

NEMA WIRE AND CABLE STANDARDS DEVELOPMENT PROGRAMS

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**NEMA**

National Electrical Manufacturers Association

**WHAT IS NEMA?**

"The National Electrical Manufacturers Association (NEMA) is the Nation's Largest Trade Association for Manufacturers of Electrical Equipment. Its Member Companies Produce Components, End-Use Equipment and Systems for the Generation, Transmission, Distribution, Control and Use of Electricity."

## WHAT IS NEMA?

### STRUCTURE

- 600 Member Corporations
- Approximately 100 Staff
- \$10 Million Annual Budget
- 9 Divisions
- 68 Product Sections
- Affiliate Organizations:
  - Automation Forum (AF)
  - Joint Committee on Business Communications and Productivity (BCP)
  - National Lighting Bureau (NLB)

## OUR MISSION

**THROUGH NEMA, THESE COMPANIES COOPERATE IN STRIVING:**

- **To Meet Customer Needs and Public Interest With World Class Products and Services**
- **To Encourage the Innovative Application of Existing and Emerging Technology To Electrical Products**
- **To Accelerate the Growth and Enhance the Vitality of the Industry**

## OUR MISSION

Through The Cooperative Efforts of Its  
Members and Staff NEMA Pursues Its  
Mission by:

1. Engaging in the Development  
of Codes and Standards
2. Promoting Safety  
in the Manufacture  
and Use of Electrical Products
3. Communicating Appropriate  
Information About the Industry
4. Advocating its Views  
to Government Bodies and Other  
Interested Parties on Matters  
Affecting the Industry
5. Conducting Educational Forums
6. Promoting the Industry

## WHAT IS NEMA?

### PRODUCT ORIENTATION

- Industrial Automation
- Lighting Equipment
- Electronics
- Industrial Equipment
- Building Equipment
- Insulating Materials
- Wire and Cable
- Power Equipment
- Diagnostic Imaging  
and Therapy Systems

# **WHAT IS NEMA?**

## **Activities**

- National and International Standards
- Statistics
- Public Relations
- International Affairs
- Government Affairs
- Environmental Affairs
- Legal Affairs
- Market Relations
- Jointly Funded Research
- Education and Training

## WIRE AND CABLE DIVISION

- 6 Sections
  - Building Wire and Cable
  - Fabricated Conductors
  - Flexible Cords
  - High Performance Wire and Cable
  - Magnet Wire
  - Power and Control Cable
- 60 Member Companies
- 5 Staff

## WIRE AND CABLE DIVISION

### Fabricated Electrical Conductors

Uninsulated electrical conductors, solid or composite-strands, fabricated of copper or copper alloys, bar or metal-coated.

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Camden Wire Company

Nesor Alloy Company

Hudson International

Wyre Wynd, Inc.

## WIRE AND CABLE DIVISION

### Magnet Wire Section

Insulated conductors of the types generally used in the creation of an electromagnetic field.

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Alcatel Canada Wire, Inc.	Magnatek Lighting Products
American Wire Corporation	Optec DD, USA, Inc.
Bridgeport Insulated Wire Co.	Phelps Dodge Magnet Wire
Chicago Magnet Wire Corporation	Rea Magnet Wire Company
Elektrisola, Inc.	Southwire Specialty Products
Essex Group	Westinghouse Electric Corp.

## WIRE AND CABLE DIVISION

### Flexible Cords Section

Fixture and appliance wires and flexible cords including power supply cords, cord sets, and extension cords, with or without a molded on fitting or an attached wiring device.

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American Electric Cordsets	General Cable Company
Belden	Leviton Mfg. Company
Carol Cable Company	Pacific Electriccord
Coleman Cable and Wire Company	Triangle Wire and Cable Company
Essex Group	Woods Wire Products

## WIRE AND CABLE DIVISION

### Building Wire and Cable Section

Building wire and cable including thermoplastic, thermoset, non-metallic, service entrance, armor and metal clad, underground feeder, machine tool, and branch circuit wire and cables.

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Alcan Cable	Pacific Electriccord Company
Carol Cable Company	Pirelli Cable Corporation
Coleman Cable Corporation	Rome Cable Corporation
Colonial Wire and Cable	Royal Electric
General Cable Company	Southwire Company
Okonite Company	Triangle Wire and Cable

## WIRE AND CABLE DIVISION

### Power and Control Cable Section

Solid dielectric insulated wire and cables including thermosetting, thermoplastic, single and multiconductor, jacketed, sheathed or armored for power and control applications.

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Alcan Cable	The Okonite Company
Alcatel Chester Cable Corp.	Pirelli Cable Corporation
Amercable	The Rockbestos Company
BICC Cables Corp.	Rome Cable Corporation
Cablec Continental Cables Co.	Royal Electric
Carol Cable Company	Southwire Company
Furon Company	Triangle Wire and Cable
The Kerite Company	

## WIRE AND CABLE DIVISION

### High Performance Wire and Cable Section

Insulated signal and communications cable, coaxial cable, hook-up wire, appliance wiring material, power-limited circuit cable, thermocouple wire, shipboard cables, airframe and automotive wire and cable.

American Electric Cable	Micro-Tek Corporation
Astro Industries	Mohawk Wire and Cable Company
AT&T	Montrose Product Company
Barcel Wire and Cable Corp.	The Okonite Company
Berk-Tek, Inc.	Pacific Electriccord Company
Brand-Rex	Carol Cable Company
Cablec Continental Cables Corp.	Philadelphia Insulated Wire
Cable USA, Inc.	Prestolite Wire Corporation
Cooper Industries/Belden	Quirk Wire Company
Delta Surprenant Wire and Cable	Radix Wire Company
Furon Company	The Rockbestos Company
Harbor Industries	Siecor Corporation
Helix/Hitemp Cables	Speciality Cables Corp.
Independent Cable, Inc.	Tensolite Company
Kris-Tech Wire Company	Times Microwave Systems
Champlain Cable Corp.	Triangle Wire and Cable



## WIRE AND CABLE DIVISION

### Activities

- National and International Standards
- Statistics
- Public Relations
- International Affairs
- Government Affairs
- Environmental Affairs
- Legal Affairs
- Market Relations
- Jointly Funded Research

## WIRE AND CABLE DIVISION

### Technical Liaisons

- UL
- CSA
- NFPA
- EEMAC
- EIA
- ICEA
- ASTM
- SPI
- DESC
- NAVSEA
- NAVAIR
- NASA
- Other Supplier  
and User Groups

## WIRE AND CABLE DIVISION

### NEMA Wire and Cable Standards

HP 3-1987 (R1992)	Electrical and Electronic PTE (Polytetrafluoro-ethylene) Insulated High Temperature Hook-Up Wire (600 Volt), EE (1000 Volt), and ET (250 Volt)
HP 4-1988	Electrical and Electronic FEP Insulated High Temperature Hook-Up Wire, Type K, KK, and KT
HP 100-1991	High Temperature Instrumentation and Control Cables (Set)
HP 100.1-1991	High Temperature Instrumentation and Control Cables Insulated and Jacketed with FEP Fluorocarbons
HP 100.2-1991	High Temperature Instrumentation and Control Cables Insulated and Jacketed with EFTE Fluoropolymers
HP 100.3-1991	High Temperature Instrumentation and Control Cables Insulated and Jacketed with Cross-Linked (Thermoset) Polyolefin (XLPO)
HP 100.4-1991	High Temperature Instrumentation and Control Cables Insulated and Jacketed with ECTFE Fluoropolymers
MW 750-1984 (R1990)	Dynamic Coefficient of Friction of Film Insulated Magnet Wire
MW 755-1991	Straight Flange Magnet Wire Plastic Spools/Reels
MW 760-1991	Tapered Flange Magnet Wire Plastic Spools/Reels
MW 765-1992	Reclaiming Magnet Wire Plastic Spools/Reels
MW 770-1993	Unified Customer Labeling for Magnet Wire Products
MW 800-1989	Guidelines for Precautionary Labeling of Magnet Wire

## WIRE AND CABLE DIVISION

### NEMA Wire and Cable Standards (Continued)

MW 1000-1993	Magnet Wire
WC 2-1980 (R1991)	Steel Armor and Associated Coverings for Impregnated-Paper-Insulated Cables (ICEA S-67-401 Fifth Edition)
WC 3-1992	Rubber-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy (ICEA S-19-1981 Sixth Edition)
WC 4-1988	Varnished-Cloth-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy (ICEA S-65-375 Third Edition)
WC 5-1992	Thermoplastic-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy
WC 7-1988	Cross-Linked-Thermosetting-Polyethelene-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy (ICEA S-66-524)
WC 8-1988	Ethylene-Propylene-Rubber-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy (ICEA S-68-516)
WC 26-1990	Wire and Cable Packaging
WC 50-1976 (R1988)	Ampacities, Including Effect of Shield Losses for Single-Conductor Solid-Dielectric Power Cable 15Kv through 69 kV (ICEA P-53-426 Second Edition)
WC 51-1986 (R1991)	Ampacities of Cables in Open-Top Cable Trays (ICEA P-54-440 Third Edition)

## WIRE AND CABLE DIVISION

### NEMA Wire and Cable Standards (Continued)

WC 52-1984 (R1991)	High Temperature and Electronic Insulated Wire-Impulse Dielectric Testing
WC 53-1990	Standard Test Methods for Extruded Dielectric Power, Control, Instrumentation, and Portable Cables (ICEA T-27-581)
WC 54-1990	Guide for Frequency of Sampling Extruded Dielectric Power, Control, Instrumentation, and Portable Cables for Test (ICEA T-26-465)
WC 55-1992	Instrumentation Cables and Thermocouple Wire (ICEA S-82-552)
WC 56-1986	3.0 kHz Insulation Continuity Proof Testing of Hook-Up Wire
WC 57-1990	Standard for Control Cables (ICEA S-73-532)
WC 58-1991	Standard for Portable and Power Feeder Cables for Use in Mines and Similar Applications
WC 61-1992	Transfer Impedance Testing
WC 62-1992	Repeated Spark/Impulse Dielectric Testing

## WIRE AND CABLE DIVISION

### 1993 Technical Activities

- UL/CSA Standards Harmonization
  - UL 62/CSA 49
  - UL 817/CSA 21
  - UL 758/CSA 210.2
  
- NEMA Standards Revisions
  - MW 1000
  - WC 3
  - WC 5
  - WC 7
  - WC 8
  - WC 53
  - WC 54
  - WC 56
  - WC 57
  - WC 58
  
- Participation/Support of ICEA Standards Development
  
- Development of Proposals for 1996 National Electrical Code
  
- Development of Input to UL PVC Compound Recognition Program
  
- Development of Proposed Revision to UL 719 Joint-pull Test
  
- Development of Proposed Updates to UL and ASTM Requirements for Compressed Strand Wire
  
- Development of Proposed Update to MIL-C-17

## WIRE AND CABLE DIVISION

### 1993 Technical Activities (Continued)

- Development of Proposed WC 63  
on Premises Wiring Cables
- Consideration of Proposed NEMA  
Testing Methods for Dry Arc  
Tracking
- Consideration of Metrication  
Requirements
- Develop Input to ISO/TC 20  
on Aircraft Wire and Cable
- Development of Proposed  
Bar Coding Standards  
for Wire and Cable Products
- Development of Proposed  
Commercial Item Description  
for Plenum Cable
- Development of Response  
on Military Prohibition  
of Silver Plated Conductors  
- MIL-STD-454
- Development of Proposed  
Revision to MIL-C-24640
- Round-robin Testing of Hybrid  
Wire Types
- Provide Input to MIL-C-27500
- Provide Input to MIL-W-22759  
Polytetrafluoroethylene/  
Polyimide Insulated  
Wire and Cable
- Provide Input to MIL-W-16878

**WIRE AND CABLE DIVISION**

- **Diversity of Activity**
- **Changing to Reflect a Changing World**
  - **Faster Paced**
  - **Attuned to the Membership**
    - **Attuned to Members' Markets**

