

3.2 Materials. Material shall be as specified herein; however, when a definite material is not specified, a material shall be used which will enable the connectors to meet the performance requirements of this CID. Acceptance or approval of any constituent material shall not be construed as a guaranty of the acceptance of the finished product.

3.3 Metal parts.

3.3.1 Nonmagnetic materials. All parts shall be made from materials which are classified as nonmagnetic.

3.3.2 Dissimilar metals. Where dissimilar metals are used in intimate contact with each other, protection against electrolysis and corrosion shall be provided. Dissimilar metals shall be defined as when metallic areas (finished or unfinished) to be placed in intimate contact by assembly presents a special problem, since intermetallic contact of the dissimilar metals results in electrolytic couples which promote corrosion through galvanic action. Dissimilar metals such as brass, copper, or passivated steel (except corrosion-resisting steel) shall not be used in intimate contact with aluminum or aluminum alloy.

3.3.3 Metals and finishes. All exposed metal parts, except electric contacts, terminals, and corrosion-resisting steel parts shall be nickel-plated in accordance with class I, type 2 of SAE-AMS-QQ-N-290. Steel parts shall be passivated in accordance with SAE-AMS-2700 to prevent corrosion.

3.3.4 Contacts. Contacts and contact tabs shall be made of copper-beryllium in accordance with ASTM B194 or ASTM B196/196M, ASTM B197/B197M or (when specified in applicable CID sheet) phosphor bronze in accordance with ASTM B139/B139M or nickel silver in accordance with ASTM B122/B122M. Contacts shall be gold plated (99.0 percent in purity, knoop hardness 130 through 200 inclusive) .00005 inch (0.0013 mm) thick minimum. Silver underplate shall not be used. Spring contacts are nickel silver and are nickel plated .0001 inch (0.002 mm) minimum, in accordance with SAE-AMS-QQ-N-290.

3.3.4.1 Terminals. Soldering terminals shall be made of a copper alloy material, and shall be gold plated (99.0 percent in purity, knoop hardness 130 through 200 inclusive) with an .0002-inch (0.005 mm) minimum thickness underplate of either copper or nickel, or shall be tin plated (The tin purity shall not exceed 97 percent.), .0004-inch (0.010 mm) thick minimum with a .0002-inch (0.005 mm) minimum thickness underplate of copper. Silver underplate shall not be used. Solder studs are tin plated .0001 inch (0.002 mm) minimum with no underplate.

3.3.5 Plastic parts. Plastic parts shall be made of glass fiber-filled diallyl phthalate resin, polypropylene, acrylonitrile butadiene styrene (ABS) in accordance with ASTM D4673 or ASTM D4894 and ASTM D4895, or nylon 6/6, in accordance with ASTM D4066. The color of the insulated portions shall be black number 17038 or red number 11136 in accordance with FED-STD-595.

3.3.6 Flammability. Plastic material shall be limited to those certified by their manufacturers as self-extinguishing in accordance with method ASTM D635 or ASTM D2863.

3.3.7 Threaded parts. Screw threads for threaded parts shall conform to FED-STD-H28 and shall be as specified in the applicable CID sheet.

3.3.8 Operating temperature. Unless otherwise specified in the applicable CID sheet, connectors shall have an operating temperature range of -65°C to +50°C.

3.3.9 Contact identification. Contact positions or multiple-contact connectors shall be permanently identified by legible letters or numerals, as specified in the applicable CID sheet, molded or stamped on

the front and rear face of the connector body. Marking shall be arranged to avoid confusion between contacts.

3.3.10 Contact arrangement. The center-to-center distance between contacts shall be as specified in the applicable CID sheet.

3.3.11 Contact finish. Contact finish shall be smooth, free of shear lines, tear out or scratches, and shall show no signs of porosity or surface cracks.

3.3.12 Contact current rating. The current rating of contacts shall be as shown in table I, or as specified in the applicable CID sheet.

TABLE I. Contact current rating.

Contact diameter	Current rating (maximum)
Inch (mm)	Amperes
.040 (1.02 mm)	3
.080 (2.03 mm)	5
.150 (3.81 mm) through 170 (4.32 mm)	8

3.4 Cable mounting hardware. Screws, clamps, brackets, or similar means for mounting the cable shall be furnished.

3.5 Marking. Connectors supplied to this CID shall be marked with the manufacturers (MFR's) standard commercial PIN.

3.6 Workmanship. Connectors shall be processed in such a manner as to be uniform in quality and shall be free from pits, cracks, rough edges, and other defects that will affect life, serviceability, or appearance.

4. REGULATORY REQUIREMENTS. The offerer/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 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 Certificate of compliance. At time of order, a certificate of compliance shall accompany all connectors supplied to this CID upon request.

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>. Included in the EPA list of 31 priority chemicals are cadmium, lead, and mercury. 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 connectors to DSCC under the Military Parts Control Advisory Group (MPCAG) evaluation program, CAGE code 58536 should be used.

7.4 Source of documents.

Federal Standards

- FED-STD-H28 - Screw Thread Standards for Federal Services
- FED-STD-595 - Colors Used in Government Procurement

(Copies of federal specifications and standards are available from the Document Automation and Production Service, Building 4D (DPM-DODSSP), 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

Other Publications

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)

- SAE-AMS-QQ-N-290 - Nickel Plating (Electrodeposited)
- SAE-AMS-2700 - Passivation Treatments for Corrosion-Resistant Steel

(Applications for copies should be addressed to the Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, Pennsylvania, 15096-0001. <http://www.sae.org>.)

ASTM INTERNATIONAL

- ASTM B122/B122M - Standard Specification for Copper-Nickel-Tin Alloy, Copper-Nickel-Zinc Alloy (Nickel Silver), and Copper-Nickel Alloy Plate, Sheet, Strip, and Rolled Bar
- ASTM B139/B139M - Rod, Phosphor Bronze, Bar and Shapes
- ASTM B194 - Copper Beryllium Alloy Plate, Sheet, Strip and Rolled Bar
- ASTM B196/196M - Rod and Bar, Copper-Beryllium Alloy
- ASTM B197/197M - Wire, Alloy Copper-Beryllium
- ASTM D635 - Plastics in a Horizontal Position, Rate of Burning and/or Extent and Time of Burning Of
- ASTM D2863 - Plastics, Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion Of (Oxygen Index)
- ASTM D4066 - Standard Classification System for Nylon Injection and Extrusion Materials (PA)
- ASTM D4673 - Molding and Extrusion Materials, Acrylonitrile-Butadiene-Styrene (ABS), Plastics and Alloys
- ASTM D4894 - Standard Specification for Polytetrafluoroethylene (PTFE) Granular Molding and Ram Extrusion Materials
- ASTM D4895 - Standard Specification for Polytetrafluoroethylene (PTFE) Resin Produced from Dispersion

(Applications for copies should be addressed to the ASTM International, PO Box C700, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, <http://www.astm.org>.)

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

- a. CID document number, revision, and CID PIN.
- b. Product conformance provisions.
- c. Packaging requirement.

7.6 Government users. To acquire information on obtaining these connectors from the Government inventory system, contact DLA Land & Maritime ATTN: DSCC-VAI, Post Office Box 3990, Columbus, OH 43216-5000.

7.7 Suggested sources of supply. Refer to the associated CID as specified herein.

7.8 Revision notations. The margins of this specification are marked with vertical lines to indicate where modifications from this revision were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

MILITARY INTERESTS:

Custodians:
Army – CR
DLA – CC

CIVIL AGENCY COORDINATING ACTIVITY:

GSA-FAS
Preparing activity:
DLA - CC
(Project 5935-2015-183)

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 the information above using the ASSIST Online database at <https://assist.dla.mil/>.