

ULTRA-FLEXIBLE TurboFlex Rugged Power Cable



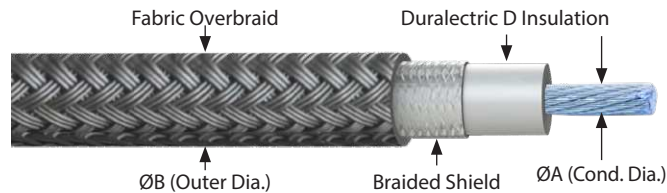
TurboFlex® M Copper Core, Duralectric™ D Insulation, Metallic Braided Shield, Fabric Overbraid 725–2875 VAC • 967–602

FEATURES

- TurboFlex M, with mil-spec conductor per AS29606 provides flight heritage and the stiffness required in some installations, while Duralectric D Insulation provides more flexibility than standard mil-spec wire. 725–2875 VAC, 2450–6750 VDC-rated performance.
- Fabric overbraid provides abrasion and temperature protection. Choose the appropriate braid with the selection guide table at right.

HOW TO ORDER TURBOFLEX® M

Sample Part Number	967-602	-28	SCA	-016	-0	-N	-M	-B
Basic No.	TurboFlex M = AS22759 type conductor with Duralectric D, shield, and fabric overbraid							
Wire Conductor Size (See Tables)	-28, -26, -24, -22, -20, -18, -16, -14, -12, -10, -8, -6, -4, -2, -1, -0, -00, -000							
Conductor Type (See Tables for Specifications, Resistance Values, and Conductor Diameter)	NCA = Nickel-Coated High-Strength Copper Alloy (-60°–200°C) NCC = Nickel-Coated Annealed Copper (-60°–200°C) SCA = Silver-Coated High-Strength Copper Alloy (-60°–200°C) SCC = Silver-Coated Annealed Copper (-60°–200°C) TCC = Tin-Coated Annealed Copper (-60°–150°C)							
Duralectric D Insulation Thickness	-016 = .016 -024 = .024 -032 = .032 -047 = .047 -062 = .062 -093 = .093 -125 = .125							
Duralectric D Insulation Color	See Table II							
Braided Shield Material	T = Tin/Copper (100-001A), 0.011 thick (ref) S = Silver/Copper (100-002A), 0.011 (ref) N = Nickel/Copper (100-003A), 0.011 (ref) AM = AmberStrand (103-026), 0.009 (ref) AR = ArmorLite™ (103-051), 0.008 (ref) CF = ArmorLite™ CF (103-126), 0.009 (ref)							
Overbraid Material	See Braid Material and Color Selection Guide (Omit if not required)							
Overbraid Color	See Braid Material and Color Selection Guide (Omit if not required)							



NOTES

- Cable will be tagged with complete part number
- Conductors per AS29606
- Consult factory for applications above 200° and available thermal endurance test reports

Table II: Duralectric D Insulation Color

Weatherproof, halogen free, flame resistant	
0	Black
1	Brown
2	Red
3	Orange
4	Yellow
5	Kelly Green
6	Blue
7	Violet
8	Gray
9	White

Consult factory for other specific colors

VOLTAGE RATING / INSULATION RESISTANCE

Wall (in.)	.016 wall	.024 wall	.032 wall	.047 wall	.062 wall	.093 wall	.125 wall
IR Test Voltage (VDC)	1000	1000	1500	1500	2000	2500	3000
Voltage Rating (VAC)	725	975	1125	1450	1750	2300	2875
DWV (VAC)	2450	2950	3250	3900	4500	5600	6750
Wire Size AWG	Insulation Resistance (Megohms / 1000 ft.)						
28	2100	N/A	N/A	N/A	N/A	N/A	N/A
26	1800	N/A	N/A	N/A	N/A	N/A	N/A
24	1500	2000	2300	N/A	N/A	N/A	N/A
22	1300	1800	2100	N/A	N/A	N/A	N/A
20	1100	1500	1800	N/A	N/A	N/A	N/A
18	1000	1300	1500	N/A	N/A	N/A	N/A
16	900	1200	1500	N/A	N/A	N/A	N/A
14	800	1100	1200	1600	N/A	N/A	N/A
12	600	900	1000	1400	N/A	N/A	N/A
10	500	700	900	1200	1400	N/A	N/A
8	400	600	700	900	1100	N/A	N/A
6	N/A	500	600	700	900	N/A	N/A
4	N/A	400	500	600	800	1000	1200
2	N/A	300	400	500	600	900	1100
1	N/A	300	400	500	600	800	1000
0	N/A	300	400	500	600	700	900
00	N/A	N/A	300	400	500	700	800
000	N/A	N/A	N/A	400	500	600	800
0000	N/A	N/A	N/A	N/A	400	600	700

TYPICAL CURRENT RANGE

Tin Copper						Nickel/Silver Copper					
AWG	Amps	AWG	Amps	AWG	Amps	AWG	Amps	AWG	Amps	AWG	Amps
28	0-1.5	20	10-20	12	30-60	28	0-1.5	18	15-30	8	55-135
26	5-9	18	15-30	10	40-75	26	5-10	16	15-35	6	75-185
24	6-12	16	15-30	8	55-115	24	6-14	14	20-50	4	105-250
22	8-15	14	20-45			22	8-18	12	30-70	2	145-345
						20	10-25	10	40-90	1	170-400

ULTRA-FLEXIBLE TurboFlex Rugged Power Cable



TurboFlex® M Copper Core, Duralectric™ D Insulation, Metallic Braided Shield, Fabric Overbraid 725-2875 VAC • 967-602

Braid Material and Color Selection Guide										
Principal Selection Criteria	General Duty / Abrasion Resistance					Economy		Temperature Tolerance	Fire Resistance	
Braid Code Material Construction	Z Monofilament FEP	P Monofilament PET, Type FR	H Monofilament Halar®	M Yarn, Nomex®	R Monofilament Ryton, Type R-7	D Yarn, Dacron®	Y Yarn, Nylon	K Monofilament PEEK	X Yarn, PTFE-Glass	V Yarn, Kevlar®
Color Code Options	C = Clear	B = Black W = White	B = Black W = White BW = Black w/ White Tracer WB = White w/ Black Tracer	B = Black R = Red OR = Orange GN = Green GY = Gray W = White TN = Desert Tan	N = Natural	B = Black	B = Black GY = Gray OD = Olive Drab	B = Black	BR = Brown N = Natural	B = Black N = Natural
Halogen-Free	NO		NO						NO	
Thickness (Ref.)	.016	.030	.028	.020	.040	.030	.030	.016	.045	.020
Temperature Range	-55°C to +200°C	-55°C to +125°C	-65°C to +150°C	-55°C to +200°C	-65°C to +180°C	-62°C to +125°C	-20° to +170°	-65°C to +260°C	-204°C to +482°C	-73°C to +160°C
Tensile Strength (PSI) Yield	3300	50,000	7000	90,000	19,000	10,000	12,400	13,000	450,000	400,000
Elongation Percentage	50%	20%	15%	25%	40%	12%	90%	38%	5%	3.6%
Chemical Resistance	Excellent	Good	Excellent	Excellent	Excellent	Good	Excellent	Excellent	Excellent	Excellent
Abrasion Resistance	Good	Good	Excellent	Good	Excellent	Fair	Excellent	Excellent	Excellent	Good
Weight / Duty (specific gravity)	Heavy (2.17)	Medium (1.38)	Medium (1.68)	Medium (1.58)	Light (1.25)	Medium (1.38)	Light (1.14)	Light (1.3)	Heavy (2.5)	Medium (1.44)
Flammability	Very Low	Flammable, Self-Extinguishing	Very Low	Will Not Melt	Very Low	Flammable	Flammable	Very Low	Will Not Burn	Will Not Melt

TURBOFLEX

TABLE V: SERVICE TEMPERATURE MATRIX (MIN/MAX IN °C) SERVICE TEMPERATURE DEPENDENT ON CONDUCTOR AND BRAID MATERIAL SELECTED				
Braid Code	Braid Material (and temperature range)	Conductor Material (and temperature range)		
		Tin Copper (-65/+150)	Silver Copper (-65/+200)	Nickel Copper (-65/+260)
D	Dacron (-62/+125)	(-65/+125)	(-65/+125)	(-65/+125)
H	Halar (-65/+150)	(-65/+150)	(-65/+150)	(-65/+150)
Y	Nylon (-20/+170)	(-20/+150)	(-20/+170)	(-20/+170)
M	Nomex (-55/+200)	(-55/+150)	(-55/+200)	(-55/+200)
P	Polyester Type FR (-55/+125)	(-55/+125)	(-55/+125)	(-55/+125)
Z	FEP Teflon (-55/+200)	(-55/+150)	(-55/+200)	(-55/+200)
R	Ryton Type R-7 (-65/+180)	(-65/+150)	(-65/+180)	(-65/+180)
K	PEEK (-65/+260)	(-65/+150)	(-65/+200)	(-65/+260)
V	Kevlar (-73/+160)	(-65/+150)	(-65/+160)	(-65/+160)
X	PTFE-Glass (-204/+482)	(-65/+150)	(-65/+200)	(-65/+260)

ULTRA-FLEXIBLE TurboFlex Rugged Power Cable



TurboFlex® M Copper Core, Duralectric™ D Insulation, Metallic Braided Shield, Fabric Overbraid 725-2875 VAC • 967-602

NCC NICKEL-COATED ANNEALED COPPER CONDUCTOR

NCC WIRE SPECIFICATIONS									
Wire Size AWG	No. Strands X AWG	Circular Mils Nom.	Ø B in. (mm)						
			.016 wall	.024 wall	.032 wall	.047 wall	.062 wall	.093 wall	.125 wall
28	7 X 36	175	.047 ±.003 (1.19 ±.08)	N/A	N/A	N/A	N/A	N/A	N/A
26	19 X 38	304	.051 ±.003 (1.30 ±.08)	N/A	N/A	N/A	N/A	N/A	N/A
24	19 X 36	475	.055 ±.003 (1.40 ±.08)	.074 ±.003 (1.88 ±.08)	.087 ±.003 (2.21 ±.08)	N/A	N/A	N/A	N/A
22	19 X 34	754	.061 ±.003 (1.55 ±.08)	.080 ±.003 (2.03 ±.08)	.093 ±.003 (2.36 ±.08)	N/A	N/A	N/A	N/A
20	19 X 32	1216	.069 ±.003 (1.75 ±.08)	.088 ±.003 (2.24 ±.08)	.101 ±.003 (2.57 ±.08)	N/A	N/A	N/A	N/A
18	19 X 30	1900	.079 ±.003 (2.01 ±.08)	.098 ±.003 (2.49 ±.08)	.111 ±.003 (2.82 ±.08)	N/A	N/A	N/A	N/A
16	19 X 29	2426	.088 ±.003 (2.24 ±.08)	.104 ±.003 (2.64 ±.08)	.119 ±.003 (3.02 ±.08)	N/A	N/A	N/A	N/A
14	19 X 27	3831	.100 ±.003 (2.54 ±.08)	.119 ±.003 (3.02 ±.08)	.131 ±.003 (3.33 ±.08)	.164 ±.003 (4.17 ±.08)	N/A	N/A	N/A
12	37 X 28	5874	.118 ±.003 (3.00 ±.08)	.138 ±.003 (3.51 ±.08)	.150 ±.003 (3.81 ±.08)	.183 ±.003 (4.65 ±.08)	N/A	N/A	N/A
10	37 X 26	9354	.143 ±.005 (3.63 ±.13)	.161 ±.005 (4.09 ±.13)	.175 ±.005 (4.44 ±.13)	.205 ±.005 (5.21 ±.13)	.235 ±.005 (5.97 ±.13)	N/A	N/A
8	133 X 29	16983	.198 ±.006 (5.03 ±.15)	.219 ±.006 (5.56 ±.15)	.230 ±.006 (5.84 ±.15)	.260 ±.006 (6.60 ±.15)	.290 ±.006 (7.37 ±.15)	N/A	N/A
6	133 X 27	26818	N/A	.268 ±.006 (6.81 ±.15)	.282 ±.006 (7.16 ±.15)	.311 ±.006 (7.90 ±.15)	.341 ±.006 (8.66 ±.15)	N/A	N/A
4	133 X 25	42615	N/A	.320 ±.006 (8.13 ±.15)	.333 ±.006 (8.46 ±.15)	.363 ±.006 (9.22 ±.15)	.393 ±.006 (9.98 ±.15)	.455 ±.006 (11.56 ±.15)	.519 ±.006 (13.18 ±.15)
2	665 X 30	66500	N/A	.394 ±.007 (10.00 ±.18)	.407 ±.007 (10.34 ±.18)	.435 ±.007 (11.05 ±.18)	.466 ±.007 (11.84 ±.18)	.528 ±.007 (13.41 ±.18)	.592 ±.007 (15.04 ±.18)
1	817 X 30	81700	N/A	.434 ±.007 (11.02 ±.18)	.457 ±.007 (11.61 ±.18)	.477 ±.007 (12.12 ±.18)	.507 ±.007 (12.88 ±.18)	.565 ±.007 (14.35 ±.18)	.632 ±.007 (16.05 ±.18)
0	1045 X 30	104500	N/A	.482 ±.007 (12.24 ±.18)	.493 ±.007 (12.52 ±.18)	.522 ±.007 (13.26 ±.18)	.552 ±.007 (14.02 ±.18)	.617 ±.007 (15.67 ±.18)	.678 ±.007 (17.22 ±.18)
00	1330 X 30	133000	N/A	N/A	.543 ±.008 (13.79 ±.20)	.573 ±.008 (14.55 ±.20)	.603 ±.008 (15.32 ±.20)	.665 ±.008 (16.89 ±.20)	.729 ±.008 (18.52 ±.20)
000	1665 X 30	166500	N/A	N/A	N/A	.638 ±.008 (16.21 ±.20)	.668 ±.008 (16.97 ±.20)	.730 ±.008 (18.54 ±.20)	.794 ±.008 (20.17 ±.20)
0000	2109 X 30	210900	N/A	N/A	N/A	N/A	.733 ±.008 (18.62 ±.20)	.795 ±.008 (20.19 ±.20)	.859 ±.008 (21.82 ±.20)

NCC WIRE RESISTANCE / CONDUCTOR DIA.

Wire Size AWG	DC Resistance @ 20°C (Ohms/1000 ft.)	Ø A nom.
28	67.9	.015 (0.38)
26	42.2	.019 (0.48)
24	25.9	.024 (0.61)
22	16.0	.030 (0.76)
20	9.77	.038 (0.97)
18	6.1	.047 (1.19)
16	4.76	.053 (1.35)
14	3.0	.067 (1.70)
12	1.98	.085 (2.16)
10	1.24	.107 (2.72)
8	0.694	.161 (4.09)
6	0.436	.209 (5.31)
4	0.275	.261 (6.63)
2	0.177	.333 (8.46)
1	0.144	.370 (9.40)
0	0.113	.413 (10.49)
00	0.089	.467 (11.86)
000	0.071	.520 (13.21)
0000	0.056	.585 (14.86)

SCA SILVER-COATED HIGH-STRENGTH COPPER ALLOY CONDUCTOR

SCA WIRE SPECIFICATIONS					
Wire Size AWG	No. Strands X AWG	Circular Mils Nom.	Ø B in. (mm)		
			.016 wall	.024 wall	.032 wall
28	7 X 36	175	.047 ±.003 (1.19 ±.08)	N/A	N/A
26	19 X 38	304	.051 ±.003 (1.30 ±.08)	N/A	N/A
24	19 X 36	475	.055 ±.003 (1.40 ±.08)	.074 ±.003 (1.88 ±.08)	.087 ±.003 (2.21 ±.08)
22	19 X 34	754	.061 ±.003 (1.55 ±.08)	.080 ±.003 (2.03 ±.08)	.093 ±.003 (2.36 ±.08)
20	19 X 32	1216	.069 ±.003 (1.75 ±.08)	.088 ±.003 (2.24 ±.08)	.101 ±.003 (2.57 ±.08)
18	19 X 30	1900	.079 ±.003 (2.01 ±.08)	.098 ±.003 (2.49 ±.08)	.111 ±.003 (2.82 ±.08)
16	19 X 29	2426	.088 ±.003 (2.24 ±.08)	.104 ±.003 (2.64 ±.08)	.119 ±.003 (3.02 ±.08)

SCA WIRE RESISTANCE / CONDUCTOR DIA.

Wire Size AWG	DC Resistance @ 20°C (Ohms/1000 ft.)	Ø A nom.
28	74.4	.015 (0.38)
26	44.8	.019 (0.48)
24	28.4	.024 (0.61)
22	17.5	.030 (0.76)
20	10.7	.038 (0.97)
18	6.43	.047 (1.19)
16	4.9	.053 (1.35)

ULTRA-FLEXIBLE TurboFlex Rugged Power Cable



TurboFlex® M Copper Core, Duralectric™ D Insulation, Metallic Braided Shield, Fabric Overbraid 725-2875 VAC • 967-602

TURBOFLEX

SCC SILVER-COATED ANNEALED COPPER CONDUCTOR

SCC WIRE SPECIFICATIONS							
Wire Size AWG	No. Strands X AWG	Circular Mills Nom.	Ø B in. (mm)				
			.016 wall	.024 wall	.032 wall	.047 wall	.062 wall
28	7 X 36	175	.047 ±.003 (1.19 ±.08)	N/A	N/A	N/A	N/A
26	19 X 38	304	.051 ±.003 (1.30 ±.08)	N/A	N/A	N/A	N/A
24	19 X 36	475	.055 ±.003 (1.40 ±.08)	.074 ±.003 (1.88 ±.08)	.087 ±.003 (2.21 ±.08)	N/A	N/A
22	19 X 34	754	.061 ±.003 (1.55 ±.08)	.080 ±.003 (2.03 ±.08)	.093 ±.003 (2.36 ±.08)	N/A	N/A
20	19 X 32	1216	.069 ±.003 (1.75 ±.08)	.088 ±.003 (2.24 ±.08)	.101 ±.003 (2.57 ±.08)	N/A	N/A
18	19 X 30	1900	.079 ±.003 (2.01 ±.08)	.098 ±.003 (2.49 ±.08)	.111 ±.003 (2.82 ±.08)	N/A	N/A
16	19 X 29	2426	.088 ±.003 (2.24 ±.08)	.104 ±.003 (2.64 ±.08)	.119 ±.003 (3.02 ±.08)	N/A	N/A
14	19 X 27	3831	.100 ±.003 (2.54 ±.08)	.119 ±.003 (3.02 ±.08)	.131 ±.003 (3.33 ±.08)	.164 ±.003 (4.17 ±.08)	N/A
12	37 X 28	5874	.118 ±.003 (3.00 ±.08)	.138 ±.003 (3.51 ±.08)	.150 ±.003 (3.81 ±.08)	.183 ±.003 (4.65 ±.08)	N/A
10	37 X 26	9354	.143 ±.005 (3.63 ±.13)	.161 ±.005 (4.09 ±.13)	.175 ±.005 (4.44 ±.13)	.205 ±.005 (5.21 ±.13)	.235 ±.005 (5.97 ±.13)
8	133 X 29	16983	.198 ±.006 (5.03 ±.15)	.219 ±.006 (5.56 ±.15)	.230 ±.006 (5.84 ±.15)	.260 ±.006 (6.60 ±.15)	.290 ±.006 (7.37 ±.15)

SCC WIRE RESISTANCE / CONDUCTOR DIA.		
Wire Size AWG	DC Resistance @ 20°C (Ohms/1000 ft.)	Ø A nom.
28	63.8	.014 (0.36)
26	38.4	.019 (0.48)
24	24.3	.024 (0.61)
22	15.1	.030 (0.76)
20	9.19	.038 (0.97)
18	5.79	.047 (1.19)
16	4.52	.053 (1.35)
14	2.88	.066 (1.68)
12	1.90	.086 (2.18)
10	1.19	.108 (2.74)
8	.658	.161 (4.09)

TCC TIN-COATED ANNEALED COPPER CONDUCTOR

TCC WIRE SPECIFICATIONS											
Wire Size AWG	No. Strands X AWG	Circular Mills Nominal	DC Resistance @ 20°C (Ohms/1000 ft.)	Ø A Noml	Ø B (Inches)						
					.0016 Wall	.0024 Wall	.0032 Wall	.0047 Wall	.0062 Wall	.0093 Wall	.0125 Wall
28	7 X 36	175	68.6 (1742.44)	0.015 (0.38)	0.047 ±.003	N/A	N/A	N/A	N/A	N/A	N/A
26	19 X 38	304	41.3 (1049.02)	0.019 (0.48)	0.051 ±.003	N/A	N/A	N/A	N/A	N/A	N/A
24	19 X 36	475	26.2 (665.48)	0.024 (0.61)	0.055 ±.003	0.074 ±.003	0.087 ±.003	N/A	N/A	N/A	N/A
22	19 X 34	754	16.2 (411.48)	0.030 (0.76)	0.061 ±.003	0.080 ±.003	0.093 ±.003	N/A	N/A	N/A	N/A
20	19 X 32	1216	9.88 (250.95)	0.038 (0.97)	0.069 ±.003	0.088 ±.003	0.101 ±.003	N/A	N/A	N/A	N/A
18	19 X 30	1900	6.23 (158.24)	0.047 (1.19)	0.079 ±.003	0.098 ±.003	0.111 ±.003	N/A	N/A	N/A	N/A
16	19 X 29	2426	4.81 (122.17)	0.053 (1.35)	0.088 ±.003	0.104 ±.003	0.119 ±.003	N/A	N/A	N/A	N/A
14	19 X 27	3831	3.06 (77.72)	0.066 (1.68)	0.100 ±.003	0.119 ±.003	0.131 ±.003	0.164 ±.003	N/A	N/A	N/A
12	37 X 28	5874	2.02 (51.31)	0.085 (2.16)	0.118 ±.003	0.138 ±.003	0.150 ±.003	0.183 ±.003	N/A	N/A	N/A
10	37 X 26	9354	1.26 (32.00)	0.107 (2.72)	0.143 ±.005	0.161 ±.005	0.175 ±.005	0.205 ±.005	0.235 ±.005	N/A	N/A
8	133 X 29	16983	0.701 (17.81)	0.161 (4.09)	0.198 ±.006	0.219 ±.006	0.230 ±.006	0.260 ±.006	0.290 ±.006	N/A	N/A
6	133 X 27	26818	0.418 (10.62)	0.209 (5.31)	N/A	0.268 ±.006	0.282 ±.006	0.311 ±.006	0.341 ±.006	N/A	N/A
4	133 X 25	42615	0.264 (6.71)	0.261 (6.63)	N/A	0.320 ±.006	0.333 ±.006	0.363 ±.006	0.393 ±.006	0.455 ±.006	0.519 ±.006
2	665 X 30	66500	0.170 (4.32)	0.333 (8.46)	N/A	0.394 ±.007	0.407 ±.007	0.435 ±.007	0.466 ±.007	0.528 ±.007	0.592 ±.007
1	817 X 30	81700	0.149 (3.78)	0.370 (9.40)	N/A	0.434 ±.007	0.457 ±.007	0.477 ±.007	0.507 ±.007	0.565 ±.007	0.632 ±.007
0	1045 X 30	104500	0.116 (2.95)	0.413 (10.49)	N/A	0.482 ±.007	0.493 ±.007	0.522 ±.007	0.552 ±.007	0.617 ±.007	0.678 ±.007
00	1330 X 30	133000	0.091 (2.31)	0.467 (11.86)	N/A	N/A	0.543 ±.008	0.573 ±.008	0.603 ±.008	0.665 ±.008	0.729 ±.008
000	1665 X 30	166500	0.071 (1.80)	0.520 (13.21)	N/A	N/A	N/A	0.638 ±.008	0.668 ±.008	0.730 ±.008	0.794 ±.008
0000	2109 X 30	210900	0.056 (1.42)	0.585 (14.86)	N/A	N/A	N/A	N/A	0.733 ±.008	0.795 ±.008	0.859 ±.008