NEMA Standards Publication

ANSI C80.3-2020

American National Standard for Electrical Metallic Tubing—Steel (EMT-S)

National Electrical Manufacturers Association

National Electrical Manufacturers Association
1300 North 17th Street, Suite 900 • Rosslyn. VA 22209
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Approved as an American National Standard
ANSI Approval Date: December 29, 2020

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Published by

National Electrical Manufacturers Association
1300 North 17th Street, Rosslyn, VA 22209

www.nema.org

Printed in the United States of America

Foreword (This foreword is not part of American National Standard C80.3-2021)

This Standard was developed by the Accredited Standards Committee on Raceways for Electrical Wiring Systems, C80. The objective of the committee is to produce a comprehensive specification that will establish uniform dimensions and Standard construction requirements for Electrical Rigid Steel Conduit, Steel Electrical Metallic Tubing, Electrical Intermediate Metal Conduit, and Electrical Aluminum Rigid Conduit raceway products and their associated components.

This Standard was originally approved in 1950 and revised in 1953, 1959, 1963, 1966, 1977, 1983, 1990, 1994, 2004, 2005, and 2015.

Suggestions for improvement of this Standard are welcome. They should be sent to:

NEMA Technical Operations Department
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This Standard was processed and approved for submittal to ANSI by the Accredited Standards Committee (ASC C80), Raceways for Electrical Wiring Systems. Committee approval of the Standard does not necessarily imply that all committee Members voted for its approval. At the time it approved this Standard, the C80 Committee had the following Members:

J. Burris, Chairman
K. Shen, Secretary

Organization Represented:	*Name of Representative:*
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Western Tube (Division of Zekelman Industries)	A. Nunez
Wheatland Tube Company	J. Burris

The following Members of the NEMA Steel Conduit & Electrical Metallic Tubing - Codes/Communications/ Technical Committee worked on this Standard prior to its publication:

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Wheatland Tube Company	J. Burris
Wheatland Tube Company	G. Maurer

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1 Scope

This Standard covers the requirements for steel electrical metallic tubing for use as a raceway for wires or cables of an electrical system. Finished tubing is typically furnished in Standard 10-ft (3.05-m) lengths. The production of lengths shorter or longer than the Standard length shall be allowed. EMT is protected on the exterior surface with a metallic zinc coating or alternate corrosion protection coating (see UL 797 for alternate corrosion protection coating requirements) and on the interior surface with zinc or organic coating.

This Standard also covers electrical metallic tubing elbows.

Properly assembled systems of EMT-S, manufactured in accordance with this Standard, and other identified fitting provide for the electrical continuity required of an equipment grounding conductor.

2 Normative References

The following Standards contain provisions that, through reference in this text, constitute requirements of this American National Standard. At the time of publication, the editions indicated were valid. All Standards are subject to revision, and parties to agreements based on this American National Standard are encouraged to investigate the possibility of applying the most recent editions of the Standards indicated below unless otherwise specified.

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

ASTM A239 – 19	*Standard Practice for Locating the Thinnest Spot in a Zinc (Galvanized) Coating on Iron or Steel Articles*
ASTM B117 – 19	*Standard Practice for Operating Salt Spray (Fog) Apparatus*
ASTM B499 – 14	*Standard Test Method for Measurement of Coating Thicknesses by the Magnetic Method: Nonmagnetic Coatings on Magnetic Basis Metals*
ASTM D638 – 14	*Standard Test Method for Tensile Properties of Plastics*
ASTM D1654–16	*Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments*
ASTM D2444–19	*Standard Test Method for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)*
ASTM D3359–17	*Standard Test Method for Measuring Adhesion by Tape Test*
ASTM G 151– 19	*Standard Practice for Exposing Nonmetallic Materials in Accelerated Test Devices that Use Laboratory Light Sources*
ASTM G 153 –13	*Standard Practice for Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials*
ASTM G 155 –13	*Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials*

Underwriters Laboratories Inc. (UL)
333 Pfingsten Road
Northbrook, IL 60092

UL 797 – 07	*Electrical Metallic Tubing – Steel*

3 Definitions

Alternate corrosion-resistant coating (ACRC): A coating other than one consisting solely of zinc that, upon evaluation, has demonstrated the ability to provide the level of corrosion resistance required