NEMA STANDARDS PUBLICATION NO. MW 780

nema

Returnable Magnet Wire Packaging Systems

NEMA

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION ■ 2101 L STREET, N.W., WASHINGTON, D.C. 20037

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS

Not for Resale

NEMA MW*780 95 6470247 0508264 030

NEMA Standards Publication MW 780-1995

RETURNABLE MAGNET WIRE PACKAGING SYSTEMS

Published by

National Electrical Manufacturers Association
2101 L Street, N.W., Suite 300
Washington, D.C. 20037-1526

© 1995 National Electrical Manufacturers Association

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS

Not for Resale

Foreword

The purpose of this Standard is to provide engineering guidelines to magnet wire manufacturers in the design and construction characteristics of returnable magnet wire packaging products.

The information contained herein has been thoroughly reviewed by all suppliers of magnet wire packaging products known to be in production at the time of publication. This Standard is not intended to conflict with standards already in place. The issuance or existence of this Standards Publication does not, in any respect, prevent or restrict any member or non-member of NEMA from supplying their customers with magnet wire packaging systems not in conformance with its contents.

This Standards Publication has been developed by the NEMA Magnet Wire Section, which periodically reviews it for any revisions necessary in recognizing changes in technology. Comments or proposed revisions are welcomed and should be submitted to:

Vice President, Engineering
National Electrical Manufacturers Association
2101 L Street, N.W., Suite 300
Washington, D.C. 20037

Scope

This Standard applies to products intended exclusively for the packaging/storage of magnet wire products. It provides guidelines for the minimum information required for the design and production of a returnable pallet generally made of a synthetic material, intended to accommodate the three reels most commonly used by magnet wire producers. These include the following:

a. 15/16 X 12 (250 lbs.)
b. 15/16 X 24 (500 lbs)
c. All known 1000-pound reels

Reels of other sizes can be accommodated within the design specifications of this Standard with minor modifications and/or adaptors.

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS

Not for Resale

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS

Not for Resale

Section 1
REFERENCED STANDARDS AND DEFINITIONS

1.1 REFERENCED STANDARDS

In this publication, reference is made to the following publications. Copies are available from the sources indicated.

National Electrical Manufacturers Association
2101 L Street, N.W., Suite 300
Washington, D.C. 20037-1526

NEMA MW 755-1991 *Straight Flange Plastic Magnet Wire Spools/Reels*

NEMA MW 760-1991 *Tapered Flange Plastic Magnet Wire Spools/Reels*

1.2 DEFINITIONS

Each of the terms defined are also illustrated in Figure 1-1.

1.2.1 Cover

The upper portion of the magnet wire packaging system, used for securing the top sides of magnet wire reels, and providing a means for installation and banding of a matching cap.

1.2.2 Reel

A cylindrical device with a top and bottom flange extending beyond the cylinder surface, for the purpose of holding wire for packaging, transportation, and de-reeling.

1.2.3 Pallet

The lower portion of the magnet wire packaging system, used for securing, or nesting, the bottom sides of magnet wire reels.

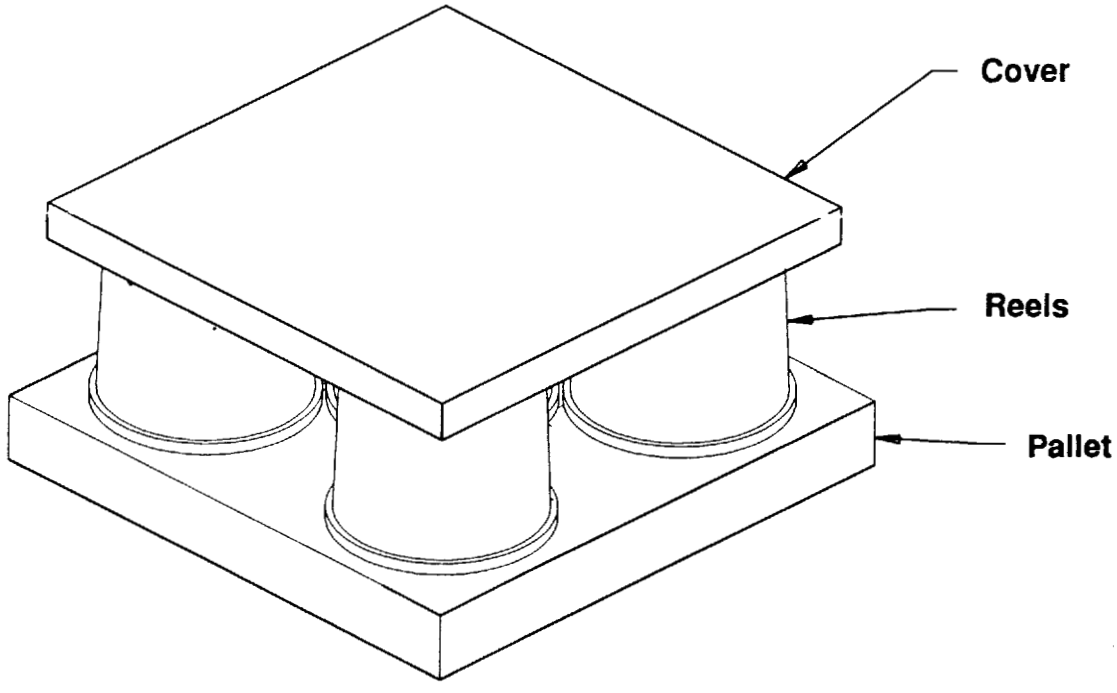


Figure 1-1
Typical Magnet Wire Packaging System

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS

Not for Resale

Section 2
DESIGN SPECIFICATIONS

2.1 PACKAGING SYSTEM

2.1.1 General

The magnet wire packaging system shall be designed to be returnable and reusable. A cover shall be provided for the reels, yielding a total system of pallet and matching cap. The cap shall be contained by banding of steel and/or plastic, or stretch wrap. A securing system designed and provided in a way other than that which is stated above, for the combined load of pallet, reels and top, would be acceptable.

2.1.2 Interchangeable Nesting Sheets

The design of the system shall be open so as to provide for a basic pallet and the use of nesting sheets, used as an interchangeable second sheet to lock permanently to the pallet, and requiring a tool for removal. The design would allow the changing of the top sheet, giving the pallet the capability of accommodating reels with a variety of flange diameters such as the 11-inch, 19-inch or 20-inch sizes.

2.1.3 Reel Sizes

The design of the system shall accommodate five (5) reels of either the 15/16 x 12" or 15/16 x 24" sizes, or four of any known 1000-pound reels, as defined in NEMA Standards Publications MW 755 and MW 760. The system would be designed such that only one size reel would be accommodated at a time.

2.2 PALLETS

2.2.1 Dimensions

Pallets for magnet wire reels shall be 41.5 x 41.5 inches, ± 1/2 inch.

2.2.2 Configuration

2.2.2.1 The pallet surface where the reels rest shall have a design that provides a positive locating system that limits movement of the reels during shipment.

2.2.2.2 The top design of the pallet shall fit a minimum of five (5) reels of the 15/16 x 12" or 15/16 x 24" reels as described above, or four (4) of any known 1000-pound reels.

2.2.2.3 The pallet system shall be designed to allow for secure stacking among themselves.

2.2.3 Handling

Pallets shall be capable of four-way entry by mechanized pallet handling equipment. The reel "nest" pattern shall provide space for the wheels of a two-wheeled cart to have access to the center reel.

2.3 STRENGTH

2.3.1 Load

Magnet wire pallets shall be capable of supporting a static stacked load of not less than 15,000 pounds.

2.3.2 Transportation

The in-transit, or live load, shall not exceed 5000 pounds total. A system with 500-pound or 1000-pound reels shall not be stacked for transportation.

2.3.3 Storage

The design shall allow for pallets to be stored in a rack structure, constructed with rack beams only, with a maximum of 38-inches between beams, and no decking.

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS

Not for Resale

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS

Not for Resale

Section 3
MATERIALS

3.1 GENERAL

Plastic materials have been generally planned as the system's material, however, materials used for magnet wire packaging systems shall not be limited to plastics.

3.2 CHARACTERISTICS

The system's material shall be recyclable and present no potential material conflict with magnet wire reels, wire or wire insulation.

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS

Not for Resale

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS

Not for Resale

Section 4
MARKING

4.1 MATERIAL IDENTIFICATION

The pallet, tops and/or other parts of a magnet wire packaging system shall be coded with the chasing arrows generally used as a code for signifying that a material is recyclable, as well as the recycling material number code of 1 through 7, and the material letters to indicate the material type (e.g. PS, for polystyrene).

4.2 MANUFACTURER'S IDENTIFICATION

All parts of a magnet wire packaging system shall have available space for either the individual wire manufacturer's company logo or other form of identification such as a color strip and/or mark of some distinctive nature.

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS

Not for Resale

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS

Not for Resale

NEMA STANDARDIZATION BACKGROUND

The purpose of NEMA standards, their classification, and status are set forth in certain clauses of the NEMA *Standardization Policies and Procedures* manual and are referenced below:

Purpose of Standards

National Electrical Manufacturers Association Standards are adopted in the public interest and are designed to eliminate misunderstandings between the manufacturer and the purchaser and to assist the purchaser in selecting and obtaining the proper product for their particular needs. Existence of a National Electrical Manufacturers Association Standard does not in any respect preclude any member or nonmember from manufacturing or selling products not conforming to the standard.

Definition of a Standard

A standard of the National Electrical Manufacturers Association defines a product, process, or procedure with reference to one or more of the following: nomenclature, composition, dimensions, tolerances, safety, operating characteristics, performance, rating, testing, and the service for which they are designed.

(Standardization Policies and Procedures, p. 1)

Dimensions

Where dimensions are given for interchangeability purposes, alternate dimensions satisfying the other provisions of the Standards Publication may be capable of otherwise equivalent performance.

(Standardization Policies and Procedures, p. 6)

Categories of Standards

National Electrical Manufacturers Association Standards are of three classes, which have received the affirmative vote of at least two-thirds of the Subdivision votes cast in the affirmative or negative:

1. NEMA Standard, which relates to a product, process, or procedure commercially standardized and subject to repetitive manufacture.
2. Suggested Standard for Future Design, which may not have been regularly applied to a commercial product, but which suggests a sound engineering approach to future development.
3. Adoptive Standard, which is adopted in whole or in part from the standards of another organization, either domestic, regional, or international.

(Standardization Policies and Procedures, pp. 5)

Authorized Engineering Information

Authorized Engineering Information consists of explanatory data and other engineering information of an informative character not falling within the classification of NEMA Standard or Suggested Standard for Future Design, which standard has received the affirmative vote of at least two-thirds of the Subdivision votes cast in the affirmative or negative.

(Standardization Policies and Procedures, pp. 5)

Identification of Status

Standards in NEMA Standards Publications are identified as "NEMA Standard," "Suggested Standard for Future Design," or "Adoptive Standard." These indicate the status of the standard. A statement incorporating the auxiliary verb "shall" indicates that compliance with a requirement is mandatory for compliance with the standard. These classes of standards are identified in the foreword or throughout the text.

The material identified as "Authorized Engineering Information" is designated similarly. Statements incorporating other auxiliary verbs such as "should," "may," etc. refer to the authorized engineering information and not to procedures required for compliance with the standard.

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale

MAGNET WIRE SECTION
OF THE
NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

MEMBER COMPANIES

Alcatel Canada Wire, Inc.
Lagrange, KY

American Wire Corporation
Sandy Hook, CT

Bridgeport Insulated Wire Company
Bridgeport, CT

Elektrisola, Inc.
Boscawen, NH

Essex Group, Inc.
Fort Wayne, IN

Magnetek, Inc.
Gallman, MS

Optec Sales, Inc. of America
St. Louis, MO

Phelps Dodge Magnet Wire Company
Fort Wayne, IN

Rea Magnet Wire Company, Inc.
Fort Wayne, IN

Westinghouse Electric Corporation
Abingdon, VA

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale