NEMA Standards Publication

ANSI C80.5-2020

American National Standard for Electrical Rigid Metal Conduit—Aluminum (ERMC-A)

National Electrical Manufacturers Association

National Electrical Manufacturers Association
1300 North 17th Street, Suite 900 • Rosslyn. VA 22209
www.NEMA.org

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Secretariat:

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Foreword (This foreword is not part of American National Standard C80.3-2020)

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
National Electrical Manufacturers Association
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Rosslyn, VA 22209

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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Emerson Automation Solutions	S. Blais
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UL LLC	D. Gerstetter
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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STI	J. Andre
Western Tube (Division of Zekelman Industries)	A. Nunez
Wheatland Tube Company	J. Burris
Wheatland Tube Company	G. Maurer

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1 Scope

This Standard covers the requirements for extruded aluminum-alloy conduit for use as a raceway for the wires or cables of an electrical system. The finished conduit is produced in Standard 10-ft. (3.05-m) lengths, threaded on each end with one coupling attached. The production of lengths shorter or longer than the Standard length shall be allowed, whether threaded or unthreaded and with or without couplings.

This Standard also covers aluminum conduit couplings, elbows, and nipples

Properly assembled systems of conduit, couplings, elbows, and nipples manufactured in accordance with this Standard, and other identified fittings, provide for the electrical continuity required of an equipment grounding conductor.

2 Normative References

The following Standard contains provisions that, through reference in this text, constitute requirements of this American National Standard. 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 edition of the Standard indicated below.

American Society of Mechanical Engineers (ASME)
Two Park Avenue
New York, NY 10016-5990

ASME B1.20.1 – 18 *Pipe Threads, General Purpose (Inch)*

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

UL 6A – 19 *Electrical Rigid Metal Conduit – Aluminum, Red Brass, and Stainless Steel*

3 Definitions

Elbow: A manufactured curved section of ERMC-A threaded on each end

Electrical rigid metal conduit—aluminum (ERMC-A): A threadable aluminum raceway of circular cross-section designed for the physical protection and routing of wire conductors and cables and for use as an equipment grounding conductor

Finished conduit: A straight length of ERMC-A with one coupling attached

Nipple: A straight length of ERMC-A generally not more than two ft (0.61 m) long and threaded on each end

Straight conduit: A straight length of ERMC-A without a coupling

Threaded coupling: An internally threaded aluminum cylinder for joining together the components of an ERMC-A system

4 Units of Measurements

The values stated in English units are to be regarded as the Standard. The metric (SI) units are exact conversions for safety considerations.