

MaxFlite high-performance 100 Base-T Ethernet cables

MaxFlite data cables are high-performance, high-speed 100 Base-T Ethernet cables designed for use in aircraft IFE (In-Flight Entertainment) systems. They are also ideal for other applications using IEEE 1394, ARINC 629, and similar protocols.

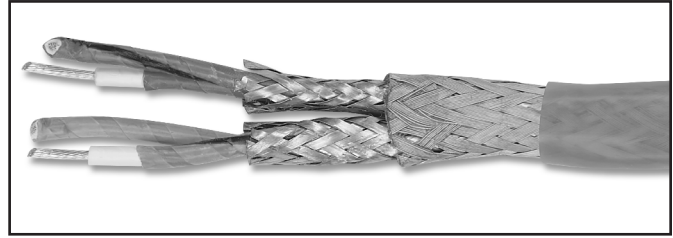
These cables feature our advanced LTE extruded expanded PTFE dielectric for increased velocity of propagation, and are available as quad, or twisted-pair (single or double) constructions.

They can also be used as components in more complex cables with additional components such as power wires, coaxial cables, or other types.

MaxFlite cables meet the flammability requirements of FAR 25.853, and the smoke and toxicity requirements of Boeing and Airbus ABD0031.

Performance:

Temperature rating: 150° C. Higher temperature ratings (up to 260° C) available with plating other than tin on shield wires.



Construction Details

Jacket: Transparent blue FEP.

Outer shield: Round tin-plated copper braid, 85% minimum coverage.

Inner shield: Flat tin-plated copper braid, 92% minimum coverage.

Component wire insulation: LTE extruded expanded PTFE with sintered PTFE tape jacket.

Component wire conductor: Stranded SPC or SPCA.

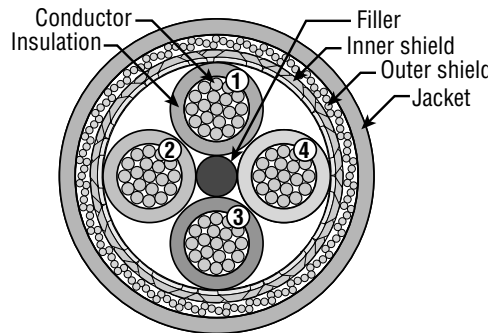
Identification: Marker tape under jacket.

Options: Other insulation or shield materials and/or plating available on request.

MaxFlite 100 Base-T Ethernet cable—Quad

Insulation Color:

- Wire 1:** Red;
- Wire 2:** Green;
- Wire 3:** Blue;
- Wire 4:** Yellow.



Some proportions altered to illustrate detail.

Dimensions and Weights

Thermax P/N	Inner Conductor				Insulation Diameter	Inner Shield Diameter	Outer Shield Diameter	Jacket Diameter	Min. Bend Radius	Weight
	AWG	Strands	Diameter	Material						
MX100Q-22	22	19	.0295 (.75)	SPC	.058 (1.47)	.145 (3.68)	.165 (4.19)	.190 (4.83)	2.0 (51)	35.5 (52.9)
MX100Q-24	24	19	.0235 (.60)	SPCA	.046 (1.17)	.117 (2.97)	.139 (3.53)	.160 (4.06)	1.5 (38)	24.0 (35.8)
MX100Q-26	26	19	.0189 (.48)	SPCA	.038 (.97)	.100 (2.54)	.118 (3.00)	.138 (3.50)	1.25 (32)	19.0 (27.6)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal unless otherwise indicated.

SPCA: Silver-plated high-strength copper alloy. **SPC:** Silver-plated copper.

Electrical Performance

Thermax P/N	Differential Impedance	Velocity of Propagation	Capacitance (pF/ft)	Attenuation (dB/100 ft.)		Near End Crosstalk @100 MHz	Time Delay (Ns/ft.)	Cat. 5e Attenuation Budget (ft.)
				10 MHz	100 MHz			
MX100Q-22	100Ω ±10%	79%	13.0	1.7	6.0	<-32 dB	1.29	350
MX100Q-24	100Ω ±10%	79%	13.0	2.4	8.0	<-32 dB	1.29	270
MX100Q-26	100Ω ±10%	79%	13.0	3.0	10.5	<-32 dB	1.29	200

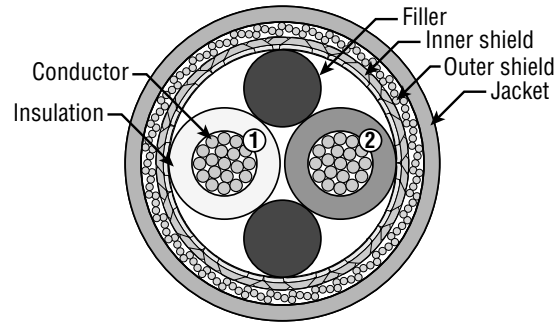
All values are nominal unless otherwise indicated.

See next page for single and double twisted-pair construction.

MaxFlite high-performance 100 Base-T Ethernet cables

MaxFlite 100 Base-T Ethernet cable—Twisted-Pair (Single)

Insulation Color:
Wire 1: White;
Wire 2: Blue.



Some proportions altered to illustrate detail.

Dimensions and Weights

Thermax P/N	Inner Conductor				Insulation Diameter	Inner Shield Diameter	Outer Shield Diameter	Jacket Diameter	Min. Bend Radius	Weight
	AWG	Strands	Diameter	Material						
MX100-22	22	19	.0295 (.75)	SPC	.068 (1.73)	.140 (3.56)	.160 (4.06)	.180 (4.57)	2.0 (51)	26.0 (38.7)
MX100-24	24	19	.0235 (.60)	SPCA	.054 (1.37)	.110 (2.79)	.125 (3.18)	.145 (3.68)	1.5 (38)	20.0 (29.8)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal unless otherwise indicated.

SPCA: Silver-plated high-strength copper alloy. **SPC:** Silver-plated copper.

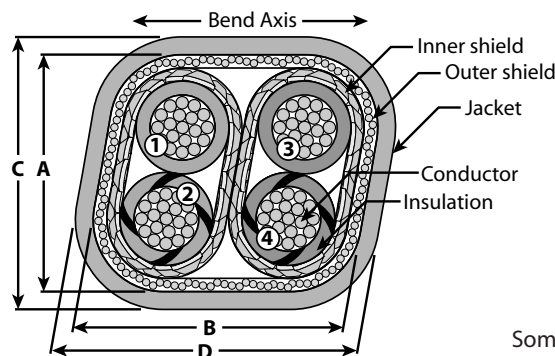
Electrical Performance

Thermax P/N	Differential Impedance	Velocity of Propagation	Capacitance (pF/ft)	Attenuation (dB/100 ft.)		Near End Crosstalk @100 MHz	Time Delay (Ns/ft.)	Cat. 5e Attenuation Budget (ft.)
				10 MHz	100 MHz			
MX100-22	100Ω ±10%	79%	13.0	1.6	5.5	N/A	1.29	380
MX100-24	100Ω ±10%	79%	13.0	2.1	7.1	N/A	1.29	285

All values are nominal unless otherwise indicated.

MaxFlite 100 Base-T Ethernet cable—Twisted-Pair (Double)

Insulation Color:
Wire 1: Red;
Wire 2: Red / black stripe;
Wire 3: Blue;
Wire 4: Blue / black stripe.



Some proportions altered to illustrate detail.

Dimensions and Weights

Thermax P/N	Inner Conductor				Insulation Diameter	Outer Shield		Jacket		Min. Bend Radius*	Weight
	AWG	Strands	Diameter	Material		A	B	C	D		
MX100P-22	22	19	.0295 (.75)	SPC	.071 (1.80)	.163 (4.14)	.276 (7.01)	.195 (4.95)	.300 (7.62)	2.0 (51)	42.0 (62.6)
MX100P-24	24	19	.0235 (.60)	SPC	.063 (1.60)	.150 (3.81)	.250 (6.35)	.175 (4.45)	.275 (6.99)	1.75 (44)	36.0 (53.6)

Dimensions in inches (mm). Weights in pounds/1000 feet (Kg/1000 M). All values are nominal unless otherwise indicated.

SPCA: Silver-plated high-strength copper alloy. **SPC:** Silver-plated copper. *Cable may be bent in one axis only, as indicated in drawing.

Electrical Performance

Thermax P/N	Differential Impedance	Velocity of Propagation	Capacitance (pF/ft)	Attenuation (dB/100 ft.)		Near End Crosstalk @100 MHz	Time Delay (Ns/ft.)	Cat. 5e Attenuation Budget (ft.)
				10 MHz	100 MHz			
MX100P-22	100Ω ±10%	79%	13.0	2.0	6.5	<-32 dB	1.29	300
MX100P-24	100Ω ±10%	79%	13.0	2.4	7.5	<-32 dB	1.29	280

All values are nominal unless otherwise indicated.

See previous page for quad construction.