



**ANSI/NEMA HP 3-2012**  
Revision of ANSI/NEMA HP 3-2001

## **American National Standard**

# **Insulated High Temperature Hook-Up Wire; Types ET (250 Volts), E (600 Volts), and EE (1000 Volts)**

Secretariat:

**National Electrical Manufacturers Association**

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## FOREWORD

The standard publication was developed by the NEMA High Performance Wire and Cable Section to assure that Insulated High Temperature Hook-Up Wire of Types ET (250 Volts), E (600 Volts), and EE (1000 Volts) can be procured and 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 standards publication was designed as a non-government standard for replacement of MIL-W-16878 PTFE insulated wire slash sheets (/4, /5, /6, /20 through /27, /34, and /35).

The High Performance Wire and Cable Section approval of ANSI/NEMA HP 3 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
Apical Division, Kaneka Texas Corporation	El Dorado, AR
Belden Inc.	St. Louis, MO
Cable USA LLC.	Naples, FL
Champlain Cable Corporation	Colechester, VT
Coleman Cable Inc.	Waukegan, IL
Freeport McMoRan Copper and Gold	Phoenix, AZ
General Cable	Highland Heights, KY
Harbour Industries LLC.	Shelburne, VT
IWG High Performance Conductors	Inman, SC
The Monroe Cable Corporation, Inc.	Middletown, NY
Nexans AmerCable	Houston, TX
The Okonite Company	Ramsey, NJ
Quirk Wire Company, Inc.	West Brookfield, MA
Rubadue Wire Company	Greeley, CO
RSCC Aerospace and Defense	East Granby, CT
Southwire Company	Carrollton, GA
The Monroe Cable Company, Inc.	Middletown, NY
TE Connectivity	Menlo Park, CA
WireMasters, Inc.	Columbia, TN

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## Section 1 GENERAL

### 1.1 SCOPE

This standards publication covers specific requirements for PTFE (polytetrafluoroethylene) insulated solid and stranded wire designed for the internal wiring of high reliability electrical and electronic equipment. This Standards Publication addresses 250 volt (Type ET), 600 volt (Type E) and 1000 volt (Type EE) wire and permits continuous conductor temperature ratings of -65° C to +200° C with silver-coated conductors and -65° C to +260° C with nickel-coated conductors. These types of hook-up wire are used when the following properties are called for:

- High temperature resistance
- Low temperature resistance
- Low dielectric constant
- Solder iron resistance
- Resistance to cleaning solutions or a variety of chemicals that may come in contact with either the wire or the equipment
- Good flexibility and flex life when stranded conductors are used

### 1.2 REFERENCED STANDARDS AND SPECIFICATIONS

The following publications are adopted in part, by reference in this publication, and are available from the organizations below.

**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**

100 Barr Harbor Drive  
West Conshohocken, PA 19428

B 286	<i>Copper Conductors for Use in Hook-up Wire for Electronic Equipment</i>
B 298	<i>Silver-Coated Soft or Annealed Copper Wire</i>
B 3	<i>Soft or Annealed Copper Wire</i>
B 355	<i>Nickel-Coated Soft or Annealed Copper Wire</i>
B 452	<i>Copper Clad Steel Wire for Electronic Applications</i>
B 501	<i>Silver-Coated Copper-Clad Steel Wire for Electronic Applications</i>
B 559	<i>Nickel-Coated Copper-Clad Steel Wire for Electronic Applications</i>
B 624	<i>High-Strength, High Conductivity Copper-Alloy Wire for Electronic Application</i>