

NEMA XW 1000-2021

Extruded Insulated Magnet Wire

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Specifications Listing by XW Specification Number, Insulation Material, Thermal Class, Voltage Rating, and Form

Specification Number	Construction	Thermal Class	Voltage Rating	Form		Page No.
				Round	Rectangular and Square (Shaped)	
XW 1-C	Poly(ether ether ketone) Extrusion Coated Copper	240	600	X	—	16
XW 1-C	Poly(ether ether ketone) Extrusion Coated Copper	240	1000	X	—	17
XW 1-C	Poly(ether ether ketone) Extrusion Coated Copper	240	1500	X	—	18
XW 2-C	Poly(ether ether ketone) Extrusion Coated Copper	240	600		X	19
XW 2-C	Poly(ether ether ketone) Extrusion Coated Copper	240	1000		X	20
XW 2-C	Poly(ether ether ketone) Extrusion Coated Copper	240	1500		X	21
XW 3-C	Poly(ether ether ketone) Extrusion Coated Copper	250	600	X		22
XW 3-C	Poly(ether ether ketone) Extrusion Coated Copper	250	1000	X		23
XW 3-C	Poly(ether ether ketone) Extrusion Coated Copper	250	1500	X		24
XW 4-C	Poly(ether ether ketone) Extrusion Coated Copper	250	600		X	25
XW 4-C	Poly(ether ether ketone) Extrusion Coated Copper	240	1000		X	26
XW 4-C	Poly(ether ether ketone) Extrusion Coated Copper	250	1500		X	27
XW 5-A	Polyphenylsulfone Extruded Insulated Aluminum	200			X	28
XW 5-C	Polyphenylsulfone Extruded Insulated Copper	200			X	29

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Foreword

This is the first edition of NEMA XW 1000-2021. This Standard is periodically reviewed by the NEMA Magnet Wire Section for revisions considered to be necessary to keep it up to date with changes in technology and regulations.

Proposed or recommended revisions should be submitted to:

NEMA Technical Operations Department
National Electrical Manufacturers Association
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XW 1000 was developed by the Extruded Magnet Wire Committee of the NEMA Magnet Wire Section, with input from representatives of various magnet wire end-user industries. At the time this edition was approved, the Magnet Wire Section had the following Members:

CONDUMEX	México, D.F., México
Elektrisola, Inc.	Boscawen, NH
Essex Furukawa Magnet Wire LLC	Fort Wayne, IN
Magnekón, s.a. de CV	San Nicolas, NL, México
MWS Wire Industries	Westlake Village, CA
New England Wire Technologies Corporation	Lisbon, NH
Rea Magnet Wire Company, Inc.	Fort Wayne, IN
Virginia Insulated Products, Inc.	Saltville, VA
Zeus Industrial Products, Inc.	Orangeburg, SC

How to Use This Publication

First, review Part 1 for general information. Then in Part 2, locate the specification for the type of insulation and conductor of interest. Part 2 is arranged in numerical order as shown beginning on page 14, with each specification indicating the requirements to be met and the referenced test procedures.

Part 1 of this publication deals with information common to all types of extruded insulated magnet wire: general material requirements, general test conditions, definitions, and manufacturing data in support of thermal rating.

Part 2 consists of product specification requirements for extruded insulated magnet wire with different types of coverings, thermal classes, and voltage ratings. Insofar as possible, the product specifications are complete on one sheet since they are arranged to include only one covering per sheet. The title on each sheet identifies the product. Example: XW 1-C, PEEK extruded insulated round copper wire. Any specification ending with A denotes aluminum wire.

Annex A provides a cross-reference between NEMA, UL, IEC, and ASTM test procedures.

Part 1

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Part 1

General

1.1 Scope

This publication is designed to present in concise and convenient form all existing NEMA Standards for extruded insulated copper and aluminum magnet wire, including round, rectangular and square, for use in electrical apparatus.

Included are the definitions, type designations, dimensions, constructions, performance, and test methods for extruded insulated magnet wire generally used in the winding of coils for electrical apparatus. Unless otherwise stated, a revision to a product specification in this Standards publication does not affect compliance of products manufactured during the time a previous version of that specification was in effect.