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* INCH-POUND *

A-A-50505
November 8, 1991

COMMERCIAL ITEM DESCRIPTION

CONNECTOR ASSEMBLY, ELECTRICAL, IN-LINE

The General Services Administration has authorized the use of this commercial item description.

Abstract. This CID covers an electrical three phase, three pole, polarized, 600 volt, in-line connector for surface or submarine shore to ship power use. Both male and female assemblies are to be capable of attaching to existing Navy 3/C THOF-500 MCM cable.

Salient characteristics.

1. Requirements. The connectors shall be rated for a three pole, three phase ungrounded 600 volt, Delta electrical distribution system. The connectors shall be rated for an alternating current (ac) load of 500 amperes, 60 Hertz, and shall be capable of attachment to a 3/C THOF-500 MCM Navy cable. The connectors shall be designed for an in-line, quick lock slide sleeve, type of connector. The connectors shall, as a minimum, consist of mating male and female plugs, protective caps with chains, grommets, clamps, couplings, set screws, sleeves, raceways and other hardware parts as needed to effect a completed connection. The connectors shall be of a design that allows field assembly, and shall be manufactured to be water tight, when assembled with mating receptacle or protective cover cap.

2. Material. The connectors shall be constructed of molded neoprene and shall have rubber coated manganese bronze shells. The current carrying contact material shall be copper conforming to ASTM B-301, alloy no. C14500 or C18700. Current carrying parts shall be silver plated, in accordance with Type II or Type III, Grade A, of Federal Specification QQ-S-365.

Beneficial comments (recommendations, additions, deletions) and any pertinent
*data which may be of use in improving this document should be addressed to: *
*Commanding Officer (Code 156), Naval Construction Battalion Center, Port *
*Hueneme, CA 93043-5000. *

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3. Identification marking. The connectors shall be clearly and permanently marked for identification with the following information as a minimum:

    a. Manufacturer's identification
    b. Contract number
    c. Serial number (alpha-numeric sequence at option of contractor)
    d. Field assembly instructions
    e. Phase rotation identification (A,B,C)

    Marking shall be on identification/information plates or directly on the item at the option of the manufacturer.

Quality assurance provisions.

1. Responsibility for tests. Unless otherwise specified in the contract, the contractor is responsible for the performance of all test requirements as specified herein. Unless disapproved by the Government, except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the test requirements specified herein.

2. Quality conformance tests. The quality conformance tests shall be performed on sample connectors selected in accordance with the inspection lot and sampling requirements. This inspection shall include examination and operational tests as specified herein.

3. Inspection lot. All units offered to the Government at one time shall be considered a lot for purposes of inspection. A sample unit shall be one complete connector (male and female).

4. Examination. Each sample selected in accordance with the inspection lot and sampling requirements shall be examined for compliance with the salient characteristics requirements specified herein. This element of inspection shall encompass all visual examinations and dimensional measurements. Noncompliance with any specified requirements or presence of one or more defects preventing or lessening maximum efficiency shall constitute cause for rejection.

5. Contact resistance test. Mated units shall be tested to comply with method 307 of MIL-STD-202. The connectors shall show no contact resistance above the limits shown in table I. The following details shall apply:

    a. Test current: 300 Amperes (A) through each bus lug.
    b. Number of measurements: Three (minimum) to determine average millivolt drop.

TABLE I. Contact resistance.

Test current per phase (ampere)	A Contact milli-volt drop (max)	B Millivolt drop after salt spray and durability (max)	C Contact and cable crimp millivolt drop (max)
300	8	11	11

6. Dielectric withstanding voltage test. Mated connectors shall be tested per method 301 of MIL-STD-202 for 1 minute. The following details shall apply:

    a. Nature of potential: alternating current (ac)
    b. Magnitude of voltage: 2500 volts (V) root mean square (rms)
    c. Points of application: The potential shall be applied between each phase and metal part and between each phase and all adjacent phases.

7. Pull-out strength test. Individual connectors, attached to the 3/C THOF-500 MCM Navy cable, shall have sufficient force applied to pull the cable out of the connector. The force required to pull out shall not be less than 1500 pounds.

8. Engaging and disengaging forces test. Engaging and disengaging forces shall not exceed 50 pounds.

Contractor certification. The contractor shall certify, and maintain substantiating evidence, that the product offered meets the salient characteristics of this CID and that the product conforms to the producer's own drawings, specifications, standards, and quality assurance practices. The government reserves the right to require proof of such conformance prior to first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

Metric products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units, provided they fall within specified tolerances using conversion tables contained in the latest revision of FED-STD-376, and all other requirements of this CID are met. If a product is manufactured to metric dimensions and those dimensions exceed the tolerances specified in the inch/pound units, a request should be made to the contracting officer to determine if the product is acceptable. The contracting officer has the option of accepting or rejecting the product.

Regulatory requirements. The offerer/contractor is encouraged to use recovered materials in accordance with Public Law 94-580 to the maximum extent practicable.

Packaging. Unless otherwise specified in the contract or order, the preservation, packing, and marking shall be in accordance with ASTM D 3951.

ASTM Standards are available from ASTM, 1916 Race Street, Philadelphia, PA 19103.

MIL-STD-202, QQ-S-365 and FED-STD-376 are available from Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19103.

Possible sources of supply:

a. Crouse-Hinds Molded Products, Cooper Industries - Joy In-Line Shore/Power Connectors, Assembly Numbers X8998-1 and X8998-2. Competition is not limited to this product, but may be a better or equal product of another manufacturer.

MILITARY INTERESTS:

Custodian

Navy - YD

User Activity

DLA - ES

PREPARING ACTIVITY:

Navy - YD

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