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3.0 kHz Insulation Continuity Proof Testing of Wire and Cable

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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	New Bedford, MA
Apical Division, Kaneka Texas Corporation	Pasadena, TX
Belden	St. Louis, MO
Cable USA LLC	Naples, FL
Champlain Cable Corporation	Colchester, VT
Coleman Cable, Inc.	Waukegan, IL
Freeport-McMoRan Copper and Gold	Phoenix, AZ
General Cable	Highland Heights, KY
Harbour Industries LLC	Shelburne, VT
IWG High Performance Conductors	Inman, SC
Leoni Wire, Inc.	Chicopee, MA
Marmon Innovation and Technology Group	Seymour, CT
Prestolite Wire and Cable	Southfield, MI
Quirk Wire Company, Inc.	West Brookfield, MA
Radix Wire Company	Euclid, OH
RSCC Wire and Cable Group	East Granby, CT
Rubadue Wire Co., Inc.	Greeley, CO
Southwire Company	Carrolton, GA
TE Connectivity Ltd., a Tyco Electronics Corporation	Menlo Park, CA
The Monroe Cable Company, Inc.	Middletown, NY
The Okonite Company	Ramsey, NJ

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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.