

AirCell[®] RADIATING CABLES

Cable Specifications

50 Ohm Radiating Cable, 1/2"

Description	Product Code
Standard Cable	
1/2", Black Polyethylene Jacket	AR012J50
1/2", Black Polyethylene Jacket, Burial Flooded	AR012B50
Fire Retardant Cable	
1/2", Low-Smoke, Non-Halogenated, Fire Retardant Jacket. UL VVW1, CMX	AR012F50
Riser Rated Cable	
1/2", Low-Smoke, Non-Halogenated, Fire Retardant Jacket. UL-1666, CMR	AR012R50
Physical Dimensions	
Center Dia., in (mm)	0.188 (4.78)
Dia. Over Dielectric, in (mm)	0.470 (11.94)
Dia. Over Outer Conductor, in (mm)	0.510 (12.95)
Max. Dia. Over Jacket, in (mm)	0.652 (16.56)
Center Conductor	Copper-Clad Aluminum
Outer Conductor	Dual Slotted Solid Aluminum
Electrical Characteristics	
Maximum Frequency, GHz	11
Peak Power Rating, kW	32
DC Res., Ohms/1000 ft (1000 m)	
Center	0.46 (1.51)
Outer	0.52 (1.71)
DC Breakdown, kV	3.2
Capacitance, pF/ft (m)	22.3 (73.16)
Inductance, mH/ft (m)	0.056 (0.185)
Jacket Spark, kV RMS	8
Impedance, Ohms	50
Velocity of Propagation	91%
Mechanical Characteristics	
Minimum Bending Radius, in (mm)	6 (152)
Cable Weight, lb/ft (kg/m)	0.127 (0.189)
Bending Moment, lb/ft (N·m)	7.5 (10.2)
Tensile Strength, lb (kg)	465 (211)
Flat Plate Crush, lb/in (kg/mm)	62 (1.11)
Number of Bends	20+
Temperature °F (°C)	
Recommended Install	-40 to 170 (-40 to 77)
Recommended Storage	-94 to 170 (-70 to 77)
Operating	-40 to 170 (-40 to 77)

Attenuation and Coupling Loss			
Frequency MHz	Attenuation dB/100ft dB/100m		Coupling Loss,* dB
30	0.50	1.64	61
50	0.76	2.49	61
88	1.00	3.28	62
100	1.08	3.54	62
108	1.09	3.58	62
150	1.18	3.87	67
174	1.27	4.17	67
200	1.37	4.49	67
300	1.59	5.21	62
400	1.85	6.07	62
450	2.00	6.59	63
500	2.13	6.99	64
512	2.15	7.05	65
600	2.32	7.61	66
700	2.45	8.04	66
800	2.60	8.53	67
824	2.67	8.76	67
894	2.75	9.02	68
960	2.82	9.25	68
1000	2.89	9.51	69
1250	3.19	10.5	69
1500	3.46	11.4	71
1700	3.79	12.4	72
1800	3.92	12.9	73
1920	4.07	13.4	74
2000	4.17	13.7	76
2300	4.23	13.9	76
3000	4.64	15.2	78

*50% Coupling Loss at 6ft (2m), ± 10 dB

AirCell[®] RADIATING CABLES

Cable Specifications

50 Ohm Radiating Cable, 5/8"

Description	Product Number
Standard Cable	
5/8", Black Polyethylene Jacket	AR058J50
5/8", Black Polyethylene Jacket, Burial Flooded	AR058B50
Fire Retardant Cable	
5/8", Low-Smoke, Non-Halogenated, Fire Retardant Jacket. UL VVWI, CMX	AR058F50
Riser Rated Cable	
5/8", Low-Smoke, Non-Halogenated, Fire Retardant Jacket. UL-1666, CMR	AR058R50
Physical Dimensions	
Center Dia., in (mm)	0.283 (7.19)
Dia. Over Dielectric, in (mm)	0.712 (18.08)
Dia. Over Outer Conductor, in (mm)	0.760 (19.30)
Max. Dia. Over Jacket, in (mm)	0.902 (22.90)
Center Conductor	Copper Tube
Outer Conductor	Dual Slotted Solid Aluminum
Electrical Characteristics	
Maximum Frequency, GHz	7
Peak Power Rating, kW	65
DC Res., Ohms/1000 ft (1000 m)	
Center	0.36 (1.18)
Outer	0.31 (1.02)
DC Breakdown, kV	5.0
Capacitance, pF/ft (m)	22.3 (73.16)
Inductance, mH/ft (m)	0.056 (0.185)
Jacket Spark, kV RMS	8
Impedance, Ohms	50
Velocity of Propagation	91%
Mechanical Characteristics	
Minimum Bending Radius, in (mm)	8 (203)
Cable Weight, lb/ft (kg/m)	0.252 (0.375)
Bending Moment, lb/ft (N·m)	21.0 (28.5)
Tensile Strength, lb (kg)	920 (417)
Flat Plate Crush, lb/in (kg/mm)	140 (2.50)
Number of Bends	20+
Temperature °F (°C)	
Recommended Install	-40 to 170 (-40 to 77)
Recommended Storage	-94 to 170 (-70 to 77)
Operating	-40 to 170 (-40 to 77)

Attenuation and Coupling Loss			
Frequency MHz	Attenuation dB/100ft dB/100m		Coupling Loss,* dB
30	0.35	1.15	61
50	0.38	1.25	61
88	0.49	1.61	62
100	0.53	1.74	63
108	0.55	1.80	63
150	0.66	2.17	67
174	0.70	2.29	67
200	0.76	2.49	68
300	1.02	3.35	62
400	1.22	4.00	63
450	1.23	4.04	63
500	1.34	4.39	64
512	1.48	4.86	64
600	1.50	4.92	65
700	1.56	5.12	65
800	1.75	5.74	66
824	1.77	5.81	66
894	1.82	5.97	67
960	1.89	6.20	67
1000	1.94	6.36	68
1250	2.27	7.45	70
1500	2.45	8.04	72
1700	2.75	9.02	73
1800	2.90	9.51	74
1920	3.07	10.1	76
2000	3.22	10.6	76
2300	3.45	11.3	78
3000	3.94	12.9	81

*50% Coupling Loss at 6ft (2m), ± 10 dB

AirCell[®] RADIATING CABLES

Cable Specifications

50 Ohm Radiating Cable 7/8"

Description	Product Number
Standard Cable	
7/8", Black Polyethylene Jacket	AR078J50
7/8", Black Polyethylene Jacket, Burial Flooded	AR078B50
Fire Retardant Cable	
7/8", Low-Smoke, Non-Halogenated, Fire Retardant Jacket. UL VWI, CMX	AR078F50
Riser Rated Cable	
7/8", Low-Smoke, Non-Halogenated, Fire Retardant Jacket. UL-1666, CMR	AR078R50
Physical Dimensions	
Center Dia., in (mm)	0.383 (9.73)
Dia. Over Dielectric, in (mm)	0.961 (24.58)
Dia. Over Outer Conductor, in (mm)	1.015 (25.70)
Max. Dia. Over Jacket, in (mm)	1.154 (29.31)
Center Conductor	Solid Copper Tube
Outer Conductor	Dual Slotted Solid Aluminum
Electrical Characteristics	
Maximum Frequency, GHz	5
Peak Power Rating, kW	90
DC Res., Ohms/1000 ft (1000 m)	
Center	0.47 (1.54)
Outer	0.24 (0.78)
DC Breakdown, kV	6.7
Capacitance, pF/ft (m)	22.3 (73.16)
Inductance, mH/ft (m)	0.056 (0.184)
Typical VSWR	1.3
Jacket Spark, kV RMS	8
Impedance, Ohms	50
Velocity of Propagation	91%
Mechanical Characteristics	
Minimum Bending Radius, in (mm)	10 (254)
Cable Weight, lb/ft (kg/m)	0.299 (0.445)
Bending Moment, lb/ft (N·m)	26 (35.1)
Tensile Strength, lb (kg)	734 (333.6)
Flat Plate Crush, lb/in (kg/mm)	132 (2.36)
Number of Bends	20
Temperature °F (°C)	
Recommended Install	-40 to 170 (-40 to 77)
Recommended Storage	-94 to 170 (-70 to 77)
Operating	-40 to 170 (-40 to 77)

Attenuation and Coupling Loss			
Frequency MHz	Attenuation		Coupling loss, *dB
	dB/100ft	dB/100m	
30	0.17	0.57	66
50	0.23	0.76	66
88	0.31	1.01	66
100	0.33	1.08	67
108	0.35	1.14	67
150	0.43	1.42	67
174	0.47	1.55	67
200	0.51	1.68	67
300	0.65	2.14	67
400	0.78	2.55	67
450	0.84	2.75	68
500	0.89	2.93	68
512	0.91	2.98	68
600	1.00	3.29	68
700	1.11	3.64	69
800	1.21	3.97	69
824	1.23	4.05	69
894	1.30	4.27	70
900	1.31	4.29	70
960	1.36	4.48	70
1000	1.40	4.60	70
1250	1.63	5.34	70
1500	1.85	6.05	71
1700	2.01	6.60	71
1800	2.09	6.87	71
1920	2.19	7.19	71
2000	2.26	7.40	71
2300	2.45	8.03	72
3000	2.86	9.38	74

*50% Coupling Loss at 6ft (2m), ± 10 dB

AirCell[®] RADIATING CABLES

Cable Specifications

50 Ohm Radiating Cable 1-1/4"

Description	Product Number
Standard Cable	
1-1/4", Black Polyethylene Jacket	ARI14J50
Fire Retardant Cable	
1-1/4", Low-Smoke, Non-Halogenated, Fire Retardant Jacket. UL VWI, CMX	ARI14F50
Riser Rated Cable	
1-1/4", Low-Smoke, Non-Halogenated, Fire Retardant Jacket. UL-1666, CMR	ARI14R50
Physical Dimensions	
Center Dia., in (mm)	0.590 (14.98)
Dia. Over Dielectric, in (mm)	1.480 (37.59)
Dia. Over Outer Conductor, in (mm)	1.524 (38.71)
Max. Dia. Over Jacket, in (mm)	1.666 (42.32)
Center Conductor	Solid Copper Tube
Outer Conductor	Dual Slotted Solid Aluminum
Electrical Characteristics	
Maximum Frequency, GHz	3.4
Peak Power Rating, kW	211
DC Res., Ohms/1000 ft (1000 m)	
Center	0.30 (0.99)
Outer	0.16 (0.52)
DC Breakdown, kV	9
Capacitance, pF/ft (m)	22.3 (73.16)
Inductance, mH/ft (m)	0.056 (0.184)
Jacket Spark, kV RMS	8
Typical VSWR	1.3
Impedance, Ohms	50
Velocity of Propagation	91%
Mechanical Characteristics	
Minimum Bending Radius, in (mm)	15 (381)
Cable Weight, lb/ft (kg/m)	0.564 (0.840)
Bending Moment, lb/ft (N·m)	50 (67.5)
Tensile Strength, lb (kg)	1124 (511)
Flat Plate Crush, lb/in (kg/mm)	122 (2.18)
Number of Bends	15
Temperature °F (°C)	
Recommended Install	-40 to 170 (-40 to 77)
Recommended Storage	-94 to 170 (-70 to 77)
Operating	-40 to 170 (-40 to 77)

Attenuation and Coupling Loss			
Frequency MHz	Attenuation		Coupling loss, *dB
	dB/100ft	dB/100m	
30	0.12	0.39	65
50	0.16	0.52	65
88	0.22	0.72	65
100	0.24	0.77	65
108	0.25	0.81	65
150	0.30	0.97	65
174	0.32	1.06	66
200	0.35	1.15	66
300	0.45	1.48	66
400	0.54	1.77	66
450	0.58	1.91	67
500	0.62	2.05	67
512	0.63	2.08	67
600	0.70	2.31	67
700	0.78	2.56	68
800	0.85	2.80	68
824	0.87	2.85	68
894	0.92	3.02	69
900	0.92	3.03	69
960	0.97	3.17	69
1000	0.99	3.26	69
1250	1.11	3.56	69
1500	1.23	4.03	70
1700	1.32	4.35	70
1800	1.38	4.54	70
1920	1.44	4.72	70
2000	1.48	4.85	70
2300	1.63	5.35	70
3000	1.97	6.46	71

*50% Coupling Loss at 6ft (2m), ± 10 dB

AirCell® RADIATING CABLES

Cable Specifications

50 Ohm Radiating Cable 1-5/8"

Description	Product Number
Standard Cable	
1-5/8", Black Polyethylene Jacket	ARI158J50
Fire Retardant Cable	
1-5/8", Low-Smoke, Non-Halogenated, Fire Retardant Jacket. UL VWI, CMX	ARI158F50
Riser Rated Cable	
1-5/8", Low-Smoke, Non-Halogenated, Fire Retardant Jacket. UL VWI, CMX	ARI158R50
Physical Dimensions	
Center Dia., in (mm)	0.728 (18.49)
Dia. Over Dielectric, in (mm)	1.871 (47.52)
Dia. Over Outer Conductor, in (mm)	1.888 (47.96)
Max. Dia. Over Jacket, in (mm)	2.047 (51.99)
Center Conductor	Solid Copper Tube
Outer Conductor	Dual Slotted Solid Aluminum
Electrical Characteristics	
Maximum Frequency, GHz	3
Peak Power Rating, kW	306
DC Res., Ohms/1000 ft (1000 m)	
Center	0.20 (0.67)
Outer	0.12 (0.41)
DC Breakdown, kV	11
Capacitance, pF/ft (m)	22.3 (73.16)
Inductance, mH/ft (m)	0.056 (0.184)
Jacket Spark, kV RMS	8
Typical VSWR	1.3
Impedance, Ohms	50
Velocity of Propagation	91%
Mechanical Characteristics	
Minimum Bending Radius, in (mm)	20 (508)
Cable Weight, lb/ft (kg/m)	0.675 (1.004)
Bending Moment, lb/ft (N·m)	60.0 (81.0)
Tensile Strength, lb (kg)	1500 (680)
Flat Plate Crush, lb/in (kg/mm)	150 (2.68)
Number of Bends	6
Temperature °F (°C)	
Recommended Install	-40 to 170 (-40 to 77)
Recommended Storage	-94 to 170 (-70 to 77)
Operating	-40 to 170 (-40 to 77)

Attenuation and Coupling Loss			
Frequency MHz	Attenuation		Coupling loss, *dB
	dB/100ft	dB/100m	
30	0.12	0.40	64
50	0.19	0.62	64
88	0.22	0.72	65
100	0.24	0.80	65
108	0.25	0.82	65
150	0.30	0.98	65
174	0.32	1.05	66
200	0.36	1.17	66
300	0.44	1.44	66
400	0.51	1.75	66
450	0.56	1.82	67
500	0.59	1.93	67
512	0.63	2.08	67
600	0.68	2.23	67
700	0.73	2.40	68
800	0.73	2.40	68
824	0.74	2.44	68
894	0.79	2.59	69
900	0.80	2.62	69
960	0.82	2.69	69
1000	0.83	2.73	69
1250	1.08	3.53	69
1500	1.13	3.71	70
1700	1.21	3.97	70
1800	1.27	4.17	70
1920	1.34	4.41	70
2000	1.37	4.48	70
2300	1.53	5.03	70
3000	2.06	6.77	71

*50% Coupling Loss at 6ft (2m), ± 10 dB

AirCell[®] RADIATING CABLES

Cable Specifications

75 Ohm Radiating Cable, 1/2"

Description	Product Number
Standard Cable	
1/2", Black Polyethylene Jacket	AR012J75
1/2", Black Polyethylene Jacket, Burial Flooded	AR012B75
Fire Retardant Cable	
1/2", Low-Smoke, Non-Halogenated, Fire Retardant Jacket. UL VWI, CMX	AR012F75
Physical Dimensions	
Center Dia., in (mm)	0.123 (3.12)
Dia. Over Dielectric, in (mm)	0.470 (11.94)
Dia. Over Outer Conductor, in (mm)	0.510 (12.95)
Dia. Over Jacket, in (mm)	0.590 (14.99)
Center Conductor	Copper Clad Aluminum
Outer Conductor	Dual Slotted Solid Aluminum
Electrical Characteristics	
Maximum Frequency, GHz	12
Peak Power Rating, kW	32
DC Res., Ohms/1000 ft (1000 m)	
Center	1.09 (3.58)
Outer	0.57 (1.87)
DC Breakdown, kV	3.2
Capacitance, pF/ft (m)	14.9 (48.9)
Inductance, mH/ft (m)	0.082 (0.269)
Jacket Spark, kV RMS	8
Impedance, Ohms	75
Velocity of Propagation	91%
Mechanical Characteristics	
Minimum Bending Radius, in (mm)	6 (152)
Cable Weight, lb/1000 ft (kg/km)	103 (156)
Bending Moment, lb/ft (N·m)	7.5 (10.2)
Tensile Strength, lb (kg)	465 (211)
Flat Plate Crush, lb/in (kg/mm)	62 (1.11)
Number of Bends	20+
Temperature °F (°C)	
Recommended Install	-40 to 170 (-40 to 77)
Recommended Storage	-94 to 170 (-70 to 77)
Operating	-40 to 170 (-40 to 77)

Attenuation and Coupling Loss			
Frequency MHz	Attenuation dB/100ft	Attenuation dB/100m	Coupling Loss,* dB
30	0.45	1.47	57
50	0.58	1.90	57
88	0.77	2.52	57
100	0.83	2.72	57
108	0.86	2.82	57
150	1.02	3.35	59
174	1.10	3.61	59
200	1.18	3.87	59
300	1.46	4.79	59
400	1.70	5.58	60
450	1.80	5.91	60
500	1.91	6.27	60
512	1.93	6.33	60
600	2.10	6.89	59
700	2.28	7.48	61
800	2.45	8.04	61
824	2.48	8.14	61
894	2.58	8.46	61
960	2.68	8.79	62
1000	2.76	9.06	64
1250	3.06	10.1	64
1500	3.37	11.1	67
1700	3.57	11.7	69
1920	3.79	12.4	71
2000	3.86	12.7	71
2300	4.13	13.6	73
3000	4.70	15.4	75

*50% Coupling Loss at 6ft (2m), ± 10 dB

AirCell[®] RADIATING CABLES

Cable Specifications

75 Ohm Radiating Cable, 5/8"

Description	Product Number
Standard Cable	
5/8", Black Polyethylene Jacket	AR058J75
Fire Retardant Cable	
5/8", Low-Smoke, Non-Halogenated, Fire Retardant Jacket. UL VV1, CMX	AR058F75
Physical Dimensions	
Center Dia., in (mm)	0.185 (4.70)
Dia. Over Dielectric, in (mm)	0.712 (18.08)
Dia. Over Outer Conductor, in (mm)	0.760 (19.30)
Dia. Over Jacket, in (mm)	0.840 (21.34)
Center Conductor	Copper Clad Aluminum
Outer Conductor	Dual Slotted Solid Aluminum
Electrical Characteristics	
Maximum Frequency, GHz	8
Peak Power Rating, kW	65
DC Res., Ohms/1000 ft (1000 m)	
Center	0.46 (1.51)
Outer	0.32 (1.05)
DC Breakdown, kV	5.0
Capacitance, pF/ft (m)	14.9 (48.9)
Inductance, mH/ft (m)	.082 (.269)
Jacket Spark, kV RMS	8
Impedance, Ohms	75
Velocity of Propagation	91%
Mechanical Characteristics	
Minimum Bending Radius, in (mm)	8 (203)
Cable Weight, lb/1000 ft (kg/km)	197 (302)
Bending Moment, lb/ft (N·m)	21.0 (2.90)
Tensile Strength, lb (kg)	920 (417)
Flat Plate Crush, lb/in (kg/mm)	140 (2.50)
Number of Bends	20+
Temperature °F (°C)	
Recommended Install	-40 to 170 (-40 to 77)
Recommended Storage	-94 to 170 (-70 to 77)
Operating	-40 to 170 (-40 to 77)

Attenuation and Coupling Loss			
Frequency MHz	Attenuation		Coupling Loss,* dB
	dB/100ft	dB/100m	
30	0.32	1.05	58
50	0.41	1.35	58
88	0.54	1.79	58
88	0.54	1.79	58
100	0.59	1.94	58
108	0.61	2.00	58
150	0.72	2.36	61
174	0.77	2.53	58
200	0.83	2.72	57
300	1.02	3.45	56
400	1.18	3.87	58
450	1.26	4.13	58
500	1.33	4.36	58
512	1.34	4.41	58
600	1.46	4.79	59
700	1.58	5.18	60
800	1.69	5.54	60
824	1.71	5.61	61
894	1.78	5.84	61
960	1.85	6.07	64
1000	1.90	6.23	64
1250	2.10	6.89	64
1500	2.30	7.55	67
1700	2.47	8.10	69
1920	2.60	8.53	71
2000	2.68	8.79	71
2300	2.80	9.18	74
3000	3.20	10.5	75

*50% Coupling Loss at 6ft (2m), ± 10 dB

AirCell[®] RADIATING CABLES

Cable Specifications

75 Ohm Radiating Cable, 7/8"

Description	Product Number
Standard Cable	
7/8", Black Polyethylene Jacket	AR078J75
Fire Retardant Cable	
7/8", Low-Smoke, Non-Halogenated, Fire Retardant Jacket. UL VVW1, CMX	AR078F75
Physical Dimensions	
Center Dia., in (mm)	0.248 (6.30)
Dia. Over Dielectric, in (mm)	0.961 (24.41)
Dia. Over Outer Con., in (mm)	1.015 (25.78)
Dia. Over Jacket, in (mm)	1.095 (27.81)
Center Conductor	Copper Clad Aluminum
Outer Conductor	Dual Slotted Solid Aluminum
Electrical Characteristics	
Maximum Frequency, GHz	6
Peak Power Rating, kW	90
DC Res., Ohms/1000 ft (1000 m)	
Center	0.26 (0.85)
Outer	0.29 (0.95)
DC Breakdown, kV	6.7
Capacitance, pF/ft (m)	14.9 (48.9)
Inductance, mH/ft (m)	0.082 (0.269)
Jacket Spark, kV RMS	8
Impedance, Ohms	75
Velocity of Propagation	91%
Mechanical Characteristics	
Minimum Bending Radius, in (mm)	13 (330)
Cable Weight, lb/1000 ft (kg/km)	321 (464)
Bending Moment, lb/ft (N·m)	35.0 (4.80)
Tensile Strength, lb (kg)	1400 (635)
Flat Plate Crush, lb/in (kg/mm)	132 (2.36)
Number of Bends	20+
Temperature °F (°C)	
Recommended Install	-40 to 170 (-40 to 77)
Recommended Storage	-94 to 170 (-70 to 77)
Operating	-40 to 170 (-40 to 77)

Attenuation and Coupling Loss			
Frequency MHz	Attenuation dB/100ft dB/100m		Coupling Loss,* dB
30	0.23	0.76	61
50	0.30	0.98	61
88	0.41	1.33	62
100	0.44	1.44	63
108	0.45	1.49	63
150	0.54	1.77	64
174	0.58	1.90	65
200	0.63	2.07	65
300	0.78	2.56	63
400	0.91	2.99	63
450	0.97	3.18	63
500	1.03	3.38	63
512	1.04	3.42	63
600	1.14	3.74	63
700	1.24	4.07	65
800	1.34	4.40	65
824	1.35	4.43	64
894	1.41	4.63	64
960	1.46	4.79	64
1000	1.52	4.99	67
1250	1.69	5.54	65
1500	1.86	6.10	66
1700	1.98	6.50	67
1920	2.10	6.89	68
2000	2.14	7.02	68
2300	2.30	7.55	70
3000	2.60	8.53	70

*50% Coupling Loss at 6ft (2m), ± 10 dB