NEMA Standards Publication

NEMA TC 2-2013

# Electrical Polyvinyl Chloride (PVC) Conduit

National Electrical Manufacturers Association

**NEMA TC 2-2013**

*Electrical Polyvinyl Chloride (PVC) Conduit*

*Published by:*

National Electrical Manufacturers Association
1300 North 17th Street, Suite 900
Rosslyn, Virginia 22209-3801

www.nema.org

## NOTICE AND DISCLAIMER

The information in this publication was considered technically sound by a consensus among persons engaged in its development at the time it was approved. Consensus does not necessarily mean there was unanimous agreement among every person participating in the development process.

The National Electrical Manufacturers Association (NEMA) standards and guideline publications, of which the document herein is one, are developed through a voluntary standards development process. This process brings together volunteers and/or seeks out the views of persons who have an interest in the topic covered by this publication. Although NEMA administers the process and establishes rules to promote fairness in the development of consensus, it does not write the documents, nor does it independently test, evaluate, or verify the accuracy or completeness of any information or the soundness of any judgments contained in its standards and guideline publications.

NEMA disclaims liability for any personal injury, property, or other damages of any nature, whether special, indirect, consequential, or compensatory, directly or indirectly resulting from the publication, use of, application, or reliance on this document. NEMA disclaims and makes no guaranty or warranty, express or implied, as to the accuracy or completeness of any information published herein, and disclaims and makes no warranty that the information in this document will fulfill any particular purpose(s) or need(s). NEMA does not undertake to guarantee the performance of any individual manufacturer's or seller's products or services by virtue of this standard or guide.

In publishing and making this document available, NEMA is not undertaking to render professional or other services for or on behalf of any person or entity, nor is NEMA undertaking to perform any duty owed by any person or entity to someone else. Anyone using this document should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstance. Information and other standards on the topic covered by this publication may be available from other sources, which the user may wish to consult for additional views or information not covered by this publication.

NEMA has no power, nor does it undertake to police or enforce compliance with the contents of this document. NEMA does not certify, test, or inspect products, designs, or installations for safety or health purposes. Any certification or other statement of compliance with any health- or safety-related information in this document shall not be attributable to NEMA and is solely the responsibility of the certifier or maker of the statement.

## TABLE OF CONTENTS

**TABLES**

## FOREWORD

The purpose of this publication for electrical polyvinyl chloride (PVC) conduit (EPC) for above-ground and below-ground use is:

a) To list dimensions and other significant requirements.
b) To set forth some of the properties of these products and to assist in selecting and obtaining the proper product for a particular need.

User needs have been considered throughout the development and revision of this standard. The Polymer Raceway Products Section of NEMA, through its members, has worked (and continues to work) closely with such organizations as the American Society for Testing and Materials, the Plastics Pipe Institute, Plastic Pipe and Fittings Association, appropriate government agencies, Underwriters Laboratories, Inc., and others in the periodic review and revision of these standards for any changes necessary to keep them up-to-date with advancing technology. Proposed or recommended revisions should be submitted to:

Senior Technical Director, Operations
National Electrical Manufacturers Association
1300 North 17th Street, Suite 900
Rosslyn, Virginia 22209-3801

NEMA TC 2-2013 revises and supersedes the NEMA Standards Publication for Electrical Plastic Tubing (EPT) and Conduit (EPC-40 and EPC-80), NEMA TC 2-2003.

This publication was developed by the Polymer Raceway Products Section. Section approval of the standard does not necessarily imply that all section members voted for its approval or participated in its development. The following member companies of the section contributed to this revision of TC 2:

| | |
|---|---|
| Anamet Eletrical, Inc. | Mattoon, IL |
| Atkore AFC Cable Systems | New Bedford, MA |
| Atkore Allied Tube and Conduit | Harvey, IL |
| Champion Fiberglass, Inc. | Spring, TX |
| FRE Composites Inc. | St. André-d'Argenteuil, PQ, Canada |
| Hubbell Incorporated | Shelton, CT |
| IPEX Electrical Inc. | Mississauga, ON, Canada |
| Legrand North America | West Hartford, CT |
| Panduit Corporation | Tinley Park, IL |
| Royal Pipe Systems | Shelby Township, MI |
| South Pipe, Inc. | New London, NC |
| Thomas & Betts Corporation | Memphis, TN |
| Underground Devices, Inc. | Northbrook, IL |

<This page is intentionally left blank. >

# Section 1
# GENERAL

## 1.1 SCOPE

NEMA TC 2-2013 covers the following types of Electrical Polyvinyl Chloride (PVC) Conduit (EPC), which may be constructed of single, solid layer of PVC, or may be constructed of multiple layers of PVC, one of which may be cellular (foamed) PVC. The designations "40" and "80" refer to Schedules 40 and 80 (EPC-40 and EPC-80), respectively, of Iron Pipe Size (IPS) dimensions. Common uses for these designations are:

a) EPC-40—Electrical conduit designed for normal-duty applications aboveground; concrete-encased applications or direct burial. May be referred to as "heavy wall."
b) EPC-80—Electrical conduit designed for heavy-duty (areas of physical damage) applications aboveground; concrete-encased applications or direct burial. May be referred to as "extra heavy wall."

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

NEMA TC2-2013 does not fully address elbows and fittings. See NEMA TC3-2013.

## 1.2 REFERENCED STANDARDS

In this publication, reference is made to the standards listed below. Copies are available from the indicated sources. Latest edition of these standards should be used unless otherwise specified.

**American Society for Testing and Materials**
100 Barr Harbor Drive
West Conshohocken, PA 19428

| | |
|---|---|
| D 1600 | *Standard Terminology for Abbreviated Terms Relating to Plastics* |
| D 2122 | *Standard Test Method of Determining Dimensions of Thermoplastic Pipe and Fittings* |
| D 2564 | *Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems* |
| D 618 | *Standard Practice for Conditioning Plastics for Testing* |
| D 883 | *Standard Terminology Relating to Plastics* |
| F 402 | *Standard Practice for Safe Handling of Solvent Cements, Primers, and Cleaners Used for Joining Thermoplastic Pipe and Fittings* |
| F 412 | *Standard Terminology Relating to Plastic Piping Systems* |
| F 656 | *Standard Specification for Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings* |