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NEMA STANDARDS PUBLICATION

# NEMA MW 765

# RECLAIMING OF MAGNET WIRE PACKAGING

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# NEMA Standards Publication MW 765-1997

*Reclaiming of Magnet Wire Packaging*

*Published by*

**National Electrical Manufacturers Association**
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Rosslyn, VA 22209

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## Foreword

This Standards Publication provides guidelines and criteria for reclaiming magnet wire plastic packaging.

The information contained in this publication is based on the input of suppliers and refurbishers of plastic spools/reels known at the time of publication. 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 customers with refurbished magnet wire spools/reels not in conformance with its contents.

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

Vice President, Engineering
National Electrical Manufacturers Association
1300 N. 17th Street, Suite 1847
Rosslyn, VA 22209

This Standards Publication was developed by the Magnet Wire Section of the National Electrical Manufacturers Association. At the time it was approved, the Magnet Wire Section had the following members:

Alcatel Magnet Wire, Inc.
La Grange, KY

American Wire Corporation
Sandy Hook, CT

Bridgeport Insulated Wire Company
Bridgeport, CT

Elektrisola, Inc.
Boscawen, NH

Essex Group, Inc.
Magnet Wire Products Group
Fort Wayne, IN

MagneTek, Inc.
Gallman, MS

Optec D D USA, Inc.
Mexico, MO

Phelps Dodge Magnet Wire Company
Fort Wayne, IN

Rea Magnet Wire Company, Inc.
Fort Wayne, IN

Southwire Specialty Products
Osceola, AR

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# Section 1
# GENERAL

## 1.1 SCOPE

This standard specifies the required physical and visual characteristics of reclaimed plastic spools/reels and other components used for packaging of magnet wire. It shall be at the discretion of the wire producer whether a reclaimed item is used.

## 1.2 NORMATIVE REFERENCES

The following normative documents contain provisions which, through reference in this text, constitute provisions of this Standards Publication. By reference herein, these publications are adopted in whole or in part as indicated in this Standards Publication, and are available from the organizations listed below.

**National Electrical Manufacturers Association**
1300 North 17th Street, Suite 1847
Rosslyn, VA 22209

| | |
|---|---|
| NEMA MW 755-1996 | *Magnet Wire Plastic Spools/Reels—Straight Flange* |
| NEMA MW 760-1996 | *Magnet Wire Plastic Spools/Reels—Tapered Flange* |

## 1.3 DEFINITIONS

Parts or features of a magnet wire spool/reel defined in this section, are also illustrated in Figure 1-1.

**arbor hole**: The hole in a flange through which the arbor shaft passes.

**drive slot**: The hole or slot in either or both flanges, which serves as the means for driving the reel on the machine take-up.

**finger holes**: Holes in top flanges which serve as a means for lifting reels by using fingers.

**flange**: The parts of spools/reels that are perpendicular to the barrel, which define the traverse distance.

**inside flange face**: The surface at the flange adjacent to the barrel surface.

**inside flange radius**: The radius of the flange edge and the inside flange face.

**outside flange radius**: The radius of the flange edge and the outside flange face.

**reel**: A reel is defined as having a flange diameter of 8 inches or larger.

**spool**: A spool is defined as having a flange diameter of less than 8 inches.

**start ribs**: Indentations and molded protrusions in the barrel of a spool/reel, which serve as a gripping surface for the wire on the initial layer of the winding.

**tie off holes**: Holes at the junction of the barrel and flange, or on the outside edge of the flange, which serve as a means to tie off the start or end of a reel of wire.

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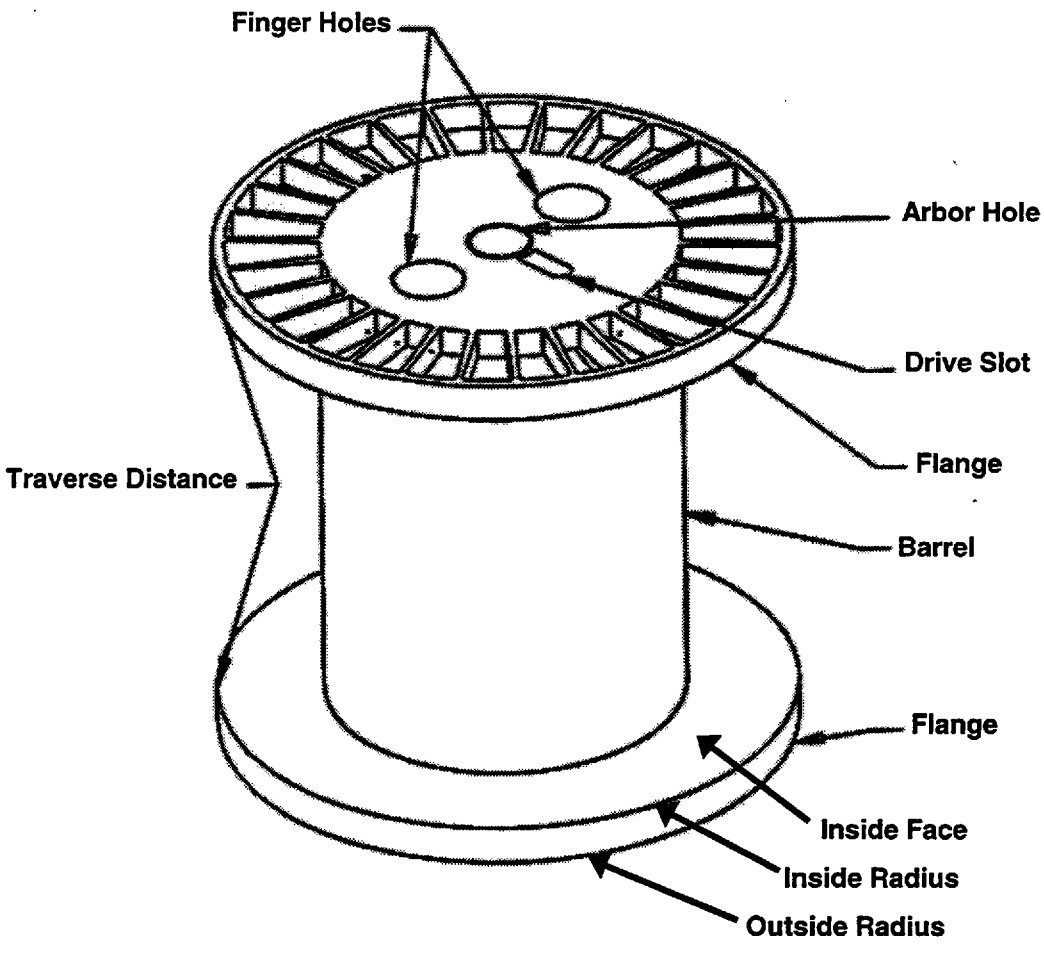



**Figure 1-1**
**PARTS AND FEATURES OF TYPICAL MAGNET WIRE SPOOLS/REELS**

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# Section 2
# PLASTIC SPOOLS

## 2.1 GENERAL

This Section shall apply to the following plastic spools:

*Standard Nomenclature*
(Refer to NEMA MW 755-1996 and NEMA MW 760-1996)

2½
3
5
5 WF (Wide Flange)
6 IF (Intermediate Flange)
6 WF
6 TF (Thin Flange)
6 x 6
6 x 6/3 x 3
DIN-160/45
DIN-160
DIN-200
DIN-200/45

NOTE—For spools not listed above, the magnet wire manufacturer shall be contacted.

In general, if properly inspected and conditioned, plastic spools can be reused for larger sizes of wire, or as specified by the wire producer.

## 2.2 APPEARANCE AND CLEANLINESS

All spools shall be free of grease, dirt, and grime. All wire, labels, and adhesive residue must be removed.

There shall be no cracks, knife marks, or nicks on the barrel or flange. Knife marks or nicks are permissible if sanded completely smooth.

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# Section 3
# MEDIUM SIZE PLASTIC REELS

## 3.1 GENERAL

This Section shall apply to the following medium size plastic reels:

*Standard Nomenclature*
(Refer to NEMA MW 755-1996 and NEMA MW 760-1996)

8 x 6
8 x 6-1
12
12 WF
50 pound (8-¼/9½ x 9)
100 pound (10/11 x 12)
DIN-250

NOTE—For reels not listed above, the magnet wire manufacturer shall be contacted.

## 3.2 APPEARANCE AND CLEANLINESS

The reel must be free of all grease, dirt, grime, etc. All wire, labels, and adhesive residue must be removed from the reel.

All surfaces of the barrel and inside faces and inside and outside radii of the flanges must be free of dents and gouges, and must be smooth to the touch. Small gouges on all surfaces of the barrel and the flanges shall be sanded completely smooth.

## 3.3 PHYSICAL CONDITION

The reel must be free of cracks or stress lines. A stress line can be recognized by the appearance of a lighter color or whitened line that is lighter than the basic color of the reel. Special attention should be given at the following locations:

a. The junction of the barrel and flange
b. The outside junction of the hub and flange
c. Across the flanges (check flanges for broken ribs)
d. On the surface of the barrel
e. Areas surrounding the arbor hole

## 3.4 INSPECTION PROCEDURES

**CAUTION**—All reels shall be at room temperature before placing any pressure on the flange when checking for cracks. Low temperatures reduce the flexibility of the reel. Applying pressure while the reel is in a brittle condition can result in damage to the reel and possible personal injury.

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Apply pressure down on either side of the reel flange, then turn the reel 90 degrees (¼ revolution), and again press down on either side. When pressing down, check for cracks in the flange and for loose inserts.

Turn the reel upside down and repeat procedure.

Mechanical testing equipment may and should be employed as a substitute for the manual pressure checking process previously described, as they provide a more repeatable procedure by assuring a consistent pressure on the flanges. Pressure settings shall be of a value that is reached by mutual agreement between the inspection facility, the reel producer, and the wire manufacturer.

Inspect the start ribs on the reel barrel for deformities that may cause wire snags. Remove rough areas with a knife, scraper, or sandpaper.

Examine finger, tie-off, and arbor holes to assure they are smooth.

## 3.5 WOBBLE

For reels larger than 50 lbs., flanges shall be tested for wobble measuring 1/2–1/4 in. from the edge of the flange. Wobble shall be no more than ±0.030 in.

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# Section 4
# LARGE SIZE PLASTIC REELS

## 4.1 GENERAL

This Section shall apply to the following large size plastic reels:

*Standard Nomenclature*
(Refer to NEMA MW 755-1996 and NEMA MW 760-1996)
250 pound—includes 15/16x12 and 24x6
325 pound
500 pound
550 pound
600 pound
650 pound
750 pound
1000 pound

NOTE—For reels not listed above, the magnet wire manufacturer shall be contacted.

## 4.2 APPEARANCE AND CLEANLINESS

The reel must be free of all grease, dirt, grime, etc. All wire, labels, and adhesive residue must be removed from the reel.

## 4.3 INSPECTION PROCEDURES

**CAUTION**—All reels shall be at room temperature before placing any pressure on the flange when checking for cracks. Low temperatures reduce the flexibility of the reel. Applying pressure while the reel is in a brittle condition can result in damage to the reel and possible personal injury.

Apply pressure down on either side of the reel flange, then turn the reel 90 degrees (¼ revolution), and again press down on either side. When pressing down, check for cracks in the flange and for loose inserts.

Turn the reel upside down and repeat procedure.

Mechanical testing equipment may and should be employed as a substitute for the manual pressure checking process previously described, as they provide a more repeatable procedure by assuring a consistent pressure on the flanges. Pressure settings shall be of a value that is reached by mutual agreement between the inspection facility, the reel producer, and the wire manufacturer.

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## 4.4 PHYSICAL CRITERIA

### 4.4.1 Flanges

Flanges must meet the following criteria:

a. Cracks or severe stress lines are not acceptable in any part of the top or bottom flange.
b. Chips are not acceptable in any part of the top or bottom flanges.
c. All surfaces of both inside flange faces, the inside and outside radius of the top flange, and the inside radius of the bottom flange must be free of dents, gouges, and be smooth to the touch. On 24x6 reels, this applies to the inside face and the inside and outside radius of both flanges. Small gouges on all surfaces of the flange shall be sanded completely smooth.

NOTE—Exceptions to a. through c. above: Some magnet wire producers may accept two small cracks or chips located in non-adjacent flange ribs. They may also accept, on straight flange reels, one chip located in the outside radius of the bottom flange, if it is no greater than 1/2 inch long and no greater than 1/2 of the flange thickness. The magnet wire manufacturer shall be contacted for their specific exceptions.

### 4.4.2 Arbor Holes

The interior of the arbor holes shall be free of cracks and chips, shall be smooth to the touch, round not deformed.

### 4.4.3 Barrel

The barrel shall be smooth and free of cracks, chips, and stress lines. Start-up ribs on the barrel shall not have deformities which may cause wire snag. These shall be removed by means of a knife, scraper, or sandpaper. Small gouges on the surface of the barrel shall be sanded smooth.

### 4.4.4 Eye Bolts

The eye bolt used for lifting 1000-pound reels must be in place and tight (to be checked by finger tightness). Where the bolt is found missing or loose, the reel shall be rejected. Areas around any lifting holes shall be inspected for cracks or stress lines. If any are found, the reel shall be rejected.

### 4.4.5 Bolts

All bolts must be secure and seated in the square bolt head recess of the flange or in their cupped washer area. The bolt head seated in square recesses must not rotate the recess when inspected. Bolts must be tightened in a star rotation, not in a circular rotation.

All bolted reels shall have the bolts checked for tightness at each reclaiming cycle and shall meet the torque specifications established by the reel owner.

### 4.4.6 Wobble

For reels larger than 50 lbs., flanges shall be tested for wobble measuring 1/2–1/4 in. from the edge of the flange. Wobble shall be no more than ±0.030 in.

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## 4.5 REPLACEMENT PARTS

**CAUTION**—Do not attempt to mix replacement parts from reels from different manufacturers. Due to differing construction methods, correct bolt torquing is not possible and may result in failure of the reel or possible personal injury.

Replace damaged parts of the reel. Used parts in good condition maybe added with new parts to make a complete reel. When parts are replaced it is highly recommended that new bolts be added.

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# Section 5
# RECLAIMED WOOD REELS

## 5.1 GENERAL

This Section shall apply to the following wood reels:

*Standard Nomenclature*

24 x 6
24 x 11
24 x 12
30 x 9
30 x 11

NOTE—For wood reels not listed above, the magnet wire manufacturer shall be contacted.

## 5.2 RECLAIMING PROCEDURE

Each reel shall be inspected completely for soundness and shall be returned to service only if found in a condition that will not damage the wire or endanger any operator coming in contact with the reel. The following are several areas of special attention that shall be checked:

a. A reel with wood staves shall have the staves checked which shall not be broken, missing, or splintered.

b. Reels with metal barrels shall have the barrel free of dents or severe scratches that may have raised a metal burr that may damage the wire or insulation. Scratches and burrs can be removed by a grinder or other means to make the reel passable.

c. The start hole on the metal reel shall be smooth and free of burrs. There shall be no splinters on wood reels.

d. The arbor hole shall not be elongated and if it has a metal bushing, the bushing shall be sound and free of burrs.

e. The drive pin hole shall be sound and functional. If elongated, it must still be able to perform as designed. If a metal bushing is installed, it shall not be missing and shall be sound.

f. All labels and tags shall be removed along with any adhesive residue.

g. All wire and cable shall be removed from the reel.

h. The flange edge shall not have any pieces missing. If a metal tire is on the reel, it shall be sound and free of large burrs.

i. All nails and/or staples used to hold the wire or labels shall be removed from both the inside and outside of the reel.

j. All bolts shall be torqued to the level specified by the reel owner.

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k. The inside surface of the flange shall be smooth and not splintered where damage could be done to the wire. Many reels are made of plywood and the laminations shall be sound. If there are any broken or de-laminated areas, they must be such as not to cause damage to the cable of wire.

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# Section 6
# MARKING OF RECLAIMED REELS

## 6.1 GENERAL

This Section applies to all reels covered in Sections 3, 4, 5, medium and large plastic reels, plastic reels, and wood reels.

Following each cleaning or reclaiming cycle, each reel shall be marked with a reclaimer's code, location, and date.

## 6.2 MARKING

Markings shall be ink or paint of a contrasting color to the reel. The marking shall not rub off or affect the plastic reel or the wire placed on the reel.

## 6.3 MARKING POSITION

Markings shall appear on the inside area of the bottom flange. Date stamps from previous reclaiming cycles shall not be removed. The stamp shall not be placed over previous stamps.

## 6.4 DATE

The date shall be either six digits (xx-xx-xx)—month, day, and year—or four digits (xx-xx)—month and year. All markings shall be at least ¼ inch high.

## 6.5 OWNERSHIP

If the name of the reel owner does not appear on the reel, stamp the barrel "Property of" and the owner's name.

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# Section 7
# PACKAGING OF RECLAIMED SPOOLS AND REELS

## 7.1 PLASTIC SPOOLS

Spools as identified in clause 2.1 of this standard shall be packaged in cartons and in a manner similar to the original equipment manufacturer. Following this minimizes damage to the spool during transportation.

## 7.2 REELS

Other reels identified in this standard shall be palletized as specified by the reel owner. Any corner or leveling supports must be of wood, plastic foam, or solid fiber material and must not crush under double stacking of the pallets. Pallet load quantities shall be defined by the individual owners.

Pressure sensitive tape shall not be used to secure reels on the pallet. Plastic or steel banding shall not be used.

The use of shrink film bag or stretch wrap material is recommended. The film shall extend down to cover at least three-fourths of the pallet thickness. Inside storage of reels is recommended. Only reels contained in black film may be stored outside or in direct sunlight.

All reels must be carefully packaged so that flanges interlock and touch the barrels of adjacent reels in both horizontal and vertical planes. Nest reels by interleaving reel flanges and alternating reel position top and bottom reversed.

Reels shall not be mixed between type, size, or reel producer on a pallet unless permission is specifically granted by the reel owner.

## 7.3 MARKING

Each carton or pallet must be identified with the following data:

a. Reel code number, if applicable, part number, quantity, reel dimensions, purchase order number and release number (where applicable), the word "reclaimed," vendor identification, and shipping date.
b. Marking information shall be on the front (entry) side of the pallet or on the carton in bold print. A pressure sensitive label may be used.

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# Section 8
# RECLAIMED PALLETS

## 8.1 PLASTIC PALLETS

All plastic pallets, covers, and trays are reusable and must be returned to the magnet wire producer. The magnet wire producer shall be contacted for specific instructions for returning these items.

## 8.2 WOOD PALLETS

It shall be up to the individual wire producers to determine if used pallets can be reclaimed. The following procedure shall be followed for the repair and re-use of pallets for shipping of magnet wire products.

The pallet lumber shall meet the following (this specification shall apply to the existing pallet lumber and any boards that are used for replacement):

a. Knots: (All knots shall be sound.) The average diameter should be no greater than 1/3 the nominal width of the piece. No more than two (2) maximum size knots will be allowed per six (6) inches of the board length. No nails shall be driven through even a sound knot on endboards.

b. Splits, Shakes, Checks: These are allowed provided they do not effect the pallet strength. Shakes are not permitted in endboards or stringers.

c. Wane: This shall be limited to 1/6 the board width, 1/2 thickness, length unlimited. It shall not be on exposed surfaces.

d. Decay: No decay will be permitted on any pallet boards. Boards can and shall be replaced with lumber of like kind or better and of the same size. The replacement policy shall be determined by the wire producer. Boards shall be nailed with fasteners of like kind.

e. Workmanship: Protruding nail heads will not be permitted; bent over nails must be driven flush or below the surface of the deckboard. Nail points are not permitted on exposed face of the outside stringers. They may protrude on either side of the center stringer or inner surface of the outer stringers providing not more than 1/4" is exposed.

f. Material: All lumber used in the pallet construction shall be hardwood National Wood Pallet and Container Association (NWPCA) Class "C." These include beech, birch, hackberry, hard maple, hickory, oak, pecan, rock elm, white ash. Soft wood may be used only where specifically stated on the pallet drawing.

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# Section 9
# RECLAIMED BUCKETS

## 9.1 APPEARANCE AND CLEANLINESS

The bucket and lid must clean inside and out, free of all grease, dirt, oil, grime, etc.

## 9.2 PHYSICAL CONDITION

### 9.2.1 Lid

The lid must retain its original fit. The following damage is not acceptable:

a. Sharp edges
b. Punctures
c. Cracks
d. Gouges
e. Dents
f. Rough edges or grooves in the dereeling hole

### 9.2.2 Bucket

The bucket shall not be damaged. The bail shall not be bent out of its original shape and must be free of rust. The plastic handle on the bail must not be broken, cracked, or chipped. The following damage is not acceptable:

a. Sharp edges
b. Punctures
c. Cracks
d. Gouges
e. Dents
f. Missing or broken parts

### 9.2.3 Marking and Labeling

All ink markings shall be removed from the bucket and lid.

Child drowning warning labels must not be removed. Labeling shall include both English and Spanish. If labeling is missing or damaged, it shall be replaced with new labeling.

The magnet wire manufacturer's product/shipping labels and any adhesive residue shall be removed.

## 9.3 RECLAIMER'S MARKING

### 9.3.1 General

Following each cleaning or reclaiming cycle, buckets shall be marked with a reclaimers code, location, and date using ink or paint of a contrasting color to the bucket.

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### 9.3.2 Marking Position

Markings shall appear on the bottom of the bucket. Date stamps from previous reclaiming cycles shall not be removed. The stamp shall not be placed over previous stamps.

### 9.3.3 Date

The date shall be either six digits (xx-xx-xx)—month, day, and year—or four digits (xx-xx)—month and year—at least ¼ inch high.

## 9.4 PACKAGING

### 9.4.1 Palletizing

All buckets shall be palletized as specified by the bucket owner.

Pressure-sensitive tape shall not be used to secure the buckets on the pallet. Plastic or steel banding shall not be used.

The use of shrink film bag is recommended. The film must extend down to cover at least three-fourths of the pallet thickness. Only buckets contained in black shrink film may be stored outdoors or in direct sunlight.

### 9.4.2 Marking

Each pallet must be identified with the following data:

a. Bucket code number (if applicable)
b. Part number
c. Quantity
d. Purchase order number (where applicable)
e. The word "reclaimed"
f. Vendor identification
g. Shipping date.

A pressure-sensitive label may be used.

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# Section 10
# RECLAIMED FIBER DRUMS

## 10.1 APPEARANCE AND CLEANLINESS

The drum and lid must clean inside and out, free of all grease, dirt, oil, grime, etc.

## 10.2 PHYSICAL CONDITION

### 10.2.1 Drum

The drum must not be damaged, inside or out, and the metal parts must be free of rust. If there is any indication that the drum has been in contact with moisture, the drum must be rejected. The following physical damage is not acceptable:

a. Punctures
b. Gouges
c. Dents
d. Broken or missing parts
e. Sharp edges
f. Loose or damaged inner core

The bottom of the drum must have its original flat shape and show no signs of damage or weakness.

### 10.2.2 Lid

The lid must not be damaged and must retain its original fit. The drum clamp ring must retain its original shape and have no broken or bent parts.

The following physical damage is not acceptable:

a. Punctures
b. Gouges
c. Dents
d. Broken or missing parts
e. Sharp edges

## 10.3 WIRE MANUFACTURER'S MARKINGS

### 10.3.1 Drum

Ink markings on the drum should be completely covered with a paint that matches the drum. This does not refer to the printing applied by the drum manufacturer. Remove the wire manufacturer's product/shipping labels.

### 10.3.2 Lid

All ink markings must be removed from the lid. Remove the wire manufacturer's product/shipping labels.

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## 10.4 RECLAIMER'S MARKING

### 10.4.1 General

Following each cleaning or reclaiming cycle, drums shall be marked with a reclaimers code, location, and date using ink or paint of a contrasting color to the drum. The drum shall be shipped with the lid on and sealed with the clamping ring.

### 10.4.2 Marking Position

Markings shall appear on the bottom of the drum. Date stamps from previous reclaiming cycles shall not be removed. The stamp shall not be placed over previous stamps.

### 10.4.3 Date

The date shall be either six digits (xx-xx-xx)—month, day, and year—or four digits (xx-xx)—month and year—at least ¼ inch high.

## 10.5 PACKAGING

Drums shall be shipped in accordance with the wire manufacturer's instructions, with the lid on and sealed with the clamping ring.

Drum packing materials, such as sponges and drum rings, that are clean and not damaged shall be returned, and shipped in separate containers that are clearly labeled.

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# Section 11
# GUIDELINE INFORMATION FOR HANDLING AND STORAGE OF MAGNET WIRE AND RETURNABLE MAGNET WIRE PACKAGING
(Authorized Engineering Information)

## 11.1 INTRODUCTION

The information in this Section contains handling suggestions for reducing the probability of damaging the wire or the spool/reel, and to prevent personal injury. It is also intended as a basis for minimum information to be used by magnet wire suppliers in communicating the importance of proper handling and storage of returnable magnet wire packaging to end users.

## 11.2 PROPER HANDLING OF PACKAGES CONTAINING MAGNET WIRE

**11.2.1** Regardless of whether the wire is wrapped, fine wire spools shall be lifted by their flanges or pick-up holes. Do not touch the wire. Skin acids, dirt, oil, etc. are detrimental to magnet wire insulation.

**11.2.2** Do not allow the flange of one spool/reel to bump the wire on an adjacent spool/reel.

**11.2.3** Do not drop or knock over a spool or reel.

**11.2.4** To avoid injury, use a hoist to pick up heavy packages. The lifting system should be equipped with proper handling devices. The magnet wire supplier should be contacted to determine which devices have been used successfully with their particular packaging.

**11.2.5** Use the reel pick-up holes for lifting—do not lift by the flanges as this may cause the flange to deflect slightly and may cause finer sizes of wire to shift causing "pinch-offs."

**11.2.6** When using a lift device, care should be taken to lift and lower the reel as straight as possible with minimum swinging and shock to prevent flange damage.

**11.2.7** When loading or unloading reels from a payoff shaft, ensure that the angle of the bore is the same as the shaft to prevent cracking around the bore opening.

**11.2.8** Do not slide or roll reels off pallets directly onto the floor as this can damage both the wire and the reel.

**11.2.9** Use industrial lift trucks to move palletized magnet wire. The use of pallet jacks is highly discouraged unless the bottom deck boards of the pallet are designed specifically for pallet jacks. The deck boards of many pallets are not designed to be moved with such devices, and may be severely damaged as a result.

## 11.3 STORAGE OF MAGNET WIRE

**11.3.1** It is recommended that pallets of magnet wire be stored in racks, which provide better protection, first-in first-out stock rotation, and greater use of vertical space.

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**11.3.2** Recognizing that not all users choose a racking system for storage, pallets may be stacked, however this must be done carefully. In order to minimize product damage and workplace injury, the following steps are recommended:

a. Only pallets containing the same package type should be stacked, and should be done so neatly.
b. Partially filled pallets should not have other pallets placed on top of them.
c. The magnet wire supplier should be contacted for the recommended maximum number of pallets per stack for each type of package.

## 11.4 HANDLING RETURNABLE PACKAGING

The magnet wire industry has developed an extensive line of returnable packages to maintain lower cost and to protect the environment.

**THE MAJORITY OF PACKAGES ARE REUSABLE AND REMAIN THE PROPERTY OF THE MAGNET WIRE MANUFACTURER. THE MAGNET WIRE MANUFACTURER SHOULD BE CONTACTED FOR INFORMATION ON THEIR RETURN PROGRAM.**

The following recommendations for handling and storage of empty returnable packaging is intended to make these programs beneficial for all parties involved:

### 11.4.1 Spools and Reels

**11.4.1.1** Returnable packages should be handled with care at all times to prevent damage. Avoid tossing and dropping. Keep spools and reels clean.

**11.4.1.2** Empty returnable packages can be packed in suitable containers and stacked directly in a staged truck or palletized to prevent damage in shipment. For each type of returnable package there is a recommended method of palletizing. For detailed instructions, the magnet wire manufacturer should be contacted.

**11.4.1.3** Returnable spools/reels should be stored indoors in a clean environment. However, when outdoor storage is necessary, packages must be covered with black plastic to prevent exposure to sunlight and the elements, as sunlight will weaken the plastic spool/reel material.

NOTE—Regardless of whether or not reels are wrapped in black plastic, caution should be exercised when storing reels outdoors as exposure to direct sunlight can cause reels to warp or degrade.

### 11.4.2 Pallets

**11.4.2.1** All pallets of synthetic materials are returnable and MUST BE RETURNED.

**11.4.2.2** For wood pallets, the return policy varies depending on the magnet wire supplier. Generally, larger sized pallets are returnable. The magnet wire supplier should be contacted about their pallet return program.

### 11.4.3 Other Returnable Packaging

Other items that are commonly returned are plastic pails, fiber drums, and large corrugated containers. The magnet wire manufacturer should be contacted for details.

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