NEW PRODUCT ANNOUNCEMENT

HELIAX® Low Loss Flexible Cable

AL5-50 7/8 inch Aluminum Coaxial Cable

Andrew HELIAX® aluminum cable and Positive Stop™ connectors—a complete solution for unmatched quality and longevity in aluminum RF transmission line systems.

If you're one of the many mobile operators that has decided to specify aluminum transmission line instead of copper to reduce the capital cost of a wireless infrastructure project, there are some important facts you must consider to ensure your network provides long term, high quality service.

Although aluminum cable can provide RF performance comparable to copper cable out of the box, comparing aluminum cable to copper cable over time is a different story.

The complete Andrew solution is a systems approach, combining premium HELIAX corrugated aluminum cable with Andrew's exclusive patented Positive Stop spring-based, continuous-force connectors. Working together, the combination of Andrew HELIAX aluminum cable and Positive Stop connectors can stop costly degradation before it starts, helping deliver performance and longevity that is unmatched by any aluminum transmission line installation using smooth wall cable or generic connectors.

Factors you need to consider to protect your network include:

- Creep
- Component incompatibility
- Thermal expansion
- High bending moment

These factors are not a problem with the Andrew system.

For more information on the Andrew HELIAX aluminum cable and Positive Stop connector solution please visit our website at www.andrew.com/aluminum or call +1-708-873-2307 or toll free 1-800-255-1479.

One Company. A World of Solutions.

SPECIFICATIONS

HELIAX® Low Loss Flexible Cable AL5-50

Environmental

Storage temperature, °C (°F)	-70 to +85 (-94 to +185)
Installation temperature, °C (°F)	-40 to +60 (-40 to +140)
Operating temperature, °C (°F)	-55 to +85 (-67 to +185)

Electrical

Impedance, ohms	50 ± 1
Frequency, maximum, MHz	5000
Pulse reflection, maximum, %	0.5
Velocity, %	91
Peak power rating, kW	91
dc Resistance, inner, ohms/km (ohms/kft)	1.35 (0.41)
dc Resistance, outer, ohms/km (ohms/kft)	1.60 (0.50)
Capacitance, pF/m (pF/ft)	73.2 (22.3)
Inductance, µH/m, (µH/ft)	0.18 (0.06)
dc Breakdown, volts	6000
Jacket spark, volts rms	8000
Insulation Resistance, Mohm	100000
Phase trim, minimum, degrees/GHz	±4.54

Materials

Jacket	PE
Jacket color	Black
Outer conductor	Corrugated Al
Dielectric	Foam PE
Inner conductor	Copper tube

Mechanical

Nominal size, in	7/8
Diameter over jacket, mm (in)	28.0 (1.10)
Diameter over outer conductor, mm (in)	25.4 (1.00)
Diameter over foam dielectric, mm (in)	24.13 (0.95)
Diameter over inner conductor, mm (in)	9.45 (0.37)
Cable weight, kg/m (lb/ft)	0.39 (0.26)
Tensile strength, kg (lb)	147 (325)
Flat plate crush strength, kg/mm (lb/in)	1.10 (58)
Minimum bend radius, mm (in)	250 (10.0)
One time minimum bending radius, mm (in)	127 (5.0)
Bending moment, N·m (lb-ft)	13.5 (10)
Number of bends, minimum (typical)	15 (30)

VSWR

Frequency Band, GHz	Using ConnectorType	VSWR
0.806–0.960	A5TDF-PS	1.13
1.700–2.000		1.13

Part Numbers

Accessories		Connectors
Hoisting Grip	L5SGRIP	A5TDF-PS
SnapStak™ Hanger	SSH-78	A5TDM-PS
Plastic Hanger	L5CLICKB	A5TNF-PS
Weatherproofing	AWE-7812	A5TNM-PS
Ground Kit, 0.6 m lead	SGL5-06B2-T	
Ground Kit, 1.5 m lead	SGL5-15B4-T	
Cable Boot	204679A-15	
Automated Tool	CPT-78U	
Manual Tool	MCPT-78	

Attenuation and Average Power Ratings

Freauency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power, kW	Freauency MHz	Attenuation dB/100 m	Attenuation dB/100 ft	Average Power, kW
100	1.23	0.376	6.3	824	3.73	1.14	2.1
108	1.28	0.391	6.1	894	3.90	1.19	2.0
150	1.52	0.464	5.1	960	4.06	1.24	1.9
174	1.64	0.501	4.8	1000	4.15	1.26	1.9
200	1.77	0.538	4.4	1250	4.68	1.43	1.7
300	2.18	0.665	3.6	1500	5.18	1.58	1.5
400	2.54	0.774	3.1	1700	5.55	1.69	1.4
450	2.70	0.824	2.9	2000	6.08	1.85	1.3
500	2.86	0.871	2.7	2300	6.57	2.00	1.2
512	2.89	0.882	2.7	2700	7.19	2.19	1.1
600	3.15	0.960	2.5	3000	7.64	2.33	1.0
700	3.42	1.04	2.3	4000	9.01	2.75	0.9
800	3.67	1.12	2.1	5000	10.3	3.13	0.8

Standard Conditions: Attenuation: VSWR 1.0, ambient temperature 20°C (68°F). Average power: VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F), no solar loading.

ANDREW®

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