



ANSI/NEMA HP 4-2012

American National Standard

**Electrical and Electronic FEP (Fluorinated Ethylene Propylene)
Insulated High Temperature Hook-Up Wire,
Types KT (250 Volt), K (600 Volt), and KK (1000 Volt)**

Secretariat:

National Electrical Manufacturers Association

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FOREWORD

This standards publication was developed by the NEMA High Performance Wire and Cable Section. This standard was developed to assure that these types of hook-up wire can be procured and that they will meet requirements associated with high reliability commercial electrical and electronic equipment in which it is used. Compliance with provisions of this standards publication is strictly voluntary and any certification of compliance is left to the discretion of the buyer and seller.

This standard publication was designed as a non-government standard for replacement of MIL-W-16878 FEP insulated wire specification sheets (/11, /12, and /13).

In the preparation of this standard publication, input of users and other interested parties has been considered. Inquiries, comments, and proposed or recommended revisions should be submitted to the concerned NEMA product subdivision by contacting the:

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This standards publication was developed by the NEMA High Performance Wire and Cable Section. Section approval of the standard does not necessarily imply that all section members voted for its approval or participated in its development. At the time it was approved, the section was composed of the following members:

| | |
|---------------------------------|----------------------|
| AFC Cable Systems | New Bedford, MA |
| AmerCable | El Dorado, AR |
| Belden Inc. | St. Louis, MO |
| Berk-Tek a Nexans Company | Elm City, NC |
| Cable USA LLC. | Naples, FL |
| Coleman Cable Inc. | Waukegan, IL |
| General Cable | Highland Heights, KY |
| Harbour Industries LLC. | Shelburne, VT |
| IWG High Performance Conductors | Inman, SC |
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| Radix Wire Company | Euclid, OH |
| RSCC Aerospace and Defense | East Granby, CT |
| Southwire Company | Carrollton, GA |
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| The Okonite Company | Ramsey, NJ |
| TE Connectivity | Menlo Park, CA |

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Section 1 GENERAL

1.1 SCOPE

This standards publication covers specific requirements for FEP (Fluorinated Ethylene Propylene) insulated solid and stranded wire, designed for the internal wiring of high reliability electrical and electronic equipment. This standards publication addresses 250 volt (type KT), 600 volt (type K), and 1000 volt

(type KK) wire and permits continuous conductor temperature ratings of -65 °C to + 200 °C with silver-coated or nickel-coated conductors and -65 °C to +150 °C with tin-coated conductors. These types of hook-up wire are used when the following requirements are called for:

- High temperature resistance;
- low temperature resistance;
- low dielectric constant;
- resistance to cleaning solutions or a variety of chemicals that may come in contact with either the wire or the equipment; and,
- good flexibility and flex life when stranded conductors are used.

1.2 REFERENCED STANDARDS AND SPECIFICATIONS

American Society for Quality Control

611 E. Wisconsin Ave.
Milwaukee, WI 53202

ANSI/ASQC Z1.4 Sampling Procedures and Tables for Inspection by Attributes

American Society for Testing and Materials (ASTM)

100 Barr Harbor Drive
West Conshohocken, PA 19428

| | |
|--------|---|
| B 286 | Copper Conductors for Use in Hook-up Wire for Electronic Equipment |
| B 298 | Silver-Coated Soft or Annealed Copper Wire |
| B 3 | Soft or Annealed Copper Wire |
| B 33 | Tinned Soft or Annealed Copper Wire |
| B 35 | Nickel-Coated Soft or Annealed Copper Wire |
| B 452 | Copper Clad Steel Wire for Electronic Applications |
| B 501 | Silver-Coated Copper-Clad Steel Wire for Electronic Applications |
| B 559 | Nickel-Coated Copper-Clad Steel Wire for Electronic Applications |
| B 624 | High-Strength, High Conductivity Copper-Alloy Wire for Electronic Application |
| D 2116 | FEP Fluorocarbon Molding and Extrusion Materials |
| D 3032 | Methods of Testing Hook-Up Wire Insulation |