



Control & signal cable

LSPI

MIL-DTL-24643 LSPI Low-Smoke Shipboard Interior

MIL-DTL-24643/61 300 V LSZH XLPO overall-braid-shielded multi-pair naval IC cable



MIL-DTL-24643/61 (LSPI)

300 V Naval Shipboard IC

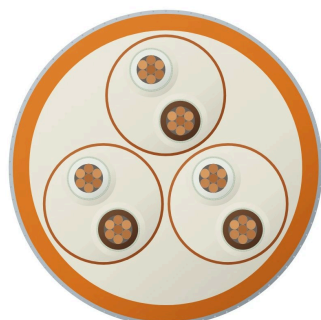
LSZH XLPO -30 to +105 °C

Application

LSPI (MIL-DTL-24643/61, M24643/61) 300 V low-smoke zero-halogen (LSZH) U.S. Navy shipboard IC cable with 2–60 twisted pairs of 22 or 18 AWG tinned copper, XLPO insulation, overall tinned copper braid shield, and LSZH XLPO jacket (-30 to +105 °C).

Typical uses: U.S. Navy & Allied Surface Vessel IC Systems, Shipboard Bridge, Helm & Engine-Order Telegraphs, Combat Information Center (CIC) Audio & Alarms, Coast Guard & Offshore Patrol Vessel Comms, Commercial Marine & Subsea Support Vessel Control

Construction



Cross-section, not to scale

- 1 7-strand tinned copper pairs
- 2 Cross-linked polyolefin (XLPO)
- 3 Halogen-free core binder tape
- 4 Overall tinned copper braid shield
- 5 Low-smoke XLPO outer jacket

Technical data

Typical values

Rated voltage	300 V RMS	Dielectric test voltage	1,500 V AC RMS (core/core & core/shield)
Conductor DC resistance	$\leq 54.8 \Omega/\text{km}$ (22 AWG) · $\leq 21.4 \Omega/\text{km}$ (18 AWG) at +20 °C	Insulation resistance	$\geq 500 \text{ M}\Omega\cdot\text{km}$ at +20 °C
Continuous conductor temp.	-30 °C to +105 °C	Cold bend temperature	-30 °C without cracking
Pair construction	2 to 60 twisted pairs (22 AWG or 18 AWG)	Overall shield	Braided tinned copper wire ($\geq 85\%$ coverage)
Min. bending radius	8 × overall cable diameter	Armoured option	Type LSPIA (braided aluminum armor over jacket)
Flame propagation	IEEE 1202 / UL 1581 vertical tray flame test	Acid gas & halogen content	< 0.2 % halogen · acid gas < 5 mg/g
Smoke index & toxicity	Low optical smoke density & NES 713 compliant	Standards	MIL-DTL-24643/61 (M24643/61)

Sizes

12 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	Cross-section / size	Conductor build	Wall $\approx$ mm	Outer $\varnothing \approx$ mm	Metal kg/km	Weight $\approx$ kg/km	Min. bend R fixed mm
Standard LSPI configurations 12 sizes							
☐ LSPI-2 (22 AWG)	2 PR × 22 AWG	M24643/61-01UN	1.10	7.90	39.2	89.0	63
☐ LSPI-4 (22 AWG)	4 PR × 22 AWG	M24643/61-02UN	1.10	9.40	57.6	131.0	75
☐ LSPI-7 (22 AWG)	7 PR × 22 AWG	M24643/61-03UN	1.23	11.20	83.6	190.0	90
☐ LSPI-10 (22 AWG)	10 PR × 22 AWG	M24643/61-04UN	1.49	13.50	116.6	265.0	108
☐ LSPI-15 (22 AWG)	15 PR × 22 AWG	M24643/61-05UN	1.71	15.50	156.2	355.0	124
☐ LSPI-20 (22 AWG)	20 PR × 22 AWG	M24643/61-06UN	1.90	17.30	195.8	445.0	138
☐ LSPI-30 (22 AWG)	30 PR × 22 AWG	M24643/61-08UN	2.27	20.60	279.4	635.0	165
☐ LSPI-2 (18 AWG)	2 PR × 18 AWG	M24643/61-12UN	1.10	9.70	59.4	135.0	78
☐ LSPI-4 (18 AWG)	4 PR × 18 AWG	M24643/61-13UN	1.29	11.70	90.2	205.0	94
☐ LSPI-7 (18 AWG)	7 PR × 18 AWG	M24643/61-14UN	1.54	14.00	136.4	310.0	112
☐ LSPI-10 (18 AWG)	10 PR × 18 AWG	M24643/61-15UN	1.87	17.00	189.2	430.0	136
☐ LSPI-20 (18 AWG)	20 PR × 18 AWG	M24643/61-17UN	2.43	22.10	336.6	765.0	177

– Outer diameters and weights are nominal engineering values for LSPI subject to standard manufacturing tolerances per MIL-DTL-24643/61 (M24643/61) U.S. Navy Low-Smoke Shipboard Interior Comms.

Electrical & rating data

12 sizes

Configuration	Max. DC R @ 20 °C Ω/km	Primary rating (A or nF/km)	Secondary rating	Dielectric test V AC rms
2 PR × 22 AWG	54.80	4.0	3.4	1,500
4 PR × 22 AWG	54.80	4.0	3.4	1,500
7 PR × 22 AWG	54.80	4.0	3.4	1,500
10 PR × 22 AWG	54.80	4.0	3.4	1,500
15 PR × 22 AWG	54.80	4.0	3.4	1,500
20 PR × 22 AWG	54.80	4.0	3.4	1,500
30 PR × 22 AWG	54.80	4.0	3.4	1,500
2 PR × 18 AWG	21.40	10.0	8.5	1,500
4 PR × 18 AWG	21.40	10.0	8.5	1,500
7 PR × 18 AWG	21.40	10.0	8.5	1,500

Configuration	Max. DC R @ 20 °C Ω/km	Primary rating (A or nF/km)	Secondary rating	Dielectric test V AC rms
10 PR × 18 AWG	21.40	10.0	8.5	1,500
20 PR × 18 AWG	21.40	10.0	8.5	1,500

– Electrical resistance at +20 °C and dielectric withstand voltages verified per MIL-DTL-24643/61 (M24643/61) U.S. Navy Low-Smoke Shipboard Interior Comms.

Standards and approvals

- ✓ MIL-DTL-24643/61 (M24643/61) U.S. Navy Low-Smoke Shipboard Interior Comms
- ✓ CE (2014/35/EU) & RoHS 3 (2015/863/EU) Compliant
- ✓ REACH SVHC Compliance Verified

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

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Email

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Web

tebaoflex.com/cables/mil-dtl-24643-lspi-low-smoke-shipboard-interior-communication-cable



Typical values for this cable type, based on MIL-DTL-24643/61 (M24643/61) U.S. Navy Low-Smoke Shipboard Interior Comms. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.