PROCESS INDUSTRY PRACTICES

TECHNICAL REVISION
November 2021

Electrical

PIP ELSWC06
Nonshielded Power Cable Specification
(2001 Volts to 5000 Volts)

PURPOSE AND USE OF PROCESS INDUSTRY PRACTICES

In an effort to minimize the cost of process industry facilities, this Practice has been prepared from the technical requirements in the existing standards of major industrial users, contractors, or standards organizations. By harmonizing these technical requirements into a single set of Practices, administrative, application, and engineering costs to both the purchaser and the manufacturer should be reduced. While this Practice is expected to incorporate the majority of requirements of most users, individual applications may involve requirements that will be appended to and take precedence over this Practice. Determinations concerning fitness for purpose and particular matters or application of the Practice to particular project or engineering situations should not be made solely on information contained in these materials. The use of trade names from time to time should not be viewed as an expression of preference but rather recognized as normal usage in the trade. Other brands having the same specifications are equally correct and may be substituted for those named. All Practices or guidelines are intended to be consistent with applicable laws and regulations including OSHA requirements. To the extent these Practices or guidelines should conflict with OSHA or other applicable laws or regulations, such laws or regulations must be followed. Consult an appropriate professional before applying or acting on any material contained in or suggested by the Practice.

This Practice is subject to revision at any time.

PUBLISHING HISTORY

January 2005	*Issued*	*May 2019*	*Complete Revision*
September 2009	*Complete Revision*	*November 2021*	*Technical Revision*
October 2014	*Complete Revision*		

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Data Form

PIP ELSWC06-D - *Data Sheet for Nonshielded Power Cable - 2001 Volts to 5000 Volts*

1. Scope

This Practice describes the minimum technical requirements for design, material, construction, inspection, testing, purchase, and shipping of single and multiple conductor solid dielectric, insulated, nonshielded copper cable rated at 2001 volts to 5000 volts.

2. References

Applicable parts of the following Practices and industry codes and standards shall be considered an integral part of this Practice. The latest edition in effect on the date of contract award shall be used, except as otherwise noted. Short titles are used herein where appropriate.

Industry Codes and Standards

- American Society for Testing Materials (ASTM)
  - ASTM B3 - *Standard Specification for Soft or Annealed Copper Wire*
  - ASTM B8 - *Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft*
  - ASTM B496 - *Standard Specification for Compact Round Concentric-Lay-Stranded Copper Conductors*
- Canadian Standards Association (CSA)
  - C22.2 No. 131 – *Type TECK 90 Cable*
  - C22.2 No. 174 – *Cables and Cable Glands for use in Hazardous Locations*
- Institute of Electrical and Electronics Engineers (IEEE)
  - IEEE 1202 - *Flame-Propagation Testing of Wire and Cable*
- Insulated Cable Engineers Association (ICEA)
  - ICEA S-96-659 (NEMA WC 71) - *Standard for Nonshielded Cables Rated 2001-5000 Volts for Use in the Distribution of Electrical Energy*
- National Electrical Manufacturers Association (NEMA)
  - NEMA WC 26 - *Binational Wire and Cable Packaging Standard*
- National Fire Protection Association (NFPA)
  - NFPA 70 - *National Electrical Code (NEC)*
- Underwriters Laboratories
  - UL 1072 - *Standard for Safety Medium-Voltage Power Cables*
  - UL 1569 - *Metal-Clad Cables*
  - UL 2225 - *Cables and Cable-Fittings for Use in Hazardous (Classified) Locations*

3. Definitions

purchaser: Party who awards the contract to the supplier. The purchaser may be the owner or the owner's authorized agent.

supplier: Party responsible for providing the nonshielded power cables