

INCH-POUND

MIL-DTL-24643/26F

1 October 2009

SUPERSEDING

MIL-DTL-24643/26E

22 August 2002

DETAIL SPECIFICATION SHEET

CABLE, ELECTRICAL, -20 °C TO +150 °C, 600 VOLTS TYPES LSDPS, LSTPS, LSFPS,
LS7PS, LSDPSN, LSTPSN, LSFPSN, AND LS7PSN

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 MIL-DTL-24643.

Construction.

Types LSDPS, LSTPS, LSFPS, and LS7PS (Watertight with Circuit Integrity)

Types LSDPSN, LSTPSN, LSFPSN, and LS7PSN (Non-Watertight with Circuit Integrity)

- First - Copper conductor, nickel-coated (see [table I](#) for size and stranding).
- Second - Extruded silicone rubber insulation (see [table I](#) for dimensions).
- Third - Glass braid (see [table I](#) for dimensions). Standard identification code applied by Method 4.
- Fourth - Transparent braid covering.
- Fifth - The specified number of pairs (see [table I](#)) cabled together with a lay not greater than 10 inches. Fillers may be used as necessary to form a firm well-rounded assembly. Cabling sequence shall be consecutive, starting with no. 1 from the center outward.
- Sixth - A binder applied helically with overlap.
- Seventh - Silicone rubber jacket colored orange or red (see [table I](#) for thickness)
- Eighth - Braided metal armor.

TABLE I. Details.

Military part no. M24643/26	Type and size	Conductors				Overall cable		Conductor resistance (ohms)
		No. of CDRs	AWG size and stranding	Diameter over insulation nominal (inch)	Diameter over braid covering max. (inch)	Jacket thickness min. avg. (inch)	Diameter max. (inch)	
-01AN	LSDPS-3	2	16 (Class B)	0.100	0.125	0.038	0.455	5.39
-02AN	LSDPS-4	2	14 (Class B)	0.116	0.141	0.038	0.489	3.38
-03AN	LSDPS-6	2	12 (Class B)	0.143	0.170	0.050	0.585	2.13
-04AN	LSDPS-9	2	10 (Class B)	0.166	0.193	0.050	0.628	1.34
-05AN	LSDPS-14	2	9 (Class B)	0.200	0.230	0.063	0.730	1.06
-06AN	LSTPS-3	3	16 (Class B)	0.100	0.125	0.038	0.475	5.39
-07AN	LSTPS-4	3	14 (Class B)	0.116	0.141	0.050	0.553	3.38
-08AN	LSTPS-6	3	12 (Class B)	0.143	0.170	0.050	0.620	2.13
-09AN	LSTPS-9	3	10 (Class B)	0.166	0.193	0.050	0.657	1.34
-10AN	LSTPS-14	3	9 (Class B)	0.200	0.230	0.063	0.751	1.06
-11AN	LSTPS-23	3	7 (Class B)	0.257	0.291	0.063	0.866	0.643
-12AN	LSTPS-30	3	5 (Class C)	0.310	0.348	0.075	0.989	0.403
-13AN	LSFPS14	4	9 (Class B)	0.200	0.230	0.063	0.815	1.06
-14AN	LS7PS-6	7	12 (Class B)	0.143	0.170	0.063	0.775	2.13
-15AN	LS7PS-14	7	9 (Class B)	0.200	0.230	0.063	0.986	1.06
-16AN	LSDPSN-3	2	16 (Class B)	0.100	0.125	0.038	0.455	5.39
-17AN	LSDPSN-4	2	14 (Class B)	0.116	0.141	0.038	0.489	3.38
-18AN	LSDPSN-6	2	12 (Class B)	0.143	0.170	0.050	0.585	2.13
-19AN	LSDPSN-9	2	10 (Class B)	0.166	0.193	0.050	0.628	1.34
-20AN	LSDPSN-14	2	9 (Class B)	0.200	0.230	0.063	0.730	1.06
-21AN	LSTPSN-3	3	16 (Class B)	0.100	0.125	0.038	0.475	5.39
-22AN	LSTPSN-4	3	14 (Class B)	0.116	0.141	0.050	0.553	3.38
-23AN	LSTPSN-6	3	12 (Class B)	0.143	0.170	0.050	0.620	2.13
-24AN	LSTPSN-9	3	10 (Class B)	0.166	0.193	0.050	0.657	1.34
-25AN	LSTPSN-14	3	9 (Class B)	0.200	0.230	0.063	0.751	1.06
-26AN	LSTPSN-23	3	7 (Class B)	0.257	0.291	0.063	0.866	0.643
-27AN	LSTPSN-30	3	5 (Class C)	0.310	0.348	0.075	0.989	0.403
-28AN	LSFPSN-14	4	9 (Class B)	0.200	0.230	0.063	0.815	1.06
-29AN	LS7PSN-6	7	12 (Class B)	0.143	0.170	0.063	0.775	2.13
-30AN	LS7PSN-14	7	9 (Class B)	0.200	0.230	0.063	0.986	1.06

REQUIREMENTS:

Qualification required.

INSPECTION:

Basic Electricals:

Conductor resistance (ohms/1000 feet at 25 °C, max.)	See table I
Voltage withstand (volts, root mean square, min.)	
Conductor to conductor	3000
Insulation resistance (megohms/1000 feet, min.)	
Conductor to conductor	500
Conductor continuity	No failure

Group A:

Visual and dimensional	No failure
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NOTE: The nickel coating on the conductors of the completed shall be permitted to have minor nicks, scrapes, or abrasions that are just perceptible to the eye.

Watertightness (Types LSDPS, LSTPS, LSFPS, and LS7PS only) (see MIL-DTL-24643 for limits of water leakage)	No failure
Abrasion resistance – minimum	75
Crack resistance	No damage

Group B:

Cold bending cable	No failure
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Thermoset proof test (percent, max.)

Insulation	50
Jacket (when tested at 200 °C)	50
Drip (9±1 °C)	Zero

Physicals (unaged)

Insulation (extruded)	
Tensile strength (lb/in ² , min.)	700
Elongation (percent, min.)	150
Jacket (cable)	
Tensile strength (lb/in ² , min.)	800
Elongation (percent, min.)	250
Durometer (jacket) - Type A (hardness, min.)	60
Gas flame (1 hour)	No failure

Group C:

Physicals (cable aging) (260±10 °C)

Jacket (cable)

Tensile strength (lb/in², min.) 600

Elongation (percent, min.) 150

Cable fill (sealant) removability No failure

Group D:

Flame propagation (cable) No failure

Qualification Inspection:

Qualification inspection shall include basic electricals; groups A, B, C, and D; plus the following:

Gas flame (3 hours) No failure

Aging and compatibility (cable) (125±5 °C) No failure

Armor (conformance to material, construction and coverage) No failure

Acid gas equivalent (percent, max.)

Jacket 2

Fillers 2

Insulation 18

Halogen content (percent, max.)

Jacket 0.2

Fillers 0.2

Insulation 0.2

Smoke index (max.)

Jacket 35

Fillers 45

Insulation 35

Toxicity index (max.)

Jacket 5

Fillers 5

Insulation 1.5

Electrical moisture absorption No failure

UNIT ORDERING LENGTHS:

<u>Type and size</u>	<u>Feet (minimum)</u>
All types and sizes	100

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 6145-2008-030)

Review Activities:

Army – AR, AV, CR
Navy – CG, EC
DLA – CC

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 <http://assist.daps.dla.mil>.