

NEMA TCB 2-2012

NEMA Guidelines for the Selection and Installation of Underground Nonmetallic Raceways



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FOREWORD

This guideline is intended to provide assistance as a guide to obtain the most appropriate and satisfactory installation of rigid nonmetallic conduit (RNC) or raceway systems.

This guideline 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 Polymer Raceway Products Section

Anamet Electrical, Inc.	Mattoon, IL
AFC Cable Systems, a part of Atkore International	New Bedford, MA
Allied Tube and Conduit, a part of Atkore International	Harvey, IL
Champion Fiberglass, Inc.	Spring, TX
FRE Composites	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
Southern Pipe, Inc.	New London, NC
Thomas & Betts Corporation	Memphis, TN
Underground Devices, Inc.	Northbrook, IL
United Fiberglass of America	Springfield, OH

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SCOPE

This guideline covers recommendations for the selection, handling and installation of underground single bore rigid nonmetallic conduit (RNC) or raceway for power, lighting, signaling, and communications applications. For the purposes of this guideline, Rigid nonmetallic conduit (RNC) or raceway refers to HDPE, PE, PVC or RTRC conduit and duct. Corrugated coilable utility duct is not covered in this guideline; details on storage, handling, and installation are covered in NEMA TCB-3.

Although not specifically mentioned in this guideline, variations of the products discussed may occasionally be specified. Users should follow installation recommendations of the manufacturer.

NOMENCLATURE

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

HDPE	High Density Polyethylene
PE	Polyethylene
PVC	Polyvinyl Chloride
RTRC	Reinforced Thermosetting Resin Conduit (fiberglass)

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:

EPC 40	PVC conduit (Schedule 40)
EPC 80	Extra heavy wall PVC conduit (Schedule 80)
EPEC	Smooth wall coilable high density polyethylene conduit
RNC	Rigid nonmetallic conduit

Abbreviations for wall type include:

HW	Heavy wall – refers to HW RTRC
SW	Standard wall – refers to SW RTRC
XW	Extra heavy wall – refers to XW RTRC

STANDARDS AND GUIDELINES REFERENCES

ASTM D 2412 *Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading*

ASTM D 2564 *Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems*

ASTM D 2657 *Standard Practice for Heat Fusion Joining of Polyolefin Pipe and Fittings*

ASTM D 2855 *Standard Practice for Making Solvent-Cemented Joints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings*