NEMA Standards Publication

ANSI/NEMA HP 4-2012

American National Standard for Electrical and Electronic FEP (Fluorinated Ethylene Propylene) Insulated High Temperature Hook-Up Wire, Types KT (250 V), K (600 V), and KK (1000 V)

National Electrical Manufacturers Association

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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

Approved: December 6, 2011

Published: December 6, 2012

American National Standards Institute, Inc.

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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:

Senior Technical Director, Operations
National Electrical Manufacturers Association
1300 North 17th Street
Rosslyn, Virginia 22209

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
Kaneka North America	Pasadena, TX
Leviton Manufacturing Co., Inc.	Gardena, CA
Quirk Wire Company, Inc.	West Brookfield, MA
Radix Wire Company	Euclid, OH
RSCC Aerospace and Defense	East Granby, CT
Southwire Company	Carrollton, GA
The Monroe Cable Company, Inc.	Middletown, NY
The Okonite Company	Ramsey, NJ
TE Connectivity	Menlo Park, CA

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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