

NEMA VE 1-2017

Metal Cable Tray Systems



NEMA Standards Publication VE 1-2017
CSA Group Publication CSA C22.2 No. 126.1-17
Metal Cable Tray Systems

Published by:

National Electrical Manufacturers Association

1300 North 17th Street, Suite 900
Rosslyn, Virginia 22209
www.nema.org

In Canada, published by:

CSA Group

178 Rexdale Boulevard
Toronto, ON, Canada M9W 1R3
www.csa.ca

© 2017 National Electrical Manufacturers Association. All rights, including translation into other languages, reserved under the Universal Copyright Convention, the Berne Convention for the Protection of Literary and Artistic Works, and the International and Pan American copyright conventions.

Commitment for Amendments

This standard is issued jointly by Canadian Standards Association (operating as “CSA Group”) and the National Electrical Manufacturers Association (NEMA). Comments or proposals for revisions on any part of the standard may be submitted to CSA Group or NEMA at any time. Revisions to this standard will be made only after processing according to the standards development procedures of CSA Group and NEMA. CSA Group and NEMA will issue revisions to this standard by means of a new edition or revised or additional pages bearing their date of issue.

This is a preview. [Click here to purchase the full publication.](#)

NOTICE AND DISCLAIMER (NEMA)

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.

CONTENTS

Preface	iii
Foreword (NEMA)	iv
Section 1 Scope	1
Section 2 Definitions, Abbreviations, and Acronyms	2
Section 3 General	4
3.1 Reference Publications	4
3.2 Units of Measurement	4
Section 4 Construction	5
4.1 Materials	5
4.2 Finishes	5
4.2.1 Carbon Steel Corrosion Protection	5
4.2.2 Highly Corrosive Environments	5
4.2.3 Carbon Steel Nut and Bolt Corrosion Protection	6
4.3 Typical Dimensions	6
4.3.1 General	6
4.3.2 Lengths of Straight Sections	6
4.3.3 Widths	6
4.3.4 Fill Depths	7
4.3.5 Nominal Rung Spacings on Straight Sections	7
4.3.6 Inside Radii	8
4.3.7 Degrees of Arc for Elbows	8
4.4 Quality of Work	8
4.5 Fittings	8
4.6 Fasteners	8
4.7 Bonding	8
4.7.1 Connection Means	8
4.7.2 Measured Resistance	8
4.8 Load Capacity	8
4.8.1 Straight Section Requirements	8
4.8.2 Concentrated Static Load	9
4.8.3 Channel Cable Tray Straight Sections Load-Testing (Optional)	9
Section 5 Tests	10
5.1 Electrical Continuity of Connections	10
5.2 Load Testing	10
5.2.1 General	10
5.2.2 Test Specimen	10
5.2.3 Type and Length of Span	10
5.2.4 Orientation Of Specimen	10
5.2.5 Supports	10
5.2.6 Loading Material	11
5.2.7 Load Application	11
5.2.8 Loading to Destruction	12
5.3 Interpolation Of Test Data	12
5.4 Rung Load Capacity (Optional)	12
5.4.1 General	12
5.4.2 Test Equipment	12
5.4.3 Test Specimen	12
5.4.4 Span Length and Supports	12
5.4.5 Orientation of Specimens	12