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Electrical and Electronic Polytetrafluoroethylene (PTFE) Insulated High Temperature Hook -up Wire, Types ET (250 V), E (600 V) and EE (1000 V)



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FOREWORD

This standard publication was developed by the NEMA High Performance Wire and Cable Section. It 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 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).

This Standards Publication was developed by the High Performance Wire and Cable Section of NEMA. 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:

Alcatel/Nexans—Elm City, NC
General Cable—Willimantic, CT
Cable USA Inc.—Naples, FL
Furon Company/Dekron Division—Akron, OH
Judd Wire Inc.—Turner Falls, MA
Quirk Wire Company Inc.—West Brookfield, MA
Radix Wire Company—Cleveland, OH
Raychem/Tyco Corporation—Menlo Park, CA
Rockbestos/Surprenant Cable Corp.—Clinton, MA

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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 Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

B 3-95	<i>Soft or Annealed Copper Wire</i>
B 286-95	<i>Copper Conductors for Use in Hook-up Wire for Electronic Equipment</i>
B 298-99	<i>Silver-Coated Soft or Annealed Copper Wire</i>
B 355-95	<i>Nickel-Coated Soft or Annealed Copper Wire</i>
B 452-93	<i>Copper Clad Steel Wire for Electronic Applications</i>
B 501-99	<i>Silver-Coated Copper-Clad Steel Wire for Electronic Applications</i>
B 559-93	<i>Nickel-Coated Copper-Clad Steel Wire for Electronic Applications</i>
B 624-99	<i>High-Strength, High Conductivity Copper-Alloy Wire for Electronic Application</i>
D 3032-98	<i>Hook-up Wire Insulation</i>
D 4895-98	<i>PTFE Resin Produced from Dispersion</i>