



Hook-up & equipment wires

MIL-27500

Aerospace Multicore Shielded Cable

NEMA WC 27500 (MIL-DTL-27500) 600 V aerospace fluoropolymer shielded & jacketed cable



NEMA WC 27500 · MIL-DTL-27500

AS22759 Primary · 600 V

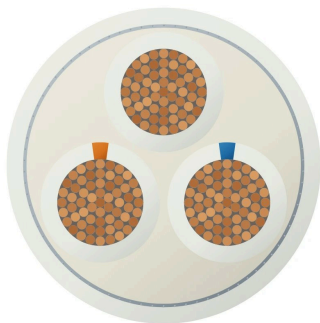
-65...+150 / +200 °C Avionics

Application

Airframe, avionics and defence shielded single-core, twisted-pair, triad and multicore cable built to NEMA WC 27500 (MIL-DTL-27500) using SAE AS22759 (M22759/16, /32, /34, /11) ETFE, XLETFE or PTFE primary wires, plated copper braid and FEP/ETFE/PTFE jacket.

Typical uses: Commercial & military airframe avionics bays, UAVs, eVTOLs, satellites & launch vehicles, Defence land vehicles, radar & naval masts, Formula 1 / endurance motorsport engine looms, Downhole oilfield & vacuum chamber instrumentation

Construction



Cross-section, not to scale

1	19- or 37-strand plated copper	SAE AS22759 · ASTM B33 / B298 / B355
2	AS22759 fluoropolymer primary cores	SAE AS22759 · NEMA WC 27500 Table I
3	≥ 85 % plated-copper braid shield	NEMA WC 27500 Table II
4	Fluoropolymer outer jacket (14 / 06 / 23)	NEMA WC 27500 Table III · FAR 25.853

Technical data

Typical values

Rated voltage	600 V RMS (from sea level to 60,000+ ft altitude depending on primary wire style)	Dielectric withstand voltage	1.5 kV to 2.5 kV AC RMS for 1 min · 3.4–5.0 kV spark test
Shield optical coverage	≥ 85 % minimum optical coverage across all NEMA WC 27500 shield styles	Max. DC conductor resistance (20 °C)	26 AWG (19/38): ≤ 135 Ω/km · 24 AWG (19/36): ≤ 86.0 Ω/km · 22 AWG (19/34): ≤ 53.1 Ω/km · 20 AWG (19/32): ≤ 32.0 Ω/km · 16 AWG (19/29): ≤ 14.9 Ω/km
Operating temperature range	–65 °C to +150 °C (tin-plated Cu, TE/SB/14) · –65 °C to +200 °C (silver-plated Cu, TG/SE/RC/06/23) · up to +260 °C (nickel-Cu / PTFE)	Short-circuit / solder heat	+150 °C to +250 °C (5 s)
Min. bending radius	6 × overall diameter (fixed airframe harness) · 10 × overall diameter (flexing)	Laser markability	White ETFE / XLETFE jackets (Styles 14 & 23) are formulated for high-contrast UV laser wire identification per SAE AS5649
Aerospace flammability	Passes FAR 25.853 (14 CFR Part 25 Appendix F) 60-degree vertical burn and smoke emission tests	Aviation fluids & Skydrol	Fluoropolymer insulation and jacket resist Jet-A fuel, MIL-PRF-5606 / Skydrol hydraulic fluid, MIL-PRF-23699 turbine oil and de-icing fluids
Standards	NEMA WC 27500 (superseding MIL-DTL-27500 / MIL-C-27500)	Standard packing	Heat-treated ISPM-15 timber drums or spools with sealed ends

Sizes

16 standard constructions

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

Order designation	Cores × mm ² / AWG	AWG ≈	Outer Ø min mm	Outer Ø max mm	Copper kg/km	Weight ≈ kg/km	Min. bend R mm
1-Core Shielded & Jacketed Aerospace Wire (M27500-xxTE1T14 / SB1T23) 4 sizes							
☐ M27500-26TE1T14 (1×26 AWG)	1×26 AWG (0.15 mm ²)	26	1.7	1.9	5	9	11
☐ M27500-24TE1T14 (1×24 AWG)	1×24 AWG (0.24 mm ²)	24	1.8	2.0	6	11	12
☐ M27500-22TE1T14 (1×22 AWG)	1×22 AWG (0.38 mm ²)	22	2.0	2.2	8	14	13
☐ M27500-20TE1T14 (1×20 AWG)	1×20 AWG (0.60 mm ²)	20	2.3	2.5	11	18	15
2-Core Shielded Twisted Pairs (M27500-xxTE2T14 / SB2T23 / SE2S23) 6 sizes							
☐ M27500-26TE2T14 (2×26 AWG Pair)	2×26 AWG (0.15 mm ²)	26	2.5	2.8	9	15	16
☐ M27500-24TE2T14 (2×24 AWG Pair)	2×24 AWG (0.24 mm ²)	24	2.8	3.0	11	19	18
☐ M27500-22TE2T14 (2×22 AWG Pair)	2×22 AWG (0.38 mm ²)	22	3.1	3.4	15	25	20
☐ M27500-20TE2T14 (2×20 AWG Pair)	2×20 AWG (0.60 mm ²)	20	3.6	3.9	22	34	23
☐ M27500-18TE2T14 (2×18 AWG Pair)	2×18 AWG (0.96 mm ²)	18	4.1	4.5	31	47	27
☐ M27500-16TE2T14 (2×16 AWG Pair)	2×16 AWG (1.23 mm ²)	16	4.6	5.0	39	58	30
3-Core Shielded Triads & 4-Core Quads (M27500-xxTE3T14 & xxTE4T14) 6 sizes							
☐ M27500-24TE3T14 (3×24 AWG Triad)	3×24 AWG (0.24 mm ²)	24	3.0	3.2	15	24	20
☐ M27500-22TE3T14 (3×22 AWG Triad)	3×22 AWG (0.38 mm ²)	22	3.4	3.6	21	32	22
☐ M27500-20TE3T14 (3×20 AWG Triad)	3×20 AWG (0.60 mm ²)	20	3.8	4.2	29	44	25
☐ M27500-24TE4T14 (4×24 AWG Quad)	4×24 AWG (0.24 mm ²)	24	3.3	3.5	18	30	21
☐ M27500-22TE4T14 (4×22 AWG Quad)	4×22 AWG (0.38 mm ²)	22	3.7	4.0	26	40	24
☐ M27500-20TE4T14 (4×20 AWG Quad)	4×20 AWG (0.60 mm ²)	20	4.2	4.5	37	56	27

– Dimensions and weights are typical values per NEMA WC 27500 (MIL-DTL-27500) · SAE AS22759. Minimum fixed bending radius shown is 6 × OD.

Electrical & current ratings

6 sizes

Cross-section mm ²	AWG ≈	Max. DC resistance 20 °C, Ω/km	Single wire in air 30 °C, A	Multi-core bundle 30 °C, A
0.13	26	155	2.5	2.0
0.2	24	95.5	3.5	2.8
0.35	22	54.5	6.5	5.0
0.52	20	34.6	10	7
0.82	18	24	14	11
1.25	16	16	19	14

– Current ratings at 30 °C ambient in free air. Apply temperature and bundle grouping factors per applicable equipment standard.

Standards and approvals

✓ NEMA WC 27500 (MIL-DTL-27500) · SAE AS22759

✓ CE · RoHS 2 (2011/65/EU) · REACH

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

info@tebaoflex.com

Web

tebaoflex.com/cables/aerospace-multicore-shielded-cable



Typical values for this cable type, based on NEMA WC 27500 (MIL-DTL-27500) · SAE AS22759. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.