



Cable Specifications

Part Number	LDF4-50A		
Description	LDF4-50A, HELIAX® Low Density Foam Coaxial Cable, corrugated copper, 1/2 in, black PE jacket		
Return Loss	Frequency Band	VSWR	Return Loss (dB)
	1700–2000 MHz	1.13	24.3
	806–960 MHz	1.13	24.3
Jacket Material	PE		
Outer Conductor Material	Corrugated copper		
Dielectric Material	Foam PE		
Flexibility	Standard		
Inner Conductor Material	Copper-clad aluminum		
Jacket Color	Black		
Nominal Size	1/2 in		
Cable Weight	0.22 kg/m 0.15 lb/ft		
Diameter Over Dielectric	12.954 mm 0.510 in		
Diameter Over Jacket	16.002 mm 0.630 in		
Inner Conductor OD	4.826 mm 0.190 in		
Outer Conductor OD	13.970 mm 0.550 in		
Cable Impedance	50 ohm ± 1 ohm		
Capacitance	76 pF/m 23 pF/ft		
dc Resistance, Inner Conductor	0.450 ohms/kft 1.480 ohms/km		
dc Resistance, Outer Conductor	0.580 ohms/kft 1.903 ohms/km		
dc Test Voltage	4000 V		
Inductance	0.190 µH/m 0.058 µH/ft		
Insulation Resistance	100000 MOhm		
Jacket Spark Test Voltage (rms)	8000 V		
Operating Frequency Band	0.5 – 8800 MHz		
Peak Power	40.0 kW		
Pulse Reflection	0.50%		
Velocity	88%		
Installation Temperature	-40°C to +60°C (-40°F to +140°F)		
Operating Temperature	-55 °C to +85 °C (-67 °F to +185 °F)		
Storage Temperature	-70 °C to +85 °C (-94 °F to +185 °F)		
Bending Moment	3.8 N-m 2.8 ft lb		
Flat Plate Crush Strength	2.0 kg/mm 110.0 lb/in		
Minimum Bend Radius, Multiple Bends	127.00 mm 5.00 in		
Minimum Bend Radius, Single Bend	50.80 mm 2.00 in		
Number of Bends, minimum	15		
Number of Bends, typical	50		
Tensile Strength	113 kg 250 lb		
Standard Conditions:			
Attenuation, Ambient Temperature	20°C 68°F		
Average Power, Ambient Temperature	40°C 104°F		
Average Power, Inner Conductor Temperature	100°C 212°F		



Electrical Performance

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)	Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)	Average Power (kW)
0.5	0.149	0.045	40	800	6.456	1.968	1.18
1	0.211	0.064	36.11	824	6.56	1.999	1.16
1.5	0.259	0.079	29.46	894	6.855	2.089	1.11
2	0.299	0.091	25.5	960	7.124	2.171	1.07
10	0.672	0.205	11.35	1000	7.284	2.22	1.05
20	0.954	0.291	7.99	1250	8.226	2.507	0.93
30	1.172	0.357	6.51	1500	9.093	2.771	0.84
50	1.521	0.463	5.02	1700	9.744	2.97	0.78
88	2.031	0.619	3.76	1800	10.058	3.066	0.76
100	2.169	0.661	3.52	2000	10.666	3.251	0.72
108	2.256	0.688	3.38	2100	10.961	3.341	0.7
150	2.673	0.815	2.85	2200	11.251	3.429	0.68
174	2.887	0.88	2.64	2300	11.535	3.516	0.66
200	3.103	0.946	2.46	2500	12.09	3.685	0.63
300	3.835	1.169	1.99	2700	12.627	3.849	0.6
400	4.462	1.36	1.71	3000	13.407	4.086	0.57
450	4.749	1.447	1.61	3400	14.401	4.389	0.53
500	5.021	1.53	1.52	4000	15.815	4.82	0.48
512	5.085	1.55	1.5	5000	18.01	5.489	0.42
600	5.533	1.686	1.38	6000	20.055	6.113	0.38
700	6.009	1.831	1.27	8000	23.826	7.262	0.32
				8800	25.244	7.694	0.30

EZfit® Connector Specifications — for 1/2" Cable

Compatible with HELIAX® FXL-540 and LDF4-50A Cables



Two Cables. One Connector. It All Fits.

EZfit connectors bring a new and unique dimension to the industry, providing a single connector series designed for all 50 ohm cable applications, aluminum and copper.

- Same EZfit connector fits HELIAX® AVA copper and HELIAX FXL aluminum cables
- Smaller and lighter two-piece connector design for easy installation
- Reduced product inventory costs
- Easily aligned and self-gauging to optimize electrical performance

Connector Type	Description	Length Max mm	Width Max mm	Hex Size Front Nut mm	Hex Size Back Nut mm	Connector Weight kg (lbs)
12EZDF	7/16 DIN, Female EZfit	57.95	29.0	20	20	.07 (.15)
12EZDM	7/16 DIN, Male EZfit	55.55	34.8	20	20	.09 (.20)
12EZNF	Type N, Female EZfit	56.34	22.0	20	20	.05 (.11)
12EZNM	Type N, Male EZfit	62.74	22.5	20	20	.07 (.15)
12EZDMR	Right Angle Male, 7/16 DIN, EZfit	82.4	34.6	20	20	.17 (.37)
12EZNMR	Right Angle Male, Type N, EZfit	75.3	23.5	20	20	.13 (.29)

Electrical Parameters

Return Loss Typical, db (Frequency, Mhz) Gated

- 39, (45-1000 Mhz)
- 37, (1010-2200 Mhz)
- 33, (2210-3000 Mhz)
- 29, (3010-4000 Mhz)
- 23, (4010-8000 Mhz)

Insertion loss, typical (dB)
0.05

3rd Order IM Product, -dBm
2 +43 dBm Carriers, IM Product

-116 dBm @910 Mhz

Shielding Effectiveness (dB)
-110 dB

Mechanical Parameters

Connector Retention Tensile Force, N (lbs)
890 (200)

Inner Contact Attachment Method:
Captivated

Coupling Nut Retention Force, N (lbs)
1000 (220) 7/16 DIN Male
440 (100) Type N Male

Immersion Test Method
IEC 60529:2001, IP68
Immersion Depth 1M

Water Jetting Test Method
IEC 60529:2001, IP66

Interface Durability Test Method
IEC 169-4:9.5

Detailed specifications and outline drawings available at www.andrew.com.
Select the product resource tab and enter part number to view specifications.

EZfit® Connector Attachment Tools

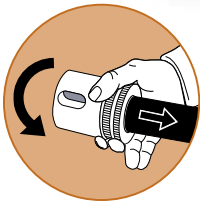


With EZfit hand prep and drill prep tools, connectorizing any HELIAX® 2.0 cable is fast, easy, and accurate.

Just five basic steps* and you have an electrically efficient (low RL), weatherproof connection you can count on; whether you're installing AVA copper or FXL aluminum.

*For complete instructions, please visit our website at www.andrew.com

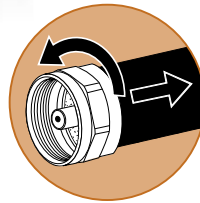
Two types of EZfit tools are available to suit the circumstances of your installation. Automatic drill driven tools provide greatest speed and efficiency while economical hand prep tools provide the versatility to prepare both FXL aluminum and AVA copper with no power needed, just your hands.



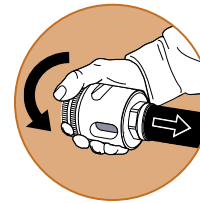
1. Core the cable



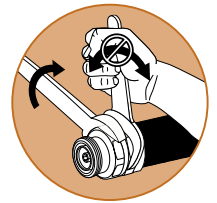
2. Expose the inner conductor



3. Fit the back nut



4. Flare the outer conductor



5. Tighten connector

Need Training?

Andrew Institute provides technicians with the top-quality, specialized training they need to optimize communications systems performance and reliability, reaping all the benefits that products such as HELIAX 2.0 provide.

- Free training at Andrew facilities
- Comprehensive, hands-on instruction with the latest Andrew products, installation methods, and theories
- Share expertise, sharpen your skills, and learn new techniques
- 3-Year Certification after completed Andrew Institute coursework
- Training courses held in US, Brazil, China, Scotland and South Africa

EZPT Series – Automatic drill driven tools

Constructed with heavy duty aluminum housings and precision steel tool bits the EZPT series provides the ultimate in speed and precision cable preparation and connector attachment. Designed to operate in two steps a drill first drives the tool rapidly through cable cutting and coring to completely dimension the cable to accept the EZfit connector.

In the second step the flaring bit is chucked in the drill to flare the cable conductor onto the connector body. Cutting tools are available for 1/2" to 1-5/8" FXL series and AVA series HELIAX cables

Cable Types	Part number	Description
LDF4-50A	L4-EZPT	Automated cable preparation tool

HPT Series – Manual hand prep tools

Designed for versatility, the manual cable preparation and connector attachment tools feature two high quality steel tool bits to prepare FXL and AVA series cables. This two sided tool is designed to rotate by hand cutting the cable jacketing and conductors on one side and then coring the foam dielectric and flaring the outer conductor onto the connector body on the other. The versatility of this tool to prepare both premier HELIAX cable types without a drill makes this a great choice for any tool box.

Cable Types	Part number	Description
LDF4-50A	12-HPT	Hand prep tool for 1/2" cables

Tools and Accessories

SnapStak™ Hanger

Increased Stack Height

New design fits AVA copper and FXL aluminum HELIAX® cables

SnapStak hangers have become the industry standard for maximizing space utilization on crowded towers and now that utility is further expanded with the next generation that provides the ability to add an additional cable run to the stack. This new capability is enabled by a support beam that is inserted into the base of each hanger giving the strength to handle an additional cable run.



SnapStak Stackable Snap-in Hangers Feature:

- Saves space on crowded towers, rooftops and other structures
- Installs 1-1/4" and 1-5/8" cables 3 high
- Installs 1/2" and 7/8" cables 4 high

Part Numbers	Description
SSH-12-4	SnapStak hanger, for 1/2" cable, with reinforcement bar, 4 stack capability. Kit of 10.

United States Patents 6,345,543 6,899,305 6,161,804 and other patents pending

Click-on Hangers

Click-on hangers have become a favorite the world over for their ability to accommodate a wide range of applications. Whether installing AVA copper or FXL aluminum HELIAX cables this rugged, composite hanger can be stacked on threaded rod hardware to install from 1 to 6 runs of coaxial cable.



A wide range of Click-on hanger kits inclusive of hardware and adapters are also available. Contact an Andrew sales representative for additional information.

Hangers are packed in kits of 10.

Cable Size	Double	Single	Description
1/2"	L4CLICK	L4SLICK	Click-on hanger for 1/2" cable

United States Patent 5,794,897

Universal SureGround™ Grounding Kits

Fast Installation, Complete Protection

New design compatible with AVA copper and FXL aluminum HELIAX cables

Protect your equipment from the effects of lightning with SureGround grounding kits. The SureGround clips in place and provides protection against lightning strikes in excess of 100 kA. The grounding kits are constructed with a tin plated solid copper clip that ensures a low resistance, corrosion resistant connection to HELIAX AVA and HELIAX FXL cables.



SureGround kits come complete with a butyl tape weatherproofing system and stainless steel attachment hardware.

- Fast clip-on installation
- Protection in excess of 100 kA

Cable Size	Part number	Description
1/2"	SG12-06B2A	SureGround™ Grounding Kit for 1/2" coax, 0.6 M (2 ft lead), attached lug
	SG12-12B2U	SureGround™ Grounding Kit for 1/2" coax, 1.2M (4 ft lead), unattached lug

United States Patent 5,550,056 and other patents pending

WeatherShield™ Connection Protection Enclosures.

Install WeatherShield to provide an additional measure of protection to cable connections. This robust, one-piece shell encapsulates connections keeping them in new condition; isolated from water, ice, dirt and vibration.

The reusable enclosure utilizes an innovative trifold seal that provides complete environmental isolation for installed connections. WeatherShield takes just seconds to install (or remove) saving tremendous amounts of time in commissioning and maintaining complex cabling systems.



WeatherShield Features:

- Reusable one piece design
- Fits over connected interfaces
- IP 68 rating against moisture ingress

Cable Size	Part Number	Description
1/2"	AWE-A12	WeatherShield enclosure for 1/2" cables to antennas/devices

United States Patent 6,955,558

New SnapSeal™ Cable Entry Cushion

The SnapSeal entry cushion provides a quick and easy method of sealing cables into a standard 4 inch entry port system. Its two piece design compresses around the cable and snaps into the entry port providing a water tight cable entry. A unique membrane plug configuration allows installation of one to six cables (depending on size) by removing the corresponding number of plugs.



SnapSeal Features:

- Weatherproof cable entry
- Accepts multiple cables
- Fast, easy installation

Cable Size	Part Number	Description
1/2"	SEC-412	Snap-In Cable Boot, 1/2" Coax, 0 to 4 Run