NEMA WC 65-1995 (R2003, R2015, R2022)

A Reasoned Approach to Solving Solderability Problems with Tin-Coated and Nickel-Coated Stranded Conductors in High-Performance Wire and Cable Applications

Published by

National Electrical Manufacturers Association
1300 North 17th Street, Suite 900
Rosslyn, Virginia 22209

www.nema.org

NOTICE AND DISCLAIMER

The information in this publication was considered technically sound by the consensus of persons engaged in the development and approval of the document at the time it was developed. Consensus does not necessarily mean that there is unanimous agreement among every person participating in the development of this document.

NEMA Standards and guideline publications, of which the document contained herein is one, are developed through a voluntary consensus 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. While NEMA administers the process and establishes rules to promote fairness in the development of consensus, it does not write the document and it does not 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 whatsoever, 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 of your particular purposes or needs. NEMA does not undertake to guarantee the performance of any individual manufacturer 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 circumstances. 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

Foreword

This document was developed by the High-Performance Wire and Cable section of NEMA.

NEMA Technical Operations Department
National Electrical Manufacturers Association
1300 North 17th Street, Suite 900
Rosslyn, VA 22209

This document was developed by the High-Performance Wire and Cable section and composed of the following Members**:**

Champlain Cable Corporation
Judd Wire Inc.
Marmon Aerospace & Defense, LLC
Marmon Aerospace & Defense, LLC
Quirk Wire Company, Inc.
SEA Wire and Cable, Inc.
Specialty Cable Corporation
TE Connectivity / AD&M Wire and Cable
The Okonite Company
W.L. Gore & Associates, Inc.
WireMasters, Inc.

NOTE – The user's attention is called to the possibility that compliance with this Standard could require use of an invention covered by patent rights.

By publication of this Standard, no position is taken with respect to the validity of any such claim(s) or of any patent rights in connection therewith. If a patent holder has filed a statement of willingness to grant a license under these rights on reasonable and non-discriminatory terms and conditions to applicants desiring to obtain such a license, then details may be obtained from the Secretary.

< This page left blank intentionally. >

1 GENERAL

1.1 Scope

This standards publication contains a review of solderability problems with tin-silver-coated and nickel-coated stranded conductors, existing solderability standards, and a discussion of the root causes of these problems. This document further contains recommendations which may supply solutions for specific applications. It is hoped that the review of this document will provide the reader with a better understanding of the complexity of soldering tin- and nickel-coated stranded conductors in contrast to silver-coated conductors for high-reliability applications.