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Smooth-Wall Coilable Electrical Polyethylene Conduit

National Electrical Manufacturers Association

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Foreword

The purpose of this standards publication for high-density polyethylene (HDPE) conduit (duct) intended for underground use in the installation and protection of electrical cables is:

1. To list dimensions and other significant requirements;
2. To state the required properties of these products and to assist in selecting and obtaining the proper product for a particular need.

In addition, this standard addresses the factory installation of electrical cable, or pull media commonly used to assist in the installation of cables.

User needs have been considered throughout the development of this standard. The Polymer Raceway Products Section of NEMA, through its members, works closely with such organizations as ASTM International, appropriate government agencies, testing laboratories, and others in the periodic review and revision of this standard. The Plastics Pipe Institute, in particular, was helpful in proposing revisions for this edition of TC 7.

In the preparation of this Standards Publication, input of users and other interested parties has been sought and evaluated. Inquiries, comments, and proposed or recommended revisions should be submitted to the concerned NEMA product Subdivision by contacting:

Senior Technical Director, Operations
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This standards publication was approved by the Polymer Raceway Section. At the time of publication, the section had the following members:

Anamet Electrical, Inc., http://www.anametdatabealtite.com—Mattoon, IL
AFC Cable Systems, a part of Atkore International, www.afcweb.com—New Bedford, MA
Allied Tube and Conduit, a part of Atkore International, www.alliedtube.com—Harvey, IL
Champion Fiberglass, Inc., www.championfiberglass.com—Spring, TX
FRE Composites, Inc., www.frecomposites.com—St. Andre-d'Argenteuil, PQ, Canada
Hubbell Incorporated, www.hubbell.com—Shelton, CT
IPEX Group, www.ipexna.com—Mississauga, ON, Canada
Legrand North America, www.legrand.us—West Hartford, CT
Panduit Corporation, www.panduit.com—Tinley Park, IL
Royal Building Products, www.royalbuildingproducts.com—Shelby Township, MI
Southern Pipe, Inc., www.southern-pipe.com—New London, NC
Southwire Company, www.southwire.com—Carrollton, GA
Thomas & Betts, a member of the ABB Group, www.tnb.com—Memphis, TN
Underground Devices, Inc., www.udevices.com—Northbrook, IL
United Fiberglass of America, www.unitedfiberglass.com—Springfield, OH

The following members participated in a special working to contribute to the development of this standard:
Randy Kummer, Southwire Company
Andrew Nause, IPEX Group
Lance MacNevin, Plastics Pipe Institute

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Section 1
General

1.1 Scope

This standard covers several wall types of high-density polyethylene (HDPE) conduit for use in providing a protective raceway for electrical cables or communication cables buried underground or concrete encased.

Note: Typical applications for HDPE conduit include power distribution, site lighting, signal and control and Supervisory Control and Data Acquisition (SCADA).

Wall types include the following:

EPEC-40 HDPE. This type represents the nominal dimensions for Schedule 40 conduit consistent with ASTM F2160, ASTM D3485 and UL 651B or UL 1990 for Cable-in-Conduit (CIC).

EPEC-80 HDPE. This type represents the nominal dimensions for Schedule 80 conduit consistent with ASTM F2160, ASTM D3485 and UL 651B or UL 1990 for CIC.

EPEC-11 HDPE. This type represents the nominal dimensions for SDR 11 conduit consistent with ASTM F2160, ASTM D3485 and is not currently covered by UL.

EPEC-13.5 HDPE. This type represents the nominal dimensions for DR 13.5 conduit consistent with ASTM F2160, ASTM D3485 and UL 651A or UL 1990 for CIC.

EPEC-15.5 HDPE. This type represents the nominal dimensions for DR 15.5 conduit consistent with ASTM F2160, ASTM D3485 and UL 651A or UL 1990 for CIC.

EPEC-17– HDPE This type represents the nominal dimensions for DR 17 conduit consistent with ASTM D3035, and UL 651A or UL1990 for CIC.

Note: The values stated in U.S. customary units are to be regarded as the standard.

1.2 Referenced Standards

In this publication, reference is made to the standards listed below. Where all or part of an ASTM International, NFPA, or UL etc., standard specification is incorporated by reference in these specifications, the reference standard shall be the latest edition and revision. Copies are available from the indicated sources.

ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

D618 *Standard Practice for Conditioning Plastics for Testing*

D638 *Standard Test Method for Tensile Properties of Plastics*

D790 *Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials*