

INCH-POUND

A-A-59569C
22 January 2009
 SUPERSEDING
 A-A-59569B
 12 February 2008

COMMERCIAL ITEM DESCRIPTION

BRAID, WIRE (COPPER, TIN-COATED, SILVER-COATED,
 OR NICKEL COATED, TUBULAR OR FLAT)

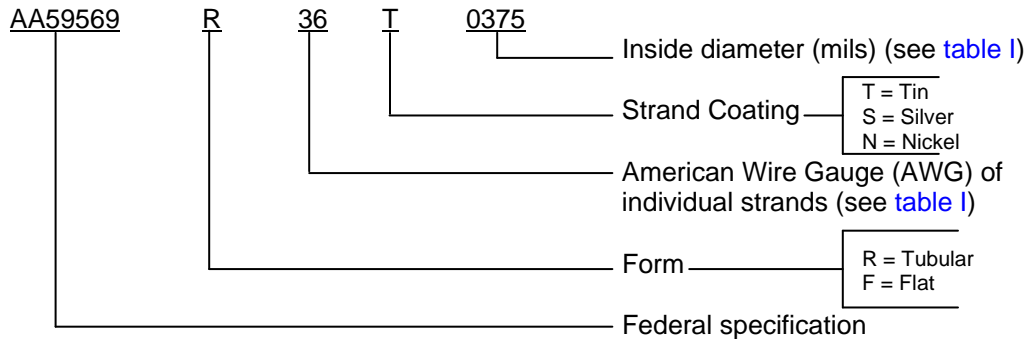
The General Services Administration has authorized the use of this commercial item description for all federal agencies.

1. SCOPE. This commercial item description (CID) covers the general requirements for braid, wire (copper, tin-coated, silver-coated, or nickel coated, tubular or flat). Braid, wire (copper, tin-coated, silver-coated, or nickel coated, tubular or flat) covered by this CID are intended for commercial/industrial applications.

2. CLASSIFICATION/PART OR IDENTIFICATION NUMBER (PIN). This CID uses a classification system which is included in the PIN as shown in the following example (see 7.1).

The PIN is made up of the basic CID number and a four-element alphanumeric number (see table I):

Example of PIN: AA59569R36T0375



Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any data that may improve this document should be sent to: Defense Supply Center, Columbus, ATTN: DSCC-VAI, P.O. Box 3990, Columbus OH 43218-3990, or email to WireCable@dsc.dla.mil. Since contact information can change you may want to verify the currency of the address information using the ASSIST Online database at <http://assist.daps.dla.mil>.

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3. SALIENT CHARACTERISTICS.

3.1 Interface and physical dimensions. Braid wire supplied to this CID shall be as specified herein.

3.2 Materials. The wire used in the construction of braids shall conform to [ASTM B33](#) for tinned copper, [ASTM B298](#) for silver-coated copper, except that the silver coating shall be a minimum of 40 micro-inches thick, and [ASTM B355](#) for nickel-coated copper, except the nickel coating shall be a minimum of 50 micro-inches thick.

3.2.1 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.3 Design and construction. The wire braid shall have the numbers of carriers and ends shown in [table I](#).

3.3.1 Wire lengths. Individual wires shall be to sizes shown in [table I](#) and shall be uniform in cross-section. Each wire shall be one continuous length, free from splices except as specified herein.

3.3.2 Splices.

3.3.2.1 Carrier splices. There shall be no more than one splice or break in any carrier in each 25-foot length of the braid.

3.3.2.2 Wire splices. Excluding the carrier splice, there shall be no more than one broken or spliced end of wire in each 25-foot length of the braid.

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TABLE I. Braid dimensions and data.

| PIN ^{1/} | Strand wire size (AWG) | Tubular inside diameter (inches) ^{2/} | Number of carriers | Number of ends | Current rating (amps) ^{3/} | Approx. AWG equiv. ^{4/} | Flat form width x thickness (inches) ^{5/} |
|------------------------|------------------------|--|--------------------|-------------------|-------------------------------------|----------------------------------|--|
| AA59569 | | | | | | | |
| *36*0031 | 36 | .031 | 24 | 24 | 7.0 | 22 | .046x.020 |
| *36*0062 | 36 | .062 | 24 | 48 | 11.0 | 19 | .093x.031 |
| *34*0062 | 34 | .062 | 16 | 32 | 11.0 | 19 | - |
| *32*0062 ^{7/} | 32 | .062 | 16 | 16 | 9.0 | 20 | - |
| *36*0078 | 36 | .078 | 24 | 72 | 16.0 | 18 | .125x .020 |
| *36*0109 | 36 | .109 | 24 | 96 | 19.0 | 16 | .156x .031 |
| *34*0109 ^{7/} | 34 | .109 | 16 | 64 | 19.0 | 16 | - |
| *32*0109 ^{7/} | 32 | .109 | 16 | 32 | 18.0 | 17 | - |
| *36*0125 | 36 | .125 | 24 | 120 | 25.0 | 15 | .187x .020 |
| *34*0125 | 34 | .125 | 24 | 72 | 19.0 | 16 | - |
| *32*0125 ^{7/} | 32 | .125 | 24 | 48 | 25.0 | 15 | - |
| *36*0156 | 36 | .156 | 24 | 240 | 40.0 | 12 | .250x.046 |
| *36*0171 | 36 | .171 | 24 | 168 | 32.0 | 14 | .250x.030 |
| *34*0171 | 34 | .171 | 24 | 120 | 36.0 | 13 | - |
| *32*0171 ^{7/} | 32 | .171 | 24 | 72 | 32.0 | 14 | - |
| *36*0203 | 36 | .203 | 24 | 312 | 46.0 | 11 | .281x.046 |
| *34*0203 | 34 | .203 | 24 | 192 | 46.0 | 11 | - |
| *32*0203 ^{7/} | 32 | .203 | 24 | 120 | 46.0 | 11 | - |
| *36*0250 | 36 | .250 | 24 | 384 | 53.0 | 10 | - |
| *30*0281 | 30 | .281 | 24 | 120 | 60.0 | 9 | - |
| *36*0375 | 36 | .375 | 48 | 384 | 53.0 | 10 | .625x.030 |
| *34*0375 | 34 | .375 | 48 | 240 | 53.0 | 10 | - |
| *32*0375 | 32 | .375 | 48 | 144 | 46.0 | 11 | - |
| *30*0375 ^{7/} | 30 | .375 | 24 | 168 ^{8/} | 75.0 | 8 | - |
| *30*0437 | 30 | .437 | 24 | 240 | 90.0 | 6 | .500x.093 |
| *36*0500 | 36 | .500 | 48 | 528 | 62.0 | 9 | .625x.046 |
| *34*0500 | 34 | .500 | 48 | 336 | 62.0 | 9 | - |
| *32*0500 ^{7/} | 32 | .500 | 48 | 192 | 62.0 | 9 | - |
| *30*0500 | 30 | .500 | 24 | 360 | 120.0 | 6 | .625x.093 |
| *30*0562 | 30 | .562 | 48 | 480 | 145.0 | 3 | - |
| *30*0656 | 30 | .656 | 48 | 768 | 190.0 | 1 | - |
| *36*0781 | 36 | .781 | 48 | 864 | 88.0 | 7 | .750x.040 |
| *34*0781 | 34 | .781 | 48 | 528 | 88.0 | 7 | - |
| *32*0781 | 32 | .781 | 48 | 336 | 88.0 | 7 | - |
| *30*0875 | 30 | .875 | 48 | 336 | 100.0 | 5 | 1.375x.050 |
| *30*1000 | 30 | 1.000 | 48 | 384 | 120.0 | 4 | - |
| *30*1125 | 30 | 1.125 | 48 | 432 | 130.0 | 4 | - |
| *30*1375 | 30 | 1.375 | 48 | 528 | 150.0 | 3 | 1.500x.060 |
| *30*1500 | 30 | 1.500 | 48 | 576 | 165.0 | 2 | - |
| *30*2000 | 30 | 2.000 | 48 | 672 | 180.0 | 2 | - |

See footnotes on next page.

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TABLE I. Braid dimensions and data -Continued.

- 1/ The complete PIN shall include additional information to indicate the form (first asterisk) and strand coating (second asterisk) (see 7.1).
- 2/ Dimensional tolerances shall be as shown in table II.
- 3/ Direct current ratings are given for information only and are not requirements. Values shown are for uninsulated braid in free air at 30 °C. Values should be derated if the braid is insulated or in close contact with other components.
- 4/ Approximate AWG equivalents are given for information only and are not requirements.
- 5/ Flat form width and thickness are given for information only and are not requirements. Tolerances shall be as shown in table II.
- 6/ This PIN supersedes the similar construction using 96 ends.
- 7/ It may not be possible to produce 90% coverage on these constructions.

TABLE II. Dimensional tolerances (inches).

| Dimensions | Tolerance |
|-------------|-----------|
| .000 - .099 | .010 |
| .100 - .249 | .016 |
| .250 - .499 | .031 |
| .500 - .999 | .063 |
| Over .999 | .094 |

3.3.3 Coverage (tubular braid only). Tubular braids shall have a braid angle or number of picks per inch that produces a minimum of 90 percent coverage, except for .078-inch and smaller diameter braids, which shall produce a minimum of 70 percent coverage. The percent of coverage shall be determined by using the following formula.

$$K = 100 \left(2F - F^2 \right)$$

$$F = \frac{NPW}{C \sin A}$$

$$\tan A = \frac{2\pi(D + 2W)P}{C}$$

Where:

- K = percent coverage of braided shield
- A = braid angle
- C = number of carriers (see table I)
- D = inside diameter in inches (see table I)
- N = total number of ends (see table I)
- P = picks per inch (the number of times the carriers in a braid cross over each other in the same direction along the longitudinal axis for each inch of length)
- W = diameter of individual braid wire in inches

3.4 Flattening of tubular braid. Unless otherwise specified in the contract or order (see 7.2), tubular shielding braid shall not be flattened beyond the point that would occur by its own weight only, when wound on spools for shipping.

3.5 Solderability. Tin-coated and silver-coated braids shall possess good electrical and mechanical solder joints when tested in accordance with MIL-STD-202, method 208.

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3.6 Workmanship. The braid wire shall be processed in such a manner as to be uniform in quality and shall be free from other defects that will affect life, serviceability, or appearance.

3.7 Marking. The braid wire supplied to this CID shall be marked with the manufacturer's (MFR's) standard commercial PIN. The part number marked on the unit pack shall be the CID PIN.

4. REGULATORY REQUIREMENTS. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with 23.403 of the Federal Acquisition Regulation (FAR).

5. PRODUCT CONFORMANCE PROVISIONS.

5.1 Product conformance. The products provided shall meet the salient characteristics of this CID, conform to the producer's own drawings, specifications, standards and quality assurance practices, and be the same product offered for sale in the commercial market. The Government reserves the right to require proof of such conformance.

5.2 Market acceptance. The following market acceptance criteria are necessary to document the quality of the product to be provided under this CID:

- a. The company producing the item must have been producing a product meeting the requirements of this CID for at least 2 years.
- b. The company producing the item must have sold 1,000 units meeting this CID in the commercial marketplace over the past 2 years.

6. PACKAGING. Preservation, packing, and marking shall be as specified in the contract or order.

7. NOTES.

7.1 PIN. The PIN should be used for Government purposes to buy commercial products to this CID. See section 2 for PIN format example.

7.2 Environmentally preferable material. Environmentally preferable materials should be used to the maximum extent possible to meet the requirements of this specification. As of the dating of this document, the U.S. Environmental Protection Agency (EPA) is focusing efforts on reducing 31 priority chemicals. The list of chemicals and additional information is available on their website <http://www.epa.gov/osw/hazard/wastemin/priority.htm>. Use of these materials should be minimized or eliminated unless needed to meet the requirements specified herein (see section 3.)

7.3 Commercial and Government Entity (CAGE) code. For ordering purposes, inventory control, and submission of these braids to DSCC under the Military Parts Control Advisory Group (MPCAG) evaluation program, CAGE code 26916 should be used.

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7.4 Source of documents.

FEDERAL STANDARD

FED-STD-123 - Marking for Shipment (Civil Agencies)

DEPARTMENT OF DEFENSE SPECIFICATION

MIL-DTL-12000 - Cable, Cord, and Wire, Electric, Packaging of

DEPARTMENT OF DEFENSE STANDARD

MIL-STD-202 - Electronic and Electrical Component Parts

(Copies of these documents are available online at <http://assist.daps.dla.mil/quicksearch/> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

FEDERAL REGULATIONS

FAR - Federal Acquisition Regulations (FAR).

(Copies of these documents are available online at www.acquisition.gov/comp/far/index.html or from the U.S. Government Printing Office, 732 North Capital Street, NW, Washington D.C. 20401.)

Other Publications

ASTM INTERNATIONAL

ASTM B33 - Wire, Tinned Soft or Annealed Copper for Electrical Purposes
 ASTM B298 - Wire, Copper, Silver-Coated Soft or Annealed
 ASTM B355 - Nickel-Coated Soft or Annealed Copper Wire

(Copies of these documents are available online at <http://www.astm.org> or from the ASTM International, P.O. Box C700, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

7.5 Ordering data. The contract or order should specify the following:

- a. CID document number, revision, and CID PIN.
- b. PIN (see [table I](#) and [7.1](#))
- c. Resistance to flattening, if other than specified (see [3.4](#))
- d. Packaging requirements (see [6.](#) and [7.8](#))
- e. Unspliced braid length requirements and proportions (see [7.7](#))

7.6 Nickel coating. The use of nickel-coated copper braids shall be used only when tin-coated or silver-coated braids cannot meet the intended performance requirements.

7.7 Braid lengths. Unless otherwise specified in the contract or order (see [7.5](#)), 90 percent of the total order for braid shall be supplied in continuous, unspliced lengths as shown in [table III](#). The remaining 10 percent of the total order for braid shall be acceptable in random unspliced lengths as shown in [table III](#).

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TABLE III. Unspliced braid length.

| Braid Diameter (inches) | Unspliced lengths | |
|-------------------------|-----------------------|-----------------------|
| | 90% (nominal lengths) | 10% (minimum lengths) |
| ≤ .171 | 250 feet | 50 feet |
| ≥ .203 | 100 feet | 25 feet |

7.8 Packaging requirements. The packaging and marking requirements for wire braid should be in accordance with [MIL-DTL-12000](#), except for the marking of shipments to civil agencies and the additional marking of spools and reels, both listed below.

7.8.1 Marking for civil agency procurement. The container marking of shipments to civil agencies should be in accordance with [FED-STD-123](#).

7.8.2 Marking of spools and reels. In addition to the marking requirements of [MIL-DTL-12000](#), each spool and reel should be marked with the following information:

- a. PIN
- b. Net weight (in pounds)
- c. Date (month, day, and year) of manufacture
- d. Manufacturer's CAGE Code or trademark

7.9 Commercial products. As part of the market analysis and research effort, this CID was coordinated with the following manufacturers of commercial products. At the time of CID preparation and coordination, these manufacturers were known to have commercial products that would meet the requirements of this CID. (NOTE: This information should not be considered as a list of approved manufacturers or be used to restrict procurement to only the manufacturers shown.)

MFR's CAGE**26916**MFR's name and address

Northrup Grumman Systems Corporation
600 Hicks Road
Rolling Meadows, IL 60008-1098
Telephone: 410-765-8926
Fax: 410-765-6809
<http://www.northgrum.com>

7.10 P/N supersession data. These CID PINs supersede the following MFR's P/N's as shown (see table IV). This information is being provided to assist in reducing proliferation in the Government inventory system.

TABLE IV. P/N supersession data.

| Dash number (see table I) *36*0375 | MFR's CAGE | MFR's P/N ^{1/} |
|--|--------------|-------------------------|
| 001 | 26916 | 087-011309-011 |

- ^{1/} The manufacturer's P/N shall not be used for procurement to the requirements of this CID. At the time of preparation of this CID, the aforementioned commercial products were reviewed and could be replaced by the CID PIN shown.

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7.11 Government users. To acquire information on obtaining these wire braids from the Government inventory system, contact Defense Supply Center, Columbus, ATTN: DSCC-CDCA, P.O. Box 3990, Columbus, OH 43218-3990, or telephone (614) 692-7940.

7.11.1 National stock number (NSN). The following is a list of NSN's assigned which correspond to this CID (see table V). The list is for information only and may not be indicative of all possible NSN's associated with the CID. For up to date information on assigned NSN's, please contact the aforementioned DSCC office (see 7.11).

TABLE V. NSN's.

| Dash number (see table I) *36*0375 | NSN |
|--|------------------|
| 001 | 6145-00-194-9829 |

7.12 Key words.
Shield

7.13 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

MILITARY INTERESTS:

Custodians:

Army - CR
Navy - AS
Air Force - 85
DLA - CC

Review activities:

Army - AR, AT, AV, CR4, MI
Navy - MC, OS, SH
DTRA - DS
NSA - NS

CIVIL AGENCY
COORDINATING ACTIVITIES:

GSA - FSS

Preparing Activity:
DLA - CC

(Project 6145-2008-114)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of this information above using the ASSIST Online database at <http://assist.daps.dla.mil>.