


HELIAX®

2.0



Your Network Has Evolved.
So Has Our Cable.


Join the Evolution


A CommScope Company

Contents

Introduction – HELIAX 2.0	3
HELIAX 2.0 Copper	7
• LDF4-50A (1/2")	8
• AVA5-50 (7/8")	12
• AVA6-50 (1-1/4")	16
• AVA7-50 (1-5/8")	20
HELIAX 2.0 Aluminium	24
• FXL-540 (1/2")	25
• FXL-780 (7/8")	29
• FXL-1480 (1-1/4")	33
• FXL-1873 (1-5/8")	37
Tool and Connector Matrix	41
Contact Us	43

HELIAX® 2.0

Who Says You Can't Have It All?

In today's wireless industry, there is no single solution.

Every day, the business climate grows more competitive. Competition breeds innovation — innovation creates tough decisions. Do you opt to maintain the familiarity of the past or embrace what promises to be the future?

When it comes to RF transmission line cable only one company gives you both.

Introducing HELIAX 2.0 from Andrew, the only complete family of RF transmission line cable that offers copper and aluminum technologies, plus a single series of connectors and accessories that brings it all together.

Peace of mind, profitability, and performance. With HELIAX 2.0, you can have it all.



HELIAX® 2.0 Two Cables. One Connector.

For many operators HELIAX AVA is stability. Its reputation for reliability and performance, built by global leaders such as Andrew, spans more than 70 years. For other operators, aluminum is the future. Developed by CommScope, HELIAX FXL offers a light weight, cost-saving design that delivers attenuation equal to the highest industry standards. Both technologies offer unique advantages.

Only HELIAX 2.0 lets you deploy the technology that is right for your specific network or site. It is a complete family of 50 ohm transmission line cables featuring HELIAX AVA copper and HELIAX FXL aluminum, the leading products in their respective classes. A single series of innovative connectors and tools brings it all together into one cost-effective, easy-to-use solution. Available in a full range of cable sizes, HELIAX 2.0 provides unprecedented flexibility, reduced deployment costs, and dramatic savings. Exclusively from Andrew.



HELIAX AVA Copper

For years, HELIAX AVA copper cable has set the standard for RF transmission line systems. Engineered to consistently deliver the lowest attenuation, maximum flexibility, and proven reliability, it is the copper cable of choice used in tens of thousands of sites around the world. It is uniquely designed for the toughest installations requiring tight or repeated bends.

HELIAX FXL Aluminum

Introduced by CommScope in 2001, HELIAX FXL is quickly becoming the preferred solution for operators looking to maximize cost-savings and minimize tower loading, without compromising electrical performance. After more than a decade in the field, under some of the most extreme circumstances, HELIAX FXL is a proven performer. Compared to competitors' copper cables, FXL delivers lower attenuation, higher crush strength, and reduced weight. The lower and more stable raw material cost of aluminum translates into savings for any network.

More Solutions for More Applications *An Industry First!*

- Full family of aluminum and copper 50 ohm transmission line cable
- Opportunity to optimize cable solutions based on application
- More flexible cable for crowded co-located sites and in-building runs
- Lower loss, less expensive cable sizes to meet performance targets
- Alternative solutions to rising copper prices
- True global resources for improved technology
- Largest production capacity and distribution channel network

How to Choose

Both HELIAX copper and HELIAX aluminum are available in a complete range of sizes, 1/2", 7/8", 1-1/4", and 1-5/8". Both are available in main line and jumper cable types. The result is a single solution for all your wireless transmission line cable needs.

So the only decision you need to make is whether to go with the industry's best-selling copper or best-performing aluminum solution for your unique application.

It All Fits.

EZfit® Connectors and Tools *Bringing it all together*

Whichever cable you choose, HELIAX® 2.0 solutions make connectorization simple with EZfit® connectors and tools. A technology breakthrough from the industry's leading aluminum and copper engineering teams, EZfit connectors fit both cable types. The new EZfit Series tools streamline and ensure the installation process for contractors and network operators. The result? Faster, more accurate installations and minimized maintenance requirements.

EZfit Connectors

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.

EZfit technology allows customers to choose the best cable solution to meet their application needs, without the administrative and material cost of having to stock two separate connectors.

This smaller and lighter two-piece connector design helps to minimize user error. Each connector is easily aligned, self-gauging, and self-feeding to optimize electrical performance.

EZfit Benefits:

- One connector fits both aluminum and copper cable
- HELIAX FXL and HELIAX AVA product compatibility
- Fewer products to inventory
- Quick installs on both cable types
- Consistent installation practices
- Weatherproof designs for both cable technologies



EZfit Tools

EZfit installation tools were co-designed with EZfit connectors to provide an integrated approach for better connectorization. These easy-to-use tools allow installers, contractors, and network operators to quickly and accurately core and prep cables. By precisely controlling cutting and coring, EZfit tools help ensure that every connection, regardless of the technician, is exact and consistent from cable to cable.

Choose from either drill driven tools for the greatest efficiency or economical hand prep tools to match the circumstances of your installation.



1/2" LDF4-50A / FXL-540

540EZDF*
540EZDM*
540EZN*
540EZN*
12EZDMR
12EZNM

(*Only compatible with FXL-540 cable)

7/8" AVA5-50 / FXL-780

78EZDF
78EZDM
78EZN*
78EZN

1-1/4" AVA6-50 / FXL-1480

114EZDF
114EZDM
114EZN*
114EZN

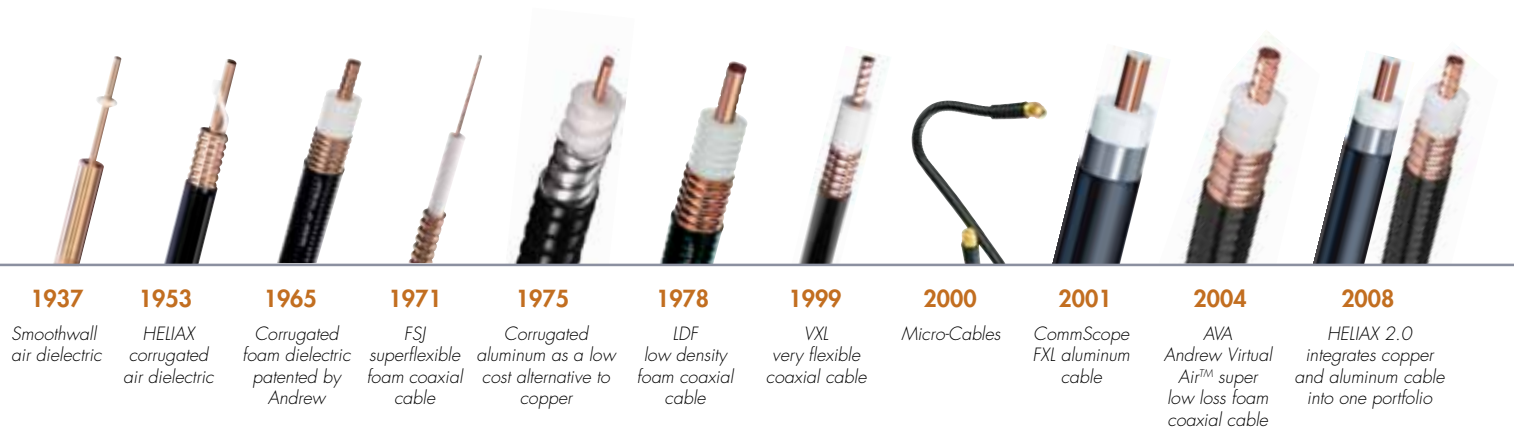
1-5/8" AVA7-50 / FXL-1873

158EZDF
158EZDM
158EZN*
158EZN

Backed by the global resources of Andrew, HELIAX® 2.0 delivers peace-of-mind, profitability, and the performance you need.

Sustained Technology Leadership

50 Ohm Transmission Line Cable



As a CommScope Company, Andrew continues a 70-year history of providing innovative solutions for wireless operators. Our RF system products serve traditional wireless networks, 3G and 4G technologies, voice/data/video services, and specialized applications for microwave communications systems. Together, CommScope and Andrew offer the resources and support of a \$4 billion global communications leader.

With manufacturing plants and distribution facilities across the Americas, Asia-Pacific, Europe, and Africa, we are the world's largest producer of copper and aluminum cable for wireless transmission line applications. No matter where you are, our global presence, our talents, technical expertise, and support are always nearby.

Each year, thousands of installers and engineers take part in the Andrew Institute. These intensive training courses, held in the US, Brazil, China, Scotland, and South Africa, ensure our customers are reaping all the technical benefits that products such as

HELIAX 2.0 provide. Thousands more receive customized training at their own facility through our on-demand training services that focus on everything from connector attachment to the fundamentals of VSWR. For those customers who can not participate in training, our technical support and field assistance is just a phone call away.

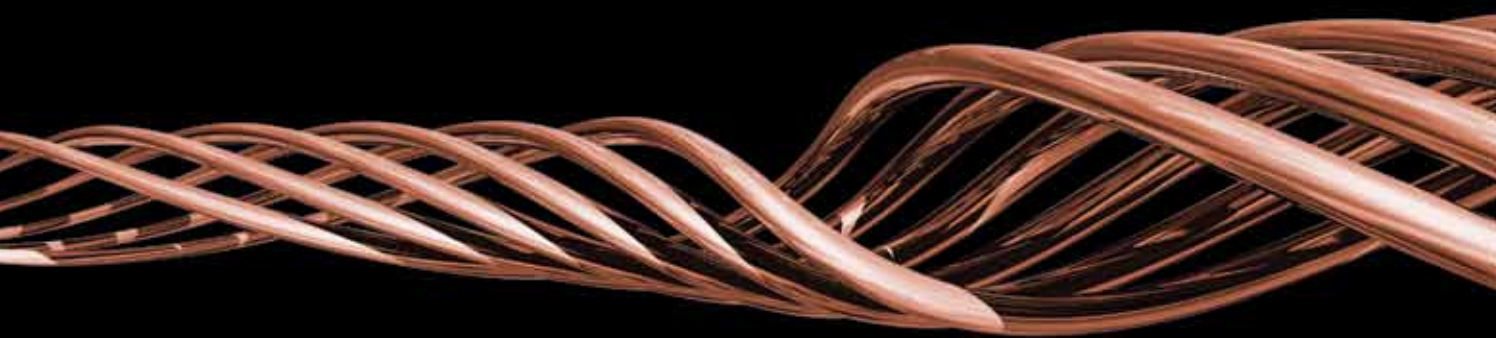
Because There Is No Room For Compromise

The HELIAX brand represents a legacy of innovation upon which today's technology is built. That is important because, in today's wireless market, there simply is no margin for error. The best solution gives you the freedom to choose. When it comes to RF transmission line cable, only one family of products ensures you have what you need to satisfy your specific network requirements.

HELIAX 2.0. Two cables. One connector. It all fits.

HELIAX[®] 2.0

c o p p e r



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	Copperclad aluminum wire		
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	15.875 mm 0.625 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	1.480 ohms/km 0.450 ohms/kft		
dc Resistance, Outer Conductor	1.903 ohms/km 0.580 ohms/kft		
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	1 – 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	824	6.56	1.999	1.16
1	0.211	0.064	36.11	894	6.855	2.089	1.11
1.5	0.259	0.079	29.46	960	7.124	2.171	1.07
2	0.299	0.091	25.5	1000	7.284	2.22	1.05
10	0.672	0.205	11.35	1250	8.226	2.507	0.93
20	0.954	0.291	7.99	1500	9.093	2.771	0.84
30	1.172	0.357	6.51	1700	9.744	2.97	0.78
50	1.521	0.463	5.02	1800	10.058	3.066	0.76
88	2.031	0.619	3.76	2000	10.666	3.251	0.72
100	2.169	0.661	3.52	2100	10.961	3.341	0.7
108	2.256	0.688	3.38	2200	11.251	3.429	0.68
150	2.673	0.815	2.85	2300	11.535	3.516	0.66
174	2.887	0.88	2.64	2500	12.09	3.685	0.63
200	3.103	0.946	2.46	2700	12.627	3.849	0.6
300	3.835	1.169	1.99	3000	13.407	4.086	0.57
400	4.462	1.36	1.71	3400	14.401	4.389	0.53
450	4.749	1.447	1.61	3700	15.118	4.608	0.5
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
800	6.456	1.968	1.18	8800	25.244	7.694	0.3

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)
12EZDMR	Right Angle Male, 7/16 DIN, EZfit	63.3	34.6	20	20	.16 (.35)
12EZNMR	Right Angle Male, Type N, EZfit	56.3	23.5	20	20	.12 (.27)

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.commscope.com/andrew.
 Select the product resource tab and enter part number to view specifications.

EZfit® Connector Attachment Tools

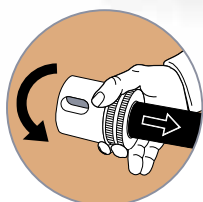


With EZfit hand prep tools, connectorizing any HELIAX® 2.0 cable is fast, easy, and accurate.

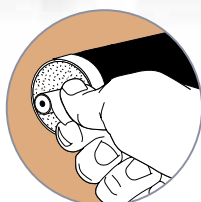
Just five basic steps* and you have an electrically efficient (low RL), weatherproof connection you can count on; whether you're installing AVA copper or FXL aluminum.

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

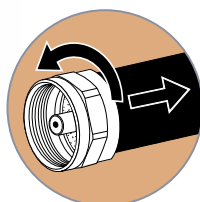
EZfit hand prep tools are economical and provide the versatility to prepare both FXL aluminum and AVA copper with no power needed, just your hands. (For complete tool listing, see Tool and Connector Matrix pg. 42)



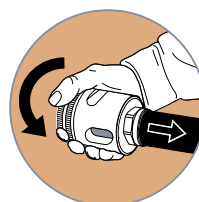
1. Core the cable



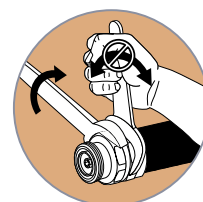
2. Expose the inner conductor



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

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
IDF4-50A	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	L4SCCLICK	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"	AVE-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

Cable Specifications

Part Number	AVA5-50		
Description	AVA5-50, HELIAX® Andrew Virtual Air™ Coaxial Cable, corrugated copper, 7/8 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 tube		
Jacket Color	Black		
Nominal Size	7/8 in		
Cable Weight	0.45 kg/m 0.30 lb/ft		
Diameter Over Dielectric	24.130 mm 0.950 in		
Diameter Over Jacket	27.991 mm 1.102 in		
Inner Conductor OD	9.449 mm 0.372 in		
Outer Conductor OD	25.400 mm 1.000 in		
Cable Impedance	50 ohm ± 1 ohm		
Capacitance	73 pF/m 22 pF/ft		
dc Resistance, Inner Conductor	1.435 ohms/km 0.410 ohms/kft		
dc Resistance, Outer Conductor	1.116 ohms/km 0.340 ohms/kft		
dc Test Voltage	6000 V		
Inductance	0.184 µH/m 0.056 µH/ft		
Insulation Resistance	100000 MOhm		
Jacket Spark Test Voltage (rms)	8000 V		
Operating Frequency Band	1 – 5000 MHz		
Peak Power	91.0 kW		
Pulse Reflection	0.50%		
Velocity	91%		
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	19.0 N·m 14.0 ft lb		
Flat Plate Crush Strength	1.3 kg/mm 75.0 lb/in		
Minimum Bend Radius, Multiple Bends	254.00 mm 10.00 in		
Minimum Bend Radius, Single Bend	127.00 mm 5.00 in		
Number of Bends, minimum	15		
Number of Bends, typical	30		
Tensile Strength	159 kg 350 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	0.076	0.023	91	700	3.093	0.943	2.72
1	0.108	0.033	77.97	800	3.325	1.014	2.53
1.5	0.132	0.04	63.61	824	3.379	1.03	2.49
2	0.153	0.046	55.06	894	3.533	1.077	2.38
10	0.343	0.105	24.48	960	3.673	1.119	2.29
20	0.487	0.149	17.23	1000	3.756	1.145	2.24
30	0.599	0.183	14.02	1250	4.247	1.294	1.98
50	0.777	0.237	10.81	1500	4.7	1.432	1.79
88	1.039	0.317	8.08	1700	5.04	1.536	1.67
100	1.11	0.338	7.57	1800	5.205	1.586	1.61
108	1.155	0.352	7.27	2000	5.523	1.683	1.52
150	1.369	0.417	6.14	2100	5.678	1.731	1.48
174	1.479	0.451	5.68	2200	5.83	1.777	1.44
200	1.591	0.485	5.28	2300	5.979	1.822	1.4
300	1.968	0.6	4.27	2500	6.27	1.911	1.34
400	2.292	0.698	3.67	2700	6.553	1.997	1.28
450	2.44	0.744	3.44	3000	6.963	2.122	1.21
500	2.581	0.787	3.25	3400	7.487	2.282	1.12
512	2.614	0.797	3.21	3700	7.866	2.397	1.07
600	2.846	0.868	2.95	4000	8.234	2.51	1.02
				5000	9.396	2.864	0.89

EZfit® Connector Specifications — for 7/8" Cable

Compatible with HELIAX® FXL-780 and AVA5-50 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)
78EZDF	7/16 DIN, Female EZfit	48	37.1	32	32	.14 (.31)
78EZDM	7/16 DIN, Male EZfit	53.3	37.2	32	32	.17 (.37)
78EZNF	Type N, Female EZfit	78.74	37.2	32	32	.28 (.61)
78EZNM	Type N, Male EZfit	58	37.1	32	32	.14 (.31)

Electrical Parameters

Return Loss Typical, db (Frequency, Mhz) Gated

-38, (45-1000 Mhz)

-33, (1010-2200 Mhz)

-30, (2210-3000 Mhz)

-28, (3010-4000 Mhz)

-24, (4010-5000 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)
1334 (300)

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.commscope.com/andrew.
Select the product resource tab and enter part number to view specifications.

EZfit® Connector Attachment Tools

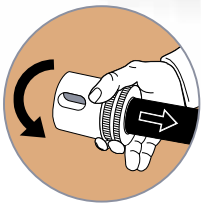


With EZfit hand prep and drill prep tools, connectorizing any HELIAX® 2.0 cable is fast, easy, and accurate.

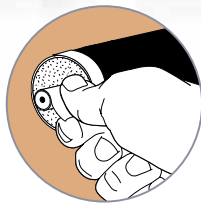
Just five basic steps* and you have an electrically efficient (low RL), weatherproof connection you can count on; whether you're installing AVA copper or FXL aluminum.

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

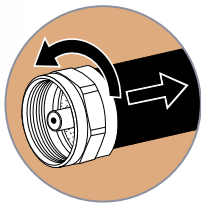
Two types of EZfit tools are available to suit the circumstances of your installation. Automatic drill driven tools provide greatest speed and efficiency while economical hand prep tools provide the versatility to prepare both FXL aluminum and AVA copper with no power needed, just your hands. (For complete tool listing, see Tool and Connector Matrix pg. 42)



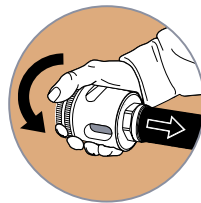
1. Core the cable



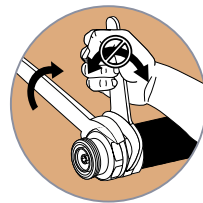
2. Expose the inner conductor



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
AVA5-50	A5-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
AVA5-50	78-HPT	Hand prep tool for 7/8" 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-78-4	SnapStak hanger, for 7/8" 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
7/8"	L5CLICKB	L5SCCLICKB	Click-on hanger for 7/8" 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
7/8"	SG78-06B2A	SureGround™ Grounding Kit for 7/8" coax, 0.6 M (2 ft lead), attached lug
	SG78-12B2U	SureGround™ Grounding Kit for 7/8" 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 reuseable 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
7/8"	AWE-7812	WeatherShield enclosure for 7/8" to 1/2" cables

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
7/8"	SEC-378	Snap-In Cable Boot, 7/8" Coax, 0 to 3 Run

Cable Specifications

Part Number	AVA6-50		
Description	AVA6-50, HELIAX® Andrew Virtual Air™ Premium Coaxial Cable, corrugated copper, 1-1/4 in, black PE jacket		
Return Loss	Frequency Band	VSWR	Return Loss (dB)
	1700–2170 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	Corrugated copper tube		
Jacket Color	Black		
Nominal Size	1-1/4 in		
Cable Weight	0.68 kg/m 0.46 lb/ft		
Diameter Over Dielectric	34.036 mm 1.340 in		
Diameter Over Jacket	39.624 mm 1.560 in		
Inner Conductor OD	14.021 mm 0.552 in		
Outer Conductor OD	36.068 mm 1.420 in		
Cable Impedance	50 ohm ± 1 ohm		
Capacitance	72 pF/m 22 pF/ft		
dc Resistance, Inner Conductor	1.740 ohms/km 0.530 ohms/kft		
dc Resistance, Outer Conductor	0.750 ohms/km 0.230 ohms/kft		
dc Test Voltage	8500 V		
Inductance	0.187 µH/m 0.057 µH/ft		
Insulation Resistance	100000 MOhm		
Jacket Spark Test Voltage (rms)	10000 V		
Operating Frequency Band	1 – 3700 MHz		
Peak Power	180.0 kW		
Pulse Reflection	0.50%		
Velocity	92%		
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	29.8 N·m 22.0 ft lb		
Flat Plate Crush Strength	1.3 kg/m 75 lb/in		
Minimum Bend Radius, Multiple Bends	203.20 mm 8.00 in		
Minimum Bend Radius, Single Bend	152.40 mm 6.00 in		
Number of Bends, minimum	15		
Number of Bends, typical	40		
Tensile Strength	154 kg 340 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	0.056	0.017	117.01	700	2.329	0.71	2.82
1	0.079	0.024	82.63	800	2.507	0.764	2.62
1.5	0.097	0.03	67.41	824	2.548	0.777	2.58
2	0.113	0.034	58.33	894	2.666	0.813	2.46
10	0.253	0.077	25.89	960	2.774	0.846	2.37
20	0.36	0.11	18.21	1000	2.838	0.865	2.31
30	0.443	0.135	14.8	1250	3.218	0.981	2.04
50	0.576	0.176	11.39	1500	3.569	1.088	1.84
88	0.772	0.235	8.51	1700	3.835	1.169	1.71
100	0.825	0.251	7.96	1800	3.963	1.208	1.66
108	0.858	0.262	7.65	2000	4.212	1.284	1.56
150	1.019	0.311	6.44	2100	4.333	1.321	1.51
174	1.102	0.336	5.96	2200	4.452	1.357	1.47
200	1.186	0.361	5.53	2300	4.569	1.393	1.44
300	1.471	0.448	4.46	2500	4.798	1.463	1.37
400	1.717	0.523	3.82	2700	5.021	1.53	1.31
450	1.829	0.558	3.59	3000	5.345	1.629	1.23
500	1.937	0.59	3.39	3400	5.76	1.755	1.14
512	1.962	0.598	3.34	3700	6.06	1.847	1.08
600	2.14	0.652	3.07				

EZfit® Connector Specifications — for 1-1/4" Cable

Compatible with HELIAX® FXL-1480 and AVA6-50 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)
114EZDF	7/16 DIN, Female EZfit	61.5	49	44.5	44.5	.28 (.62)
114EZDM	7/16 DIN, Male EZfit	67.9	49	44.5	44.5	.32 (.70)
114EZNF	Type N, Female EZfit	65.8	49	44.5	44.5	.28 (.63)
114EZNM	Type N, Male EZfit	72	49	44.5	44.5	.30 (.66)

Electrical Parameters

Return Loss Typical, db (Frequency, Mhz) Gated
39, (45-1000 Mhz)
37, (1010-2200 Mhz)
33, (2210-3000 Mhz)
29, (3010-3300 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.commscope.com/andrew.
Select the product resource tab and enter part number to view specifications.

New

AVA6-50 (1-1/4")

EZfit® Connector Attachment Tools

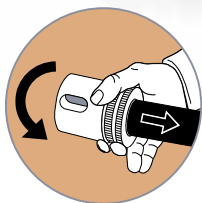


With EZfit drill prep tools, connectorizing any HELIAX® 2.0 cable is fast, easy, and accurate.

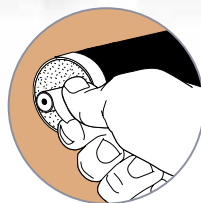
Just five basic steps* and you have an electrically efficient (low RL), weatherproof connection you can count on; whether you're installing AVA copper or FXL aluminum.

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

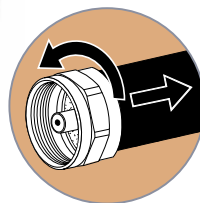
EZfit automatic drill driven tools provide the greatest speed and efficiency. Separate styles available to prepare FXL aluminum and AVA copper. (For complete tool listing, see Tool and Connector Matrix pg. 42)



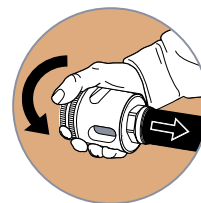
1. Core the cable



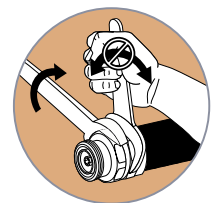
2. Expose the inner conductor



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
AVA6-50	A6-EZPT	Automated cable preparation tool

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-114-3	SnapStak hanger, for 1-1/4" cable, with reinforcement bar, 3 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
1-1/4"	L6CLICK	L6SLCLICK	Click-on hanger for 1-1/4" 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 kW

Cable Size	Part number	Description
1-1/4"	SG114-06B2A	SureGround™ Grounding Kit for 1-1/4" coax, 0.6 M (2 ft lead), attached lug
	SG114-12B2U	SureGround™ Grounding Kit for 1-1/4" 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
1-1/4"	AWE-11412	WeatherShield enclosure for 1-1/4" to 1/2" cables

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
1-1/4"	SEC-1114	Snap-In Cable Boot, 1-1/4" Coax, 1 Run

Cable Specifications

Part Number	AVA7-50		
Description	AVA7-50, HELIAX® Andrew Virtual Air™ Coaxial Cable, corrugated copper, 1-5/8 in, black PE		
Return Loss	Frequency Band	VSWR	Return Loss (dB)
	1700–2170 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	Corrugated copper tube		
Jacket Color	Black		
Nominal Size	1-5/8 in		
Cable Weight	1.0 kg/m 0.70 lb/ft		
Diameter Over Dielectric	44.450 mm 1.750 in		
Diameter Over Jacket	51.054 mm 2.010 in		
Inner Conductor OD	18.161 mm 0.715 in		
Outer Conductor OD	46.355 mm 1.825 in		
Cable Impedance	50 ohm ± 1 ohm		
Capacitance	72 pF/m 22 pF/ft		
dc Resistance, Inner Conductor	1.435 ohms/km 0.410 ohms/kft		
dc Resistance, Outer Conductor	0.525 ohms/km 0.160 ohms/kft		
dc Test Voltage	15000 V		
Inductance	0.187 µH/m 0.057 µH/ft		
Insulation Resistance	100000 MOhm		
Jacket Spark Test Voltage (rms)	10000 V		
Operating Frequency Band	1 – 2700 MHz		
Peak Power	302.0 kW		
Pulse Reflection	0.50%		
Velocity	92%		
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	47.5 N-m 35.0 ft lb		
Flat Plate Crush Strength	1.6 kg/mm 90.0 lb/in		
Minimum Bend Radius, Multiple Bends	381.00 mm 15.00 in		
Minimum Bend Radius, Single Bend	203.20 mm 8.00 in		
Number of Bends, minimum	15		
Number of Bends, typical	50		
Tensile Strength	181 kg 400 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	0.044	0.013	166.49	600	1.689	0.515	4.3
1	0.062	0.019	117.56	700	1.84	0.561	3.95
1.5	0.076	0.023	95.88	800	1.982	0.604	3.66
2	0.088	0.027	82.96	824	2.016	0.614	3.6
10	0.197	0.06	36.78	894	2.11	0.643	3.44
20	0.281	0.086	25.84	960	2.197	0.67	3.3
30	0.346	0.105	21	1000	2.249	0.685	3.23
50	0.45	0.137	16.14	1250	2.554	0.779	2.84
88	0.603	0.184	12.03	1500	2.838	0.865	2.56
100	0.645	0.197	11.26	1700	3.053	0.93	2.38
108	0.672	0.205	10.81	1800	3.157	0.962	2.3
150	0.798	0.243	9.09	2000	3.359	1.024	2.16
174	0.864	0.263	8.41	2100	3.457	1.054	2.1
200	0.93	0.284	7.81	2200	3.554	1.083	2.04
300	1.156	0.352	6.28	2300	3.649	1.112	1.99
400	1.351	0.412	5.37	2500	3.836	1.169	1.89
450	1.441	0.439	5.04	2700	4.017	1.224	1.81
500	1.527	0.465	4.76				
512	1.547	0.471	4.69				

EZfit® Connector Specifications — for 1-5/8" Cable

Compatible with HELIAX® FXL-1873-PE and AVA7-50 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)
158EZDF	7/16 DIN, Female EZfit	65.4	63	60	60	.53 (1.18)
158EZDM	7/16 DIN, Male EZfit	71.7	63	60	60	.56 (1.24)
158EZNF	Type N, Female EZfit	70	63	60	60	.53 (1.18)
158EZNM	Type N, Male EZfit	76.1	63	60	60	.55 (1.20)

Electrical Parameters

Return Loss Typical, db (Frequency, Mhz) Gated
39, (45-1000 Mhz)
37, (1010-2200 Mhz)
35, (2210-2700 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)
2225 (500)
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.commscope.com/andrew.
Select the product resource tab and enter part number to view specifications.

EZfit® Connector Attachment Tools

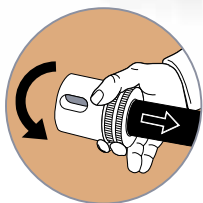


With EZfit drill prep tools, connectorizing any HELIAX® 2.0 cable is fast, easy, and accurate.

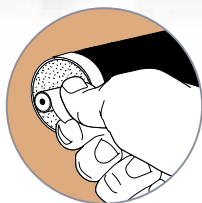
Just five basic steps* and you have an electrically efficient (low RL), weatherproof connection you can count on; whether you're installing AVA copper or FXL aluminum.

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

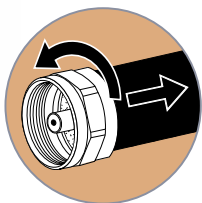
EZfit automatic drill driven tools provide the greatest speed and efficiency. Separate styles available to prepare FXL aluminum and AVA copper. (For complete tool listing, see Tool and Connector Matrix pg. 42)



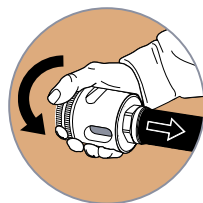
1. Core the cable



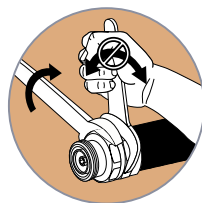
2. Expose the inner conductor



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
AVA7-50	A7-EZPT	Automated cable preparation tool

AVA7-50 (1-5/8")

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-158-3	SnapStak hanger, for 1-5/8" cable, with reinforcement bar, 3 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
1-5/8"	L7CLICK	L7SCCLICK	Click-on hanger for 1-5/8" 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
1-5/8"	SG158-06B2A	SureGround™ Grounding Kit for 1-5/8" coax, 0.6 M (2 ft lead), attached lug
	SG158-12B2U	SureGround™ Grounding Kit for 1-5/8" 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
1-5/8"	AVE-15812	WeatherShield enclosure for 1-5/8" to 1/2" cables

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
1-5/8"	SEC-1158	Snap-In Cable Boot, 1-5/8" Coax, 1 Run

HELIAX[®] 2.0
a l u m i n u m



Cable Specifications



Part Number	FXL-540	
Description	FXL-540, HELIAX® Flexible Coaxial Cable, smoothwall aluminum, 1/2 in, black PE jacket	
Return Loss	Frequency Band 800–2500 MHz	Return Loss (dB) 26.4
Jacket Material	PE	
Outer Conductor Material	Smoothwall aluminum	
Dielectric Material	Foam PE	
Flexibility	Standard	
Inner Conductor Material	Copperclad aluminum wire	
Jacket Color	Black	
Nominal Size	1/2 in	
Cable Weight	0.17 kg/m 0.12 lb/ft	
Diameter Over Jacket	15.494 mm 0.610 in	
Inner Conductor OD	5.110 mm 0.201 in	
Outer Conductor OD	13.700 mm 0.540 in	
Cable Impedance	50 ohm ± 1 ohm	
Capacitance	76 pF/m 23 pF/ft	
dc Resistance, Inner Conductor	1.380 ohms/km 0.420 ohms/kft	
dc Resistance, Outer Conductor	2.070 ohms/km 0.630 ohms/kft	
dc Test Voltage	2500 V	
Inductance	0.190 µH/m 0.058 µH/ft	
Jacket Spark Test Voltage (rms)	5000 V	
Operating Frequency Band	100 – 8800 MHz	
Peak Power	41.8 kW	
Velocity	88%	
Installation Temperature	-40°C to +60°C (-40°F to +140°F)	
Operating Temperature	-50°C to +70°C (-58°F to +158°F)	
Storage Temperature	-55°C to +80°C (-67°F to +167°F)	
Bending Moment	8.8 N·m 6.5 ft lb	
Flat Plate Crush Strength	1.7 kg/mm 90.0 lb/in	
Minimum Bend Radius, Single Bend	50.80mm 2.00 in	
Number of Bends, minimum	15	
Tensile Strength	181 kg 400 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	



FXL-540 (1/2")

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	0.151	0.046	41.8	824	6.549	1.996	1.15
1	0.214	0.065	35.16	894	6.839	2.084	1.1
1.5	0.262	0.08	28.7	960	7.104	2.165	1.06
2	0.303	0.092	24.84	1000	7.261	2.213	1.04
10	0.68	0.207	11.06	1250	8.185	2.495	0.92
20	0.965	0.294	7.8	1500	9.033	2.753	0.83
30	1.185	0.361	6.35	1700	9.669	2.947	0.78
50	1.535	0.468	4.9	1800	9.975	3.04	0.75
88	2.048	0.624	3.68	2000	10.566	3.221	0.71
100	2.186	0.666	3.44	2100	10.853	3.308	0.69
108	2.274	0.693	3.31	2200	11.134	3.394	0.68
150	2.691	0.82	2.8	2300	11.41	3.478	0.66
174	2.905	0.885	2.59	2500	11.948	3.642	0.63
200	3.121	0.951	2.41	2700	12.468	3.8	0.6
300	3.851	1.174	1.95	3000	13.221	4.03	0.57
400	4.474	1.364	1.68	3400	14.18	4.322	0.53
450	4.759	1.45	1.58	3700	14.87	4.532	0.51
500	5.029	1.533	1.5	4000	15.539	4.736	0.48
512	5.092	1.552	1.48	5000	17.642	5.377	0.43
600	5.536	1.687	1.36	6000	19.591	5.971	0.38
700	6.005	1.83	1.25	8000	23.167	7.061	0.32
800	6.446	1.965	1.17	8800	24.506	7.469	0.31

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)
12EZDMR	Right Angle Male, 7/16 DIN, EZfit	63.3	34.6	20.0	20.0	.16 (.35)
12EZNM	Right Angle Male, Type N, EZfit	56.3	23.5	20.0	20.0	.12 (.27)
540EZDF*	7-16 DIN Female, EZfit	44.70	29.0	20.0	22.0	.80 (.18)
540EZDM*	7-16 DIN Male, EZfit	42.31	36.2	32.0	22.0	.94 (.21)
540EZN*	N Female, EZfit	43.40	22.0	20.0	22.0	.62 (.14)
540EZNM*	N Male, EZfit	50.00	22.0	20.0	22.0	.69 (.15)

*Only compatible with FXL-540 cable

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.commscope.com/andrew.
 Select the product resource tab and enter part number to view specifications.

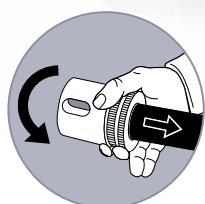


With EZfit hand prep and drill prep tools, connectorizing any HELIAX® 2.0 cable is fast, easy, and accurate.

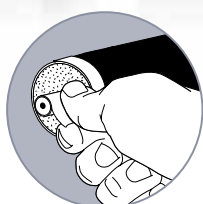
Just five basic steps* and you have an electrically efficient (low RL), weatherproof connection you can count on; whether you're installing AVA copper or FXL aluminum.

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

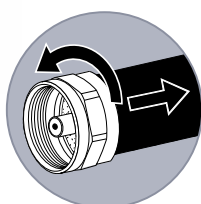
Two types of EZfit tools are available to suit the circumstances of your installation. Automatic drill driven tools provide greatest speed and efficiency while economical hand prep tools provide the versatility to prepare both FXL aluminum and AVA copper with no power needed, just your hands. (For complete tool listing, see Tool and Connector Matrix pg. 42)



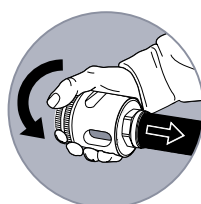
1. Core the cable



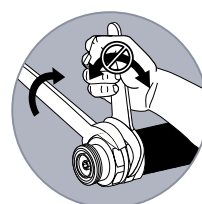
2. Expose the inner conductor



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
FXL-540	540-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
FXL-540	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	L4SCCLICK	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"	AVE-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

Cable Specifications



Part Number	FXL-780	
Description	FXL-780, HELIAX® Flexible Coaxial Cable, smoothwall aluminum, 7/8 in, black PE jacket	
Return Loss	Frequency Band 800–2500 MHz	Return Loss (dB) 26.4
Jacket Material	PE	
Outer Conductor Material	Smoothwall aluminum	
Dielectric Material	Foam PE	
Flexibility	Flexible	
Inner Conductor Material	Copper	
Jacket Color	Black	
Nominal Size	7/8 in	
Cable Weight	0.37 kg/m 0.25 lb/ft	
Diameter Over Jacket	27.700 mm 1.090 in	
Inner Conductor OD	9.500 mm 0.375 in	
Outer Conductor OD	25.500 mm 1.005 in	
Cable Impedance	50 ohm ± 1 ohm	
Capacitance	75 pF/m 23 pF/ft	
dc Resistance, Inner Conductor	3.300 ohms/km 1.005 ohms/kft	
dc Resistance, Outer Conductor	1.150 ohms/km 0.350 ohms/kft	
dc Test Voltage	6000 V	
Inductance	0.190 µH/m 0.058 µH/ft	
Jacket Spark Test Voltage (rms)	8000 V	
Operating Frequency Band	100 – 5000 MHz	
Peak Power	86.0 kW	
Velocity	88%	
Installation Temperature	-40°C to +60°C (-40°F to +140°F)	
Operating Temperature	-50°C to +70°C (-58°F to +158°F)	
Storage Temperature	-55°C to +80°C (-67°F to +167°F)	
Bending Moment	35.0 N·m 26.0 ft lb	
Flat Plate Crush Strength	3.0 kg/mm 170.0 lb/in	
Minimum Bend Radius, Single Bend	127.00mm 5.00in	
Number of Bends, minimum	15	
Tensile Strength	249 kg 550 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	0.079	0.024	86	700	3.219	0.981	2.13
1	0.112	0.034	61.21	800	3.461	1.055	1.98
1.5	0.137	0.042	49.94	824	3.517	1.072	1.95
2	0.159	0.048	43.22	894	3.677	1.121	1.86
10	0.357	0.109	19.22	960	3.823	1.165	1.79
20	0.507	0.154	13.53	1000	3.909	1.192	1.75
30	0.623	0.19	11.01	1250	4.421	1.347	1.55
50	0.808	0.246	8.48	1500	4.893	1.491	1.4
88	1.08	0.329	6.34	1700	5.248	1.6	1.31
100	1.154	0.352	5.94	1800	5.419	1.652	1.26
108	1.201	0.366	5.71	2000	5.752	1.753	1.19
150	1.424	0.434	4.81	2100	5.913	1.802	1.16
174	1.538	0.469	4.46	2200	6.071	1.85	1.13
200	1.654	0.504	4.14	2300	6.227	1.898	1.1
300	2.047	0.624	3.35	2500	6.531	1.991	1.05
400	2.384	0.727	2.87	2700	6.826	2.08	1
450	2.538	0.774	2.7	3000	7.254	2.211	0.94
500	2.686	0.819	2.55	3400	7.801	2.378	0.88
512	2.72	0.829	2.52	3700	8.196	2.498	0.84
600	2.962	0.903	2.31	4000	8.58	2.615	0.8
				5000	9.794	2.985	0.7

EZfit® Connector Specifications — for 7/8" Cable

Compatible with HELIAX® FXL-780 and AVA5-50 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 cable
- 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)
78EZDF	7/16 DIN, Female EZfit	48	37.1	32	32	.14 (.31)
78EZDM	7/16 DIN, Male EZfit	53.3	37.2	32	32	.17 (.37)
78EZNF	Type N, Female EZfit	78.74	37.2	32	32	.28 (.61)
78EZNM	Type N, Male EZfit	58	37.1	32	32	.14 (.31)

Electrical Parameters

Return Loss Typical, db (Frequency, Mhz) Gated

-38, (45-1000 Mhz)
 -33, (1010-2200 Mhz)
 -30, (2210-3000 Mhz)
 -28, (3010-4000 Mhz)
 -24, (4010-5000 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)
 1334 (300)

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.commscope.com/andrew.
 Select the product resource tab and enter part number to view specifications.

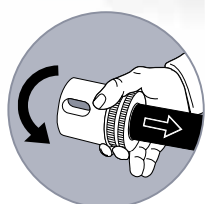


With EZfit hand prep and drill prep tools, connectorizing any HELIAX® 2.0 cable is fast, easy, and accurate.

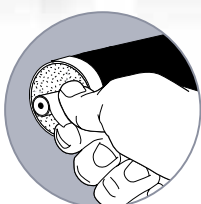
Just five basic steps* and you have an electrically efficient (low RL), weatherproof connection you can count on; whether you're installing AVA copper or FXL aluminum.

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

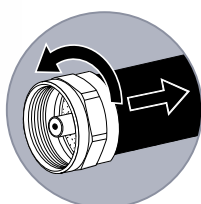
Two types of EZfit tools are available to suit the circumstances of your installation. Automatic drill driven tools provide greatest speed and efficiency while economical hand prep tools provide the versatility to prepare both FXL aluminum and AVA copper with no power needed, just your hands. (For complete tool listing, see Tool and Connector Matrix pg. 42)



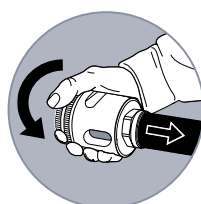
1. Core the cable



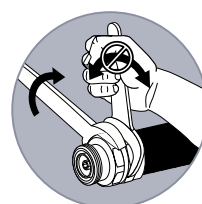
2. Expose the inner conductor



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
FXL-780	780-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
FXL-780	78-HPT	Hand prep tool for 7/8" 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-78-4	SnapStak hanger, for 7/8" 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
7/8"	L5CLICKB	L5SCCLICKB	Click-on hanger for 7/8" 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
7/8"	SG78-06B2A	SureGround™ Grounding Kit for 7/8" coax, 0.6 M (2 ft lead), attached lug
	SG78-12B2U	SureGround™ Grounding Kit for 7/8" 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
7/8"	AVE-7812	WeatherShield enclosure for 7/8" to 1 1/2" cables

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
7/8"	SEC-378	Snap-In Cable Boot, 7/8" Coax, 0 to 3 Run

Cable Specifications



Part Number	FXL-1480	
Description	FXL-1480, HELIAX® Flexible Coaxial Cable, smoothwall aluminum, 1-1/4 in, black PE jacket	
Return Loss	Frequency Band 800–2500 MHz	Return Loss (dB) 26.4
Jacket Material	PE	
Outer Conductor Material	Smoothwall aluminum	
Dielectric Material	Foam PE	
Flexibility	Flexible	
Inner Conductor Material	Copper	
Jacket Color	Black	
Nominal Size	1-1/4 in	
Cable Weight	0.67 kg/m 0.45 lb/ft	
Diameter Over Jacket	39.878 mm 1.570 in	
Inner Conductor OD	14.100 mm 0.550 in	
Outer Conductor OD	37.600 mm 1.480 in	
Cable Impedance	50 ohm ± 1 ohm	
Capacitance	75 pF/m 23 pF/ft	
dc Resistance, Inner Conductor	1.480 ohms/km 0.450 ohms/kft	
dc Resistance, Outer Conductor	0.490 ohms/km 0.150 ohms/kft	
dc Test Voltage	9000 V	
Inductance	0.190 µH/m 0.058 µH/ft	
Jacket Spark Test Voltage (rms)	10000 V	
Operating Frequency Band	100 – 3300 MHz	
Peak Power	205.0 kW	
Velocity	89%	
Installation Temperature	-40°C to +60°C (-40°F to +140°F)	
Operating Temperature	-50°C to +70°C (-58°F to +158°F)	
Storage Temperature	-55°C to +80°C (-67°F to +167°F)	
Bending Moment	102.0 N·m 75.0 ft lb	
Flat Plate Crush Strength	3.6 kg/mm 200.0 lb/in	
Minimum Bend Radius, Single Bend	203.00 mm 8.00in	
Number of Bends, minimum	15	
Tensile Strength	590 kg 1300 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	0.054	0.016	146.8	700	2.247	0.685	3.54
1	0.077	0.023	103.68	800	2.419	0.737	3.29
1.5	0.094	0.029	84.57	824	2.459	0.749	3.23
2	0.109	0.033	73.18	894	2.572	0.784	3.09
10	0.245	0.075	32.49	960	2.677	0.816	2.97
20	0.348	0.106	22.85	1000	2.738	0.835	2.9
30	0.428	0.13	18.58	1250	3.104	0.946	2.56
50	0.556	0.169	14.29	1500	3.443	1.049	2.31
88	0.745	0.227	10.67	1700	3.699	1.127	2.15
100	0.796	0.243	9.99	1800	3.823	1.165	2.08
108	0.828	0.252	9.59	2000	4.063	1.238	1.96
150	0.983	0.3	8.08	2100	4.18	1.274	1.9
174	1.063	0.324	7.47	2200	4.294	1.309	1.85
200	1.144	0.349	6.94	2300	4.407	1.343	1.8
300	1.419	0.433	5.6	2500	4.628	1.411	1.72
400	1.656	0.505	4.8	2700	4.843	1.476	1.64
450	1.765	0.538	4.5	3000	5.155	1.571	1.54
500	1.869	0.57	4.25				
512	1.893	0.577	4.2				
600	2.064	0.629	3.85				

EZfit® Connector Specifications — for 1-1/4" Cable

Compatible with HELIAX® FXL-1480 and AVA6-50 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)
114EZDF	7/16 DIN, Female EZfit	61.5	49	44.5	44.5	.28 (.62)
114EZDM	7/16 DIN, Male EZfit	67.9	49	44.5	44.5	.32 (.70)
114EZNF	Type N, Female EZfit	65.8	49	44.5	44.5	.28 (.63)
114EZNM	Type N, Male EZfit	72	49	44.5	44.5	.30 (.66)

Electrical Parameters

Return Loss Typical, db (Frequency, Mhz) Gated
 39, (45-1000 Mhz)
 37, (1010-2200 Mhz)
 33, (2210-3000 Mhz)
 29, (3010-3300 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.commscope.com/andrew.
 Select the product resource tab and enter part number to view specifications.

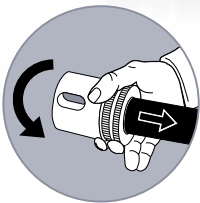


With EZfit drill prep tools, connectorizing any HELIAX® 2.0 cable is fast, easy, and accurate.

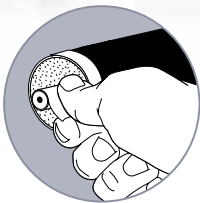
Just five basic steps* and you have an electrically efficient (low RL), weatherproof connection you can count on; whether you're installing AVA copper or FXL aluminum.

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

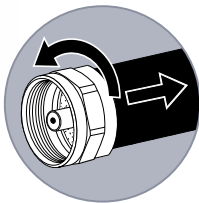
EZfit automatic drill driven tools provide the greatest speed and efficiency. Separate styles available to prepare FXL aluminum and AVA copper. (For complete tool listing, see Tool and Connector Matrix pg. 42)



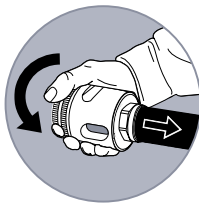
1. Core the cable



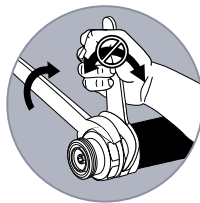
2. Expose the inner conductor



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
FXL-1480	1480-PT	Automated cable preparation tool

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-114-3	SnapStak hanger, for 1-1/4" cable, with reinforcement bar, 3 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
1-1/4"	L6CLICK	L6SCCLICK	Click-on hanger for 1-1/4" 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
1-1/4"	SG114-06B2A	SureGround™ Grounding Kit for 1-1/4" coax, 0.6 M (2 ft lead), attached lug
	SG114-12B2U	SureGround™ Grounding Kit for 1-1/4" 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
1-1/4"	AVE-11412	WeatherShield enclosure for 1-1/4" to 1/2" cables

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
1-1/4"	SEC-1114	Snap-In Cable Boot, 1-1/4" Coax, 1 Run

Cable Specifications



Part Number	FXL-1873	
Description	FXL-1873, HELIAX® Flexible Coaxial Cable, smoothwall aluminum, 1-5/8 in, black PE jacket	
Return Loss	Frequency Band 800–2500 MHz	Return Loss (dB) 26.4
Jacket Material	PE	
Outer Conductor Material	Smoothwall aluminum	
Dielectric Material	Foam PE	
Flexibility	Flexible	
Inner Conductor Material	Copper	
Jacket Color	Black	
Nominal Size	1-5/8 in	
Cable Weight	1.00 kg/m 0.67 lb/ft	
Diameter Over Jacket	50.292 mm 1.980 in	
Inner Conductor OD	18.000 mm 0.707 in	
Outer Conductor OD	47.600 mm 1.873 in	
Cable Impedance	50 ohm ± 1 ohm	
Capacitance	75 pF/m 23 pF/ft	
dc Resistance, Inner Conductor	1.210 ohms/km 0.370 ohms/kft	
dc Resistance, Outer Conductor	0.560 ohms/km 0.170 ohms/kft	
dc Test Voltage	9000 V	
Inductance	0.194 µH/m 0.059 µH/ft	
Jacket Spark Test Voltage (rms)	10000 V	
Operating Frequency Band	100 – 2700 MHz	
Peak Power	315.0 kW	
Velocity	88%	
Installation Temperature	-40°C to +60°C (-40°F to +140°F)	
Operating Temperature	-50°C to +70°C (-58°F to +158°F)	
Storage Temperature	-55°C to +80°C (-67°F to +167°F)	
Bending Moment	149.1 N·m 110.0 ft lb	
Flat Plate Crush Strength	3.9 kg/mm 220.0 lb/in	
Minimum Bend Radius, Single Bend	279.4mm 11.00in	
Number of Bends, minimum	15	
Tensile Strength	680 kg 1500 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	0.042	0.013	247.44	600	1.665	0.508	6.29
1	0.06	0.018	174.67	700	1.817	0.554	5.77
1.5	0.074	0.022	142.44	800	1.96	0.597	5.35
2	0.085	0.026	123.22	824	1.993	0.607	5.26
10	0.192	0.059	54.56	894	2.088	0.636	5.02
20	0.274	0.083	38.3	960	2.175	0.663	4.82
30	0.337	0.103	31.1	1000	2.227	0.679	4.7
50	0.439	0.134	23.88	1250	2.535	0.773	4.13
88	0.589	0.18	17.77	1500	2.822	0.86	3.71
100	0.63	0.192	16.62	1700	3.039	0.926	3.45
108	0.657	0.2	15.96	1800	3.144	0.958	3.33
150	0.782	0.238	13.4	2000	3.349	1.021	3.13
174	0.846	0.258	12.38	2100	3.449	1.051	3.04
200	0.912	0.278	11.49	2200	3.548	1.081	2.95
300	1.135	0.346	9.23	2300	3.645	1.111	2.87
400	1.329	0.405	7.88	2500	3.835	1.169	2.73
450	1.419	0.432	7.38	2700	4.02	1.225	2.61
500	1.504	0.458	6.97				
512	1.524	0.465	6.87				

EZfit® Connector Specifications — for 1-5/8" Cable

Compatible with HELIAX® FXL-1873 and AVA7-50 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)
158EZDF	7/16 DIN, Female EZfit	65.4	63	60	60	.53 (1.18)
158EZDM	7/16 DIN, Male EZfit	71.7	63	60	60	.56 (1.24)
158EZNF	Type N, Female EZfit	70	63	60	60	.53 (1.18)
158EZNM	Type N, Male EZfit	76.1	63	60	60	.55 (1.20)

Electrical Parameters

Return Loss Typical, db (Frequency, Mhz) Gated
39, (45-1000 Mhz)
37, (1010-2200 Mhz)
35, (2210-2700 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)
2225 (500)

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.commscope.com/andrew.
Select the product resource tab and enter part number to view specifications.

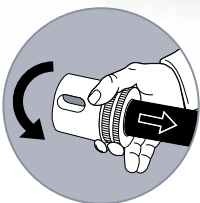


With EZfit drill prep tools, connectorizing any HELIAX® 2.0 cable is fast, easy, and accurate.

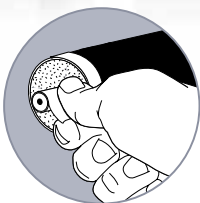
Just five basic steps* and you have an electrically efficient (low RL), weatherproof connection you can count on; whether you're installing AVA copper or FXL aluminum.

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

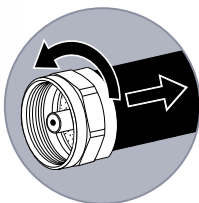
EZfit automatic drill driven tools provide the greatest speed and efficiency. Separate styles available to prepare FXL aluminum and AVA copper. (For complete tool listing, see Tool and Connector Matrix pg. 42)



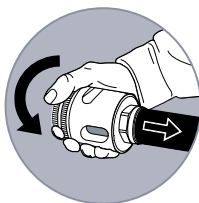
1. Core the cable



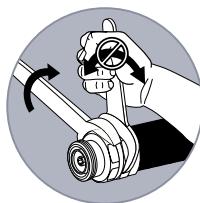
2. Expose the inner conductor



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
FXL-1873	FXL/CR-1873-PT	Automated cable preparation tool

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-158-3	SnapStak hanger, for 1-5/8" cable, with reinforcement bar, 3 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
1-5/8"	L7CLICK	L7SCCLICK	Click-on hanger for 1-5/8" 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
1-5/8"	SG158-06B2A	SureGround™ Grounding Kit for 1-5/8" coax, 0.6 M (2 ft lead), attached lug
	SG158-12B2U	SureGround™ Grounding Kit for 1-5/8" 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
1-5/8"	AVE-15812	WeatherShield enclosure for 1-5/8" to 1 1/2" cables

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
1-5/8"	SEC-1158	Snap-In Cable Boot, 1-5/8" Coax, 1 Run

HELIAX[®] 2.0

tool and
connector matrix



HELIAX® 2.0 Tool and Connector Matrix

HELIAX® Cable	EZfit® Connectors	Universal Hand Prep Tool	Drill Tool for HELIAX AL	Drill Tool for HELIAX CU	Wrenches: Back Nut/ Front Nut
3/8" Superflexible					
SFX-500 HELIAX AL	SFX EZfit® Series SFXEZNIM, SFXEZNIF, SFXEZDM, SFXEZDF, SFXEZNMV, SFXEZDMR 	Hand Prep Tool not available for SFX-500.	SFX-EZPT Drill driven tool removes jacketing, cores foam and flares sheath. Speeds connector attachment. For SFX-500 cable only. Supplied with T-handle for hand use. 	3/8" HELIAX CU Cable/Drill Tool not available	EZW-7812 Combination Wrench  TW-SFX-EZFC Torque Wrench 
1/2"					
FXL-540 HELIAX AL LDF4-50A HELIAX CU	540 and 12 EZfit® Series 540EZDF*, 540EZDM*, 540EZNIF*, 540EZNIM*, 12EZDMR, 12EZNMR (*Only compatible with FXL-540 cable) 	12-HPT The 1/2 inch hand prep tool removes jacketing, cores foam and flares sheath for easy connector attachment. Includes bits for FXL-540 and LDF4 cables. Drill not required. 	540-EZPT Drill driven tool removes jacketing, cores foam and flares sheath. Speeds connector attachment. For FXL-540 cable only. Supplied with T-handle for hand use. 	Drill driven tool not available for LDF4-50A 1/2" cable.	EZW-7812 Combination Wrench  TW-12-EZFC Torque Wrench 
7/8"					
FXL-780 HELIAX AL AVA5-50 HELIAX CU	78 EZfit® Series: 78EZDF, 78EZDM, 78EZNIF, 78EZNIM 	78-HPT The 7/8 inch hand prep tool removes jacketing, cores foam and flares sheath for easy connector attachment. Includes bits for FXL-780 and AVA5 series cables. Drill not required. 	780-EZPT Drill driven tool removes jacketing, cores foam and flares sheath. Speeds connector attachment. For FXL-780 cable only. Supplied with T-handle for hand use. 	A5-EZPT Drill driven tool removes jacketing, cores foam and flares sheath. Speeds connector attachment. For AVA5 cable only. Supplied with T-handle for hand use. 	EZW-7812 Combination Wrench  TW-78-EZFC Torque Wrench 
1-1/4"					
FXL-1480 HELIAX AL AVA6-50 HELIAX CU	114 EZfit® Series: 114EZDF, 114EZDM, 114EZNIF, 114EZNIM 	Hand prep tool not available for 1-1/4" cable.	1480-PT Drill driven tool removes jacketing, cores foam and flares sheath. Speeds connector attachment. For FXL-1480 cable only. Supplied with T-handle for hand use. 	A6-EZPT Drill driven tool removes jacketing, cores foam and flares sheath. Speeds connector attachment. For AVA6 cable only. Supplied with T-handle for hand use. 	1480-AW 1-3/4" (45 mm) Wrench  TW-114-EZFC Torque Wrench 
1-5/8"					
FXL-1873 HELIAX AL AVA7-50 HELIAX CU	158 EZfit® Series: 158EZDF, 158EZDM, 158EZNIF, 158EZNIM 	Hand prep tool not available for 1-5/8" cable.	FXL/CR 1873-PT Drill driven tool removes jacketing, cores foam and flares sheath. Speeds connector attachment. For FXL-1873 cable only. Supplied with T-handle for hand use. 	A7-EZPT Drill driven tool removes jacketing, cores foam and flares sheath. Speeds connector attachment. For AVA7 cable only. Supplied with T-handle for hand use. 	1873-AW 2-3/8" (60 mm) Wrench  TW-158-EZFC Torque Wrench 

Contact Us

Andrew Solutions,
A CommScope Company
1100 CommScope Place, SE
Hickory NC 28602
United States
Tel: +1-828-324-2200

Australia and New Zealand
Tel: + 61 3 9300 7969
Fax: + 61 3 9357 9110

Hong Kong
Tel: + 852 2515 7500
Fax: + 852 2515 7599

India - New Delhi
Tel: + 91 12 4468 2500/01/02
Fax: + 91 12 4468 2503

India - Mumbai
Tel: + 91 22 2820 1706
Fax: + 91 22 2820 1705

Indonesia
Tel: + 62 21 5793 0507/09
Fax: + 62 21 5793 0510

Japan
Tel: + 81 3 3581 0221
Fax: + 81 3 3581 0222

Korea
Tel: + 82 2 553 0523
Fax: + 82 2 553 0524

Malaysia
Tel: + 60 3 5621 5845
Fax: + 60 3 5621 5485

Philippines
Tel: + 63 2 751 5170
Tel: + 63 2 887 1086
Fax: + 63 2 751 5171

Singapore
Tel: + 65 6588 2023
Fax: + 65 6588 2979

Taiwan
Tel: + 886 2 2738 8351
Fax: + 886 2 2735 4939

email: andrew.apac@andrew.com
website: www.commscope.com/andrew

Join the Evolution



Every advancement in connectivity has its foundation in evolved technology—inspired, forward-thinking solutions that expand what is possible and enable what is next.

In a few short years, your customers will demand services we can only imagine today—anytime, anywhere, instantly! It will fuel a surge of mobile broadband traffic up to 20 times today's rate, with video comprising nearly half of all mobile bandwidth.

The connected life of tomorrow will be empowered by the next generation of Andrew solutions...intelligent, innovative, efficient... backed by our global resources, delivered anywhere in the world, and emblazoned with the familiar symbol of connectivity...the Andrew flash.

We're ready.

Join the evolution.



A CommScope Company

**Andrew Solutions,
A CommScope Company**
1100 CommScope Place, SE
Hickory NC 28602
United States
Tel: +1-828-324-2200
Email: andrew.apac@andrew.com
Internet: www.commscope.com/andrew

Australia and New Zealand
Tel: + 61 3 9300 7969
Fax: + 61 3 9357 9110

Hong Kong
Tel: + 852 2515 7500
Fax: + 852 2515 7599

India – New Delhi
Tel: + 91 12 4468 2500/01/02
Fax: + 91 12 4468 2503

India – Mumbai
Tel: + 91 22 2820 1706
Fax: + 91 22 2820 1705

Indonesia
Tel: + 62 21 5793 0507/09
Fax: + 62 21 5793 0510

Japan
Tel: + 81 3 3581 0221
Fax: + 81 3 3581 0222

Korea
Tel: + 82 2 553 0523
Fax: + 82 2 553 0524

Malaysia
Tel: + 60 3 5621 5845
Fax: + 60 3 5621 5485

Philippines
Tel: + 63 2 751 5170
Tel: + 63 2 887 1086
Fax: + 63 2 751 5171

Singapore
Tel: + 65 6588 2023
Fax: + 65 6588 2979

Taiwan
Tel: + 886 2 2738 8351
Fax: + 886 2 2735 4939

© 2010 CommScope, Inc. All rights reserved.

Andrew Solutions is a trademark of CommScope. All trademarks identified by ® or ™ are registered trademarks or trademarks, respectively, of CommScope. This document is for planning purposes only and is not intended to modify or supplement any specifications or warranties relating to Andrew Solutions products or services.

CO-102891.1-EN-SG (01/10)