

INCH-POUND

MIL-DTL-915/8H

22 August 2002

SUPERSEDING

MIL-C-915/8G

29 September 1989

DETAIL SPECIFICATION SHEET

CABLE, POWER ELECTRICAL, 600 VOLTS, FOR OUTBOARD USE ONLY (NOT FOR INBOARD USE), TYPES DSS, TSS, FSS AND 7SS

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of MIL-DTL-915 listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation.

REQUIREMENTS:

Qualification required.

Construction (watertight)

- First - Copper conductor, class B stranding, tin coated. (See table I for size.)
- Second - Synthetic rubber insulation. (See table I for thickness.) Special identification code applied by method 3.
- Third - The required number of conductors (see table I) cabled together with a lay length not greater than that specified in table I. The insulated conductors shall not adhere to one another. Rubber fillers as necessary in order to form a firm, round assembly. Fillers in outer valleys may be extruded in order to be integral with the belt (see fourth).
- Fourth - Belt of synthetic rubber, nominal wall thickness 0.030 inch, over the assembled conductors. Belt and fillers shall be capable of removal from the assembly without damaging the insulation on conductors.
- Fifth - Braided shield of AWG No. 34 tin-coated copper. Braid angle of 50-degrees minimum; coverage of 90-percent minimum.

- Sixth - Jacket of either polychloroprene or chlorosulfonated polyethylene, black. (See table I for thickness.). If necessary in order to meet the electrical requirements for the completed cable, the jacket may consist of two layers bonded together, with the inner layer consisting of synthetic rubber insulation. Cable surface marking required.

NOTE: Manufacturer's identification tape may be omitted, at the manufacturer's option, from all types and sizes.

TABLE I. Details.

Type and size	Conductors		Insulation ^{1/} thickness minimum (inch)	Lay length (inch)	Jacket ^{1/} thickness minimum (inch)	Overall diameter		Conductor resistance per 1000 feet (max) (ohms)
	Number	Size AWG				Min (inch)	Max (inch)	
DSS-2	2	18 (class B)	0.020	2.0	0.050	0.370	0.390	7.36
DSS-3	2	16 (class B)	0.025	2.0	0.080	0.480	0.500	4.61
DSS-4	2	14 (class B)	0.025	2.5	0.065	0.480	0.500	2.84
TSS-2	3	18 (class B)	0.020	2.0	0.050	0.385	0.400	7.36
TSS-3	3	16 (class B)	0.025	2.5	0.070	0.480	0.500	4.61
TSS-4	3	14 (class B)	0.025	2.5	0.055	0.480	0.500	2.84
FSS-2	4	18 (class B)	0.020	2.5	0.080	0.480	0.500	7.36
FSS-3	4	16 (class B)	0.025	2.5	0.060	0.480	0.500	4.61
FSS-4	4	14 (class B)	0.025	3.0	0.085	0.600	0.625	2.84
7SS-2	7	18 (class B)	0.020	3.0	0.085	0.600	0.625	7.36

^{1/} Because of the compact construction necessary in order for these cables to meet the required hydrostatic tests, centering and circularity requirements for insulation and jacket are waived, provided that the finished cable complies with the value specified in table I for minimum thickness of insulation and jacket and for overall cable diameter.

EXAMINATION AND TESTS:

Requirements

Basic electrical:

Conductor resistance - ohms/1000 feet at 25°C, maximum. (see table I)

Voltage withstand - volts, root mean square, minimum

Conductor to conductor (5 minutes)..... 3000

Conductor to shield (5 minutes) 1000

Shield to water (5 minutes)..... 500

Insulation resistance – megohms-1000 feet, minimum

Conductor to conductor 500

Conductor to shield..... 500

Shield to water 250

Group A:

MIL-DTL-915/8H

Visual and dimensional	No failure
Hydrostatic (open end) - 500 lbf/in ² , in 2 hours, in ³ , maximum	0
Conductor capacitance (type DSS only) - pF/ft at 1 kHz maximum	45
(measurement shall be made with black conductor connected to shield at one end of specimen)	
Drip - at 95 ± 1°C	Zero

Group B:

Bending endurance - at minus 40 ± 2°C on 4-inch maximum diameter mandrel, cycles	1000
Physicals (unaged)	
Insulation (conductor)	
Tensile strength - lbf/in ²	600
Elongation - percent, minimum	300
Jacket (cable)	
Tensile strength - lbf/in ² minimum	1800
Elongation - percent, minimum	300
Set - inch, maximum	3/8

Group C:

Physicals (aged)	
Insulation (conductor)	
Air pressure heat	
Tensile strength - percent of unaged, minimum.....	65
Elongation - percent of unaged, minimum.....	65
Jacket	
Hot oil immersion	
Tensile strength - percent of unaged, minimum.....	65
Elongation - percent of unaged, minimum.....	65
Permanence of printing (jacket) - cycles, minimum	250
Cable filler removability	No failure
Shield - conformance to material coverage and construction	No failure

QUALIFICATION INSPECTION:

Qualification inspection shall include basic electrical, all of groups A, B, and C, plus the following:

Hydrostatic (open end), after bending endurance - at 500 lbf/in ² , in 2 hours, in ³ , maximum.....	0
Pressure cycling (DSS-3 only) - at 500 lbf/in ² percent of variation in mutual capacitance, maximum	10
Insulation resistance (after 90-day immersion in tap water) – megohms/1000 feet, minimum	
Conductor to conductor.....	500

MIL-DTL-915/8H

Conductor to shield	500
Shield to water	250

UNIT ORDERING LENGTH:

All types and sizes: 500 feet (nominal).

PART OR IDENTIFYING NUMBER (PIN): The PIN consists of the letter M, the general specification number along with the specification sheet, and a dash number representing type and size. Refer to MIL-DTL-915 for an example.

<u>M</u>	<u>915</u>	<u>/8-</u>	<u>X-X</u>
Prefix for Military Specification	Specification Number	Specification Sheet Number	Type and Size

CHANGES FROM PREVIOUS ISSUE: Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:
Army – MI
Navy – SH

Preparing activity:
Navy - SH
(Project 6145-2317-004)

Review activities:
Army – AR, CR
Navy - CG, EC
DLA - CC