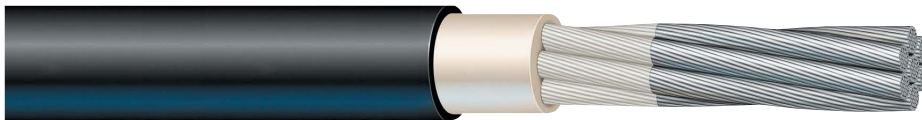


BOSTRAIL® FIRE SAFE (LSZH) Cable

single conductor / silicone rubber insulation / XLPO jacket
22 AWG to 500 KCMIL / 600 and 2000 volt



Applications

These are single conductor 600 and 2000 volt power cables designed for low-smoke environments such as tunnels and subway systems. They consist of silicone rubber insulated conductor jacketed with a tough low smoke zero halogen (LSZH) crosslinked polyolefin (XLPO) jacket. They are highly heat, oil and moisture-resistant, extremely tough yet flexible, and can sustain 125°C operating temperatures.

Ratings

- UL 1581 Flame Test
- IEEE 383 Paragraph 2.5

Construction

CONDUCTOR: The conductor is class “K” stranded in accordance with ASTM B172. The wires are soft, annealed copper with a continuous coating of tin (98.0% conductivity) in accordance with ASTM B33. The conductor resistance meets the requirements of ICEA S-95-658 (NEMA WC70).

INSULATION: Low smoke silicone rubber to comply with appropriate specifications (see chart on back). The insulation fits the conductor tightly but is “clean stripping.” An opaque polyester tape or other suitable separator is used over the conductor.

JACKET: Flame retardant, low smoke non-halogen and oil resistant crosslinked polyolefin (XLPO) jacket (see chart on back). The jacket is bonded to the EPR insulation.

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Part Number	Voltage Rating	Conductor Size	Stranding	Average Insulation/Jacket Thickness in (mm)	Bend Radius in (mm)	Ampacity* 90°C	Ampacity* 125°C	Cable O.D in (mm)	Approximate Cable Weight Lbs/Mft (Kg/Km)
F60022	600	22 AWG	7/30	.030 (.76)	0.35 (8.9)	10	12	0.095 (2.4)	7 (10)
F60020	600	20 AWG	10/30	.030 (.76)	0.40 (10.2)	13	15	0.103 (2.6)	8 (12)
F60018	600	18 AWG	16/30	.030 (.76)	0.45 (11.4)	18	22	0.113 (2.9)	10 (15)
F60016	600	16 AWG	26/30	.030 (.76)	0.50 (12.7)	24	29	0.123 (3.1)	14 (21)
F60014	600	14 AWG	41/30	.040 (1.0)	0.65 (16.5)	35	42	0.165 (4.2)	23 (34)
F60012	600	12 AWG	65/30	.040 (1.0)	0.70 (17.8)	40	48	0.177 (4.5)	32 (48)
F60010	600	10 AWG	104/30	.040 (1.0)	0.85 (21.6)	55	66	0.215 (5.4)	48 (72)
F60008	600	8 AWG	168/30	.045 (1.1)	1.10 (27.9)	80	97	0.271 (6.9)	77 (115)
F60006	600	6 AWG	266/30	.045 (1.1)	1.20 (30.5)	105	127	0.305 (7.7)	113 (168)
F60004	600	4 AWG	420/30	.045 (1.1)	1.45 (36.8)	140	169	0.360 (9.1)	168 (250)
F60002	600	2 AWG	655/30	.045 (1.1)	1.70 (43.2)	165	199	0.425 (10.8)	252 (375)
F20016	2000	16 AWG	26/30	.040 (1.0)	0.60 (15.2)	24	29	0.145 (3.7)	16 (24)
F20014	2000	14 AWG	41/30	.050 (1.3)	0.75 (19.1)	35	42	0.185 (4.7)	26 (38)
F20012	2000	12 AWG	65/30	.050 (1.3)	0.80 (20.3)	40	48	0.200 (5.1)	35 (52)
F20010	2000	10 AWG	104/30	.050 (1.3)	0.95 (24.1)	55	66	0.240 (6.1)	51 (76)
F20008	2000	8 AWG	168/30	.065 (1.7)	1.25 (31.8)	80	97	0.315 (8.0)	87 (130)
F20006	2000	6 AWG	266/30	.065 (1.7)	1.40 (35.6)	105	127	0.350 (8.9)	125 (186)
F20004	2000	4 AWG	420/30	.065 (1.7)	1.60 (40.6)	140	169	0.400 (10.2)	180 (268)
F20002	2000	2 AWG	655/30	.065 (1.7)	1.85 (47.0)	165	199	0.465 (11.8)	270 (402)
F20001	2000	1 AWG	836/30	.080 (2.0)	2.25 (57.2)	220	265	0.560 (14.2)	350 (522)
F201/0	2000	1/0 AWG	1064/30	.080 (2.0)	2.50 (63.5)	260	314	0.625 (15.9)	435 (648)
F202/0	2000	2/0 AWG	1323/30	.080 (2.0)	2.55 (64.8)	300	362	0.640 (16.3)	530 (790)
F203/0	2000	3/0 AWG	1666/30	.080 (2.0)	2.80 (71.1)	350	422	0.705 (17.9)	660 (983)
F204/0	2000	4/0 AWG	2107/30	.080 (2.0)	3.20 (81.3)	405	489	0.800 (20.3)	825 (1229)
F20250	2000	250 KCMIL	2499/30	.110 (2.8)	3.65 (92.7)	455	549	0.915 (23.2)	1017 (1515)
F20300	2000	300 KCMIL	2989/30	.110 (2.8)	4.00 (101.6)	505	610	1.000 (25.4)	1205 (1795)
F20350	2000	350 KCMIL	3485/30	.110 (2.8)	4.20 (106.7)	570	688	1.050 (26.7)	1355 (2019)
F20400	2000	400 KCMIL	3990/30	.110 (2.8)	4.45 (113.0)	615	742	1.110 (28.2)	1545 (2302)
F20450	2000	450 KCMIL	4572/30	.110 (2.8)	4.70 (119.4)	660	796	1.170 (29.7)	1740 (2593)
F20500	2000	500 KCMIL	5054/30	.140 (3.6)	5.15 (130.8)	700	845	1.290 (32.8)	2000 (2980)

*Ampacity based on ambient air temperature of 30°C in free air. The data herein is approximate and subject to normal manufacturing tolerances. Information is subject to change without notice. Consult factory for a variety of alternate constructions for specific applications.

Requirements for Silicone Insulation

Characteristics	Test Method	Guaranteed Values
Tensile Strength, PSI	ASTM D470	800 min
Elongation, %	ASTM D470	250 min
Air Oven Aging (7 days @ 200°C)		ASTM D573
Tensile Strength, %		700 min
Elongation, %		125 min
Gravimetric Water		ASTM D470
Absorption, 7 days @ 70°C, mg/in ²		15 max
Water		Absorption (EM-60) ASTM D470
Electrical Method @ 75°C		
Insulation Resistance Constant (K), Megohms-1000 ft		ICEA 95-658 4,000 min

Requirements for Insulation and Jacket

Characteristics	Test Method	Guaranteed Values
Ozone Resistance (150 ppm @ 25°C)	ASTM D470	pass
Smoke Index	NES 711	25 max
Smoke Density (100 mil slab)		ASTM E662
Flaming Mode Ds 4 Min		150
Flaming Mode Dm		250
Non-Flaming Mode Ds 4 Min		50
Non-Flaming Mode Dm		250

Requirements for XLPO Jacket

Characteristics	Test Method	Guaranteed Values
Tensile Strength, PSI	ASTM D470	1700 min
Elongation, %	ASTM D470	150 min
Air Oven Aging (7 days @ 121°C)		ASTM D573
Tensile Strength, %		90 min
Elongation, %		75 min
Air Oven Aging (7 days @ 150°C)		ASTM D573
Tensile Strength, %		90 min
Elongation, %		75 min
Gravimetric Water		ASTM D470
Absorption, 7 days @ 70°C, mg/in ²		20 max
Tear Strength, lbs/in	ASTM D624	35 min
Oxygen Index, %	ASTM D2863	35 min
Halogen Content, %	MIL-C-24643	0.2 max
Toxicity Index	NES 711	1.0 max
Acid Gas, %	MIL-C-24643	1.0 max

Requirements for Completed Cable

Characteristics	Test Method	Guaranteed Values
Cold Bend @ -40°C, 24 hrs (8x OD)		pass
IEEE 383 Flame Test		pass

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