.2.
$120

ANSI C37.57-2003 (R2010)
American National Standard for Switchgear—Metal-Enclosed Interrupter Switchgear Assemblies—Conformance Testing
Applies to all metal-enclosed interrupter switchgear assemblies designed, tested and manufactured in accordance with ANSI/IEEE C37.20.3.
$123

ANSI C37.58-2020
American National Standard for Switchgear—Indoor AC Medium Voltage Switches for Use in Metal-Enclosed Switchgear—Conformance Test Procedures
Applies to conformance test procedures for ac medium voltage switches rated above 1,000 V as designed, tested and manufactured in accordance with ANSI/IEEE C37.20.4.
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ANSI C37.85-2020
American National Standard for AC High Voltage Power Vacuum Interrupters—Safety Requirements for X-Radiation Limits
Specifies the maximum permissible x-radiation emission from ac high voltage power vacuum interrupters that are intended to be operated at voltages above 1,000 V and up to 38,000 V when tested in accordance with procedures described in this Standard.
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ANSI/NEMA AB 3-2013
Molded-Case Circuit Breakers and Their Application
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ANSI/NEMA KS 2-2013
Distribution Equipment Switch Application Guide, A User’s Reference
Contains instructions for the proper installation, operation and maintenance of distribution equipment switches rated 600 V or less.
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STANDARDS & OTHER PUBLICATIONS: Distribution Equipment

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General Instructions for Proper Installation, Operation and Maintenance of Panelboards Rated 600 V or Less
Covers single panelboards or groups of panel units suitable for assembly in the form of single panelboards, including buses, with or without switches or automatic overload protective devices (fuses or circuit breakers), or both. Specifically excluded are live-front panelboards, panelboards employing cast enclosures for special service conditions, and panelboards designed primarily for residential and light commercial service equipment.
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Guidelines for Inspection and Preventive Maintenance of Molded-Case Circuit Breakers Used in Commercial and Industrial Applications
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Explains that arc-fault circuit interrupters (AFCI) provide increased fire protection for the electrical installation. There is no evidence that the circuit supplying smoke alarms should be exempt from these increased protection requirements. Power supply reliability for smoke alarms is not impacted by the installation of an AFCI.
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Guidelines for Inspection and Preventive Maintenance of Switches Used in Commercial and Industrial Applications
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Covers floor-mounted deadfront switchboards rated 6,000 A or less, 600 V or less that consist of an enclosure, molded-case circuit breakers, low voltage power circuit breakers, fusible or non-fusible switches, instruments, metering equipment, and monitoring or control equipment with associated interconnections and supporting structures.
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NEMA PB 2.1-2002 (en Espanol)
Instrucciones Generales para el Manejo, Instalacion, Operacion y Mantenimiento Correcto de Tableros de Distribucion de Frente Muerto Hasta 600 V Nominales o Menos
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Contains instructions for the safe and proper application of GFP devices. GFP devices include current-sensing devices, relaying equipment or combinations of current-sensing devices and relaying equipment or other equivalent protective equipment that will operate to cause a disconnecting means to open all ungrounded conductors at predetermined values of ground-fault current and time. $123
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Programmable Controllers (PLC), Part 8: Guidelines for the Application and Implementation of Programming Languages
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<td>NEMA ICS 1.3-1986 (R2001, R2009, R2015)</td>
<td>Preventive Maintenance of Industrial Control and Systems Equipment</td>
<td>Covers fundamental principles, safety precautions and common guidelines for preventive maintenance of most industrial control and systems equipment. Intended to supplement more specific maintenance instructions that may be provided for particular product lines, specific products and other NEMA Standards and manufacturer publications.</td>
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<td>Provides general requirements for manual and magnetic controllers. Covers requirements for magnetic and non-magnetic motor controllers, overload relays and magnetic lighting contactors.</td>
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<td>NEMA and IEC Devices for Motor Service—A Guide for Understanding the Differences</td>
<td>Identifies features, conventions, characteristics and attributes of magnetic contactors and thermal overload relays. Control products compared or contrasted in this guide are those with equivalent electrical ratings; such ratings are expressed via nameplates, catalogues or technical literature.</td>
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<td>Medium Voltage Contactors and Controllers Rated 2,001 to 7,200 V AC</td>
<td>Applies to AC general-purpose contactors and Class E magnetic controllers rated 2001 to 7200 V, three-phase, 50 and 60 Hz.</td>
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<td>Guide for the Application, Handling, Storage, Installation and Maintenance of Medium Voltage AC Contactors, Controllers and Control Centers</td>
<td>Contains practical information for architects, electrical engineers, contractors and maintenance personnel on the handling, storage and installation of AC general-purpose medium voltage contactors and Class E controllers.</td>
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<td>Industrial Control and Systems Enclosures</td>
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<td>NEMA ICS 6-1993 (R2001, R2006, R2011, R2016)</td>
<td>AC Vacuum-Break Magnetic Contactors Rated 1,500 V AC</td>
<td>Applies to magnetically operated, full-voltage, vacuum-break, non-combination controllers rated 1,500 V for both motor and non-motor loads.</td>
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<td><strong>NEMA ICS 10 Part 2-2020</strong></td>
<td><strong>NEMA ICS 14-2015</strong></td>
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<tr>
<td><strong>Adjustable Speed Drives</strong></td>
<td><strong>Industrial Control and Systems Part 2: Static AC Transfer Equipment</strong></td>
<td><strong>Application Guide for Electric Fire Pump Controllers</strong></td>
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<tr>
<td>Provides practical information concerning ratings, construction, test, performance and manufacture of industrial control equipment—adjustable speed drives. Parts 4, 5, 6 and 7 are vacant. Parts 4 and 6 of ICS 7-2000 have been replaced by ICS 61800-2-2005. Part 5 has been replaced by ICS 61800-1-2002. Part 7 of ICS 7-2000 has been replaced by ICS 61800-4.</td>
<td>Provides technical information related to the installation of electric fire pump controllers. Intended for use by specifiers, purchasers, installers and owners of fire pump controllers.</td>
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<td>Applies to all industrial equipment electrical components and wiring that are part of the electrical drive system, commencing at the point of connection of input power to these components. Applies to open or enclosed electrical equipment for use on circuits that operate from an AC supply voltage of 600 V or less.</td>
<td>Identifies important safety considerations for residential use of transfer switches.</td>
<td>Facilitates movement, handling, installation, and maintenance of electric fire pump controllers at the job site. This helps avoid personal injury and equipment damage during these processes.</td>
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<td><strong>Guide to Application of Low-voltage Automatic Transfer Switch Equipment</strong></td>
<td><strong>Instructions for the Handling, Installation, Operation, and Maintenance of Medium Voltage Electric Fire Pump Controllers Rated Not More Than 7200V</strong></td>
</tr>
<tr>
<td>Developed to provide guidance on National Electrical Code® and Underwriters Laboratories marking requirements for transfer switch equipment.</td>
<td>Provides to facilitate movement, handling, installation, and maintenance of medium voltage fire pump controllers at the job site and to help avoid personal injury and equipment damage during these processes. Information includes handling, storage installation of conduits, cables, and wires, pre-energization and energization, care and maintenance, and required field marking.</td>
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NEMA ICS 16-2001
Motion/Position Control Motors, Controls and Feedback Devices
Covers rotational electric servo and stepper motors and their power requirements, feedback devices and controls intended for use in a motion/position control system that provides precise positioning, speed control, torque control or any combination thereof.
$348

NEMA ICS 19-2002
Diagrams, Device Designations and Symbols
Provides guidelines for representation of devices on diagrams and drawings in a standardized manner.
$129

NEMA ICS 20-2009 (R2015)
Informational Guide to Electrical Industrial Topics
Provides information on various topics of interest related to the application and proper usage of electrical equipment in the global marketplace.
$100

NEMA ICS 61131-1-2005 (R2013)
Programmable Controllers (PLC), Part 1: General Information
Applies to PLC and their associated peripherals, such as programming and debugging tools and human-machine interfaces, which have as their intended use the control and command of machines and industrial processes.
$111

NEMA ICS 61131-4-2005 (R2013)
Programmable Controllers, Part 4: User Guidelines
Assists end users in selection and specification of PLC equipment.
$237

NEMA ICS 61800-1-2002 (R2007)
Applies to general purpose adjustable speed DC drive systems that include the power conversion, control equipment and a motor or motors. Excluded are traction and electrical vehicle drives.
$213

NEMA ICS 61800-2-2005
Applies to general purpose adjustable speed AC drive systems that include power conversion, control equipment and an AC motor or motors. Excluded are traction and electrical vehicle drives. Applies to systems connected to line voltages up to 1 kV AC, 50 or 60 Hz, and load side frequency up to 600 Hz.
$203

NEMA ICS 61800-4-2004
Adjustable Speed Electrical Power Drive Systems, Part 4: General Requirements—Rating Specifications for AC Power Drive Systems Above 1,000 V AC and Not Exceeding 35 kV
Applies to power drive systems with converter voltages (line-to-line voltage), between 1 kV AC and 35 kV AC, input side 50 or 60 Hz, and load side frequencies up to 600 Hz.
$237

NEMA ICS 61800-6 TR-2015
Adjustable Speed Electrical Power Drive Systems, Part 6: Guide for Determination of Types of Load Duty and Corresponding Current Ratings
Explains how to determine the types of load duty and related current ratings for an adjustable speed drive. Also provides clarification to users for application of NEMA Member products for industries such as heating and air-conditioning, industrial automation and machinery.
$68

NEMA ICS P10.3-2008
NEMA White Paper on Cadmium in Electrical Contacts
The purpose of this white paper is to propose a course of action for NEMA, which balances the importance of protecting the environment with the unintended consequences of a blanket ban on cadmium-based electrical contacts.
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American National Standard for Incandescent Lamps—A, G, PS and Similar Shapes with E39 Mogul Screw Bases
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American National Standard for 2 in. (51 mm) Integral-Reflector Lamps with Front Covers and GU5.3 or GX5.3 Bases
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American National Standard for Electric Lamps—Guidelines for Low-Pressure Sodium (LPS) Lamps
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American National Standard for Electric Lamps—High-Pressure Sodium (HPS) Lamps
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American National Standard for Electric Lamps—Self-Ballasted Mercury Lamps
Sets forth the physical and electrical requirements for self-ballasted mercury lamps operated on 60 Hz supply lines to ensure interchangeability and safety. Also provides the lamp-related requirements for luminaires. Luminous flux and lamp color are not part of this Standard.
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American National Standard for Electric Lamps—Assigned LED Lamp Codes
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American National Standard for Electric Lamps—LED (Light Emitting Diode) Lamps—Method of Designation
Describes a system for the designation of integrally ballasted Solid State Lighting (SSL) lamps that have standardized characteristics. Lamps with clear, frosted, opaque, or prescription lenses and with various reflector and/or emitting coatings are covered. Lamps covered in this Standard contain LED-based light sources.
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American National Standard for Electric Lamps—LED (Light Emitting Diode) Direct Replacement Lamps—Method of Designation
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ANSI C78.53-2019
American National Standard for Electric Lamps—Performance Specifications for Direct Replacement LED (Light Emitting Diode) Lamps
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American National Standard for Electric Lamps—Specification Sheet for Tubular Fluorescent Replacement and Retrofit LED Lamps
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ANSI C78.55-2020
American National Standard for Electric Lamps—LED Lamp Specification Sheets for HID Replacement and Retrofit Applications
Standardizes LED Lamp specification sheets for HID replacement and retrofit applications, as the means of communication of critical lamp characteristics: Intended use ballasts (if applicable) Reference circuit (if applicable) Identify input voltage requirements (for use with mains voltage) Light Distribution Other characteristics—may include physical dimensions and/or temperature ratings for operation.
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American National Standard for Electric Lamps—Specifications for the Chromaticity of Solid State Lighting (SSL) Products
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ANSI C78.379-2006 (R2015)
American National Standard for Electric Lamps—Classification of the Beam Patterns of Reflector Lamps
Describes a system for classification of beam patterns and beam angles of reflector lamps and defines a method of describing light output.
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ANSI C78.380-2016
American National Standard for Electric Lamps—High-Intensity Discharge (HID)—Method of Designation
Describes a system for the designation of high-intensity discharge lamps, including compact, enclosed-arc discharge light sources such as mercury, metal halide, high-pressure sodium, and similar types of lamps. For convenience, low-pressure sodium lamps, although technologically not high-intensity discharge lamps, are included with the group.
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ANSI C78.381-1961 (R2011, S2016)
American National Standard for Electric Lamps—Method for the Designation of Glow Lamps
Describes a designation system for glow lamps.
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ANSI C78.385-1961 (S2016)
American National Standard for Electric Lamps—Methods of Measurement of Glow Lamps
Outlines the procedures to be followed and the precautions to be observed in testing glow lamps.
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ANSI C78.389-2004 (S2018)
American National Standard for Electric Lamps—High-Intensity Discharge (HID)—Methods of Measuring Characteristics
Describes the procedures to be followed and the precautions to be observed in measuring the electrical characteristics of HID lamps as outlined in the ANSI specifications for mercury, high-pressure sodium and metal halide lamps, as referenced in Clause 2, Normative References.
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ANSI C78.390-2006 (R2015)
American National Standard for Electric Lamps—Miniature and Sealed-Beam Incandescent Lamps—Method of Designation
Describes a voluntary system for the method of designation of miniature and sealed-beam lamps. The method is intended to provide lamp manufacturers a means to request a designation.
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ANSI C78.391-2004 (R2009, R2016)
American National Standard for Electric Lamps—Characteristics of Subminiature Lamps of T1 and T1-3/4 Shapes
This Standard sets forth the physical and electrical characteristics of those groups of subminiature incandescent lamps with T1 and T1-3/4 bulb shapes. Lamps with various base or termination configurations are included.
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ANSI C78.682-1997 (R2016)
American National Standard for Electric Lamps—Standard Method of Measuring the Pinch Temperature of Quartz Tungsten-Halogen Lamps
Specifies details of the type of thermocouple to be used to measure the pinch temperature of quartz-tungsten-halogen lamps, the methods of preparation of the lamp and thermocouple, and the measurement to be made.
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ANSI C78.901-2016
American National Standard for Electric Lamps—Single-Based Fluorescent Lamps—Dimensional and Electrical Characteristics
Sets forth the physical and electrical characteristics required to ensure interchangeability and to assist in the proper application of single-based fluorescent lamps.
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ANSI C78.1195-2016
American National Standard for Electric Lamps—Double-Capped Fluorescent Lamps—Safety Specifications
Adopted by ANSI ASC C78 as a nationally acknowledged international Standard, this revision of IEC 61195, ed2.2 (2014-09) includes deviations for clauses 2 and 3.
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ANSI C78.1199-2016
American National Standard for Electric Lamps—Single-Capped Fluorescent Lamps—Safety Specifications
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American National Standard for Electric Lamps—70 W, M85 Double-Ended Metal Halide Lamps
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### ANSI C78.1401-2004 (R2009, R2016)
American National Standard for Electric Lamps—Dimensions for Projection Lamps—Double-Contact, Medium Ring (Special B), Base-up Type
This Standard establishes the dimensions essential to the interchangeability of lamps of the double-contact, medium ring (Special B), base-up type. It is not intended to prescribe either operating characteristics or details of design, such as the shape of the ventilation ports or the method of attachment of the prefocus ring to the base.
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### ANSI C78.1402-2004 (S2018)
American National Standard for Electric Lamps—Four-Pin, Prefocus, Base-Down Type
Establishes the dimensions essential to the interchangeability of four-pin, prefocus projection lamps for base-down operation of T10 and T12 bulb sizes.
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### ANSI C78.1403-1997
Defines the dimensional limits and other physical characteristics required to ensure interchangeability and to assist in the proper application of a specific category of lamps. This category is TH lamps with G6.35, GX6.35 and GY6.35 two-pin bases and 27.0 to 40 mm nominal light center length.
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### ANSI C78.1406-2004
American National Standard for Electric Lamps—P28 Single-Contact Medium Prefocus-Based Projection Lamps for Base-Down Operation—Dimensions
Establishes the dimensions essential to interchangeability of single-contact medium prefocus-based projection lamps of T10 and T12 bulb sizes.
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### ANSI C78.1407-2004 (R2008, R2015)
American National Standard for Electric Lamps—Condenser-Reflector, Four-Pin Prefocus-Base Projection Lamps—Dimensions
Specifies the dimensions essential to the interchangeability of condenser-reflector lamps having four-pin prefocus bases, T12 or T14 bulbs, and used in 8mm motion-picture projectors.
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### ANSI C78.1413-2001
American National Standard for Dimensions and Centering Systems for Projection Lamps—51 mm (2 in.) Integral Reflector, Rim Reference Lamps with GX5.3, GY5.3 and GU5.3 Bases
Specifies detailed dimensions for 51 mm (2 in.) integral reflector rim reference projection lamps with GX5.3, GY5.3, or GU5.3 bases to ensure interchangeability within the appropriate holding systems. The lamps provide references for mounting at their reflector rims.
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### ANSI C78.1417-1997
American National Standard for 1.65 in. (42 mm) Integral Reflector, Rim Reference Projection Lamps with GX5.3 or GY5.3 Bases—Dimensions and Centering Systems
Specifies the detailed lamp dimensions for those lamps in the family of 1.65 in. (42 mm) integral reflector, rim reference lamps with GX5.3 or GY5.3 bases such that interchangeability within the appropriate holding system will be ensured.
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ANSI C78.1420-2001
American National Standard for Microfilm Projection Lamps—2 in. (51 mm) Dichroic Coated Integral Reflector, Rim Reference Tungsten Halogen Lamps with GX5.3 Bases
Consolidates the lamps commonly used for microfilm projectors into a single performance Standard.
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ANSI C78.1421-2002
American National Standard for Dimensions and Centering Systems for Projection Lamps—35 mm Integral Reflector, Rim Reference Lamps with GZ4 Bases
Specifies lamp dimensions of 35 mm (1.38 in.) diameter integral reflector rim reference projection lamps with GZ4 bases so that interchangeability with the appropriate holding systems will be ensured.
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ANSI C78.1430-1997 (R2009, R2016)
American National Standard for Electric Lamps—Slide Projector Lamps, Condensing, Dichroic, 1.65-in. (42 mm), Integral Reflector, Rim Reference Tungsten-Halogen Lamps with GX5.3 Bases
This Standard consolidates the lamps commonly used for slide projectors into a single Standard. The lamps contained in this Standard are not to be considered as interchangeable, although physically they will all fit the common GX5.3 sockets. The photometry of each lamp is dependent upon the system for which it was designed and on the system in which it is used. A sample system and representative photometric values are found in the Annex.
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ANSI C78.1431-1997 (R2016)
American National Standard for Electric Lamps—Slide Projector Lamps, Condensing, Dichroic, Two-inch (51 mm), Integral Reflector, Rim Reference Tungsten-Halogen Lamps with GY 5.3 Bases
Consolidates the lamps commonly used for slide projectors into a single Standard. The lamps contained in this Standard are not to be considered as interchangeable—they will all fit the common socket used for these lamps.
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ANSI C78.1432-1997 (S2018)
American National Standard for Condensing Dichroic Coated Integral Reflector Side-Pin Tungsten Halogen (TH) Projection Lamps with GX7.9 Bases
Consolidates previous Standards for certain low voltage condensing dichroic coated integral reflector side-pin TH projection lamps with GX7.9 bases designed for large-screen projection systems and used in 8 mm and 16 mm projector applications.
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ANSI C78.1433-1997 (S2018)
American National Standard for Condensing Dichroic Coated Integral Reflector Side-Pin Tungsten Halogen (TH) Large-Screen Projection Lamps with GX5.3 Bases
Consolidates previous Standards for certain low voltage condensing dichroic coated integral reflector side-pin TH projection lamps with GX5.3 bases designed for large-screen projection systems and used in 8 mm and 16 mm projector applications.
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ANSI C78.1434-2001 (S2018)
American National Standard for Condensing Dichroic Coated Integral Reflector Side-Pin Tungsten Halogen (TH) Projection Lamps with GX5.3 Bases
Consolidates previous Standards for certain low voltage condensing dichroic coated integral reflector side-pin TH projection lamps with GX7.9 bases designed for large-screen projection systems and used in 8 mm and 16 mm projector applications.
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ANSI C78.1435-2002 (S2018)
American National Standard for Projection Lamps—Tungsten Halogen Lamps with G5.3 Bases
Consolidates projection lamps with G5.3 bases into a single Standard.
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ANSI C78.1450-1983 (R2002)
American National Standard for Projection Lamps, Incandescent—Method for Life Testing
Defines the dimensional limits and other physical characteristics required to ensure commonality and interchangeability and to assist in the proper application of TH lamps.
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ANSI C78.1451-2002 (S2018)
American National Standard for Use of Protective Shields with Tungsten Halogen (TH) Lamps—Cautionary Notice
Applies to the use of protective shields with all TH lamps that do not have an integral device that protects against shattering and ultraviolet emissions.
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ANSI C78.1452-2004 (R2008, R2015)
American National Standard for Electric Lamps—Projection Lamps—Vocabulary
Provides definitions for a wide range of terms used in the design, manufacturing and application of photographic lamps. Serves as a common reference for all lamp Standards in the C78.1400 series, thus reducing the number of terms that need to be defined in individual Standards.
$193

ANSI C78.1460-2004 (R2015)
American National Standard for Electric Lamps—Single-Ended Tungsten-Halogen Lamps GZ9.5 Base, T6 Bulb, 36.5mm LCL, 76.2mm MOL with Proximity Reflector
This Standard defines the dimensional, physical, and other characteristics to assist in the proper application of tungsten-halogen lamps with GZ9.5 bases, T6 (T19) bulbs at 36.5 mm LCL and 76.2 mm maximum overall length with internal proximity reflectors. Lamps of various wattage and voltage designs are included.
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ANSI C78.1500-2001
American National Standard for Tungsten Halogen (TH) Lamps with a Light Center Length (LCL) of 89 mm (3½ in.)
Defines the dimensional limits and other physical characteristics required to ensure interchangeability and assist in the proper application of TH lamps with P28 bases and 89 mm nominal LCL.
$95

ANSI C78.1501-2016
American National Standard for Electric Lamps—Tungsten-Halogen Lamps with G22 Bases and 63.5 mm LCL
Defines the dimensional limits and other physical characteristics required to ensure interchangeability and assist in the proper application of TH lamps with G22 bases and 63.5 mm nominal LCL.
$116

ANSI C78.1503-2001
American National Standard for Tungsten Halogen (TH) Lamps with G9.5 Bases and 60.5 mm Light Center Length (LCL)
Defines the dimensional limits and other physical characteristics required to ensure interchangeability and assist in the proper application of TH lamps with G9.5 bases and 60.5 mm nominal LCL.
$95

ANSI C78.1504-2001
American National Standard for Tungsten Halogen (TH) Lamps with P28 Bases and 55.5 mm Light Center Length (LCL)
Defines the dimensional limits and other physical characteristics required to ensure interchangeability and assist in the proper application of TH lamps with P28 bases and 55.5 mm nominal LCL.
$57

ANSI C78.1505-2001
American National Standard for Tungsten Halogen (TH) Lamps with G38 Bases and 127 mm Light Center Length (LCL)
Defines the dimensional limits and other physical characteristics required to ensure interchangeability and assist in the proper application of TH lamps with G38 bases and 127 mm nominal LCL.
$95

ANSI C78.60360-2002 (S2016)
Describes the Standard method of measurement of lamp cap temperature rise which is used when testing incandescent or discharge lamps for compliance with the limits. Temperature-rise limits for particular lamp types are listed in IEC 60432.
$122

ANSI C78.60432:1-2007
Covers tungsten filament lamps for domestic and similar general lighting purposes.
$34

ANSI C78.60432.2-2007 (S2018)
Covers TH lamps for domestic and similar general lighting purposes.
$34

ANSI C78.60432.3-2007 (S2018)
Covers TH lamps (non-vehicle).
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<td>ANSI C78.62612-2018</td>
<td>American National Standard for Electric Lamps—Self-Ballasted LED Lamps—Performance Specifications</td>
<td>Specifies the performance requirements, together with the test methods and conditions, required to show compliance of LED lamps with integral means for stable operation, intended for domestic and similar general lighting purposes.</td>
<td>$59</td>
</tr>
<tr>
<td>ANSI C78.62717-2018</td>
<td>American National Standard for Electric Lamps—LED Modules for General Lighting—Performance Requirements</td>
<td>Specifies the performance requirements for LED modules, together with the test methods and conditions, required to show compliance with this Standard.</td>
<td>$65</td>
</tr>
<tr>
<td>ANSI C78.62035-2016</td>
<td>American National Standard for Electric Lamps—Discharge Lamps (Excluding Fluorescent Lamps)—Safety Specifications</td>
<td>This Standard sets forth safety specifications for discharge lamps (excluding fluorescent lamps) with deviations to IEC 62035 (2014-04) Ed. 2.0.</td>
<td>$62</td>
</tr>
<tr>
<td>ANSI C78.62112-2018</td>
<td>American National Standard for Electric Lamps—Procedures for High Intensity Discharge Lamp Sample Preparation and the Toxicity Characteristic Leaching Procedure</td>
<td>Procedures for preparation of high-intensity discharge (HID) lamps for the Toxicity Characteristic Leaching Procedure (TCLP) are presented. These procedures are intended to supplement the TCLP by supplying specific instructions for size reduction and other critical procedures specific to the testing of HID lamps.</td>
<td>$629</td>
</tr>
<tr>
<td>ANSI C78.LL4-2003 (S2018)</td>
<td>American National Standard for Gauges for Electric Lamp Bases and Lampholders</td>
<td>Standard sets forth the specifications for gauges for bases (caps) and lampholders for electric lamps.</td>
<td>$551</td>
</tr>
<tr>
<td>ANSI C78.LL 1256 2003 (R2008, R2015)</td>
<td>American National Standard for Electric Lamps—Procedures for Fluorescent Lamp Sample Preparation and the Toxicity Characteristic Leaching Procedure</td>
<td>Procedures for preparation of fluorescent lamps for Toxicity Characteristic Leaching Procedure (TCLP) are presented. These guidelines are intended to supplement the TCLP by supplying specific instructions for size reduction of lamps including integral electronic compact, pin-based compact, linear and U-shaped fluorescent lamps.</td>
<td>$134</td>
</tr>
<tr>
<td>ANSI C81.61-2019</td>
<td>American National Standard for Electrical Lamp Bases—Specifications for Bases (Caps) for Electric Lamps</td>
<td>Sets forth the specifications for bases (caps) used on electric lamps. This revision includes specifications for the G6.6 base.</td>
<td>$629</td>
</tr>
<tr>
<td>ANSI C81.62-2019</td>
<td>American National Standard for Electric Lampholders</td>
<td>Sets forth the specifications for lampholders for electric lamps. This revision includes specifications for the G6.6 lampholder.</td>
<td>$462</td>
</tr>
<tr>
<td>ANSI C81.63-2019</td>
<td>American National Standard for Gauges for Electric Lamp Bases and Lampholders</td>
<td>Standard sets forth the specifications for gauges for bases (caps) and lampholders for electric lamps.</td>
<td>$551</td>
</tr>
<tr>
<td>ANSI C82.1-2004 (R2008, R2015, S2020)</td>
<td>American National Standard for Lamp Ballasts—Line Frequency Fluorescent Lamp Ballasts</td>
<td>Covers ballasts which have rated open circuit voltages of 2000 V or less and are intended to operate lamps at a frequency of 50 Hz or 60 Hz.</td>
<td>$120</td>
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</table>
ANSI C82.2-2002
American National Standard for Lamp Ballasts—Method of Measurement of Fluorescent Lamp Ballasts
Outlines the procedures and the precautions to be observed in measuring and testing line frequency fluorescent lamp ballasts as specified in C82.1 with either hot- or cold-cathode fluorescent lamps.
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ANSI C82.3-2016
American National Standard for Reference Ballasts for Fluorescent Lamps
Describes the essential design features and operating characteristics of reference ballasts for fluorescent lamps.
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ANSI C82.4-2017
American National Standard for Lamp Ballasts—Ballasts for High-Intensity Discharge and Low-Pressure Sodium (LPS) Lamps (Multiple-Supply Type)
Provides specifications for and operating characteristics of ballasts for mercury, metal halide, high-pressure sodium and LPS lamps. The ballasts operate from multiple-supply sources of 600 V maximum at a frequency of 60 Hz.
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ANSI C82.6-2015 (R2020)
American National Standard for Lamp Ballasts—Ballasts for High-Intensity Discharge (HID) Lamps—Methods of Measurement
Describes the procedures to be followed and the precautions to be taken in measuring performance of low-frequency ballasts (electromagnetic and electronic ballasts that operate at less than 400 Hz) for high-intensity discharge (HID) lamps.
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ANSI C82.9-2016
American National Standard for Lamp Ballasts—High-Intensity Discharge (HID) and Low-Pressure Sodium (LPS) Lamps—Definitions
Provides definitions relative to specific terms contained in HID and LPS lamps and ballast Standards. Covers the dimensional limits and other physical characteristics required to ensure the commonality, interchangeability and proper application of these lamps.
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ANSI C82.11-2017
American National Standard for Lamp Ballasts—High Frequency Fluorescent Lamp Ballasts
Covers high frequency ballasts that have rated open-circuit voltages of 2,000 V or less and are intended to operate at a supply frequency of 50 or 60 Hz.
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ANSI C82.13-2020
American National Standard for Lamp Ballasts—Definitions—for Fluorescent Lamps and Ballasts
Provides definitions of terms used in ANSI C78 and C82 series Standards for fluorescent lamps and ballasts. Individual Standards may also include additional definitions specific to that Standard.
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ANSI C82.14-2016
American National Standard for Lamp Ballasts—Low-Frequency Square Wave Electronic Ballasts—for Metal Halide Lamps
Provides specifications for and operating characteristics of low-frequency square wave electronic ballasts for metal halide lamps. Covers lamp operating-current frequencies from greater than 60 Hz up to 400 Hz (some exclusionary frequency ranges may apply).
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ANSI C82.16-2020
American National Standard for Light-Emitting Diode Drivers—Methods of Measurement
Describes the procedures to be followed and the precautions to be taken in measuring performance of LED drivers. The scope includes, but is not limited to, LED drivers with these characteristics: General lighting, exterior lighting, and roadway lighting applications Input supply voltage up to 600 VDC or 600 VAC (50 or 60 Hz) Output open-circuit voltage of 600 V or less Constant-current or constant-voltage DC output Fixed, variable (dimmable), pulse width modulation, or programmable (tunable) output power External (standalone) or internal (enclosed in luminaire).
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ANSI C82.17-2017
American National Standard for Lamp Ballasts—High Frequency (HF) Electronic Ballasts for Metal Halide Lamps
Provides specifications for, and operating characteristics of, high-frequency electronic ballasts for metal halide lamps.
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ANSI C82.77-2002
American National Standard for Harmonic Emission Limits—Related Power Quality Requirements for Lighting Equipment
Specifies harmonic limits and methods of measurement for lighting equipment.
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ANSI C82.77-1-2020
American National Standard for Lighting Equipment—Electromagnetic Compatibility (EMC) General Requirements and Criteria
Defines the electromagnetic compatibility “EMC” (immunity and Interference) performance levels, testing methods, and performance criteria for lighting products in a frequency range from 0 to 400 GHz. Applies to lighting products intended to be directly connected to the mains (up to 600V), DC (up to 250VDC), battery operated or to a non-public, low voltage power distribution system. $84

ANSI C82.77-2-2020
American National Standard for Lighting Equipment—Electrostatic Discharges
Adopts IEC 61000-4-11 Edition 2.1 2017-05 as a nationally acknowledged international Standard with deviations. It specifies testing and measurement techniques—voltage dips, short interruptions, and voltage variations immunity tests for lighting equipment. $53

ANSI C82.77-3-2020
Adopts IEC 61000-4-3, ed3.2 (2010-04), as a nationally acknowledged international Standard with deviations. It specifies EMC testing and measurement techniques—radiated, radio-frequency electromagnetic field immunity tests for lighting equipment. $53

ANSI C82.77-4-2020
American National Standard for Lighting Equipment—Power Line Frequency Magnetic Field Immunity Test
Adopts IEC 61000-4-8 Edition 2 2009-09 as a nationally acknowledged international Standard with deviations. It specifies power line frequency magnetic field immunity limits and test requirements for lighting equipment. $53

ANSI C82.77-5-2017
American National Standard for Lighting Equipment—Voltage Surge Requirements
Specifies voltage surge limits and testing requirements for lighting equipment. $80

ANSI C82.77-7-2020
Adopts IEC 61000-4-11 Edition 2.1 2017-05 as a nationally acknowledged international Standard with deviations. It specifies testing and measurement techniques—voltage dips, short interruptions, and voltage variations immunity tests for lighting equipment. $53

ANSI C82.77-8-2020
American National Standard for Lighting Equipment—Fast Transients
Adopts IEC 61000-4-4:2012 as a nationally acknowledged international Standard with deviations. It specifies fast transient limits and testing requirements for lighting equipment. $53

ANSI C82.77-9-2020
American National Standard for Lighting Equipment—Injected Currents
An adoption of IEC 61000-4-6 Edition 4 2013-10 as a Nationally Acknowledged International Standard with regional deviations. $53

ANSI C82.77-10-2020
American National Standard for Lighting Equipment—Harmonic Emission Limits—Related Power Quality Requirements
Specifies harmonic limits, their methods of measurement, and power factor (PF) for lighting equipment. This Standard covers all types of lighting equipment that is used for general illumination typically found in residential, commercial, and industrial applications. $105

ANSI C136.1-2012 (R2018)
Provides a guide for the proper selection of filament lamps for use in roadway and area lighting equipment covered by the following Standards ANSI C136.4, ANSI C136.5, ANSI C136.6 and ANSI C136.11. $50
ANSI C136.2-2018
American National Standard for Roadway and Area Lighting Equipment—Dielectric Withstand and Electrical Transient Immunity Requirements
This Standard covers luminaires and control devices classified for up to 600 V operation and intended for use in roadway and area lighting applications. It contains minimum performance requirements and test procedures for evaluating luminaire and control devices under test (DUTs) for dielectric withstand and electrical transient immunity.
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ANSI C136.3-2020
American National Standard for Roadway and Area Lighting Equipment—Luminaire Attachments
Covers attachment features of luminaires used in roadway and area lighting equipment. The features covered apply to luminaires that are side-, post top– or pendant-mounted.
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ANSI C136.4-2019
American National Standard for Roadway and Area Lighting Equipment—Series Sockets and Series-Socket Receptacles
Covers series sockets having medium-impact strength and intended for service at high temperatures, series sockets having high-impact strength and intended for service at limited temperatures, and series-socket receptacles in the 5,000 V classification.
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ANSI C136.5-2003 (R2013)
American National Standard for Roadway and Area Lighting Equipment—Film Cutouts
Covers operating and dimensional features of single-shot film cutouts used with series roadway lighting equipment and circuits that function by dielectric breakdown and subsequent partial fusing of components to establish a shunting electrical circuit to bypass non-operative series roadway lighting equipment.
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ANSI C136.6-2004 (R2012, R2018)
American National Standard for Roadway and Area Lighting Equipment—Metal Heads and Reflector Assemblies—Mechanical and Optical Interchangeability
Covers dimensional features of luminaires with metal heads that permit mechanical and optical interchangeability of head and reflector assemblies.
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ANSI C136.9-2003 (R2012, R2018)
American National Standard for Roadway and Area Lighting Equipment—Socket Support Assemblies for Metal Heads—Mechanical Interchangeability
Covers the following equipment for use in metal heads that are in accordance with the latest revision of C136.6 high-intensity discharge lamp ballast and socket assemblies, and mogul and medium multiple incandescent lamp socket and support assemblies.
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ANSI C136.10-2017
American National Standard for Roadway and Area Lighting Equipment—Locking-Type Photocontrol Devices and Mating Receptacles—Physical and Electrical Interchangeability and Testing
Covers the following roadway and area lighting equipment, which may be physically and electrically interchanged to operate within established values locking-type photocontrol; locking-type mating receptacle; and shorting and non-shorting caps.
$80
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ANSI C136.11-2011 (R2016)
American National Standard for Roadway and Area Lighting Equipment—Multiple Sockets
Discusses medium and mogul screw base sockets used in multiple fixture circuits or in luminaires designed and intended for parallel wired circuits. Provides interchangeability of lamps, minimum safety Standards for operating personnel, and minimum performance criteria in lighting roadways and areas open to the public.
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Covers the selection of mercury vapor lamps recommended for use in roadway and area lighting equipment.
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ANSI C136.13-2014
American National Standard for Roadway and Area Lighting Equipment—Metal Brackets for Wood Poles
Covers metal pipe, tubing and structural brackets for wood poles designed to support luminaires of generally spherical, ellipsoidal or rectangular shapes used in roadway and area lighting.
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ANSI C136.14-2020
Covers dimensional, maintenance and light distribution features that permit the interchange of enclosed side-mounted luminaires for horizontal-burning high-intensity discharge (HID) lamps and other light sources used in roadway and area lighting equipment.
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Buy Now

ANSI C136.15-2020
American National Standard for Roadway and Area Lighting Equipment—Luminaire Field Identification
The intent of this Standard is to provide a simple, uniform method for identifying the type and wattage rating of a luminaire used for roadway and area lighting.
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Buy Now

ANSI C136.16-2019
American National Standard for Roadway and Area Lighting Equipment—Enclosed Post Top-Mounted Luminaires
Covers dimensional, maintenance, and light distribution features that permit the interchange of enclosed, post top–mounted high-intensity discharge (HID), solid state light (SSL) source (also referred to as LED (Light Emitting Diode), compact fluorescent, and induction luminaires whose center of mass is approximately over the mounting tenon.
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American National Standard for Roadway and Area Lighting Equipment—Enclosed Side-Mounted Luminaires for Horizontal-Burning High-Intensity Discharge Lamps—Mechanical Interchangeability of Refractors
Covers the dimensional features and the materials of refractors as shown in this Standard and as described in C136.14.
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ANSI C136.18-2018
American National Standard for Roadway and Area Lighting Equipment—High-Mast Side-Mounted Luminaires for Horizontal- or Vertical-Burning High-Intensity Discharge Lamps
Covers physical, operational, maintenance and light-distribution features that permit use of high-mast luminaires in roadway applications when specified.
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ANSI C136.19-2017
American National Standard for Roadway and Area Lighting Equipment—High-Pressure Sodium (HPS) and Retrofit HPS Lamps for Mercury Ballasts—Guide for Selection
Covers the selection of HPS lamps recommended for use in roadway and area lighting equipment.
$50

ANSI C136.20-2012
American National Standard for Roadway and Area Lighting Equipment—Fiber-Reinforced Composite (FRC) Lighting Poles
Applies to FRC lighting poles used for roadway and area lighting. Includes nomenclature, dimensional data, performance criteria and some interchangeability features for Standard poles as well as those that must meet breakaway requirements for poles as described in AASHTO LTS Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.
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ANSI C136.21-2014
American National Standard for Roadway and Area Lighting Equipment—Vertical Tenons Used with Post Top–Mounted Luminaires
Covers the attachment features of vertical tenons on pole tops or brackets used in roadway and area lighting that permit the interchangeability of post top–mounted luminaires.
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<td>ANSI C136.24-2020 American National Standard for Roadway and Area Lighting Equipment—Non-Locking (Button)—Type Photocontrols</td>
<td>$70</td>
<td>Covers the electrical and mechanical interchangeability of non-locking-type photocontrols for mounting within a roadway or off-roadway luminaire.</td>
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<td>ANSI C136.25-2019 American National Standard for Roadway and Area Lighting Equipment—Ingress Protection (Resistance to Dust, Solid Objects and Moisture) for Luminaire Enclosures</td>
<td>$80</td>
<td>Addresses the protection of luminaires from ingress based on the anticipated environment.</td>
<td></td>
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<tr>
<td>ANSI C136.27-2012 American National Standard for Roadway and Area Lighting Equipment—Tunnel Lighting and Underpass Luminaires</td>
<td>$67</td>
<td>Covers luminaires used for illuminating roadway tunnels and underpasses. The requirements in this Standard are limited to general attributes of tunnel luminaires because of the wide variety of possible designs.</td>
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<td>ANSI C136.30-2015 American National Standard for Roadway and Area Lighting Equipment—Pole Vibration</td>
<td>$50</td>
<td>Covers the minimum vibration withstand requirements and testing procedures for poles used in roadway and area lighting. The guide is intended for poles of 50-ft mounting height and under.</td>
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<tr>
<td>ANSI C136.32-2020 American National Standard for Roadway and Area Lighting Equipment—Enclosed Setback Luminaires and Directional Floodlights for High-Intensity Discharge (HID) Lamps</td>
<td>$47</td>
<td>Covers dimensional, maintenance and electrical features that permit the interchange of similar style enclosed luminaires having the same light distribution classification or type for HID lamps used in roadway and area lighting equipment. Luminaires covered by this Standard are generally yoke-, trunnion- or tenon-mounted and are traditionally called floodlights or setback luminaires.</td>
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ANSI C136.34-2014
American National Standard for Roadway and Area Lighting Equipment—Vandal Shields for Roadway and Area Lighting Luminaires
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ANSI C136.35-2020
American National Standard for Roadway and Area Lighting Equipment—Locking-Type Power Taps (LTPT)
Covers the electrical and mechanical compatibility of electrical devices mounted into a locking-type photocontrol receptacle for the purpose of providing ancillary power to an external device.
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ANSI C136.37-2019
American National Standard for Solid State Light Sources Used in Roadway and Area Lighting
Defines interchangeability and some requirements for solid state lighting (SSL) source fixtures. Includes requirements for operating temperature, correlated color temperature, mounting provisions, dimming, ingress protection, and wiring and grounding. Sets protocol for surge-test waveforms, the basic insulation test, and specific product ratings.
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ANSI C136.38-2015 (R2020)
American National Standard for Roadway and Area Lighting Equipment—Induction Lighting
Defines electrical and mechanical requirements of induction-type light sources for use in roadway and area lighting luminaires.
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ANSI C136.40-2014
American National Standard for Roadway and Area Lighting Equipment—Solar Lighting Systems
Defines requirements for the specification and installation of DC solar-powered roadway and area lighting systems.
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ANSI C136.41-2013
American National Standard for Roadway and Area Lighting Equipment—Dimming Control Between an External Locking Type Photocontrol and Ballast or Driver
Describes methods of light level control between an external locking type photocontrol (or similar device) and a dimmable ballast or driver for street and area lighting equipment. Mechanical, electrical, and marking requirements are established for dimming, locking type photocontrols and mating receptacles.
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ANSI C136.42-2019
American National Standard For Roadway and Area Lighting Equipment—Solid State Lighting Retrofit Kits
Defines the mechanical and electrical requirements for transforming an installed HID roadway and area luminaire to a solid state roadway and area luminaire. This Standard is limited to non-screwbase retrofit kits only.
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ANSI C136.45-2011 (R2016)
American National Standard for Roadway and Area Lighting Equipment—Aluminum Lighting Poles
Provides specification information for aluminum lighting poles as used in roadway and area lighting applications.
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ANSI C136.46-2020
American National Standard For Roadway and Area Lighting Equipment—Concrete Lighting Poles
Applies to concrete lighting poles used in roadway and area lighting equipment and includes nomenclature, performance criteria, marking and record keeping requirements and certain minimal material needs. It does not cover concrete poles manufactured with any modified concrete mix incorporating the use of polymers or other modifiers.
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ANSI C136.47-2010 (R2015)
American National Standard for Roadway and Area Lighting Equipment—Steel Roadway and Area Lighting Poles
Provides construction and performance guidance for steel poles used in roadway and area lighting applications.
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American National Standard For Roadway and Area Lighting Equipment—Wireless Networked Lighting Controllers
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ANSI C136.49-2016
American National Standard for Roadway and Area Lighting Equipment—Plasma Lighting
Defines the electrical and mechanical requirements of plasma type light sources for use in roadway and area lighting luminaires.
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<td>American National Standard for Roadway and Area Lighting Equipment—Film Cutouts</td>
<td>Covers operating and dimensional features of single-shot film cutouts used with series roadway lighting equipment and circuits that function by dielectric breakdown and subsequent partial fusing of components to establish a shunting electrical circuit to bypass non-operative series roadway lighting equipment.</td>
<td>$50</td>
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<tr>
<td>ANSI C136.53-2017</td>
<td>American National Standard for Roadway and Area Lighting Equipment—Enclosed Pendant Mounted Luminaires</td>
<td>Covers dimensional, maintenance, and light distribution features that permit the interchange of enclosed pendant-mounted luminaires whose center mass is directly below the mounting bracket.</td>
<td>$46</td>
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<td>ANSI C136.58-2019</td>
<td>American National Standard for Roadway and Area Lighting Equipment—Luminaire Four-Pin Extension Module and Receptacle—Physical and Electrical Interchangeability and Testing</td>
<td>Provides mechanical and electrical specifications for interfacing street and area lighting with controls and sensor accessories.</td>
<td>$56</td>
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<tr>
<td>ANSI C137.0-2017</td>
<td>American National Standard For Lighting Systems—Lighting Systems Terms and Definitions</td>
<td>Definitions listed in this document apply or are directly related to lighting systems and are used in multiple lighting system Standards.</td>
<td>$30</td>
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<tr>
<td>ANSI C137.1-2019</td>
<td>American National Standard for Lighting Systems—0-10V Dimming Interface for LED Drivers, Fluorescent Ballasts, and Controls</td>
<td>Specifies the 0-10 volt control interface method and performance requirements for dimmable LED drivers, fluorescent ballasts, and dimming control units where output power is adjustable between minimum/off and maximum via a control input signal.</td>
<td>$100</td>
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<tr>
<td>ANSI C137.2-2019</td>
<td>American National Standard—Cybersecurity Requirements for Lighting Systems—Parking Lots</td>
<td>Provides cybersecurity requirements for lighting systems used in parking lots with public access.</td>
<td>$166</td>
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<tr>
<td>ANSI C137.3-2017</td>
<td>American National Standard for Lighting Systems—Minimum Requirements for installation of Energy Efficient Power over Ethernet (PoE) Lighting Systems</td>
<td>Specifies the minimum requirements for installation of Power over Ethernet (PoE) lighting systems to ensure minimal energy losses.</td>
<td>$56</td>
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<tr>
<td>ANSI C137.4-2019</td>
<td>American National Standard for Lighting Systems—Digital Interface with Auxiliary Power</td>
<td>Specifies the minimum requirements for devices such as drivers, controls, sensors, and communication devices supporting a digital interface between devices.</td>
<td>$88</td>
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<td>NEMA 77-2017</td>
<td>Temporal Light Artifacts: Test Methods and Guidance for Acceptance Criteria</td>
<td>Recommends a method of quantifying the visibility of temporal light artifacts (TLA), and recommends initial, broad application-dependent limits on TLA.</td>
<td>$322</td>
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<td>NEMA BL 2-2009</td>
<td>Energy Efficiency for Electronic Ballasts for T8 Fluorescent Lamps</td>
<td>Includes energy-efficiency requirements for declaration as NEMA Premium®-rated products and for evaluating electronic ballasts designed for use with 4-ft 32 W T8 fluorescent lamps with a lumen output greater than or equal to 3,100 lumens.</td>
<td>$49</td>
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<tr>
<td>NEMA BL 3-2013</td>
<td>Dimming Ballast Energy Performance</td>
<td>Provides a methodology for applying existing test methods for program start ballasts to fluorescent dimming ballasts and provides a way to calculate BLE for fluorescent dimming ballasts. This Standard offers BLE limits for ballasts of common four-foot bipin lamps, such as T8 and T5 lamps, that are not covered by the most recent Federal Rulemaking.</td>
<td>$45</td>
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<tr>
<td>NEMA DCP 1-2018</td>
<td>Direct Current in Buildings</td>
<td>Summarizes the results from a survey on DC in buildings and provides background on the primary drivers for DC systems. It also highlights potential benefits of using DC in buildings and opportunity areas in next five to ten years.</td>
<td>No charge</td>
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NEMA FL SET
**Fluorescent Set**
The fluorescent lamps and ballasts package classifies as either double-ended or single-ended lamps. Glow starters are also covered by this product. Set includes ANSI C78.5, ANSI C78.30, ANSI C78.81, ANSI C78.180, ANSI C78.375, ANSI C78.376, ANSI C79.1, ANSI C81.61, ANSI C81.62, ANSI C81.63, ANSI C82.1, ANSI C82.11, ANSI C82.12, ANSI C82.13, ANSI C82.2, ANSI C82.3, ANSI C82.77.

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NEMA IL SET
**Incandescent Set**
The incandescent lamps set package are general lighting, projector lamps, miniature lamps, automotive lamps, aircraft lamps, stage lamps and studio lamps. Set includes ANSI C78.20, ANSI C78.21, ANSI C78.22, ANSI C78.23, ANSI C78.24, ANSI C78.30, ANSI C78.260, ANSI C78.261, ANSI C78.357, ANSI C78.370, ANSI C78.370.390, ANSI C78.379, ANSI C78.390, ANSI C78.391, ANSI C78.1401, ANSI C78.1402, ANSI C78.1403, ANSI C78.1404, ANSI C78.1405, ANSI C78.1406, ANSI C78.1407, ANSI C78.1408, ANSI C78.1413, ANSI C78.1417, ANSI C78.1420, ANSI C78.1421, ANSI C78.1431, ANSI C78.1432, ANSI C78.1433, ANSI C78.1434, ANSI C78.1435, ANSI C78.1440, ANSI C78.1441, ANSI C78.1460, ANSI C78.604321, ANSI C78.604322, ANSI C78.604323, ANSI C79.1, ANSI C81.61, ANSI C81.62, ANSI C81.63, ANSI C82.4, ANSI C82.6, ANSI C82.77, ANSI C82.9.

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NEMA HID SET
**HID Set**
High intensity discharge lamps and ballasts Standards set contains low/high pressure lamps and metal-halide lamps. Set includes ANSI C78.30, ANSI C78.40, ANSI C78.41, ANSI C78.42, ANSI C78.43, ANSI C78.44, ANSI C78.45, ANSI C78.379, ANSI C78.380, ANSI C78.389, ANSI C79.1, ANSI C81.61, ANSI C81.62, ANSI C81.63, ANSI C82.14, ANSI C82.4, ANSI C82.6, ANSI C82.77, ANSI C82.9.

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NEMA SSL SET
**SSL Set**
Solid state lighting Standards include semiconductor light sources—light emitting diodes (LEDs), laser diodes, organic LEDs, and any other semiconductor light sources; controlgear; light emitting diode (LED) drive circuits; and microwave power supplies for electrodeless lamps. The set includes: ANSI C78.30, ANSI C78.377, ANSI C78.79, ANSI C81.61, ANSI C81.62, ANSI C81.63, ANSI C82.77, NEMA SSL 1, NEMA SSL 3, NEMA SSL 4, NEMA SSL 6, and NEMA SSL 7A.

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NEMA LC 1-2007 (R2018)
**Test Procedure for Compatibility of Hearing Aids and Ultrasonic Lighting Control Devices**
Sets forth test procedures for use with a small acoustic chamber to evaluate potential interactions between hearing aids and ultrasonic lighting control devices (occupancy sensors). Test procedures are designed to simulate and test occupancy sensors at three typical, specific frequencies (25 kHz, 32.7 kHz and 40 kHz) and one type of hearing aid.

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NEMA LE 4-2012 (R2018)
**Recessed Luminaires, Ceiling Compatibility**
Contains definitions, dimensions and tolerances for recessed luminaires designed to use fluorescent high-intensity discharge and incandescent light sources.

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NEMA LE 5-2001
**Procedure for Determining Luminaire Efficacy Ratings for Fluorescent Luminaires**
Establishes a luminaire efficacy rating based on rated lumens per watt and organizes luminaires into categories that will reasonably represent the characteristics of high-volume luminaires. Serves as the basis for the National Voluntary Information and Rating Program for widely used luminaires. When rating a fixture in accordance with EPAct 1992, use this Standard. For other purposes, see NEMA LE 6, a newer Standard for luminaire efficacy that supersedes the LE 5 series.

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NEMA LE 5A-1999
Procedure for Determining Luminaire Efficacy Ratings for Commercial, Non-Residential Downlight Luminaires
Provides a standardized test method for determining the luminaire efficacy rating of incandescent, compact fluorescent and low-wattage high-intensity discharge downlight luminaires. When rating a fixture in accordance with EPAct 1992, use this Standard. For other purposes, see NEMA LE 6, a newer Standard for luminaire efficacy that supersedes the LE 5 series.
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NEMA LE 5B-1998
Procedure for Determining Luminaire Efficacy Ratings for High-Intensity Discharge (HID) Industrial Luminaires
Provides standardized tests to evaluate the energy efficiency of HID industrial luminaires. Provides a procedure for determining the luminaire efficacy ratings under laboratory test conditions, including visual tasks involved, luminaire placement, such performance characteristics as color and glare, lighting maintenance, on/off level control and a ballast’s ability to regulate lamp wattage. When rating a fixture in accordance with EPAct 1992, use this Standard. For other purposes, see NEMA LE 6, a newer Standard for luminaire efficacy that supersedes the LE 5 series.
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NEMA LE 6-2014
Procedure for Determining Target Efficacy Ratings for Commercial, Industrial, and Residential Luminaires
Provides a procedure for the determination of TER for luminaires under laboratory test conditions and describes categories or types of product used in common indoor and outdoor lighting applications. This Standard does not apply to luminaires for specialized applications, including but not limited to products intended to be aimed, accent luminaires, rough or hazardous use luminaires or emergency lighting.
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NEMA LE 7-2015
Recessed Luminaires Intended for Contact with Expanding Polyurethane Foam Insulation
Defines a subset of insulation contact (Type IC) luminaires that are appropriate for use with polyurethane spray foam. This Standard also provides requirements and recommendations for Type IC recessed luminaires intended for installation in contact with low-density and medium-density polyurethane foam thermal insulation.
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NEMA LL 9-2011
Dimming of T8 Fluorescent Lighting Systems
Provides recommendations for dimmable T8 fluorescent lighting systems for the full range of light output.
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NEMA LSCR-PP 1-2015
Light Source Color Rendition
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NEMA LSD 1-2003 (R2011)
Tungsten Halogen (TH) Lamps (Bulbs)
Ultraviolet, Rupture and High Temperature Risks
Addresses the benefits and the safe operation of TH lamps.
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NEMA LSD 2-2012
Wiring Requirements for T8 Lamps with Instant-Start Ballasts
Addresses field problems related to the retrofit of T8 lamps and instant-start ballasts into existing luminaires.
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NEMA LSD 7-1999 (R2012)
Ultraviolet Radiation (UV) from Fluorescent Lamps
Discusses various scientific studies on possible effects of exposure to light sources reported in the popular press. This interest has been stimulated by the fact that 1) most light sources emit some small amount of UV energy, and 2) extended exposure to the high UV levels in sunlight can cause adverse effects in the skin.
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<tr>
<td>NEMA LSD 8-2020</td>
<td>Power Quality Implications of Self-ballasted Lamps in Residences</td>
<td>This paper provides information about self-ballasted lamps and the implications these lamps present from a power quality perspective. It focuses on the use of self-ballasted lamps in residences and on residential power quality. Self-ballasted lamps have dedicated ballasts that are part of the lamp itself. This allows the lamp to be used in some sockets that were originally meant for incandescent lamps. The ballast intercepts the electrical current before it enters the bulb itself, and it cannot be removed from the base. CFLs and some LED lamps are examples of self-ballasted lamps.</td>
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<td>NEMA LSD 9-2000 (R2011)</td>
<td>Compatibility of Add-on Tube Guards with T8 Fluorescent Lamps Operating on High-Frequency Electronic Ballasts</td>
<td>Addresses concerns that arise in the field regarding the use of plastic tube guards on T-8 fluorescent lamps operated on high-frequency electronic ballasts.</td>
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<td>NEMA LSD 10-2010</td>
<td>White Paper on Outdoor Lighting Issues and Quality Lighting Applications</td>
<td>Provides information related to outdoor lighting issues and quality lighting. Identifies specific lighting issues, explains the interaction of these issues, defines correct lighting terminology and provides straightforward technical guidance.</td>
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<td>NEMA LSD 11-2010</td>
<td>Guidelines on the Application of Dimming to High-Intensity Discharge Lamps</td>
<td>Imparts general information and considerations in the design and application of such systems. Contact the manufacturers of the lamps, ballasts, and dimming systems for specific recommendations.</td>
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<td>NEMA LSD 12-2018</td>
<td>Selection of Electronic Ballasts for Fluorescent Lamps in Frequently Switched Applications</td>
<td>Provides guidance in the selection of ballast type as a function of lamp switching rate to achieve the desired energy savings while maintaining acceptable lamp life.</td>
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<td>NEMA LSD 14-2012 (R2019)</td>
<td>Demand Reduction and Energy Savings Using Occupancy Sensors</td>
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<td>NEMA LSD 15-2019</td>
<td>Recommended Practice—Lamp Seasoning for Fluorescent Dimming Systems</td>
<td>This paper provides a recommended practice to season lamps for Fluorescent Dimming Systems.</td>
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<td>NEMA LSD 16-2019</td>
<td>Marking of Luminaire Codes on Metal Halide Lamps</td>
<td>Provides information on marking metal halide lamps with the manufacturer’s commercial designation, including lamp wattage, ANSI code, lamp type, electrical code, and luminaire code.</td>
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<td>NEMA LSD 17-2012</td>
<td>Best Practices for Operating Fluorescent Lighting Systems</td>
<td>Summarizes information and recommendations found in more detailed NEMA papers on individual topics, as well as additional information and recommendations. The information benefits customers seeking to ensure proper operation of fluorescent systems to maximize system reliability and operational economy.</td>
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<td>NEMA LSD 19-2019</td>
<td>Incompatibility of T8 Ballasts (RS, PS, Dimming) and Shunted Bi-Pin Lampholders</td>
<td>Provides information on incorrect applications of bi-pin lampholders (tombstones) used with rapid-start (RS), programmed start (PS) and dimming ballasts. These incorrect applications have occurred in both new luminaires and field lamp and ballast retrofits.</td>
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NEMA LSD 34-2012
Recommended Practices for T8 Rapid-Start Fluorescent Lamp Dimming (17 W, 25 W, 32 W and 40 W Lamps)
Addresses the selection, integration, installation, application and maintenance of the dimming system components that together constitute a T8 fluorescent lamp-dimming system.
No charge

NEMA LSD 40-2019
Failure Modes for Self-Ballasted Compact Fluorescent Lamps (SBCFLs)—A NEMA Update
Explains in simplified terms why SBCFLs have different failure modes from normal incandescent lamps.
No charge

NEMA LSD 41-2020
UN2911 Labeling and Transportation of Lamps Containing Radioactive Substances
Provides information about shipping and labeling of lamps that contain radioactive substances. The vast majority of light bulbs, also called lamps by the lighting industry, do not contain any radioactive materials. Certain types contain very small amounts of radioactive isotopes which help to improve lamp ignition, lamp life and lumen maintenance.
No charge

NEMA LSD 46-2019
Photo-Luminescent Exit Signage—Factual Review
Describes concerns regarding the marketing and application recommendations common to photo-luminescent exit signage in the U.S. and Canada. Intended to educate potential users as to the considerations regarding installing and relying upon this type of emergency equipment.
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NEMA LSD 49-2010
Solid State Lighting for Incandescent Replacement—Best Practices for Dimming
Provides recommendations for the dimming and design of screw-based incandescent replacement solid state lighting products.
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NEMA LSD 55-2010
Outdoor Lighting and Human/Animal Factors An Industry Opinion
Outlines industry concerns and opinions regarding the subject of light at night and outdoor electric lighting as related to humans, animals, energy conservation and the environment.
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NEMA LSD 57-2018
Polyurethane Foam Application: Lighting Equipment
Provides information regarding practical aspects of applying spray foam insulation that may come into contact with luminaires in various building applications.
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NEMA LSD 58-2017
Air Infiltration Ratings for Recessed Luminaires
Addresses the Standard test procedure, installation requirements, and labeling applicable to luminaires to demonstrate limited airflow.
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NEMA LSD 60-2012
The Effects of Dimming on Color and Efficacy of LED Lamps
Describes and demonstrates the effects of dimming on color and efficacy of LED-based lamps.
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NEMA LSD 61-2012
Fluorescent Dimming Standards Development Report
Summarizes TFDS work and presents final results in a report for more detailed cited publications.
No charge

NEMA LSD 62-2020
Systems Approach for Lighting
Maximizes energy savings by shifting the regulatory focus from appliance Standards to lighting systems Standards as incorporated into building energy code.
No charge

NEMA LSD 63-2020
Measurement Methods and Performance Variation for Verification Testing of General Purpose Lamps and Systems
Establishes variations that can be expected when independent verification testing. Generally this is based on small samples of lamps or ballasts performed to estimate product performance characteristics and for comparison to manufacturer’s ratings.
No charge

NEMA LSD 64-2019
Lighting Controls Terminology
Defines terminology related to controls for lighting systems for non-residential and residential applications.
No charge
STANDARDS & OTHER PUBLICATIONS: Lighting

NEMA LSD 65-2019
NEMA Guide to Emergency Lighting
Provides information on emergency lighting systems, related codes, and regulations. This is not a “how to” manual for emergency lighting and exit signs. It is designed to provide a basic understanding of emergency lighting unit and exit sign equipment and how it functions.
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NEMA LSD 66-2017
Understanding the New Fluorescent Ballast Rule EPCA 10 CFR 430
Provides educational information about the Fluorescent Ballast Rule and the associated measurement methods.
No charge

NEMA LSD 67-2013 (R2018)
Low Mercury Controllable Fluorescent Systems
Discusses technical tradeoffs associated with reduced mercury dosing in fluorescent lighting systems and their environmental impacts. NEMA Members are committed to providing fluorescent lighting systems that allow lamps to be controlled to save energy, while reducing the mercury content in the lamps to the extent that it is technically possible without sacrificing functionality.
No charge

NEMA LSD 71-2020
Best Practices for Metal Halide Lighting Systems Relative to Lamp Rupture Risks
The objective of this paper is to provide updated educational information for the selection, operation, and maintenance of metal halide lighting systems, with specific emphasis on those items pertinent to the risks associated with lamp rupture.
No charge

NEMA LSD 73-2015
Energy Savings with Fluorescent and LED Dimming
Includes dimmable fluorescent ballast and Light Emitting Diode (LED) drivers that are controlled by 0-10 V (1-10 V) control input. This paper explains the relationship between the control input voltage and overall energy consumed by these ballasts and drivers.
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NEMA LSD 74-2016
Considerations of Field LED Driver Replacement
Discusses issues related to the field replacement of drivers in LED lighting fixtures, and how several aspects must be considered to ensure that the replacement driver will function the same as the original driver.
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NEMA LSD 76-2017
White Paper on the Usage of LED Lamps in Emergency Lighting Systems Having Remote Capacity
Contains a series of frequently asked questions to assist customers in understanding remote capacity and the usage of LED lamps in emergency lighting systems.
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NEMA LSD 79-2018
Predicted Energy Savings from Lighting Systems
Includes a framework used to gauge the effectiveness of different lighting control methods. This paper is indifferent to the manufacturer of a controls system and provides a modular approach to measuring the “potential” savings realized from various lighting systems.
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NEMA LSD 80-2018
Installation Guidelines for Outdoor Luminaires—Grounding Considerations
Addresses application of the National Electrical Safety Code® (NESC) as it pertains to the grounding of outdoor luminaires and recommends installation guidelines.
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NEMA LSD 81-2019
Controlled Emergency Lighting, a Technical Clarification Bulletin
Assists in the specification of devices used with emergency lighting that is controlled (dimming, switching, etc.) to satisfy the requirements of the applicable codes.
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NEMA LSD 9-2000 (R2011, R2017)
Compatibility of Add-on Tube Guards with T8 Fluorescent Lamps Operating on High-Frequency Electronic Ballasts
Addresses concerns that arise in the field regarding the use of plastic tube guards on T-8 fluorescent lamps operated on high-frequency electronic ballasts.
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NEMA LSD E11-2001
Fluorescent Lamps and the Environment
Answers questions regarding lamp technology and the presence of mercury therein, environmental concerns and industry and regulatory efforts. Fluorescent lamps and high-intensity discharge lamps contain small quantities of mercury. Concerns over mercury releases to the air and water are driving stricter disposal regulations.
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**NEMA LSD T 83-2020**


Covers the NEMA response to the International Energy Agency 4E report to correct inaccuracies of NEMA 77-2017 portrayed in the report.

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**NEMA SSL 1-2016**

Electronic Drivers for LED Devices, Arrays or Systems

Provides specifications for and operating characteristics of non-integral electronic drivers (power supplies) for LED devices, arrays or systems intended for general lighting applications.

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**NEMA SSL 4-2012**

Retrofit Lamps—Minimum Performance Requirements

Applies to integral Light Emitting Diode (LED) lamps, which is defined as a lamp with LEDs, LED driver, and base meeting appropriate American National Standards (ANSs). It is designed to connect to the branch circuit.

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**NEMA SSL 6-2010**

Solid State Lighting for Incandescent Replacement—Dimming

Provides guidance for those seeking to design and build or work with solid state lighting products intended for retrofit into systems that previously used incandescent screw base lamps. Addresses dimming of these products and the interaction between the dimmer (control) and the bulb (lamp).

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**NEMA SSL 7A-2015**

Phase-Cut Dimming for Solid State Lighting—Basic Compatibility

Provides compatibility requirements when a forward phase-cut dimmer is combined with one or more dimmable light-emitting diode (LED) light engines (LLEs).

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**NEMA TLA-2015**

Temporal Light Artifacts (Flicker and Stroboscopic Effects)

Addresses temporal light artifacts (TLAs). Flicker and stroboscopic effects are undesired changes in visual perception induced by a light stimulus whose luminance or spectral distribution fluctuates with time, for an observer in a certain environment.

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**ANSI C12-IEC 62056-9-7 ED1.0**

American National Standard for Electricity Metering Data Exchange – THE DLMS/COSEM SUITE-Communication Profile for TCP-UDP/IP Networks

ANSI C12 Standards Committee makes an identical national adoption of IEC 62056-5-3 Ed. 3 Electricity Metering Data Exchange – The DLMS/COSEM SUITE Part 5-3: DLMS/COSEM Application Layer. This part of IEC 62056 specifies the DLMS/COSEM application layer in terms of structure, services and protocols for DLMS/COSEM clients and servers, and defines rules to specify the DLMS/COSEM communication profiles. It defines services for establishing and releasing application associations, and data communication services for accessing the methods and attributes of COSEM interface objects, defined in IEC 62056-6-2 using either logical name (LN) or short name (SN) referencing.

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**ANSI C12-IEC 62056-5-3 ED3**

American National Standard for Electricity Metering Data Exchange – The DLMS/COSEM SUITE Part 5-3: DLMS/COSEM Application Layer

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ANSI C12/IEC 62056-6-1 ED3
American National Standard for Electricity Metering Data Exchange – The DLMS/COSEM Suite Part 6-1: Object Identification System (OBIS)
ANSI C12 Standards Committee makes an identical national adoption of IEC 62056-6-1 Ed. 3 Electricity Metering Data Exchange – The DLMS/COSEM Suite Part 6-1: Object Identification System (OBIS). This part of IEC 62056 specifies the overall structure of the OBject Identification System (OBIS) and the mapping of all commonly used data items in metering equipment to their identification codes. OBIS provides a unique identifier for all data within the metering equipment, including not only measurement values, but also abstract values used for configuration or obtaining information about the behaviour of the metering equipment.
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ANSI C12/IEC 62056-6-2 ED3
American National Standard for Electricity Metering Data Exchange – The DLMS/COSEM Suite Part 6-2: COSEM Interface Classes
ANSI C12 Standards Committee makes an identical national adoption of IEC 62056-6-2 Ed. 3 Electricity Metering Data Exchange – The DLMS/COSEM Suite Part 6-2: COSEM Interface Classes. This part of IEC 62056 specifies a model of a meter as it is seen through its communication interface(s). Generic building blocks are defined using object-oriented methods, in the form of interface classes to model meters from simple up to very complex functionality. Annexes A to F (informative) provide additional information related to some interface classes.
$453

ANSI C12/IEC 62056-8-20 ED1.0
American National Standard for Electricity Metering Data Exchange – The DLMS/COSEM Suite Part 8-20: Mesh Communication Profile for Neighbourhood Networks
ANSI C12 Standards Committee makes an identical national adoption of IEC 62056-8-20 Ed. 1.0 Electricity Metering Data Exchange – The DLMS/COSEM Suite Part 8-20: Mesh Communication Profile for Neighbourhood Networks. This part of IEC 62056 specifies a DLMS/COSEM communication profile that can be used in a smart metering system in which the Neighbourhood Networks (NN) are mesh networks. This profile may be considered as an adaptation and extension of the UDP/IP communication profile specified in IEC 62056-9-7:2013. As in that Standard, the PHY and MAC layers are out of the Scope. This Technical Specification specifies a number of features essential to the efficient operation of a large scale AMI using mesh NNs.
$182

ANSI C12.1-2014
American National Standard for Requirements for Watthour Meter Sockets
Covers the general requirements and pertinent dimensions applicable to watthour meter sockets rated up to and including 600 V and up to and including 320 A continuous duty per socket opening.
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ANSI C12.4-1984 (R2002, R2011)
American National Standard for Registers—Mechanical Demand
Covers the voltage and frequency rating, full-scale values, scale classes, demand intervals, multiplying constants, timing mechanism and other general features of mechanical demand registers required for use on watthour meters.
$200

ANSI C12.5-1978 (R2002, R2012)
American National Standard for Thermal Demand Meters
Establishes the physical aspects and acceptable performance criteria for 0.2 and 0.5 accuracy class electricity meters meeting Blondel’s Theorem.
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American National Standard for Phase-Shifting Devices Used in Metering, Marking and Arrangement of Terminals
Applies to phase-shifting devices designed to provide the proper lagged voltages required for kVAR and kVA measurement.
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ANSI C12.7-2014
American National Standard for Watthour Meter Sockets
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<td>Encompasses the dimensions and functions of meter test switches used with transformer-rated watthour meters in conjunction with instrument transformers and test plugs used in conjunction with the test switch.</td>
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<td>Covers the physical aspects of both detachable and bottom-connected watthour meters and associated registers including ratings, internal wiring arrangements, pertinent dimensions, markings and other general specifications.</td>
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<td>ANSI C12.11-2006 (R2014, R2019)</td>
<td>American National Standard for Instrument Transformers for Revenue Metering 10 kV BIL through 350 kV BIL (0.6 kV NSV through 69 kV NSV)</td>
<td>Covers the general requirements, metering accuracy, thermal ratings and dimensions applicable to current and inductively coupled voltage transformers for revenue metering.</td>
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<td>ANSI C12.18-2006 (R2016)</td>
<td>American National Standard for Protocol Specification for ANSI Type 2 Optical Port</td>
<td>Details the criteria required for communications between a C12.18 device and a C12.18 client via an optical port. The C12.18 client may be a handheld reader, a portable computer, a master station system or another electronic communications device.</td>
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<td>American National Standard for Utility Industry End Device Data Tables</td>
<td>Defines a Table structure for utility application data to be passed between an End Device and any other device. It neither defines device design criteria nor specifies the language or protocol used to transport that data. The Tables defined in this Standard represent a data structure that shall be used to transport the data, not necessarily the data storage format used inside the End Device.</td>
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<td>ANSI C12.20-2015</td>
<td>American National Standard for Electricity Meters—0.2 and 0.5 Accuracy Classes</td>
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<td>American National Standard for Protocol Specification for Telephone Modem Communication</td>
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<td>ANSI C12.22-2012 (R2020)</td>
<td>American National Standard for Protocol Specification for Interfacing to Data Communication Networks</td>
<td>Describes the process of transporting C12.19 table data over a variety of networks, with the intention of advancing interoperability among communications modules and meters. Uses AES encryption to enable strong, secure smart grid communications, including confidentiality and data integrity, and is also fully extensible to support additional security mechanisms the industry may require in the future.</td>
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<td>ANSI/NEMA C93.1-1999</td>
<td>American National Standard for Requirements for Power-Line Carrier Coupling Capacitors and Coupling Capacitor Voltage Transformers (CCVTs)</td>
<td>Applies to capacitors for coupling power-line carriers and for reducing rate of rise of breaker transient recovery voltage, and to CCVTs for connection to a high voltage power circuit, between line and ground, to supply a low voltage for measurement, control and protective functions.</td>
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**ANSI/NEMA SG-IPRM 1-2016**  
**Smart Grid Interoperability Process Reference Manual**  
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**A NEMA White Paper: ASHRAE 90.1-2016 Building Submetering Requirements**  
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**NEMA C12.24 TR-2011**  
**NEMA Technical Report Definitions for Calculations of VA, VAh, VAR, and VARh for Poly-Phase Electricity Meters**  
Establishes names and mathematical definitions for the volt-ampere (VA), volt-ampere hours (Vah), volt-ampere reactive (VAR) and volt-ampere reactive hours (VARh), formulae used by polyphase electricity meters. The mathematical definitions assume static waveforms.  
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**Test Requirements for Metering Devices Equipped with Service Switches**  
Identifies test requirements for meters containing a service switch. Most of the tests included in this report are tailored to fit service switch type meters and originate from the ANSI C12.1-2008 Standard. The intent is to use this technical report in conjunction with C12.1-2008. Other tests that are specific to the service switch have been added for completeness.  
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Power Conversion

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NEMA PE 1-2012
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Covers eight classes of low voltage cartridge fuses consisting of a current-responsive element inside a fuse body with contacts on both ends, rated 600 V or less, AC and DC. The classes are G, H, J, K, L, R, T and CC. Includes updates to the definitions, voltage rating and interrupting rating tables and the current carrying and temperature rise tests.
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NEMA VSP 1-2017
Susceptibility of Electrical and Electronic Components to Surge Damage
Provides guidance on the evaluation, specification and/or use of surge protective devices (SPDs) deployed in low voltage power distribution system applications.
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Impact of Surges on Equipment: Susceptibility of Electronics to Surge Damage
Provides an overview of electrical and electronic equipment surge susceptibility.
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Raceways
ANSI C80.1-2015
American National Standard for Electric Rigid Steel Conduit
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American National Standard for Electrical Metallic Tubing—Steel (EMT-S)
This Standard covers the requirements for steel electrical metallic tubing, for use as a raceway for wires or cables of an electrical system. Finished tubing is typically furnished in nominal 10-ft (3.05-m) lengths. It is protected on the exterior surface with a metallic zinc coating or alternate corrosion protection coating (see UL 797 for alternate corrosion protection coating requirements) and on the interior surface with a zinc or organic coating. $80

ANSI C80.5-2015
ANSI C80.5-2015 American National Standard for Electrical Rigid Metal Conduit—Aluminum (ERMC-A)
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American National Standard for Intermediate Metal Conduit (EIMC)
Covers the requirements for steel EIMC for use as a raceway for wires or cables of an electrical system. $88

NEMA PRP 1-2014 (R2019)
Guidelines for Conduit-in-Casing Construction
Presents conduit-in-casing construction as a technically sound solution to the problem of laying power/communication cables under a surface obstruction (highway, runway, rail bed, river, etc.) without disrupting traffic roadbed, rail bed or riverbed. $70

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Addresses the effect of thermal expansion and contraction on long, straight runs of conduit. For this application, O-ring expansion fittings are used to accommodate changes in length. No charge

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Installation Guidelines for Surface Nonmetallic Raceway
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NEMA TC 14.AG-2015
Aboveground Reinforced Thermosetting Resin Conduit and Fittings
Replaces the portions of TC 14-2002 relevant to aboveground RTRC and fittings and includes an annex on engineering data calculations not included in binational Standard. The entire NEMA TC 14 Series can be purchased at a discount. $42

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American National Standard for Safety Colors
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American National Standard for Environmental and Facility Safety Signs
Regulates requirements for the design, application, and use of safety signs in facilities and in the environment through consistent visual layout. Reorganized to best describe the five types of safety signs used in facilities, the 2011 edition of this Standard is revised to better harmonize with ANSI Z535.4, ANSI Z535.5, and ANSI Z535.6.
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ANSI Z535.3-2011 (R2017)
American National Standard for Criteria for Safety Symbols
Provides general criteria for the design, evaluation, and use of safety symbols to identify and warn against specific hazards and information to avoid personal injury.
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ANSI Z535.4-2011 (R2017)
American National Standard for Product Safety Signs and Labels
Delivers specifications for design, application, use, and placement of safety signs and labels on a wide variety of products. A new type of product safety sign, the “safety instruction sign,” was added to join the existing types of signs, hazard alerting signs, and safety notice signs, which were also more clearly defined and named in this edition. The definitions for “accident,” “harm,” and “incident” were refined to more clearly delineate a separation between physical injury and other safety-related issues (e.g., property damage). It was revised to correspond with ANSI Z535.2, ANSI Z535.5, and ANSI Z535.6.
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ANSI Z535.5-2011 (R2017)
American National Standard for Safety Tags and Barricade Tapes (for Temporary Hazards)
Discusses tag and tapes, which are used only until the identified hazard is eliminated or the hazardous operation is completed. The Z535.5-2011 edition was revised to link with ANSI Z535.2, ANSI Z545.4, and ANSI Z535.6. The Safety Instructions Tag was added in addition to the existing types of signs, hazard alerting tags, and barricade tapes, as well as safety notice tags and barricade tapes, which were more clearly defined and named in this edition. Industries (typically manufacturing and construction) that employ lockout/tagout procedures or have a need to mark an area affected by a temporary hazard will find this Standard beneficial.
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American National Standard for Product Safety Information in Product Manuals, Instructions and Other Collateral Materials
Sets forth requirements for the design and location of product safety messages in collateral materials for a variety of products.
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NEMA CS 100-2020
NEMA Technical Position on Reconditioned Equipment
Provides the NEMA perspective on how to best recondition electrical equipment, how to determine whether a component or assembly is suitable for reconditioning, and the importance of taking necessary precautions when reconditioning equipment.
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Evaluating Water-Damaged Electrical Equipment
Provides advice on the safe handling of electrical equipment that has been exposed to water. Outlines items that will require complete replacement or that can be reconditioned by a trained professional. Equipment covered includes electrical distribution equipment, motor circuits, power equipment, transformers, wire, cable and flexible cords, wiring devices, GFCIs and surge protectors, lighting fixtures and ballasts, motors and electronic products.
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NEMA GD 2-2016
Evaluating Fire- and Heat-Damaged Electrical Equipment
Provides information on how to evaluate electrical equipment that has been exposed to heat and fire residue through fire, firefighting activities, or close proximity to a fire. It is designed for use by suppliers, installers, inspectors, and users of electrical products.
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NEMA GD 4-2020
COVID-19 Cleaning and Disinfecting Guidance for Electrical Equipment
As we continue to learn more about the SARS-CoV-2 (COVID-19) virus, Members of the National Electrical Manufacturers Association (NEMA) are receiving questions regarding the cleaning and disinfecting of electrical equipment. This Guidance document reflects the responses of electrical manufacturers to some common questions related to cleaning and disinfecting electrical equipment.
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NEMA GD 4-2020 (Spanish)
COVID-19 Guía de Limpieza y Desinfección para Equipos Eléctricos Versión 1, 13 de mayo de 2020
A medida que continuamos aprendiendo más sobre el virus SARS-CoV-2 (COVID-19), los miembros de la Asociación Nacional de Fabricantes Eléctricos (NEMA) reciben preguntas sobre la limpieza y desinfección de equipos eléctricos. Este documento de orientación, refleja las respuestas de los fabricantes de equipo eléctrico a algunas preguntas comunes relacionadas con la limpieza y desinfección de equipos eléctricos.
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Identifies a recommended set of supply chain best practices and guidelines that electrical equipment and medical imaging manufacturers can implement during product development to minimize the possibility that bugs, malware, viruses, or other exploits can be used to negatively impact product operation. As opposed to being an all-inclusive document, it is a representation of identified best practices that vendors can implement as they develop, manufacture, and deliver products as part of the supply chain.

No charge

**NEMA CPSP 2-2018**
**Cyber Hygiene Best Practices**
Identifies a set of industry best practices and guidelines for electrical equipment and medical imaging manufacturers to help raise their level of cybersecurity sophistication in their manufacturing facilities and engineering processes.

No charge

**NEMA CPSP 3-2019**
**Cyber Hygiene Best Practices**
Identifies industry best practices and guidelines that electrical equipment and medical imaging manufacturers may consider when providing cybersecurity information to their customers.

No charge

### Transformers

**Safety Labels for Pad-Mounted Switchgear and Transformers Sited in Public Areas**
Details the labeling used on pad-mounted switchgear and transformers sited in public areas adjacent to residential properties, shopping centers and schools. May be used for equipment sited in utility or industrial properties that are not normally accessible to the general public. Contains Mr. Ouch labels.

$70

**NEMA ST 20-2014**
**Dry Type Transformers for General Applications**
Applies to single-phase and polyphase dry type transformers (including both autotransformers and noncurrent limiting reactors) for supplying energy to power, heating, and lighting circuits.

$98

**NEMA TR 1-2013 (R2019)**
**Transformers, Regulators and Reactors**
Includes certain NEMA Standard test methods, test codes and properties of liquid-immersed transformers, regulators and reactors that are not ANSI Standards. Provides a list of all ANSI C57 Standards that have been approved by NEMA.

$76

### Transportation Management

**NEMA EVSE 1-2018**
**EV Charging Network Interoperability Standard—A Contactless RFID Credential for Authentication (UR Interface)**
Addresses the credentials part of a complex Standardization system allowing electrical vehicle (EV) drivers to recharge their vehicle batteries across different EV charging networks.

$176

**NEMA RC P1-2020**
**The Value of Rail Electrification**
A discussion paper that objectively provides the challenges associated with rail electrification, its potential benefits, and a path forward to achieve them. Also introduces the Rail Electrification Council.

No Charge

**Traffic Control Systems (Not Recommended for New Designs)**
Defines traffic-signaling equipment used to facilitate and expedite the safe movement of vehicular and pedestrian traffic. This Standard has been reaffirmed to make it available for support of legacy traffic-control equipment. For new equipment installations, use TS 2.

$171

**NEMA TS 2-2003, Amendment 3**
**Contactor Amendment**
Modifies Figure 5-4, and Section 5.4.2.3, and adds a new Section 5.4.3.2.1.

No charge
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<tr>
<td>NEMA TS 2-2003, Amendment 4</td>
<td>Revises NEMA TS 2-2003 (R2008) in four places to address Flashing Yellow Arrow (FYA), specifically by assigning a bit as “FYA Flash Rate Failure; including language addressing FYA operation; and including language addressing FYA and MMUs.</td>
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<tr>
<td>NEMA TS 2-2016</td>
<td><strong>Traffic Controller Assemblies with NTCIP Requirements—Version 03.07</strong></td>
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STANDARDS & OTHER PUBLICATIONS: Transportation Management

NTCIP 1203 v03
Object Definitions for Dynamic Message Signs (DMS)
Defines requirements, data elements and conformance requirements applicable to all NTCIP DMS. Data elements are defined using the Simple Network Management Protocol (SNMP) object-type format as defined in RFC1212 and would typically be exchanged using one of the NTCIP-recognized application layers (e.g., SNMP). Formerly TS 3.6. NTCIP 1203 v03 now includes Test Procedures (Annex C). This is a revision of NTCIP 12032011.
$390

NTCIP 1204 v03
Environmental Sensor Station (ESS) Interface Protocol
Provides definitions of data elements for use with ESS. NTCIP 1204 v03 now includes Test Procedures in Annex C. $295

NTCIP 1205:2001
Object Definitions for Closed-Circuit Television (CCTV) Camera Control
Defines objects that are specific to CCTV and standardized object groups that can be used for conformance statements. Limited to the functionality related to CCTV camera control within a transportation environment.
$100

NTCIP 1206:2005
Object Definitions for Data Collection and Monitoring (DCM) Devices
Defines data elements used for the configuration control and status monitoring of transportation data collection devices. The scope of this document is limited to the functionality related to DCMs used within a transportation environment.
$313

NTCIP 1207 v02
Object Definitions for Ramp Meter Control (RMC) Units
Defines communication protocol for ramp metering control (RMC) units. Communicating together, RMC units detect both traffic on the main roadway and queued traffic preparing to enter the main roadway, optimizing traffic flow for both. RMC units include a field controller, its suite of sensors, and its warning signs and signals, as well as main roadway and queue detection stations.
$261

NTCIP 1208:2005
Object Definitions for Closed-Circuit Television (CCTV) Switching
Defines data elements specific to CCTV switches and standardized data element groups that can be used for conformance statements. Limited to the functionality related to CCTV switches within a transportation environment.
$169

NTCIP 1209 v02
Object Definitions for Transportation Sensor Systems (TSS)
Defines data elements used to monitor and control TSS devices for detecting and communicating certain traffic parameters. Describes a zone, virtual zone and sensor, and how zones can be grouped.
$224

NTCIP 1210 v01
Field Management Stations (FMS)—Part 1: Object Definitions for Signal System Masters (SSM)
Defines communication requirements among some elements of a traffic management system, specifically the green, yellow, and red indications at a local intersection; a signal system master (also called a “field master,” managing traffic indications at about two to ten nearby, local intersections); and a Traffic Management Center, responsible for traffic management in a wider geographic area.
$263

NTCIP 1211 v02
Object Definitions for Signal Control and Prioritization (SCP)
Includes requirements for communication and management of multiple requests for priority or preferential treatment of different classes of vehicles, such as transit or emergency service, among others. NTCIP 1211 v02 defines a method of granting priority to one signal while maintaining coordination with adjacent intersections. NTCIP 1211 v02 includes User Needs, Functional Requirements, and a Protocol Requirements List (PRL). NTCIP 1211 v02 also addresses “absolute time” as a request parameter.
$240

NTCIP 1213 v02
Object Definitions for Electrical and Lighting Management Systems (ELMS)
Provides object definitions for communication between a Traffic Management Center (TMC) and ELMS devices (a roadside luminaire and its sensors, for example), to control or monitor various functions, including dimming; light-activated, scheduled or manual operation; or power meter measurement.
$227

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<td>Point to Multi-Point Protocol Using FSK Modem Subnetwork Profile</td>
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STANDARDS & OTHER PUBLICATIONS: Transportation Management

**NTCIP 2306 v01**
Application Profile for XML Message Encoding and Transport in ITS Center-to-Center Communications
Defines an application profile for communications between transportation management systems, using internet Standards based on the Extensible Markup Language (XML).
Defines requirements and optional and conditional clauses applicable to the specific environments for which they are intended.
$147

**NTCIP 8003:2001**
Profile Framework
Applies to traffic control and transportation-related devices and provides the terminology, content, structure and organization of NTCIP-standardized profiles.
$57

**NTCIP 8004 v02**
Structure and Identification of Management Information (SMI)
Defines the SMI used in transportation-related devices and contains mandatory requirements applicable to all devices claiming conformance, as well as options and conditional requirements that may be applicable to a specific environment.
$131

**NTCIP 8005 v01**
Procedures for Creating Management Information Base (MIB) Files
Defines processes to verify the correctness of a MIB in NTCIP data dictionary Standards, and to prepare a stand-alone version of the MIB. Covers policies and procedures for MIB development and maintenance. Defines requirements for use by NTCIP data stewards in checking MIBs, coordinating all NTCIP device data dictionaries and working with other entities using NTCIP MIBs.
$80

**NTCIP 8007 v01**
Testing and Conformity Assessment Documentation within NTCIP Standards Publications
Defines requirements to be used by NTCIP working groups in producing test documentation as part of the NTCIP Standards process.
$92

**NTCIP 9001 v04**
The NTCIP Guide
Assists NTCIP implementers in understanding relationships among various Standards publications within the NTCIP family, as well as how and when to use selected NTCIP Standards publications.
No charge

**Wire & Cable**

**NEMA USER GUIDE**
User Guide to Product Specifications for Electrical Building Wire and Cable
Lists commonly used electrical building wire and cable and the applicable U.S. Standards recognized by the NEC®.
$48

**ANSI/NEMA HP 4-2012**
Electrical and Electronic Fluorinated Ethylene Propylene (FEP) Insulated High-Temperature Hook-Up Wire, Types KT (250 V), K (600 V) and KK (1,000 V)
Covers specific requirements for FEP insulated solid and stranded wire designed for the internal wiring of high-reliability electrical and electronic equipment.
$83

**ANSI/NEMA HP 5-2013**
Electrical and Electronic Crosslinked, Modified Polyethylene (XLPE) Insulated 125°C Hook-Up Wire, Types L (600 V), LL (1,000 V) and LX (3,000 V)
Covers specific requirements for crosslinked, modified polyethylene insulated solid and stranded wire, designed to the internal wiring of high-reliability electrical and electronic equipment.
$90

**ANSI/NEMA HP 6-2013**
Electrical and Electronic Silicone and Silicone-Braided Insulated Hook-Up Wire Types S (600 V), ZHS (600 V), SS (1,000 V), ZHSS (1,000 V) and SSB Braided (1,000 V)
Covers requirements for silicone rubber-insulated stranded wire used in the internal wiring of high-reliability electrical and electronic equipment. The Standard permits continuous conductor temperature ratings of -55°C to +150°C (tin-copper) or +200°C (silver-copper) with either tin-coated or silver-coated conductors. Replaces MIL-W-16878 silicone rubber-insulated wire slash sheets (/7, /8, /29 through /32).
$97
ANSI/NEMA HP 8-2013
Electrical and Electronic Cross-Linked, Modified Low-Smoke Polyolefin (XLPO) Insulated Hook-Up Wire, Types LS (rated 105°C; 600 V), ZHDM (rated 90°C; 600 V), ZH (rated 90°C; 600 V), ZHDM (rated 125°C; 600 V), ZH (rated 125°C; 600 V), and ZHX (rated 125°C; 1,000 V)
Covers specific requirements for crosslinked, modified, polyolefin insulated solid and stranded wire, designed to the internal wiring of high-reliability electrical and electronic equipment.
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ANSI/NEMA HP 9-2014
Electrical and Electronic Ethylene-Propylene Diene Elastomer (EPDM) Insulated Hook-Up Wire, Types EP (Rated 125°C; 600 V) and EPD (Rated 125°C; 5000 V)
Covers specific requirements for Ethylene-Propylene Diene Elastomer insulated solid and stranded wire, designed to the internal wiring of high-reliability electrical and electronic equipment.
$101
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ANSI/NEMA MW 1000-2018
Magnet Wire
Contains specifications for round, rectangular, and square film-insulated and/or fibrous-covered copper and aluminum magnet wire for use in electrical apparatus. Included are the definitions, type designations, dimensions, constructions, performance, and test methods for magnet wire generally used in the winding of coils for electrical apparatus. Visit www.MW1000.com for additional information about ANSI/NEMA MW 1000 and a summary of amendments to the Standard.
$324
Buy Now

ANSI/NEMA WC 51/
ICEA P-54-440-2009 (R2014), R2019
Ampacities of Cables Installed in Cable Trays
This Standards Publication covers the ampacity ratings for 600-15,000 volt solid dielectric cables installed in cable trays. Ampacity ratings are tabulated for single conductor cables, triplexed assemblies of single conductor cables, and three-conductor cables incorporating an overall jacket. Ampacities have been tabulated for the cable constructions and the operating conditions normally encountered for tray applications. Correction factors to adjust the tabulated values to better reflect specific conditions are provided. These include adjustments to account for ambient and operating temperatures, cable construction, tray covers, and diversification of the cable loading.
$179

ANSI/NEMA WC 53/
ICEA T-27-581-2020
Standard Test Methods for Extruded Dielectric Power, Control, Instrumentation, and Portable Cables for Test
Applies to the testing of extruded dielectric insulated power, control, instrumentation and portable cables.
$179

ANSI/NEMA WC 54/
ICEA T-26-465-2013
Guide for Frequency of Sampling Extruded Dielectric Power, Control, Instrumentation and Portable Cables for Test
Provides a combination of plans for frequencies at which cable samples may be obtained for tests to determine conformance to appropriate requirements of ICEA Standards publications.
$84

ANSI/NEMA WC 55021-2013
( PA2019)
Standard for Military Internal Electrical Cable
Covers specific requirements for finished cables. The cables are intended for internal wiring of electrical equipment for use in the hook-up of various electronic assemblies. The component wires are covered by other reference Standards. Cables constructed with PVC insulated wires or jackets are not to be used for aerospace applications.
$87
ANSI/NEMA WC 57/
ICEA S-73-532-2014
Standard for Control, Thermocouple Extension, and Instrumentation Cables
Applies to materials, construction and testing of multiconductor control, thermocouple extension and instrumentation cables rated up to and including 125°C.
$197

ANSI/NEMA WC 58/
ICEA S-75-381-2017
Portable and Power Feeder Cables for Use in Mines and Similar Applications
Applies to materials, construction and testing of insulated cables used for the distribution of electrical energy in surface and underground mines and similar applications. Included are portable cables for use in mining machines, dredges, shovels and the like, and mine power cables for use as connections between units of mine distribution systems.
$248

ANSI/NEMA WC 61-1992
(R2005, R2015, R2020)
American National Standard for Transfer Impedance Testing
This Standard is intended to provide a reliable surface transfer impedance test method for coaxial cables and shielded multiconductor cables over the frequency range from DC to 100 MHz.
$80

Performance Standard for Coaxial Premise Data Communications Cables
Defines minimum electrical performance characteristics, material and mechanical specifications of premise wiring cables for data applications. Includes definitions and applicable test methods.
$53

ANSI/NEMA WC 66/
ICEA S-116-732-2019
Standard for Category 6 and 6A, 100 Ohm, Individually Unshielded Twisted Pairs, Indoor Cables (With or Without An Overall Shield) For Use In LAN Communication Wiring Systems
Defines minimum electrical performance and allowable conductor sizes, stranding and shielding for premise wiring cables for voice and data applications for 100 ohm shielded and unshielded twisted pair cables.
$106

ANSI/NEMA WC 67-2015
American National Standard for Uninsulated Conductors—Used in Electrical and Electronic Applications
Covers single-end (solid) and stranded, coated and uncoated copper, coated copper alloy, coated copper-clad steel, aluminum and thermocouple extension uninsulated conductors used primarily in insulated wires for aerospace, electrical, electronic and other high-performance applications.
$111

ANSI/NEMA WC 70/
ICEA S-95-658-2009
Power Cables Rated 2,000 V or Less for the Distribution of Electrical Energy
Applies to materials, construction and testing of 2,000 V and below thermoplastic and thermoset insulated wires and cables used for the transmission and distribution of electrical energy for normal conditions of installation and service, either indoors, outdoors, aerial, underground or submarine.
$263

ANSI/NEMA WC 71/
ICEA S-96-659-2014
Standard for Non-Shielded Cables Rated 2,001-5,000 V for Use in the Distribution of Electric Energy
Applies to materials, construction and testing of 2001 through 5000 V nonshielded power cables having insulations of thermoplastic polyethylene, cross-linked polyethylene or cross-inked rubber.
$195

ANSI/NEMA WC 74/
ICEA S-93-639-2017
5-46 kV Shielded Power Cable for Use in the Transmission and Distribution of Electric Energy
Applies to materials, construction and testing of 5,000 V to 46,000 V shielded crosslinked polyethylene, and ethylene propylene rubber insulated wires and cables used for the transmission and distribution of electrical energy for normal conditions of installation and service, either indoors, outdoors, aerial, underground or submarine.
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ANSI/NEMA WC 75-2015
Standard for Controlled Impedance in Internal Electrical Cable
Developed to cover specific requirements for finished cables with controlled impedance twisted pairs. It enables a user to specify various numbers of pairs (1–61) with a required impedance requirement, and tailor the materials to meet a specific end application.
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ANSI/NEMA WC 76-2018
Standard for Controlled Impedance Shielded Twisted Pairs in Internal Electrical Cable
Covers specific requirements for finished cables with controlled impedance shielded twisted pair(s). This Standard enables users to specify various numbers of shielded pairs (1–61) with a required impedance requirement, and tailor the materials to meet a specific end application.
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ANSI/NEMA WC 27500-2020
American National Standard for Aerospace and Industrial Electrical Cable
Contains requirements for finished aerospace and industrial electrical cables. The component wires are covered by other referenced Standards. These cables are intended for signal and low-voltage power applications with defined environment or temperature conditions found in commercial aircraft, military aircraft, and high performance vehicles.
$150
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ANSI/NEMA WC 55021-2013
Standard for Military Internal Electrical Cable
Covers specific requirements for finished cables. The cables are intended for internal wiring of electrical equipment for use in the hook-up of various electronic assemblies. The component wires are covered by other reference Standards. Cables constructed with PVC insulated wires or jackets are not to be used for aerospace applications.
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NEMA BWCP 1-2017
The Evolution of Aluminum Conductors Used for Building Wire and Cable
Describes the history of the discovery, application and acceptance of the AA-8000 series of aluminum conductors for building wire and cable applications. This series of alloys was discovered to have excellent characteristics with respect to strength, ductility, and thermal stability.
No charge

NEMA HP 7-2011
Electrical and Electronic PVC, PVC/Nylon, and PE/Nylon 105°C Hook-Up Wire, Types B, C, D, BN, CN, and DN (600, 1000, and 3000 V), and Types J and JN 75°C (600V)
Covers specific requirements for PVC, PVC/polyamide, PE, and PE/polyamide insulated stranded wire designed to the internal wiring of high reliability electrical and electronic equipment.
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NEMA HP 100-1991 (R1999, R2005, R2010) Series (HP 100-100.4)
High-Temperature Instrumentation and Control Cables
Covers requirements and test procedures for a series of multiple-conductor, high-temperature instrumentation and control cables for use in ducts, conduit and trays. Contains general requirements and test procedures. Addresses high-temperature instrumentation and control cables insulated and jacketed with FEP fluorocarbons, with ETFE fluoropolymers, crosslinked (thermoset) polyolefin (XLPO), and with ECTFE fluoropolymers.
$224
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NEMA IPDP 1-2018
Magnet Wire Insulation Removal Methods
Describes known methods for removing insulation from finished magnet wire products including how insulation removal is achieved, the typical applications for each method, and the safety precautions magnet wire users should consider when conducting magnet insulation removal operations.
No charge

NEMA MP 6-2019
Application Considerations: Mechanical Properties
Describes the mechanical properties most often considered in the design and intended performance of cable ties and their fixing devices.
No Change

NEMA MW 750-2009 (R2014)
Dynamic Coefficient of Friction of Film-Insulated Magnet Wire
 Provides a method and equipment used for determining the coefficient of friction of film-insulated round magnet wire for sizes 14–44 AWG.
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Reclaiming of Magnet Wire Packaging
Specifies the required physical and visual characteristics of reclaimed plastic spools/reels and other components used for packaging of magnet wire.
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NEMA MW 780-2005 (R2011, 2016)
Returnable Packaging for 24x6 Magnet Wire Reels
Applies to products intended exclusively for the packaging/storage of magnet wire products. Provides guidelines for the minimum information required for the design and production of a returnable pallet generally made of a synthetic material, intended to accommodate primarily 24 x 6 reels.
$67
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NEMA MW 785-2000 (R2006, R2011)
Simulated Insertion Force Test for Film-Insulated Round Magnet Wire
Describes a method and equipment used to determine the simulated insertion force of film-insulated round magnet wire for wire sizes 14–28 AWG.
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NEMA MW 820-2016
Conductor Softness Testing Methods
Presents wire testing methodologies used by magnet wire manufacturers and users to characterize the “softness of the conductor” in order to predict how well the magnet wire will wind and be formed into its final desired shape and position.
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NEMA RV 1-2016
Application and Installation Guidelines for Armored Cable and Metal-Clad Cable
Offers practical information on correct usage and industry-recommended practices for the installation of Type AC and Type MC cables in accordance with the NEC®.
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NEMA RV 2-2016
Application and Installation Guidelines for Nonmetallic-Sheathed (NM-B) Cable and Underground Feeder and Branch Circuit (UF-B) Cable
Offers practical information on correct usage and industry-recommended practices for the installation of Types NM-B and UF-B circuit cable in accordance with the NEC®.
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NEMA RV 3-2014
Application and Installation Guidelines for Flexible and Liquidtight Flexible Metal and Nonmetallic Conduits
Offers practical information on correct usage and industry-recommended practices for the installation of Flexible Metal Conduit (type FMC), Liquidtight Flexible Metal Conduit (type LFMC) and Liquidtight Flexible Nonmetallic Conduit (type LFNC) in accordance with the NEC®.
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NEMA RV 4-2016
Application Guidelines for Service-Entrance Cable
Offers practical information on correct usage and industry-recommended practices for the installation of service-entrance cable (Type SE) in accordance with the NEC®.
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NEMA UV P2-2018
Application Environments Exposure to Ultraviolet Light
This is a new NEMA application guide on exposure to ultraviolet light. No charge
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NEMA VE 1 2017-ESPAÑOL
Sistemas de charolas metálicas
Esta norma especifica los requisitos para charolas metálicas y accesorios asociados diseñados para utilizarse de acuerdo con las regulaciones del Canadian Electrical Code (código CE), Parte I y el National Electrical Code® (NEC).
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NEMA WC SET
Cable Standards Set
Contains all nine ANSI/NEMA/ICEA wire and cable Standards, which are listed on this page.
$1,214
Buy Now

NEMA WC 52-2005
High-Temperature and Electronic Insulated Wire, Impulse Dielectric Testing
Applies to the dielectric testing of insulation of unshielded single-conductor wires. This procedure is not intended for use with multiconductor cable.
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Own a complete set of all NEMA Standards.
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NEMA WC 56-1986 (R2018)
3.0 kHz Insulation Continuity Proof Testing of Wire and Cable
Covers a general procedure for continuous voltage proof testing of hook-up wire. Intended to apply primarily to the final inspection of wire for the purpose of finding and eliminating defects prior to shipment or use.
$57
Buy Now

Repeated Spark/Impulse Dielectric Testing
Discusses the validity of repeat continuity proof testing of insulated wire.
$57
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NEMA WC 63.1-2005
Performance Standard for Twisted Pair Premise Voice and Data Communications Cables
Defines minimum electrical performance and allowable conductor sizes, stranding and shielding for premise wiring cables for voice and data applications.
$122
Buy Now

NEMA WC 65-1995 (R2003)
A Reasoned Approach to Solving Solderability Problems with Tin-Coated and Nickel-Coated Stranded Conductors in High-Performance Wire and Cable Applications
Contains a review of solderability problems with tin-coated and nickel-coated stranded conductors, as well as existing solderability Standards. Discusses the root causes of these problems. Provides recommendations that may supply solutions for specific applications.
$67
Buy Now

NEMA WC 72-1999
(R2004, R2015, R2020)
Continuity of Coating Testing for Electrical Conductors
Reviews problems that have occurred when polysulfide testing has been improperly imposed on tin-, silver-, and nickel-coated copper and copper-alloy stranded conductors or on tin-, silver-, or nickel-coated copper and copper-alloy single or stranded conductors after insulating.
$60
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NEMA WC 73-2000 (R2018)
Wire Selection Guidelines for Wires Rated at 200° to 450°C
Contains guidelines for calculating amperages and selecting wires for temperatures from 200° to 450°C and for voltage ratings up to and including 1,000 V RMS. Ampacity charts, temperature correction factors and derating factors are provided along with extensive examples of calculations.
$72
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NEMA EDM P1-2019
Emergency Disconnect Marking Guide
Contains recommendations on marking parameters and their placement on products to provide consistent industry communication regarding the emergency disconnect to fire service or other emergency response personnel. No charge
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NEMA WD-AG 1-2019 CAN
Application Guide for Isolated Ground Wiring Devices
Covers wiring devices and accessories intended to help protect sensitive equipment from malfunction due to noise on the equipment grounding path. This edition covers Canadian Electrical Code requirements. No charge
Buy Now

ANSI/NEMA WD 6-2016
Wiring Devices—Dimensional Specifications
Covers the plugs, receptacles, and wall plates used in most electrical installations in residential, commercial, and industrial buildings. Two new configurations were added to offer increased safety for IT and datacenter applications and one configuration was modified. Included in the online version is a new navigation tool that allows one to go from the Table of Contents to the selection chart for each of the three main wiring devices configuration categories.
$248
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NEMA 410-2015
Performance Testing for Lighting Controls and Switching Devices with Electronic Drivers and Discharge Ballasts
Provides guidance for the design and testing of lighting controls and switching devices to be used with electronic drivers, discharge ballasts and self-ballasted lamps to assist in establishing and verifying compatibility between products.
$120

General Color Requirements for Wiring Devices
This Standards publication contains color references for AC switches, plugs and cord connectors, receptacles, and other related wiring devices.
$49

NEMA WD 7-2011 (R2016)
Occupancy Motion Sensors Standard
Covers the definition and measurement of field of view and coverage characteristics relevant to the use and application of vacancy and occupancy sensors using individual or any combination of passive infrared, ultrasonic, or microwave technology.
$56

NEMA WD 8-2018
Guidelines for Electrical Wiring Device Replacement
Contains a checklist intended for evaluating the safety of wiring devices and associated electrical equipment installed in residences, by building maintenance, and management personnel.
$48

NEMA WD 9-2013 (R2018)
Dimmers, Photocontrols, Presence Sensors, and Multi-outlet Bars Energy Consumption Testing and Labeling
Covers the energy consumption testing and related labeling for dimmers, photoelectric controls, presence/motion sensors, and multi-outlet bars.
$28

NEMA WD ARCP 1-2016
Automatic Receptacle Control to Meet ASHRAE 90.1-2010 and California (CA) Title 24
Explains the controlled receptacle requirement now appearing within non-residential energy codes, as well as a summary of typical application settings.
No charge

ANSI/NEMA HN 1-2019
Manufacturer Disclosure Statement for Medical Device Security
Consists of the MDS2 form and instructions for completing it. Assists professionals responsible for security-risk assessment in the management of medical device security issues. The information on the MDS2 form is not intended, and may be inappropriate, for other purposes.
No charge

ANS/NEMA SC 1-2020
American National Standard for Supplier Credentialing in Healthcare
For healthcare providers and their suppliers to identify the credentials of supplier representatives that visit healthcare facilities.
$92

NEMA EL P1-2018
NEMA Position Paper on Electronic Labeling
Communicates the NEMA position on the concept of electronic labeling as well as the benefits and challenges associated with the use of electronic labeling.
No charge

NEMA LC P1-2019
Medical Imaging Device Lifecycles
Explores the differences between hardware and software lifecycles for medical imaging devices, the implications of those lifecycles on the cybersecurity of the devices, and best practices for manufacturers and healthcare delivery organizations in planning for and communicating different phases of a device’s lifecycle.
No charge

MITA/NEMA CTSDC-2015
Is Your CT Smart Dose Compliant?
Clarifies with CT users and hospital administrative staff how to determine whether their CT equipment conforms to the Smart Dose Standard and outlines important considerations for assessing system modifications marketed to obtain Smart Dose Standard conformance.
No charge
NEMA MS 1-2008 (R2014)
Determination of Signal-to-Noise Ratio (SNR) in Diagnostic Magnetic Resonance Imaging
Defines methods for measuring the signal-to-noise ratio of magnetic resonance images obtained under a specific set of conditions, and using single-channel volume receiver coils. This document does not address the use of special purpose coils (see MS 6) or coils that employ multiple receiver channels for operation (see MS 9).
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NEMA MS 2-2008 (R2014)
Determination of Two-Dimensional Geometric Distortion in Diagnostic Magnetic Resonance Images
Describes a method for determining the maximum percent difference between measured distances in an image and actual corresponding phantom dimensions. The procedure described evaluates geometric distortion in three orthogonal planes passing through the center of the specification volume.
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NEMA MS 3-2008 (R2014)
Determination of Image Uniformity in Diagnostic Magnetic Resonance Images
Defines a method for measuring image-uniformity performance of diagnostic magnetic resonance imaging systems using single channel volume coils and performing proton imaging. This document does not address the use of surface coils, chemical shift imaging, or spectroscopy.
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NEMA MS 4-2010
Acoustic Noise Measurement Procedure for Diagnostic Magnetic Resonance Imaging (MRI) Devices
Provides methods for determining the acoustic noise level of an MRI system.
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NEMA MS 5-2018
Determination of Slice Thickness in Diagnostic Magnetic Resonance Imaging
Describes a method for determining the slice thickness of proton images. Does not address spectroscopy, chemical shift imaging and warped slices.
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NEMA MS 6-2008 (R2014)
Determination of Signal-to-Noise Ratio and Image Uniformity for Single-Channel, Non-Volume Coils in Diagnostic Magnetic Resonance Imaging (MRI)
Defines test methods for measuring the signal-to-noise ratio and image uniformity of MR images produced using special purpose single-channel non-volume coils or a single channel of an array coil.
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NEMA MS 7-2016
Characterization of the Specific Absorption Rate (SAR) for Magnetic Resonance Imaging Systems
Describes calorimetric and pulse energy methods of whole-body SAR measurements. Specifies tests for volume RF transmit coils that produce relatively homogeneous RF fields.
$106
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NEMA MS 8-2016
Characterization of the Specific Absorption Rate (SAR) in Diagnostic Magnetic Resonance Images (MRI)
Defines test methods for determining the signal-to-noise ratio and image uniformity of MR images produced using receive-only phased array coils. Other coil configurations have been addressed in MS 1, MS 3, and MS 6.
$92
Buy Now

NEMA MS 9-2008 (R2014)
Characterization of Phased Array Coils for Diagnostic Magnetic Resonance Imaging (MRI)
Defines test methods for measuring the signal-to-noise ratio and image uniformity of MR images produced using receive-only phased array coils. Other coil configurations have been addressed in MS 1, MS 3, and MS 6.
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NEMA MS 10-2010
Determination of Local Specific Absorption Rate (SAR) in Diagnostic Magnetic Resonance Imaging (MRI)
Defines methods for determining the local SAR of diagnostic MRI radio frequency coils under a specific set of conditions.
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NEMA MS 11-2016
Quantification and Mapping of Geometric Distortion for Special Applications
Defines test methods for measuring the absolute spatial variation of geometric accuracy within magnetic resonance images. This Standard presents the absolute geometric accuracy as a map, graph or table throughout the imaging region rather than as simple figures of merit, such as average or worst-case error.
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NEMA MS 12-2016
Characterization of the Specific Absorption Rate (SAR) in Diagnostic Magnetic Resonance Imaging Systems
Describes calorimetric and pulse energy methods of whole-body SAR measurements. Specifies tests for volume RF transmit coils that produce relatively homogeneous RF fields.
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<td>NEMA MS 14-2019</td>
<td>Characterization of Radiofrequency (RF) Coil Heating in Magnetic Resonance Imaging Systems</td>
<td>Examines the measurement of the radiofrequency coil surface temperature increase, which is induced by the radiofrequency fields in magnetic resonance imaging. Testing methods are provided for detachable RF receive coils, detachable transmit/receive coils, detachable transmit coils, and integrated body coils.</td>
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<td>NEMA NU 3-2004</td>
<td>Performance Measurements and Quality Control Guidelines for Non-Imaging Intraoperative Gamma Probes</td>
<td>Establishes definitions and describes quantitative measurements of performance characteristics and quality control tests for non-imaging intraoperative gamma probes.</td>
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<td>NEMA NU 4-2008</td>
<td>Performance Measurements of Small Animal Positron Emission Tomographs (PETs)</td>
<td>Proposes a standardized methodology for evaluating the performance of PETs designed for animal imaging. Establishes a baseline of system performance in typical imaging conditions independent of camera design and applies to a wide range of camera models and geometries. Represents a subset of measurements that characterize the performance of PETs for specific imaging tasks typically encountered in small laboratory animal imaging facilities. This subset is deemed to be common across all tomographs existing at the time of publication.</td>
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<td>NEMA RT 1-2014</td>
<td>Gating Interface</td>
<td>Provides a detailed description of the gating interface between Radiation Therapy Treatment Delivery Devices (TDD), commonly called linear accelerators or other particle therapy accelerators and Patient Position Monitoring Systems (PPMS).</td>
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<td>NEMA XR 16-1991 (R1996, R2001)</td>
<td>Test Standard for the Determination of the System Contrast Ratio (SCR) and the System Veiling Glare Index (SVGI) of an X-Ray Image Intensifier (XRII) System</td>
<td>Determines the SCR and the SVGI at the center of the image produced by an XRII system under a given set of test conditions. The measurement procedures described pertain to images formed by photofluorographic film, cine film, video and direct-viewing systems.</td>
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<td>NEMA XR 22-2006 (R2020)</td>
<td>Quality Control Manual Template for Manufacturers of Displays and Workstations Labeled for Final Interpretation in Full-Field Digital Mammography (FFDM)</td>
<td>Defines the minimum set of quality control tests to be applied to a manufacturer’s product labeled for final interpretation of images acquired using an FFDM image-acquisition system.</td>
<td>$97</td>
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NEMA XR 23-2006 (R2020)
Quality Control Manual Template for Manufacturers of Hardcopy Output Devices Labeled for Final Interpretation in Full-Field Digital Mammography (FFDM)
Features templates that provide a consistent presentation format and a minimum set of quality control tests that should be included as part of the quality assurance plan of a hardcopy output device (e.g., printer) labeled for final interpretation in an FFDM system. $97

NEMA XR 25-2019
Computed Tomography Dose Check
Specifies an equipment feature for CT scanners to produce dose-related notification and alert messages to inform operators prior to scanning if the estimated dose would exceed the preset levels. $76

NEMA XR 26-2012
Access Controls for Computed Tomography—Identification, Interlocks, and Logs
Applies to the particular functioning of a CT system (as covered by the scope of IEC 60601-2-44) as it relates to who has access/permission to use the system for clinical or other uses. Includes being able to assign specific permissions to selected uses that are above those needed for daily routine scanning, such as the authorization to save protocols and adds provisions to secure the user interface based on a manual lock. Contains the functionality for use in a facility’s quality assurance program such as capturing operator and patient information as well as information related to saved changes in protocols. $80

NEMA XR 27-2013 (R2018)
X-ray Equipment for Interventional Procedures User Quality Control Mode
Applies to x-ray equipment intended to perform interventional procedures and defines a set of minimum set of requirements designed to more easily facilitate quality control at the facility level. $168

NEMA XR 28-2018
Supplemental Requirements for User Information and System Function Related to Dose in CT
Identifies uniform and Standardized manufacturer’s information provided to users of a CT scanner. This information includes perfusion scanning, use of Automatic Exposure Control, organization of dose-related information, a requirement for listing the reference protocols shipped on a CT system. $168

NEMA XR 29-2013
Standard Attributes on CT Equipment Related to Dose Optimization and Management
Identifies four key features of CT scanners which contribute to or help perform optimization and or management of doses of ionizing radiation while still enabling the system to deliver the diagnostic image quality needed by the physician. $72

NEMA XR 31-2016
Standard Attributes on X-ray Equipment for Interventional Procedures
Offers healthcare providers a reference to identify key features which contribute to enhanced patient care and to help manage patient radiation dose delivery, while still enabling the system to provide sufficient image quality needed by the physician. No charge

NEMA/MITA 1-2015
Good Refurbishment Practices for Medical Imaging Equipment
Lays out the basic requirements for a refurbishment process for medical electrical equipment which will not change the equipment’s original intended use, safety profile, or performance. No charge

NEMA/MITA 2-2019
Requirements for Servicing of Medical Imaging Equipment
Describes and defines the minimum quality management system requirements for servicing of medical imaging equipment to ensure return to a safe and effective condition for its intended use. No charge

NEMA/MITA CSP 1-2016
Cybersecurity for Medical Imaging
Addresses how cyber threats pose a significant risk to patient safety, clinical and business continuity in the practice of medical imaging, and why a combination of people, processes, and technologies is required to mitigate these risks. Originally published November 4, 2015. No charge

NEMA/MITA DD P1-2019
Understanding the Limited Usefulness of Detector Dose Measurements in Modern Medical X-ray Imaging Equipment
Discusses the origins of detector dose, its historic relevance, and the impact of the transition from film to digital imaging and how it is useful for the detector dose metric. No charge
NEMA/MITA DICOM
Digital Imaging and Communications in Medicine (DICOM)
DICOM (Digital Imaging and Communications in Medicine) enables the transfer of medical images in a multi-vendor environment and facilitates the development and expansion of picture archiving and communication systems. DICOM Standards are available for download at no charge at ftp://medical.nema.org/medical/dicom.
No charge

NEMA/MITA RMD P1-2019
Considerations for Remanufacturing of Medical Imaging Devices
Outlines key considerations for servicers and remanufacturers of medical imaging equipment. This white paper highlights which device modifications are most likely to trigger remanufacturing as well as key informative resources to aid in informed decision making about these activities.
No charge

NEMA/MITA RSSTCD 1-2019
This white paper is part of an ongoing initiative in collaboration with the FDA and professional societies. It represents how to comply with the FDA guidance “Medical X-Ray Imaging Devices Conformance with IEC Standards,” published in May 2019.
No charge

NEMA/MITA UMD P1-2020
Remanufacturing of Ultrasound Medical Devices
Outlines key considerations for servicers and remanufacturers of ultrasound imaging equipment. This white paper highlights which ultrasound device modifications are most likely to trigger remanufacturing, as well as key informative resources that aid in informed decision making about these activities.
No charge

NEMA/MITA XR 30-2016
Quality Control Tools for Digital Projection Radiography
Defines a set of minimum equipment requirements that facilitate the quality control of digital projection radiography by healthcare providers.
No charge

NEMA/MITA WP 1-2017
Computed Tomography Image Quality (CTIQ): Low-Contrast Detectability (LCD) Assessment When Using Dose Reduction Technology
Gives stakeholders such as regulators, radiologists, medical doctors, CT technologists, and medical physicists an overview of the current techniques and tools (phantoms) that MITA has utilized to assess low contrast detectability (LCD) as a function of radiation dose.
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<td>ABB Inc.</td>
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### Cable Ties

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<td>Hubbell Incorporated</td>
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<td>Mersen Electrical Power</td>
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### Batteries

#### Dry Battery

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<td>Duracell, Inc.</td>
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<td>Energizer Battery Manufacturing, Inc.</td>
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<td>Panasonic Corporation of North America</td>
<td><a href="http://www.panasonic.com/industrial/batteries-oem">www.panasonic.com/industrial/batteries-oem</a></td>
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<tr>
<td>Advanced Cable Ties, Inc.</td>
<td><a href="http://www.actfs.com">www.actfs.com</a></td>
</tr>
<tr>
<td>Avery Dennison Fasteners</td>
<td><a href="http://www.fastener.averydennison.com">www.fastener.averydennison.com</a></td>
</tr>
<tr>
<td>HellermannTyton Group</td>
<td><a href="http://www.hellermann.tyton.com">www.hellermann.tyton.com</a></td>
</tr>
<tr>
<td>Panduit Corporation</td>
<td><a href="http://www.panduit.com">www.panduit.com</a></td>
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</table>

#### Capacitor

<table>
<thead>
<tr>
<th>Company</th>
<th>Website</th>
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<tbody>
<tr>
<td>ABB Inc.</td>
<td><a href="http://www.abb.com">www.abb.com</a></td>
</tr>
<tr>
<td>Eaton</td>
<td><a href="http://www.eaton.com/electricalusa">www.eaton.com/electricalusa</a></td>
</tr>
<tr>
<td>Hitachi ABB Power Grids</td>
<td><a href="http://www.hitachiabb-powergrids.com">www.hitachiabb-powergrids.com</a></td>
</tr>
<tr>
<td>Hubbell Incorporated</td>
<td><a href="http://www.hubbell.com">www.hubbell.com</a></td>
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#### Carbon/Manufactured Graphite

<table>
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<tr>
<th>Company</th>
<th>Website</th>
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<td>Graftech International Holdings, Inc.</td>
<td><a href="http://www.graftech.com">www.graftech.com</a></td>
</tr>
<tr>
<td>Graphite Metallizing Corporation</td>
<td><a href="http://www.graphalloy.com">www.graphalloy.com</a></td>
</tr>
<tr>
<td>Mersen Electrical Power</td>
<td>ep-us.mersen.com</td>
</tr>
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</table>

#### Conduits

<table>
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<tr>
<th>Company</th>
<th>Website</th>
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<tr>
<td>ABB Installation Products, Inc.</td>
<td><a href="http://www.tnb.abb.com">www.tnb.abb.com</a></td>
</tr>
<tr>
<td>AFC Cable Systems, Inc., a part of Atkore International</td>
<td><a href="http://www.afcweb.com">www.afcweb.com</a></td>
</tr>
<tr>
<td>Allied Tube &amp; Conduit, a part of Atkore International</td>
<td><a href="http://www.alliedeg.us">www.alliedeg.us</a></td>
</tr>
<tr>
<td>Anamet Electrical, Inc.</td>
<td><a href="http://www.anacondasealtite.com">www.anacondasealtite.com</a></td>
</tr>
<tr>
<td>Arlington Industries, Inc.</td>
<td><a href="http://www.aifittings.com">www.aifittings.com</a></td>
</tr>
<tr>
<td>Bridgeport Fittings, Inc.</td>
<td><a href="http://www.bptfittings.com">www.bptfittings.com</a></td>
</tr>
<tr>
<td>Cooper Wiring Devices by Eaton</td>
<td><a href="http://www.cooperwiringdevices.com">www.cooperwiringdevices.com</a></td>
</tr>
<tr>
<td>Eaton’s Crouse-Hinds Business</td>
<td><a href="http://www.crouse-hinds.com">www.crouse-hinds.com</a></td>
</tr>
<tr>
<td>Emerson Automation Solutions</td>
<td><a href="http://www.egseg.com">www.egseg.com</a></td>
</tr>
<tr>
<td>Hubbell Wiring Device-Kellems</td>
<td><a href="http://www.hubbell-wiring.com">www.hubbell-wiring.com</a></td>
</tr>
</tbody>
</table>
IPEX USA, LLC
www.ipexamerica.com

Killark, a division of Hubbell, Inc.
www.hubbell-killark.com

Legrand, North America
www.legrand.us

Nucor
nucortubular.com/product/electrical-conduit

Pass & Seymour by Legrand
www.passandseymour.com

nVent ERICO
www.nvent.com

Productos Electric Corporation
www.pecoelectric.com

Progressive Machine Die, Inc.
www.pmd-inc.com

Raco by Hubbell, Inc.
www.hubbell.com/raco/en

Republic Conduit
www.republicconduit.com

Robroy Industries, Inc.
www.robroy.com

Sigma Electric Manufacturing Corporation
www.sigmascl.com

Steel Electric Products Company
www.sepco-usa.com

Southwire Company
www.southwire.com

TayMac by Hubbell, Inc.
www.taymac.com

Western Tube Division of Zekelman
www.westerntube.com

Wheatland Tube Company
www.wheatland.com

Flexible Metal Conduit
AFC Cable Systems, Inc., a part of Atkore International
www.afcweb.com

Anamet Electrical, Inc.
www.anametelsaltite.com

Copperweld B-Metallics
www.copperweld.com

Electri-Flex Company
www.electriflex.com

Encore Wire Corporation
www.encorewire.com

International Metal Hose Company
www.metalhose.com

Southwire Company
www.southwire.com

Distribution Automation
ABB Inc.
www.abb.com

Eaton
www.eaton.com/electricalusa

G&W Electric Company
www.gwelec.com

Honeywell Smart Energy
www.elsterelectricity.com

Hubbell Power Systems
www.hubbellpowersystems.com

Itron, Inc.
www.itron.com

Mitsubishi Electric Power Products, Inc.
www.meppi.com

S&C Electric Company
www.sandc.com

Schneider Electric
www.schneider-electric.us

Siemens Industry, Inc.
www.usa.siemens.com/industry

Starline Holdings, LLC, a company of Legrand, North America
www.starlinepower.com

TE Connectivity
www.te.com

Triacta Power Solutions LP
www.triacta.com

Energy Storage Systems
Eaton
www.eaton.com/electricalusa

Hitachi ABB Power Grids
www.hitachi-abb-powergrids.com

Pika Energy, Inc.
www.pika-energy.com

Schneider Electric
www.schneider-electric.us

Electrical Submeter
Continental Control Systems, LLC
www.ccontrolsys.com

Dent Instruments, Inc.
www.dentinstruments.com

Eaton
www.eaton.com/electricalusa

EZ Meter Technologies
www.ezmeter.com

GE Grid Solutions
www.gegridsolutions.com

Honeywell Building Technologies
www.honeywell.com

Leviton Manufacturing Company, Inc.
www.leviton.com

Panoramic Power Ltd.
www.panpwr.com

Quadlogic Controls Corporation
www.quadlogic.com

Schneider Electric
www.schneider-electric.us

Setra Systems, Inc.
www.setra.com

Siemens Industry, Inc.
www.usa.siemens.com/industry

Starline Holdings, LLC, a company of Legrand, North America
www.starlinepower.com

Triacta Power Solutions LP
www.triacta.com

Electric Vehicle Supply Equipment/System
ABB Inc.
www.abb.com

ChargePoint, Inc.
www.chargepoint.com
PRODUCTS & MANUFACTURERS: Electric Vehicle Supply Equipment/System

ClipperCreek, Inc.
www.clippercreek.com

Hubbell Incorporated
www.hubbell.com

Leviton Manufacturing Company, Inc.
www.leviton.com

Phoenix Contact
www.phoenixcontact.com

Schneider Electric
www.schneider-electric.us

Siemens Industry, Inc.
www.siemens.com/industry

Southwire Company
www.southwire.com

TE Connectivity
www.te.com

ClipperCreek, Inc.
www.clippercreek.com

Hubbell Incorporated
www.hubbell.com

Leviton Manufacturing Company, Inc.
www.leviton.com

Phoenix Contact
www.phoenixcontact.com

Schneider Electric
www.schneider-electric.us

Siemens Industry, Inc.
www.siemens.com/industry

Southwire Company
www.southwire.com

TE Connectivity
www.te.com

Enclosures

Allied Moulded Products, Inc.
www.alliedmoulded.com

Arlington Industries, Inc.
www.aifittings.com

Atkore International
atkore.com

Boltswitch, Inc.
www.boltswitch.com

Connector Manufacturing Company, a subsidiary of Burndy, LLC
www.cmclugs.com

Eaton
www.eaton.com/electricalusa

Emerson Automation Solutions

Hubbell Incorporated
www.hubbell.com

Hubbell Wiegmann, a subsidiary of Hubbell Incorporated
www.hubbell-wiegmann.com

IPEX USA, LLC
www.ipecixna.com/usa

Killark, a division of Hubbell, Inc.
www.hubbell-killark.com

Legrand, North America
www.legrand.us

Milbank Manufacturing Company
www.milbankworks.com

nVent Hoffman
www.nvent.com

Rittal Corporation
www.rittal.us

Robroy Industries, Inc.
www.robroy.com

Schneider Electric
www.schneider-electric.us

Siemens Industry, Inc.
www.siemens.com/industry

Snake Tray
www.snaketray.com

Space Age Electronics, Inc.
www.1sae.com

ABB Installation Products, Inc.
www.tnb.com

Fire, Life Safety, Security, and Emergency Communications

Audible and Visible Appliances (Non-Fire or Nurse Call Systems)

Bosch Security Systems
www.boschsecurity.us

Eaton Cooper Safety
www.cooperwheelock.com

Fire-Lite Alarms by Honeywell International, Inc.
www.firelite.com

Gamewell-FCI by Honeywell
www.gamewell-fci.com

Gentex Corporation
www.gentex.com

HSI Fire & Safety Group LLC
www.homesafeguard.com

Johnson Controls
www.tycosimplexgrinnell.com

Google Nest
www.nest.com

SDi
www.sdifire.com

Siemens Industry, Inc.
www.siemens.com/industry

Xtralis Inc. (now part of Honeywell)
www.xtralis.com

Fire Protective Signaling Systems, Devices, and Accessories

Bosch Security Systems
www.boschsecurity.us

Eaton Cooper Safety
www.cooperwheelock.com

Fire-Lite Alarms by Honeywell International, Inc.
www.firelite.com

Gamewell-FCI by Honeywell
www.gamewell-fci.com

Johnson Controls
www.tycosimplexgrinnell.com

Google Nest
www.nest.com

SDi
www.sdifire.com

Siemens Industry, Inc.
www.siemens.com/industry

Xtralis Inc. (now part of Honeywell)
www.xtralis.com
PRODUCTS & MANUFACTURERS: Health Care Communications and Emergency Call Systems

**Light Engine America Inc.**

**Potter Electric Signal Company, LLC**
www.pottersignal.com

**Siemens Industry, Inc.**
www.usa.siemens.com/industry

**Notification Devices**

- Bosch Security Systems
  www.boschsecurity.us

- Eaton Cooper Safety
  www.cooperwheelock.com

- Fire-Lite Alarms by Honeywell International, Inc.
  www.firelite.com

- Gamewell-FCI by Honeywell
  www.gamewell-fci.com

- Gentex Corporation
  www.gentex.com

- Johnson Controls
  www.simplexgrinnell.com

- Light Engine America Inc.

- Potter Electric Signal Company, LLC
  www.pottersignal.com

- Siemens Industry, Inc.
  www.usa.siemens.com/industry

- Valcom
  www.valcom.com

**Fuses**

- Eaton’s Bussmann Division
  www.cooperbussmann.com

- Littelfuse, Inc.
  www.littelfuse.com

- Mersen Electrical Power
  ep-us.mersen.com

- Phoenix Contact
  www.phoenixcontact.com/usa_home

**Ground Fault Personnel Protection**

- ABB, Inc.
  www.abb.com

- Bryant a Hubbel Company
  www.bryant-electric.com

- Eaton Residential & Wiring Devices Division
  www.cooperwiringdevices.com

- Eaton
  www.eaton.com/electricalusa

- Hubbell Wiring Device-Kellems
  www.hubbell-wiring.com

- Legrand, North America
  www.legrand.us

- Leviton Manufacturing Company, Inc.
  www.leviton.com

- Pass & Seymour by Legrand
  www.passandseymour.com

- Schneider Electric
  www.schneider-electric.us

- Siemens Industry, Inc.
  www.usa.siemens.com/industry

- Technology Research, LLC, a Southwire company
  www.trci.net

- Tower Manufacturing Corporation
  www.towermfg.com

- Western Automation R & D Corp.
  www.mainsafe.com

- Wiremold Cable Management Products by Legrand
  www.wiremold.com

**Grounding Products**

- Burndy, LLC
  www.burndy.com

- Connector Manufacturing Company, a subsidiary of Burndy, LLC
  www.cmclugs.com

- Galvan Industries, Inc.
  www.galvanelectrical.com

- Hubbell Power Systems
  www.hubbellpowersystems.com

- ILSCO
  www.ilSCO.com

- Panduit Corporation
  www.panduit.com

- nVent ERICO
  www.ericoo.com

- TE Connectivity
  www.te.com

- ABB Installation Products, Inc.
  http://tnb.abb.com/weareabb/

**Health Care Communications and Emergency Call Systems**

- Aiphone Corporation
  www.aiiphone.com

- Ascom Wireless Solutions
  www.ascom.us

- Austco Marketing & Services USA Ltd
  www.austco.com

- Cornell Communications, Inc.
  www.cornell.com

- Crest Healthcare Supply
  www.cresthealthcare.com

- Curbell Medical Products, Inc.
  www.curbellmedical.com

- Engineered Electronics, Inc.
  eelusa.com

- Hillrom
  www.hill-rom.com

- Inovonics
  www.inovonics.com

- Philips
  www.usa.philips.com/healthcare

- Rauland, a division of AMETEK, Inc.
  www.rauland.com

- RF Technologies, Inc.
  www.rft.com

- Sentrics
  sentrics.net
PRODUCTS & MANUFACTURERS: Health Care Communications and Emergency Call Systems

Tektone Sound & Signal Manufacturing, Inc.  
www.tektone.com

West-Com Nurse Call System, Inc.  
www.westcomncs.com

**Industrial Automation Control Products & Systems**

**Control/Monitor Switches**

ABB Inc.  
www.abb.com

Carlo Gavazzi Automation Components  
www.gavazzionline.com

Eaton  
www.eaton.com/electricalusa

Electro Switch Corporation  
www.electroswitch.com

Hubbell Incorporated  
www.hubbell.com

Reliance Controls Corporation  
www.reliancecontrols.com

Rockwell Automation, Inc.  
www.rockwellautomation.com

Schneider Electric  
www.schneider-electric.us

Specialty Product Technologies  
www.specialtyproducttechnologies.com

WEG Electric Corp.  
www.weg.net/us

Weidmuller Inc.  
www.weidmuller.com

**Power Electronics**

ABB Inc.  
www.abb.com

ABB Installation Products, Inc.  
www.tnb.com

APC by Schneider Electric  
www.apc.com

Construction Innovations, LLC  
www.constructioninnovations.com

Delta Electronics, Inc.  
www.delta-americas.com

Emerson Automation Solutions  

Liebert Services  
www.liebert.com

Mitsubishi Electric Power Products, Inc.  
www.meppi.com

PDI  
www.pdicorp.com

Schneider Electric  
www.schneider-electric.us

SolaHD  
www.emerson.com/en-us/automation/solahd

Toshiba International Corporation  
www.toshiba.com/ind

VERTIV  
www.vertivco.com/en-us

**Insulating Materials**

3M  
www.3m.com

ABB Inc.  
www.abb.com

Accurate Plastics, Inc.  
www.acculam.com

DuPont  
www.dupont.com

ELANTAS PDG, Inc.  
www.elantas.com/pdg

Iten Industries  
www.itemanufactures.com

Raychem, a product group of TE Connectivity  
raychem.te.com

Röchling Glastic Composites  
www.glastic.com

Sumitomo Electric Interconnect Products, Inc.  
www.seipusa.com

The Gund Company, Inc.  
www.thegundcompany.com

**Motion Control**

ABB Inc.  
www.abb.com

Delta Electronics, Inc.  
www.delta-americas.com

Mitsubishi Electric Automation, Inc.  
www.meau.com

Rockwell Automation, Inc.  
www.rockwellautomation.com

**Lighting**

Area Lighting

ABB Installation Products, Inc.  
www.tnb.com

Acuity Brands, Inc.  
www.acuitybrandslighting.com

Emerson Automation Solutions  
www.egseg.com

Architectural Area Lighting  
www.aal.net
PRODUCTS & MANUFACTURERS: Lighting

Atlas Lighting Products, Inc. www.atlaslightingproducts.com
Cooper Lighting Solutions www.cooperlighting.com
Holophane Company an Acuity Brands Company www.holophane.com
Hubbell Lighting Inc. www.hubbelllighting.com
Juno Lighting Group an Acuity Brands Company www.junolightinggroup.com
KIM Lighting www.kimlighting.com
Lithonia Lighting, an Acuity Brands Company www.lithonia.com
Premise Inc. www.premiseco.com
Prescolite www.prescolite.com
Progress Lighting progresslighting.com
RAB Lighting www.rabweb.com
Satco Products, Inc. www.satco.com
Signify www.signify.com

Ballast and Driver
Acuity Brands, Inc. www.acuitybrandslighting.com
Eaton Residential & Wiring Devices Division www.cooperwiringdevices.com
Fanlight Corp, Inc. www.mynaturaled.com
GE Current, a Daintree company www.gecurrent.com
GE Lighting, a Savant company www.gelighting.com
Halco Lighting Technologies www.halcolighting.com

Holophane Company an Acuity Brands Company www.holophane.com
Hubbell Lighting, Inc. www.hubbelllighting.com
Leviton Manufacturing Company, Inc. www.leviton.com
Lutron Electronics Company, Inc. www.lutron.com
Osim Sylvania, Inc. www.sylvania.com
Signify www.signify.com
TCP International Holdings Ltd. www.tcpi.com

Universal Lighting Technologies www.unvlt.com

Emergency Lighting
ABB Installation Products, Inc. www.tnb.com
Acuity Brands, Inc. www.acuitybrandslighting.com
Cree Lighting www.creeelighting.com
Dual-Lite www.dual-lite.com
Gilbert Industries, Inc. www.gilbertinc.com
Holophane Company an Acuity Brands Company www.holophane.com
Hubbell Lighting, Inc. www.hubbelllighting.com
Juno Lighting Group an Acuity Brands Company www.junolightinggroup.com
KIM Lighting www.kimlighting.com
Lithonia Lighting, an Acuity Brands Company www.lithonia.com
O-Z/Gedney www.o-zgedney.com
Prescolite www.prescolite.com
RAB Lighting www.rabweb.com
Satco Products, Inc. www.satco.com
PRODUCTS & MANUFACTURERS: Lighting

Indoor Lighting
ABB Installation Products, Inc.
www.tnb.com

Acuity Brands, Inc.
www.acuitybrandslighting.com

Architectural Area Lighting
www.aal.net

Atlas Lighting Products, Inc.
www.atlaslightingproducts.com

Columbia Lighting
www.columbia-ltg.com

Cree Lighting
www.creelighting.com

Emerson Automation Solutions
www.egseg.com

GE Lighting, a Savant company
www.gelighting.com

Holophane Company an Acuity Brands Company
www.holophane.com

Hubbell Lighting, Inc.
www.hubbelllighting.com

Intense Lighting A Leviton Company
www.intenselylighting.com

Juno Lighting Group an Acuity Brands Company
www.junolightinggroup.com

KIM Lighting
www.kimlighting.com

LEDVANCE LLC
www.sylvania.com

Lithonia Lighting, an Acuity Brands Company
www.lithonia.com

MaxLite
www.maxlite.com

Prescolite
www.prescolite.com

Light Source
Cree Lighting
www.creelighting.com

EiKO Global, LLC
www.eiko.com

EYE Lighting International of North America, Inc.
www.eyelighting.com

Fanlight Corp, Inc.
www.mynatureled.com

Feit Electric Company, Inc.
www.feit.com

Finally Bulb Light Company, a part of Lucidity Lights, Inc.
www.finallybulbs.com

Lighting Control Devices
Eaton Residential & Wiring Devices Division
www.cooperwiringdevices.com

Enerlites Inc.
www.enerlites.com

Leviton Manufacturing Company, Inc.
www.leviton.com

Lutron Electronics Company, Inc.
www.lutron.com

Pass & Seymour by Legrand
www.passandseymour.com

TCP International Holdings Ltd.
www.tcpi.com

Universal Lighting Technologies
www.unvl.com

GE Current, a Daintree company
www.gecurrent.com

GE Lighting, a Savant company
www.gelighting.com

Halco Lighting Technologies
www.halcolighting.com

LEDVANCE LLC
www.ledvance.com

Lutron Electronics Company, Inc.
www.lutron.com

MaxLite
www.maxlite.com

OSRAM Opto Semiconductors GmbH
www.osram-os.com

Osram Sylvania, Inc.
www.sylvania.com

Signify
www.signify.com

Satco Products, Inc.
www.satco.com

Southwire Company
www.southwire.com

TCP International Holdings Ltd.
www.tcpi.com

Universal Lighting Technologies
www.unvl.com

Westinghouse Lighting
www.westinghouselighting.com

Finally Bulb Light Company, a part of Lucidity Lights, Inc.
www.finallybulbs.com
Schneider Electric
www.schneider-electric.us

WattStopper
www.wattstopper.com

**Lighting Controls**

Acuity Brands, Inc.
www.acuitybrandslighting.com

ENCELIUM by OSRAM
www.osram-americas.com

GE Current, a Daintree company
www.gecurrent.com

Holophane Company an Acuity Brands Company
www.holophane.com

Hubbell Control Solutions
www.hubbell-automation.com

Hubbell Incorporated
www.hubbell.com

Hubbell Lighting, Inc.
www.hubbelllighting.com

Juno Lighting Group an Acuity Brands Company
www.junolightinggroup.com

Leviton Manufacturing Company, Inc.
www.leviton.com

Lithonia Lighting, an Acuity Brands Company
www.lithonia.com

Lutron Electronics Company, Inc.
www.lutron.com

Pass & Seymour by Legrand
www.passandseymour.com

RAB Lighting
www.rabweb.com

Schneider Electric
www.schneider-electric.us

Sensor Switch, an Acuity Brands Company
www.sensorswitch.com

Signify
www.signify.com

Universal Lighting Technologies
www.unvlt.com

WattStopper
www.wattstopper.com

**Outdoor Lighting**

ABB Installation Products, Inc.
www.tnb.com

Acuity Brands, Inc.
www.acuitybrandslighting.com

Architectural Area Lighting
www.aal.net

Atlas Lighting Products, Inc.
www.atlaslightingproducts.com

Cooper Lighting Solutions
www.cooperlighting.com

Cree Lighting
www.creelighting.com

Dialight
www.dialight.com

Emerson Automation Solutions
www.egseg.com

EYE Lighting International of North America, Inc.
www.eyelighting.com

Holophane Company an Acuity Brands Company
www.holophane.com

Hubbell Lighting, Inc.
www.hubbelllighting.com

Intense Lighting A Leviton Company
www.intenselighting.com

Juno Lighting Group an Acuity Brands Company
www.junolightinggroup.com

KIM Lighting
www.kimlighting.com

Lithonia Lighting, an Acuity Brands Company
www.lithonia.com

MaxLite
www.maxlite.com

Premise Inc.
www.premiseco.com

Prescolite
www.prescolite.com

Progress Lighting
progresslighting.com

RAB Lighting
www.rabweb.com

Satco Products, Inc.
www.satco.com

Signify
www.signify.com

Westgate MFG Inc.
www.westgatemfg.com

**Roadway Lighting**

Acuity Brands, Inc.
www.acuitybrandslighting.com

Architectural Area Lighting
www.aal.net

Atlas Lighting Products, Inc.
www.atlaslightingproducts.com

Cooper Lighting Solutions
www.cooperlighting.com

Cree Lighting
www.creelighting.com

Dialight
www.dialight.com

EYE Lighting International of North America, Inc.
www.eyelighting.com

Holophane Company an Acuity Brands Company
www.holophane.com

Hubbell Lighting, Inc.
www.hubbelllighting.com

KIM Lighting
www.kimlighting.com

Lithonia Lighting, an Acuity Brands Company
www.lithonia.com

RAB Lighting
www.rabweb.com

**Specialty Lighting**

ABB Installation Products, Inc.
www.tnb.com

Acuity Brands, Inc.
www.acuitybrandslighting.com
**PRODUCTS & MANUFACTURERS: Lighting**

**Architectural Area Lighting**
www.aal.net

**Cooper Lighting Solutions**
www.cooperlighting.com

**Dual-Lite**
www.dual-lite.com

**Emerson Automation Solutions**
www.egseg.com

**Fanlight Corp, Inc.**
www.mynaturaled.com

**Holophane Company an Acuity Brands Company**
www.holophane.com

**Hubbell Lighting, Inc.**
www.hubbelllighting.com

**Juno Lighting Group an Acuity Brands Company**
www.junolightinggroup.com

**KIM Lighting**
www.kimlighting.com

**LEDVANCE LLC**
www.ledvance.com

**Lithonia Lighting, an Acuity Brands Company**
www.lithonia.com

**Prescolite**
www.prescolite.com

**RAB Lighting**
www.rabweb.com

**Signify**
www.signify.com

**Low Voltage Distribution**

**Low Voltage Surge Protective Devices**

**ABB Inc.**
www.abb.com

**Boltswitch, Socomec Group**
www.boltswitch.com

**Construction Innovations, LLC**
www.constructioninnovations.com

**Durham Company**
www.durhamcompany.com

**Eaton**
www.eaton.com/electricalusa

**Eaton's Bussmann Division**
www.cooperbussmann.com

**Hubbell Incorporated**
www.hubbell.com

**Hubbell Power Systems**
www.hubbellpowersystems.com

**Hubbell Wiring Device-Kellems**
www.hubbell-wiring.com

**Leviton Manufacturing Co., Inc.**
www.leviton.com

**Mersen USA Newburyport-MA, LLC**
ep-us.mersen.com

**Milbank Manufacturing Company**
www.milbankworks.com

**Post Glover Resistors, Inc.**
www.postglover.com

**Reliance Controls Corporation**
www.reliancecontrols.com

**Schneider Electric**
www.schneider-electric.us

**Siemens Industry, Inc.**
www.usa.siemens.com/industry

**Starline Holdings, LLC, a company of Legrand, North America**
www.starlinepower.com

**Z-Power & Distribution**
zpownerranddistribution.com

**Eaton**
www.eaton.com/electricalusa

**Emerson Automation Solutions**
www.egseg.com

**Hubbell Power Systems**
www.hubbellpowersystems.com

**Hubbell Wiring Device-Kellems**
www.hubbell-wiring.com

**Legrand, North America**
www.legrand.us

**Leviton Manufacturing Company, Inc.**
www.leviton.com

**Littelfuse, Inc.**
www.littelfuse.com

**Mersen Electrical Power**
ep-us.mersen.com

**MVC-Maxivolt**
www.maxivolt.com

**Pass & Seymour by Legrand**
www.passandseymour.com

**nVent ERICO**
www.ericoo.com

**Phoenix Contact**
www.phoenixcontact.com/usa_home

**Raycap, Inc.**
www.rayvoss.com

**Schneider Electric**
www.schneider-electric.us

**Space Age Electronics, Inc.**
www.1sae.com

**SolaHD**
www.emerson.com/en-us/automation/solahd

**SSI An ILSCO Company**
www.surgesuppression.com

**Technology Research, LLC, a Southwire company**
www.trci.net

**Wiremold Cable Management Products by Legrand**
www.wiremold.com
Medical Imaging & Technology

Acertara Acoustic Laboratories
www.acertaralabs.com

Advanced Accelerator Applications, USA
www.adacap.com

Agfa HealthCare
www.agfahealthcare.com

Agfa US Corp
global.agfahealthcare.com

AIQ Solutions, Inc.
www.aiq-solutions.com

Bayer Healthcare, LLC.
www.radiologysolutions.bayer.com

Blue Earth Diagnostics
www.blueearthdiagnostics.com

Bracco Diagnostics, Inc.
www.bracco.com

Canon Medical Systems USA, Inc.
us.medical.canon

Caption Health, Inc.
captionhealth.com

Cardinal Health
www.cardinalhealth.com

Cerveau Technologies Inc.
cervaeutechnologies.com

Change Healthcare
www.mckesson.com

Curium
www.curiumpharma.com

Digirad
www.digirad.com

EIZO, Inc.
www.eizo.com/global/solutions/medical

Eli Lilly & Company
www.lilly.com

Esaote North America
www.esaoteusa.com

eV Products, Inc., dba Kromek
www.kromek.com

FUJIFILM Medical Systems U.S.A., Inc.
www.fujifilm.com/products/medical/

FUJIFILM Sonosite, Inc.
www.sonosite.com

GE Healthcare
www3.gehealthcare.com

Hitachi Healthcare Americas
www.hitachimed.com

Hologic, Inc.
www.hologic.com

iCAD, Inc.
www.icadmed.com

Invivo Corporation
www.invivocorp.com

Imagen
imagen.ai

Ionetix Corporation
www.ionetix.com

Jubilant DraxImage, Inc.
www.draximage.com

Konica Minolta Medical Imaging USA Inc.
www.konicaminolta.com/medicalusa

Laitek Inc.
www.laitek.com

Lantheus Medical Imaging, Inc.
www.lantheus.com

Liebel-Flarsheim a wholly owned subsidiary of Guerbet Group
www.guerbet.com/en

Life Molecular Imaging
piramal.com/imaging/

maiData Corporation
www.maidata.io

MedTrace Pharma, Inc.
medtrace.dk

Medtronic, Inc.
www.medtronic.com

NeuroLogica, a subsidiary of Samsung Electronics
www.neurologica.com

Numa, Inc.
www.numa-inc.com

PACSHealth, LLC
www.pacshealth.com

Philips
www.usa.philips.com/healthcare

Samsung Medison
www.samsungmedison.com

Seno Medical Instruments Inc.
senomedical.com

Shimadzu Medical Systems USA, a part of Shimadzu Corporation
www.shimadzu.com/med

Siemens Healthineers
usa.healthcare.siemens.com

Spectrum Dynamics Medical
www.spectrum-dynamics.com

United Imaging Healthcare
www.united-imaging.com

Varex Imaging
www.vareximaging.com

VISUS Health IT GmbH
www.visus.com

Zionexa US
www.zionexa.com

Ziehm Imaging, Inc.
www.ziehm.com

Motor and Generator

ABB Motors and Mechanical Inc.
new.abb.com/motors-generators

Bison Gear & Engineering Corporation
www.bisongear.com

Bluffton Motor Works WEG Group
www.blufftonmotorworks.com

Brook Crompton Americas
www.brookcromptonna.com

Cummins, Inc.
www.cummins.com

GE Industrial Motors, a Wolong Company
www.gemotorswolong.com

Infinitum Electric
www.infinitumelectric.com

Leeson Electric, a Regal brand
www.leeson.com
PRODUCTS & MANUFACTURERS: Motor and Generator

Marathon Electric
www.marathonelectric.com

Nidec Motor Corporation
www.nidec-motor.com

NORD Gear Corporation
www.nord.com

Regal Beloit Corporation
www.regal-beloit.com

SEW-Eurodrive, Inc.
www.seweurodrive.com

Siemens Industry, Inc.
www.usa.siemens.com/industry

Sterling Electric, Inc.
www.sterlingelectric.com

Tatung Electric Company of America
tatungelectric.com

Techtop Industries, Inc.
www.techtopind.com

TECO-Westinghouse Motor Company
www.tecowestinghouse.com

Sigma Electric Manufacturing Corporation
www.sigmaco.com

TayMac by Hubbell, Inc.
www.taymac.com

Wiremold Cable Management Products by Legrand
www.wiremold.com

Nonmetallic Boxes and Covers
ABB Installation Products, Inc.
www.tnb.com

Allied Moulded Products, Inc.
www.alliedmoulded.com

Arlington Industries, Inc.
www.arlington.com

Eaton’s Crouse-Hinds Business
www.crouse-hinds.com

Emerson Automation Solutions
www.egseg.com

HOTWIRE LLC
tryhotwire.com

Hubbell Incorporated
www.hubbell.com

Hubbell Wiring Device-Kellems
www.hubbell-wiring.com

IPEX USA, LLC
www.ipexna.com/usa

Pass & Seymour by Legrand
www.passandseymour.com

TayMac by Hubbell, Inc.
www.taymac.com

Wiremold Cable Management Products by Legrand
www.wiremold.com

Southwire Company
www.southwire.com

Pin & Sleeve
ABB Installation Products, Inc.
www.tnb.com

Bryant Electric, a division of Hubbell, Inc.
www.bryant-electric.com

Crest Healthcare Supply
www.cresthealthcare.com

Eaton Residential & Wiring Devices Division
www.cooperwiringdevices.com

Eaton’s Crouse-Hinds Business
www.crouse-hinds.com

Emerson Automation Solutions
www.egseg.com

Hubbell Wiring Device-Kellems
www.hubbell-wiring.com

Interpower Corporation
www.interpower.com

Killark, a division of Hubbell, Inc.
www.hubbell-killark.com

Leviton Manufacturing Company, Inc.
www.leviton.com

MELTRIC Corporation
www.meltric.com

Pass & Seymour by Legrand
www.passandseymour.com

Power Equipment

Electrical Connector
3M
www.3M.com/electrical

ABB Installation Products, Inc.
www.tnb.com

ASK Products, Inc.
www.ask-power.com

BURNDY, LLC
www.burndy.com

Connector Manufacturing Company, a subsidiary of Burndy, LLC
www.cmclugs.com

Eaton’s Power Systems
www.cooperpower.com

Outlet & Switch Boxes

Metallic Boxes and Covers
ABB Installation Products, Inc.
www.tnb.com

Eaton’s Crouse-Hinds Business
www.crouse-hinds.com

Emerson Automation Solutions
www.egseg.com

Hubbell Incorporated
www.hubbell.com

IPEX USA, LLC
www.ipexna.com/usa

Pass & Seymour by Legrand
www.passandseymour.com

TayMac by Hubbell, Inc.
www.taymac.com

Wiremold Cable Management Products by Legrand
www.wiremold.com

Southwire Company
www.southwire.com

Nonmetallic Boxes and Covers
ABB Installation Products, Inc.
www.tnb.com

Allied Moulded Products, Inc.
www.alliedmoulded.com

Arlington Industries, Inc.
www.arlington.com

Eaton’s Crouse-Hinds Business
www.crouse-hinds.com

Emerson Automation Solutions
www.egseg.com

HOTWIRE LLC
tryhotwire.com

Hubbell Incorporated
www.hubbell.com

Hubbell Wiring Device-Kellems
www.hubbell-wiring.com

IPEX USA, LLC
www.ipexna.com/usa

Pass & Seymour by Legrand
www.passandseymour.com

TayMac by Hubbell, Inc.
www.taymac.com

Wiremold Cable Management Products by Legrand
www.wiremold.com

Southwire Company
www.southwire.com

Pin & Sleeve
ABB Installation Products, Inc.
www.tnb.com

Bryant Electric, a division of Hubbell, Inc.
www.bryant-electric.com

Crest Healthcare Supply
www.cresthealthcare.com

Eaton Residential & Wiring Devices Division
www.cooperwiringdevices.com

Eaton’s Crouse-Hinds Business
www.crouse-hinds.com

Emerson Automation Solutions
www.egseg.com

Hubbell Wiring Device-Kellems
www.hubbell-wiring.com

Interpower Corporation
www.interpower.com

Killark, a division of Hubbell, Inc.
www.hubbell-killark.com

Leviton Manufacturing Company, Inc.
www.leviton.com

MELTRIC Corporation
www.meltric.com

Pass & Seymour by Legrand
www.passandseymour.com

Power Equipment

Electrical Connector
3M
www.3M.com/electrical

ABB Installation Products, Inc.
www.tnb.com

ASK Products, Inc.
www.ask-power.com

BURNDY, LLC
www.burndy.com

Connector Manufacturing Company, a subsidiary of Burndy, LLC
www.cmclugs.com

Eaton’s Power Systems
www.cooperpower.com
PRODUCTS & MANUFACTURERS: Raceways

Galvan Industries, Inc.
www.galvanelectrical.com

Hubbell Power Systems
www.hubbellpowersystems.com

ILSCO
www.ilsco.com

MELTRIC Corporation
www.meltric.com

NSi Industries, LLC
www.nsiindustries.com

nVent ERICO
www.erico.com

Panduit Corporation
www.panduit.com

Polaris Electrical Connectors
polarisconnectors.com

South Atlantic, LLC
www.southatlanticllc.com

TE Connectivity
www.te.com

Electrical Measuring Equipment

Aclara Meters
www.aclara.com

Brooks Utility Products
www.brooksutility.com

Durham Company
www.durhamcompany.com

Eaton
www.eaton.com

Honeywell Smart Energy
www.elsterelectricity.com

Hubbell Power Systems
www.hubbell.com/hubbellpowersystems

Itron, Inc.
www.itron.com

Landis+Gyr
www.landisgyr.com

Milbank Manufacturing Company
www.milbankworks.com

Radian Research, Inc.
www.radianresearch.com

Phoenix Contact
www.phoenixcontact.com

Schneider Electric
www.schneider-electric.com

Sensus, A Xylem Brand
sensus.com

Siemens Industry, Inc.
www.usa.siemens.com/industry

High Voltage Insulator

Hendrix Molded Products
www.marmonutility.com/MoldedProducts.aspx

Hubbell Power Systems
www.hubbellpowersystems.com

K-Line Insulators, Inc.
www.k-line.net

Lapp Insulators, LLC
www.lappinsulator.com

NGK-Locke Polymer Insulators, Inc.
www.ngk-polymer.com

Preformed Line Products
www.preformed.com

Raychem, a product group of TE Connectivity
raychem.te.com

Sediver USA, Inc.
www.sediver.com

PPC USA, Inc.
www.ppcinsulators.com

Victor Insulators, Inc.
www.victorinsulators.com

Surge Arrester

ABB Inc.
www.abb.com

Eaton Residential & Wiring Devices Division
www.cooperpower.com

Hitachi ABB Power Grids
www.hitachi-abb-powergrids.com

Hubbell Power Systems
www.hubbellpowersystems.com

Siemens Industry, Inc.
www.usa.siemens.com/industry

Polymer Guards

ABB Installation Products, Inc.
www.tnb.abb.com

Hubbell Incorporated
www.hubbell.com

IPEX USA, LLC
www.ipexamerica.com

Polymer Raceway Products

ABB Installation Products, Inc.
www.tnb.com

AFC Cable Systems, Inc., a part of Atkore International
www.afcweb.com

Allied Tube & Conduit, a part of Atkore International
www.alliedeg.us

Anamet Electrical, Inc.
www.anacordasealtite.com

Champion Fiberglass, Inc.
www.championfiberglass.com

Electri-Flex Company
www.electriflex.com

FRE Composites
www.frecomposites.com

Hubbell Incorporated
www.hubbell.com

IPEX USA, LLC
www.ipexamerica.com

Panduit Corporation
www.panduit.com

Phoenix Contact
www.phoenixcontact.com/usa_home

Southern Pipe, Inc.
www.southern-pipe.com

Southwire Company
www.southwire.com
**PRODUCTS & MANUFACTURERS:** Receptacles

Underground Devices, Inc.
www.udevices.com

United Fiberglass of America, Inc.
www.unitedfiberglass.com

Wiremold Cable Management Products by Legrand
www.wiremold.com

**Thermoplastic Raceway (PVC, Polyethylene, Polyolefin)**
ABB Installation Products, Inc.
www.tnb.com

AFC Cable Systems, Inc., a part of Atkore International
www.afcweb.com

Hubbell Incorporated
www.hubbell.com

IPEX USA, LLC
www.ipexamerica.com

Panduit Corporation
www.panduit.com

Southern Pipe, Inc.
www.southern-pipe.com

Underground Devices, Inc.
www.udevices.com

Wiremold Cable Management Products by Legrand
www.wiremold.com

**Thermoset Raceway (Fiberglass)**
Champion Fiberglass, Inc.
www.championfiberglass.com

FRE Composites
www.frecomposites.com

United Fiberglass of America, Inc.
www.unitedfiberglass.com

**Residential & Commercial Controls**

APCOM, Inc.
www.apcom-inc.com

Braeburn Systems, LLC
www.braeburnonline.com

Johnson Controls
www.tycosimplexgrinnell.com

Google Nest
www.nest.com

Resideo Technologies, Inc.
www.resideo.com

Therm-O-Disc, a brand of Emerson
www.thermodisc.com

White-Rodgers, a brand of Emerson
www.white-rodgers.com

**Steel Conduit and Electrical Metallic Tubing**

ABB Installation Products, Inc.
www.tnb.com

Allied Tube & Conduit, a part of Atkore International
www.alliedeg.us

Nucor
nucortubular.com/product/electrical-conduit/

Robroy Industries, Inc.
www.robroy.com

Western Tube & Conduit Corporation
www.westertube.com

Wheatland Tube Company
www.wheatland.com

**Switches**

Bryant Electric, a division of Hubbell, Inc.
www.bryant-electric.com

Cooper Wiring Devices by Eaton
www.cooperwiringdevices.com

Eaton
www.eaton.com/electricalusa

Enerlites Inc.
www.enerlites.com

Hubbell Wiegmann, a subsidiary of Hubbell Incorporated
www.hubbell-wiegmann.com

Hubbell Wiring Device-Kellem
www.hubbell-wiring.com

Leviton Manufacturing Company, Inc.
www.leviton.com

Lutron Electronics Company, Inc.
www.lutron.com

Pass & Seymour by Legrand
www.passandseymour.com

Rittal Corporation
www.rittal.us

WattStopper
www.wattstopper.com

**Switchgear**

ABB Inc.
www.abb.com

ABB Installation Products, Inc.
www.tnb.com

Eaton Residential & Wiring Devices Division
www.cooperpower.com

Eaton
www.eaton.com/electricalusa
Uninterruptible Power (UPS)

Single-Phase UPS
ABB Inc.
www.abb.com
APC by Schneider Electric
www.apc.com
Delta Products Corporation
www.delta-americas.com
Emerson Automation Solutions
www.egseg.com
SolaHD
www.emerson.com/en-us/automation/solahd
Toshiba International Corporation
www.toshiba.com/ind
VERTIV Liebert
www.liebert.com

Three-Phase UPS
ABB Inc.
www.abb.com
APC by Schneider Electric
www.apc.com
Toshiba International Corporation
www.toshiba.com/ind
VERTIV Liebert
www.liebert.com
# Wire & Cable

## Building Wire and Cable
- **AFC Cable Systems, Inc., a part of Atkore International**
  - [www.afcweb.com](http://www.afcweb.com)
- **Anamet Electrical, Inc.**
  - [www.anacondasealtite.com](http://www.anacondasealtite.com)
- **Cable USA LLC**
  - [cableusallc.com](http://cableusallc.com)
- **Cerro Wire, LLC**
  - [www.cerrowire.com](http://www.cerrowire.com)
- **Colonial Wire & Cable Co., Inc.**
  - [colonialwire.com](http://colonialwire.com)
- **Copperweld Bi-Metallics, LLC**
  - [www.copperweld.com](http://www.copperweld.com)
- **Electri-Flex Company**
  - [www.electriflex.com](http://www.electriflex.com)
- **Encore Wire Corporation**
  - [www.encorewire.com](http://www.encorewire.com)
- **International Metal Hose Company**
  - [www.metalhose.com](http://www.metalhose.com)
- **Nexans**
  - [www.nexans.ca](http://www.nexans.ca)
- **Okonite Company, The**
  - [www.okonite.com](http://www.okonite.com)
- **Service Wire Company**
  - [www.servicewire.com](http://www.servicewire.com)
- **Southwire Company**
  - [www.southwire.com](http://www.southwire.com)
- **Viakable, S.A. de C.V.**
  - [www.viakable.com](http://www.viakable.com)

## Flexible Cords
- **Bryant Electric, a division of Hubbell, Inc.**
  - [www.bryant-electric.com](http://www.bryant-electric.com)
- **Electri-Cord Manufacturing Company**
  - [www.electri-cord.com](http://www.electri-cord.com)
- **Hubbell Wiring Device-Kellemes**
  - [www.hubbell-wiring.com](http://www.hubbell-wiring.com)

## High Performance Wire and Cable
- **AFC Cable Systems, Inc., a part of Atkore International**
  - [www.afcweb.com](http://www.afcweb.com)
- **Cable USA, LLC**
  - [www.cableusa.cc](http://www.cableusa.cc)
- **Champlain Cable Corporation**
  - [www.champcable.com](http://www.champcable.com)
- **Marine Tech Wire and Cable, Inc.**
  - [www.marinetechwire.com](http://www.marinetechwire.com)
- **Monroe Cable Company, Inc., The**
  - [www.monroecableusa.com](http://www.monroecableusa.com)
- **Nexans**
  - [www.nexans.ca](http://www.nexans.ca)
- **Okonite Company, The**
  - [www.okonite.com](http://www.okonite.com)
- **Quirk Wire Company, Inc.**
  - [www.quirkwire.com](http://www.quirkwire.com)
- **Radix Wire**
  - [www.radix-wire.com](http://www.radix-wire.com)
- **RSCC Wire and Cable**
  - [www.r-scc.com](http://www.r-scc.com)
- **SEA Wire and Cable, Inc.**
  - [www.sea-wire.com](http://www.sea-wire.com)
- **Southwire Company**
  - [www.southwire.com](http://www.southwire.com)
- **TE Connectivity**
- **Virginia Insulated Products, Inc.**
  - [www.vipwire.com](http://www.vipwire.com)

## Magnet Wire
- **CONDUMEX S.A. DE C.V.**
  - [www.condumex.com](http://www.condumex.com)
- **Elektrisola, Inc.**
  - [www.elektrisola-usa.com](http://www.elektrisola-usa.com)
- **Magnekon S.A. de C.V., a Viakable company**
  - [www.magnekon.com](http://www.magnekon.com)
- **MWS Wire Industries**
  - [www.mwswire.com](http://www.mwswire.com)
- **Rea Magnet Wire Company, Inc.**
  - [www.reawire.com](http://www.reawire.com)
- **SEA Wire and Cable, Inc.**
  - [www.sea-wire.com](http://www.sea-wire.com)
- **Essex Furukawa Magnet Wire LLC**
  - [www.superioressex.com](http://www.superioressex.com)
- **Virginia Insulated Products, Inc.**
  - [www.vipwire.com](http://www.vipwire.com)
- **Zeus Industrial Products, Inc.**
  - [www.zeusinc.com](http://www.zeusinc.com)

## Power and Control Cable
- **AFC Cable Systems, Inc., a part of Atkore International**
  - [www.afcweb.com](http://www.afcweb.com)
- **CME Wire & Cable**
  - [www.cmewire.com](http://www.cmewire.com)
- **Electri-Cord Manufacturing Company**
  - [www.electri-cord.com](http://www.electri-cord.com)
- **Marmon Utility LLC**
  - [www.marmunutility.com](http://www.marmunutility.com)
- **Nexans**
  - [www.nexans.ca](http://www.nexans.ca)
- **Okonite Company, The**
  - [www.okonite.com](http://www.okonite.com)
- **Phoenix Contact**
  - [www.phoenixcontact.com/usa_home](http://www.phoenixcontact.com/usa_home)
- **RSCC Wire and Cable**
  - [www.r-scc.com](http://www.r-scc.com)
- **SEA Wire and Cable, Inc.**
  - [www.sea-wire.com](http://www.sea-wire.com)
- **Service Wire Company**
  - [www.servicewire.com](http://www.servicewire.com)
**Wiring Devices**

- **Southwire Company**  
  www.southwire.com

- **Southwire Company**  
  www.southwire.com

- **Interpower Corporation**  
  www.interpower.com

- **Legrand, North America**  
  www.legrand.us

- **Leviton Manufacturing Company, Inc.**  
  www.leviton.com

- **Lutron Electronics Company, Inc.**  
  www.lutron.com

- **Pass & Seymour by Legrand**  
  www.passandseymour.com

- **Schneider Electric**  
  www.schneider-electric.us

- **Sky Technologies**  
  www.safetyquicklight.com

- **SnapPower**  
  www.snappower.com

- **TayMac by Hubbell, Inc.**  
  www.taymac.com

- **TE Connectivity**  
  www.te.com

- **Technology Research, LLC, a Southwire company**  
  www.trci.net

- **Titan3 Technology LLC**  
  www.titan3.com

- **WattStopper**  
  www.wattstopper.com

- **Wiremold Cable Management Products**  
  www.wiremold.com

**Eaton Residential & Wiring Devices Division**  
www.cooperwiringdevices.com

**Eenerlites Inc.**  
www.enerlites.com

**Hubbell Incorporated**  
www.hubbell.com

**Hubbell Wiring Device-Kellems**  
www.hubbell-wiring.com

**Interpower Corporation**  
www.interpower.com

**Legrand, North America**  
www.legrand.us

**Leviton Manufacturing Company, Inc.**  
www.leviton.com

**Lutron Electronics Company, Inc.**  
www.lutron.com

**Pass & Seymour by Legrand**  
www.passandseymour.com

**Schneider Electric**  
www.schneider-electric.us

**Sky Technologies**  
www.safetyquicklight.com

**SnapPower**  
www.snappower.com

**TayMac by Hubbell, Inc.**  
www.taymac.com

**TE Connectivity**  
www.te.com

**Technology Research, LLC, a Southwire company**  
www.trci.net

**Titan3 Technology LLC**  
www.titan3.com

**WattStopper**  
www.wattstopper.com

**Wiremold Cable Management Products**  
www.wiremold.com
## ASSOCIATE MEMBERS

### Industrial Supplier

**Companies that supply raw, manufactured materials, components or products**

- Apple Inc.
  - Cupertino CA
  - [www.apple.com](http://www.apple.com)
- Arkema Inc.
  - King Prussia PA
  - [www.arkema.com](http://www.arkema.com)
- Ascend Performance Materials
  - Houston TX
  - [www.ascendmaterials.com](http://www.ascendmaterials.com)
- Budde Marketing Systems, Inc.
  - Homer Glen IL
  - [www.buddemarketing.com](http://www.buddemarketing.com)
- Freeport-McMoRan
  - Phoenix, AZ
  - [www.fcx.com](http://www.fcx.com)
- INTEGRATED Engineering Software
  - Winnipeg MB
  - [www.integratedsoft.com](http://www.integratedsoft.com)
- Jor-Mac Company
  - Lomira WI
  - [www.jor-mac.com](http://www.jor-mac.com)
- Kirk Key Interlock Company
  - North Canton OH
  - [www.kirkkey.com](http://www.kirkkey.com)
- Meister International, LLC
  - Ross OH
  - [www.meisterintl.com](http://www.meisterintl.com)
- PPG Industrial Coatings
  - Pittsburgh PA
  - [corporate.ppg.com](http://corporate.ppg.com)
- Robertson Inc.
  - Burlington ON
  - [www.robertsonscrew.com](http://www.robertsonscrew.com)
- Synaptronics
  - Columbia MD
  - [www.synaptronics.com](http://www.synaptronics.com)

### Wholesale Trade

**Companies that are authorized to distribute NEMA Member products**

- Batteries Plus Bulbs
  - Hartland WI
  - [www.batteriesplus.com](http://www.batteriesplus.com)
- Block Imaging Parts & Service
  - Holt, MI
  - [www.blockimaging.com](http://www.blockimaging.com)
- Controls & Electric Motor Company Inc.
  - Joplin MO
  - [www.cemcomo.com](http://www.cemcomo.com)
- Graybar Electric Company, Inc.
  - Saint Louis MO
  - [www.graybar.com](http://www.graybar.com)
- Medical Outfitters, Inc.
  - Miami FL
  - [medicaloutfitter.net](http://medicaloutfitter.net)
- MRO Supply
  - [www.mrosupply.com](http://www.mrosupply.com)
- Rexel Inc.
  - Dallas TX
  - [www.rexelusa.com](http://www.rexelusa.com)
- Sunshine Lighting
  - Brooklyn, NY
  - [www.sunlite.com](http://www.sunlite.com)
- Sy Kessler Sales Inc.
  - Dallas TX
  - [www.sykessler.com](http://www.sykessler.com)

### Association

**Organizations that have an interest in NEMA-related issues**

- American Public Power Association
  - Arlington VA
  - [www.publicpower.org](http://www.publicpower.org)
- CABAA
  - Ottawa ON
  - [www.caba.org](http://www.caba.org)
- EASA
  - Saint Louis, MO
  - easa.com
- IMSA
  - Rockledge FL
  - [www.imsasafety.org](http://www.imsasafety.org)
- The Vinyl Institute
  - Alexandria VA
  - [www.vinylinfo.org](http://www.vinylinfo.org)
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