NEMA TCB 4-2021

Guidelines for the Selection and Installation of Smooth-Wall Coilable High Density Polyethylene (HDPE) Conduit for Trench Installation

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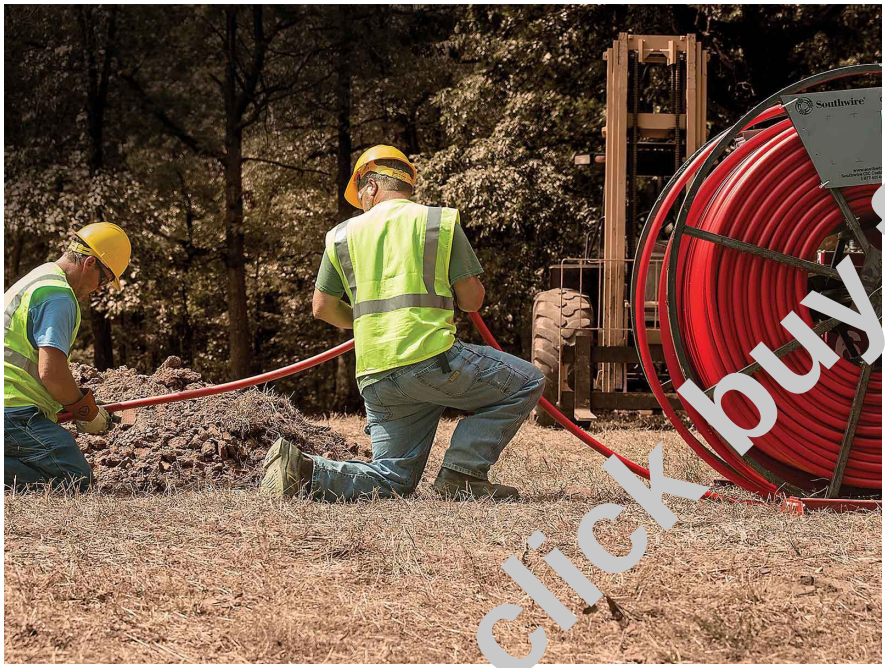
Foreword

This guideline is intended to provide assistance with obtaining the most appropriate and satisfactory installation of HDPE conduit or raceway systems. It is in no way intended to assume or replace any responsibilities of engineers, customer representatives, owners, or other persons in establishing engineering design practices and procedures best suited to individual job conditions.



NEMA TCB 4 was approved by the NEMA Polyme Raceway Products Section. Approval does not necessarily imply that all Members of the sectio ed for its approval. At the time of approval, the section consisted of the following Members:

ABB, Inc. — www.abb.com — Memphis, TN
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The Plastics Pipe Institute, in particular, was active in the development of TCB 4.

PPI
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During the preparation phase of this document, the following were participants from PPI:

Randy Kummer — Southwire Company
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Christian Herrild — Teel Plastics, Inc.
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The NEMA Polymer Raceway Products Section will periodically review this Standard and revise it as necessary.

Proposed or recommended revisions can be submitted to:

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Contents

Section 1
General

1.1 Scope

This guideline covers recommendations for the selection, handling, and installation of underground High-Density Polyethylene (HDPE) conduit or raceway for power, lighting, signaling, and communications applications. Trench installation of single conduit or conduit banks is covered. Corrugated coilable utility duct is not covered in this guideline (see NEMA TCB 3).

1.2 Nomenclature

Abbreviations for nonmetallic materials referenced in this guideline include the following:

HDPE	High-Density Polyethylene
PE	Polyethylene
PVC	Polyvinyl Chloride

Abbreviations for burial type include:

DB	Direct burial—refers to duct buried without concrete encasement
EB	Encased burial—refers to duct buried with concrete encasement

Abbreviations for stiffness include:

DS	Duct stiffness
PS	Pipe stiffness

Abbreviations for conduit type include:

EPEC-40	HDPE or PVC conduit (Schedule 40)
EPEC-80	Extra-heavy wall HDPE or PVC conduit (Schedule 80)
EPEC	Smooth Wall Coilable High Density Polyethylene Conduit

1.3 Reference Standards

ASTM D2412-21	*Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading*
ASTM D2683-20	*Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing*
ASTM F1055-16a	*Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and Crosslinked Polyethylene (PEX) Pipe and Tubing*
ASTM F1056-18	*Standard Specification for Socket Fusion Tools for Use in Socket Fusion Joining Polyethylene Pipe or Tubing and Fittings*
ASTM F2620-20	*Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings*
NEMA TC 7-2016	*Smooth Wall Coilable Electrical Polyethylene Conduit*