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Foreword

This standards publication has been prepared to delineate the basic requirements for spark testing apparatus utilizing a 3 kHz nominal frequency. It is intended as a substitute or an alternative to conventional spark testing at an industrial frequency.

The use of an elevated frequency will allow a reduction in the electrode length while exposing the wire or cable to a suitable number of wave crests.

Performance criteria have been included which will stipulate minimum sensitivities for the equipment. Underwriters Laboratories has recognized 3 kHz spark test for testing of wire or cable. The NEMA High-Performance Wire and Cable Section prepared this test procedure.

Comments or proposed revisions are welcomed and should be submitted to:

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

At the time of the reaffirmation of this standard in 2012, the NEMA High-Performance Wire and Cable Section comprised the following member companies:

AFC Cable Systems, Inc. a part of Atkore International
Apical Division, Kaneka Texas Corporation
Belden
Cable USA LLC
Champlain Cable Corporation
Coleman Cable, Inc.
Freeport-McMoRan Copper and Gold
General Cable
Harbour Industries LLC
IWG High Performance Conductors
Leoni Wire, Inc.
Marmon Innovation and Technology Group
Prestolite Wire and Cable
Quirk Wire Company, Inc.
Radix Wire Company
RSCC Wire and Cable Group
Rubadue Wire Co., Inc.
Southwire Company
TE Connectivty Ltd., a Tyco Electronics Corporation
The Monroe Cable Company, Inc.
The Okonite Company

New Bedford, MA
Pasadena, TX
St. Louis, MO
Naples, FL
Colchester, VT
Waukegan, IL
Phoenix, AZ
Highland Heights, KY
Shelburne, VT
Inman, SC
Chicopee, MA
Seymour, CT
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Scope

This standard covers a general procedure for continuous voltage proof testing of wire and cable. It is intended to apply primarily to the final inspection of wire or cable for the purpose of finding and eliminating defects prior to shipment or before use. The method can also be used to eliminate defects at an early stage of manufacturing, i.e., for wire or cable to be used in multiconductor cables or jacketed constructions.

Because of possible damage in handling, damage caused by repeated testing, and variations in test parameters, the comparison between producer’s and consumer’s test results is not significant.