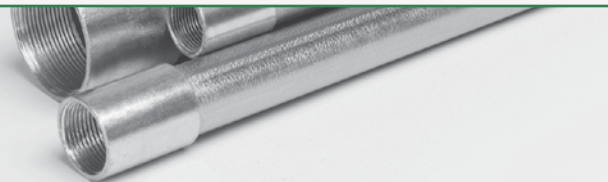


This is a preview of "NECA 101-2013". [Click here to purchase the full version from the ANSI store.](#)



NECA 101-2013

Standard for

Installing Steel Conduits (Rigid, IMC, EMT)

AN AMERICAN NATIONAL STANDARD



Published by
National Electrical Contractors Association



Jointly developed with
Steel Tube Institute of North America

NECA 101-2006

Standard for
Installing Steel Conduits
(Rigid, IMC, EMT)

**An American
National Standard**



Published by
National Electrical
Contractors Association



Jointly developed with
Steel Tube Institute
of North America



**Steel Tube
Institute**
OF NORTH AMERICA

Revision History	
NECA 101-2001	04-2001
NECA 101-2006	09-2006
NECA 101-2013	09-2013

NOTICE OF COPYRIGHT

This document is copyrighted by NECA

Reproduction of these documents either in hard copy or soft (including posting on the web) is prohibited without copyright permission. For copyright permission to reproduce portions of this document, please contact NECA Standards & Safety at (301) 657-3110 ext. 546, or send a fax to (301) 215-4500.

OR

National Electrical Contractors Association
3 Bethesda Metro Center, Suite 1100
Bethesda, Maryland 20814
(301) 657-3110

Table of Contents

Foreword	iii
1. Scope	1
1.1 Regulatory and Other Requirements	1
2. Glossary	2
3. General Product Information	4
3.1 Steel Conduit and Tubing	4
3.2 Manufactured Elbows, Nipples, and Couplings.....	5
4. General Installation Procedures	8
4.1 Conduit Cutting and Threading Guidelines	8
4.2 Bending Guidelines	11
4.3 Fittings for Use with RMC, IMC and EMT.....	13
4.4 Support of Raceways	16
4.5 Firestopping and Fire Blocking	17
4.6 Corrosion Protection	18
4.7 Equipment Grounding Using Steel Conduit.....	19
5. Specific Installation Requirements	21
5.1 General.....	21
5.2 Protection Against EMI	21
5.3 Raceways Installed in Concrete	21
5.4 Communication Circuits.....	22
5.5 Underground Services.....	22
5.6 Verification of Installation.....	22
6. Installation Practices for PVC-Coated Conduit and Fittings	23
6.1 Tools.....	23
6.2 Clamping (Vising) PVC-Coated Conduit.....	23
6.3 Cutting and Threading PVC-Coated Conduit.....	24
6.4 Bending PVC-Coated Conduit.....	25
6.5 Installing PVC-Coated Conduit.....	26
6.6 Patching Damaged Areas	26
6.7 Equipment Grounding and Bonding.....	26
Annex A: Threading Conduit	27

NECA 101 Standard for Installing Steel Conduits

Annex B: Grounding 29

Annex C: Reference Standards..... 30

(This foreword is not a part of the standard)

Foreword

National Electrical Installation Standards™ (NEIS®) are designed to improve communication among specifiers, purchasers, and suppliers of electrical construction services. They define a minimum baseline of quality and workmanship for installing electrical products and systems. *NEIS* are intended to be referenced in contract documents for electrical construction projects. The following language is recommended:

Tubular steel raceways shall be installed in accordance with NECA 101-2013, *Standard for Installing Steel Conduits (Rigid, IMC, EMT)*.

Use of *NEIS* is voluntary, and neither the National Electrical Contractors Association nor the Steel Tube Institute of North America assume any obligation or liability to users of this publication. Existence of a standard shall not preclude any member or nonmember of NECA or STI from specifying or using alternate construction methods permitted by applicable regulations.

The installation and maintenance practices recommended by this publication are intended to comply with the edition of the National Electrical Code (NEC) in effect at the time of publication. *NEIS* are not intended to duplicate NEC requirements nor to establish regulatory requirements for electrical construction. It is the responsibility of users of this standard to comply with state and local electrical codes when installing electrical products and systems.

Suggestions for revisions and improvements to this standard are welcome. They should be addressed to:

NECA Standards & Safety
3 Bethesda Metro Center, Suite 1100
Bethesda, MD 20814
(301) 657-3110 telephone
(301) 215-4500 fax
www.neca-neis.org
neis@necanet.org

To purchase *NEIS* contact the NECA Order Desk at (301) 215-4504 tel, (301) 215-4500 fax, or orderdesk@necanet.org. *NEIS* can also be purchased in .pdf download format at www.neca-neis.org/standards.

Copyright ©2013, Conduit Advisory of the Steel Tube Institute of North America, Mentor, Ohio. All rights reserved. Unauthorized reproduction prohibited.

National Electrical Installation Standards and *NEIS* are trademarks of the National Electrical Contractors Association. National Electrical Code and NEC are registered trademarks of the National Fire Protection Association.

Photos courtesy of Allied Tube and Conduit, Wheatland Tube, and Thomas & Betts.

<This page intentionally left blank>

1. Scope

This standard describes installation procedures for steel rigid metal conduit (RMC), steel intermediate metal conduit (IMC), and steel electrical metallic tubing (EMT). Conduit with supplementary PVC coating is also included.

This publication is intended to enhance electrical safety by:

1. Aiding installers in meeting the “neat and workmanlike” requirements
2. Reducing future repair needs
3. Providing for future expansion to avoid electrical overload
4. Creating an installation which will protect the wire conductors from mechanical abuse
5. Providing electrical continuity of the raceway system

1.1 Regulatory and Other Requirements

- a) All information in this publication is intended to conform to the National Electrical Code (ANSI/NFPA 70). Installers should always follow the NEC, applicable state and local codes, manufacturer’s instructions, and contract documents when installing steel rigid metal conduits (RMC, IMC, EMT).
- b) Only qualified persons familiar with the construction and installation of steel rigid metal conduits (RMC, IMC, EMT) should perform the work described in this publication. It is recommended that all work be performed in accordance with NFPA 70E, *Standard for Electrical Safety in the Workplace*.
- c) General requirements for installing electrical products and systems are described in NECA 1, *Standard Practices for Good Workmanship in Electrical Construction* (ANSI). Other *National Electrical Installation Standards* provide additional guidance for installing particular types of electrical products and systems. A complete list of *NEIS* is provided in Annex C.