FIBER OPTIC CABLE ACCESSORIES

OPGW, ADSS, SkyWrap®, Closures and Tools

Product Catalog

Founded in 1984, AFL is an international manufacturer providing end-to-end solutions to the energy, service provider, enterprise, hyperscale and industrial markets as well as several emerging markets.

AFL's products are in use in over 130 countries and include fiber optic cable and hardware, transmission and substation accessories, outside plant equipment, connectivity, test and inspection equipment, fusion splicers and training.

AFL also offers a wide variety of services supporting data center, enterprise, wireless and outside plant applications.

AFL is dedicated to bringing our customers a quality product as well as delivering superior value.

AFL

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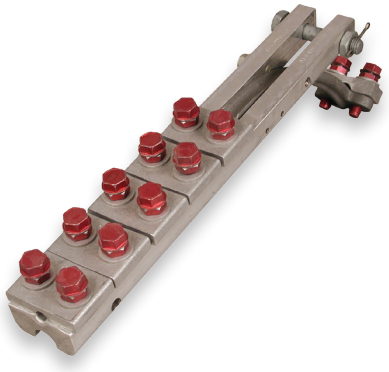


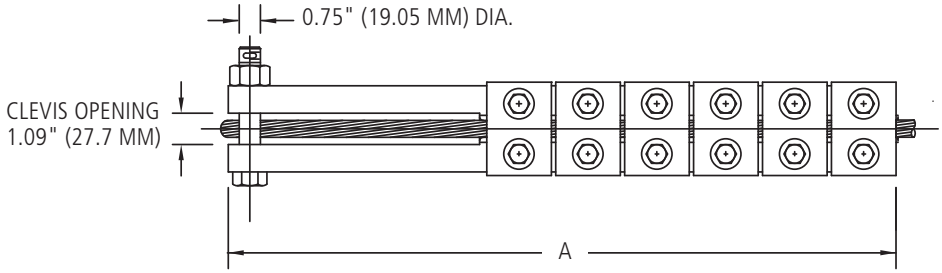
Bolted Dead End with Cable Guide

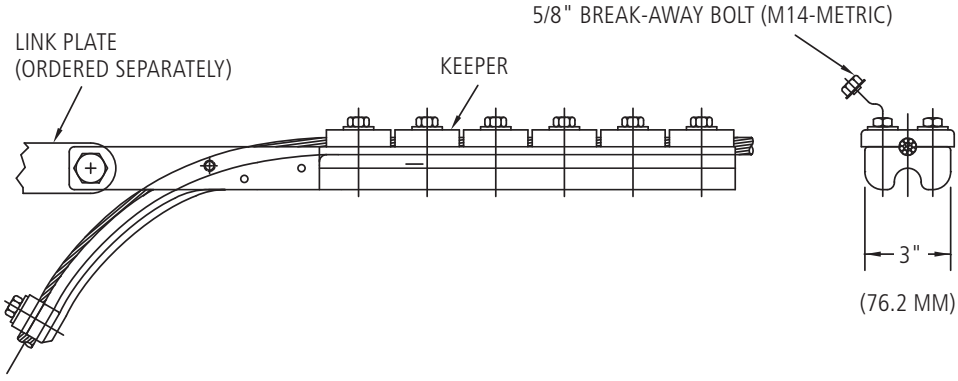
Bolted Dead End for OPGW

The AFL Dead End is a full tension termination for Optical Ground Wire cable. Break-away head bolts are used to apply a precise gripping force to hold the cable without affecting optical fiber performance.

Features

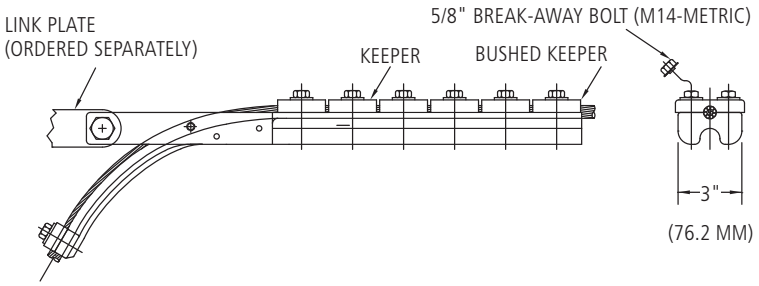
- Performance: Sustained load equivalent to 95% of cable RBS
- Ultimate mechanical strength of dead end components: 40,000 lbs.
- Break-away bolts ensure proper installation torque while eliminating the need for specialized torque wrenches
- Optional Cable Guide (recommended) to train Optical Ground Wire down or around structure
- Drilled and tapped for grounding lug, eliminating additional accessories for electrical bonding
- Shorter than formed wire dead ends, allowing installation from the support structure
- Faster installation than competitive designs, reducing installation costs
- Optional link plate available for extension from structures (see next page)

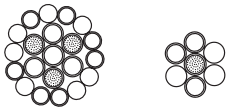




Bolted Dead End for OPGW

(Stranded Stainless Steel Tube Type Cable)





HexaCore **ODES**

MiniCore **ODES**

ODE	S	YYY/YYY	X	##
OPGW Dead End	S for Standed Stainless (See Valid Cable Types)	Range code in Decimal Inches (See Table 1)	"G" for Cable Guide, "N" for No Cable Guide	Number of Keepers (See Table 1, Keeper Designation and Calculating Cross Sectional Area of Alumoweld)

NOTES: 1. For installation instructions, click here.

2. Bushed end keeper not considered in number of keepers.
3. Cables above 26,000 lbs RBS have to be tested.
4. This deadend is approved only for AFL cables.

TABLE 1

OPGW RBS	PERCENT ALUMOWELD > 33%			PERCENT ALUMOWELD LESS THAN 33%		
	NO. OF * KEEPERS	KEEPER DESIGNATION	DIMENSION "A"	NO. OF * KEEPERS	KEEPER DESIGNATION	DIMENSION "A"
14000 OR LESS	7	07	28.38	8	08	30.78
14001-17000	8	08	30.78	9	09	33.18
17001-21000	9	09	33.18	10	10	35.58
21000-26000	10	10	35.58	11	11	37.98
26001-ABOVE**	11	11	37.98	11	11	37.98

* NUMBER OF KEEPERS DOES NOT INCLUDE THE END BUSHED KEEPER.
* NUMBER OF KEEPERS NOT TO EXCEED 11.
* * SEE NOTE 3.

CALCULATING CROSS SECTIONAL AREA OF ALUMOWELD (PERCENT)

AW AREA PERCENT= ((AW AREA)/(AW AREA + ALUMINUM AREA)) * 100
IF THE AW AREA PERCENT IS LESS THAN 33%, ADD ONE KEEPER.

AFL CABLE DESCRIPTION
S3—109/45/673
- 109 — CABLE DIA.
- 45 — CROSS SECTIONAL AREA OF ALUMOWELD (MM2)
- 673 — CROSS SECTIONAL AREA OF ALUMINUM (MM2)

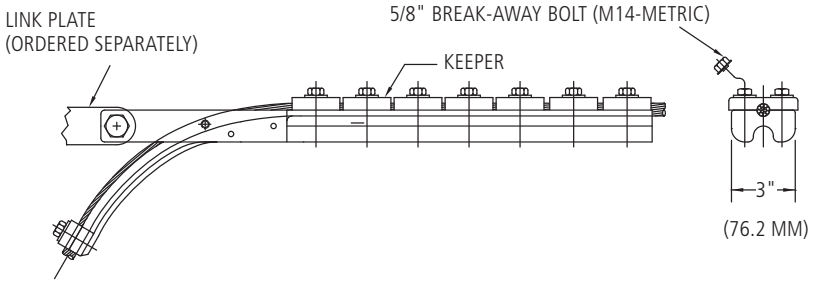
AFL NO.	CABLE DIAMETER RANGE	
	MIN	MAX
ODES350/359GXX	0.350	0.359
ODES360/369GXX	0.360	0.369
ODES370/379GXX	0.370	0.379
ODES380/389GXX	0.380	0.389
ODES390/399GXX	0.390	0.399
ODES400/409GXX	0.400	0.409
ODES410/419GXX	0.410	0.419
ODES420/429GXX	0.420	0.429
ODES430/439GXX	0.430	0.439
ODES440/449GXX	0.440	0.449
ODES450/459GXX	0.450	0.459
ODES460/469GXX	0.460	0.469
ODES470/479GXX	0.470	0.479
ODES480/489GXX	0.480	0.489

AFL NO.	CABLE DIAMETER RANGE	
	MIN	MAX
ODES490/499GXX	0.490	0.499
ODES500/509GXX	0.500	0.509
ODES510/519GXX	0.510	0.519
ODES520/529GXX	0.520	0.529
ODES530/539GXX	0.530	0.539
ODES540/549GXX	0.540	0.549
ODES550/559GXX	0.550	0.559
ODES560/569GXX	0.560	0.569
ODES570/579GXX	0.570	0.579
ODES580/589GXX	0.580	0.589
ODES590/599GXX	0.590	0.599
ODES600/609GXX	0.600	0.609
ODES610/619GXX	0.610	0.619
ODES620/629GXX	0.620	0.629

AFL NO.	CABLE DIAMETER RANGE	
	MIN	MAX
ODES630/639GXX	0.630	0.639
ODES640/649GXX	0.640	0.649
ODES650/659GXX	0.650	0.659
ODES660/669GXX	0.660	0.669
ODES670/679GXX	0.670	0.679
ODES680/689GXX	0.680	0.689
ODES690/699GXX	0.690	0.699
ODES700/709GXX	0.700	0.709
ODES710/719GXX	0.710	0.719
ODES720/729GXX	0.720	0.729
ODES730/739GXX	0.730	0.739
ODES740/749GXX	0.740	0.749

Bolted Dead End for OPGW

(Core Tube Type Cable)



CentraCore **ODEC**

AlumaCore **ODEC**

Slotted Core **ODEC**

ODE	C	YYY/YYY	X	##
OPGW Dead End	Used for Alumacore, Centracore, and Slotted Core	Range code in Decimal Inches (See Table 1)	"G" for Cable Guide, "N" for No Cable Guide	Number of Keepers (See Table 1, Keeper Designation)

NOTES: 1. For installation instructions, click here.

2. This deadend is approved only for AFL cables.

3. Cables above 30,000 lbs RBS have to be tested.

TABLE 1

OPGW RBS	NO. OF * KEEPERS	KEEPER DESIGNATION	DIMENSION "A"
14000 OR LESS	7	07	25.98
14001 - 17000	8	08	28.38
17001 - 21000	9	09	30.78
21000 - 26000	10	10	33.18
26001 - 30000	11	11	35.58
IF > 30001*	12	12	37.98

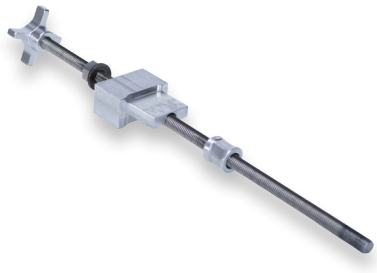
* SEE NOTE 3

AFL NO.	CABLE DIAMETER RANGE	
	MIN	MAX
ODEC350/359GXX	0.350	0.359
ODEC360/369GXX	0.360	0.369
ODEC370/379GXX	0.370	0.379
ODEC380/389GXX	0.380	0.389
ODEC390/399GXX	0.390	0.399
ODEC400/409GXX	0.400	0.409
ODEC410/419GXX	0.410	0.419
ODEC420/429GXX	0.420	0.429
ODEC430/439GXX	0.430	0.439
ODEC440/449GXX	0.440	0.449
ODEC450/459GXX	0.450	0.459
ODEC460/469GXX	0.460	0.469
ODEC470/479GXX	0.470	0.479
ODEC480/489GXX	0.480	0.489

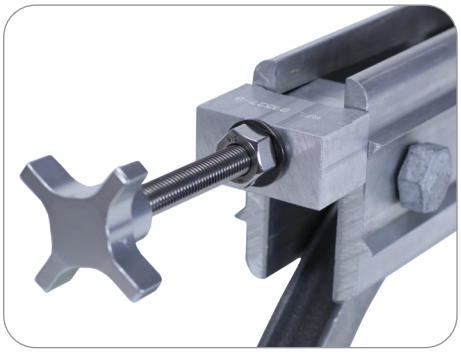
AFL NO.	CABLE DIAMETER RANGE	
	MIN	MAX
ODEC490/499GXX	0.490	0.499
ODEC500/509GXX	0.500	0.509
ODEC510/519GXX	0.510	0.519
ODEC520/529GXX	0.520	0.529
ODEC530/539GXX	0.530	0.539
ODEC540/549GXX	0.540	0.549
ODEC550/559GXX	0.550	0.559
ODEC560/569GXX	0.560	0.569
ODEC570/579GXX	0.570	0.579
ODEC580/589GXX	0.580	0.589
ODEC590/599GXX	0.590	0.599
ODEC600/609GXX	0.600	0.609
ODEC610/619GXX	0.610	0.619
ODEC620/629GXX	0.620	0.629

AFL NO.	CABLE DIAMETER RANGE	
	MIN	MAX
ODEC630/639GXX	0.630	0.639
ODEC640/649GXX	0.640	0.649
ODEC650/659GXX	0.650	0.659
ODEC660/669GXX	0.660	0.669
ODEC670/679GXX	0.670	0.679
ODEC680/689GXX	0.680	0.689
ODEC690/699GXX	0.690	0.699
ODEC700/709GXX	0.700	0.709
ODEC710/719GXX	0.710	0.719
ODEC720/729GXX	0.720	0.729
ODEC730/739GXX	0.730	0.739
ODEC740/749GXX	0.740	0.749

OPGW Wedge Dead End



Removal Tool for OPGW Wedge Dead End



Removal Tool inserted into OPGW Wedge Dead End

Wedge Dead End for Optical Ground Wire (OPGW)

AFL's Optical Ground Wire (OPGW) wedge dead end improves the ease and speed of installing OPGW as compared to bolted and formed wire devices. The wedge dead end is sold mostly assembled and only requires connecting three components (the body, top wedge and locking pin) during preparation. The unique cam action in the pivoting cable guide ensures proper alignment of the wedges prior to loading and the wedges automatically provide the necessary gripping action to meet the holding strength requirements. A removal tool (sold separately) is available to unlock the wedges for situations requiring additional adjustment of the dead end.

Advantages

- Three loose components as compared to 15+ with bolted dead ends
- No bolts to torque – self locking wedge design secures the cable
- Eliminates human error associated with proper torque on bolted dead ends
- Shorter and easier to install than formed wire dead ends
- Optional removal tool allows wedges to be easily unlocked when required
- Quicker installation times as compared to bolted and formed wire models
- No special tools required for installation

Features

- Range: 0.375 - 0.750 in. (9.5 - 19.0 mm)
- Designed for 95% of the cables rated breaking strength up to 25,000 lbs. (11,340 kg)
- Cable Guide (not optional) to train OPGW down or around structure
- Optional link plate available for extension from structures
- Approved for use with AlumaCore, CentraCore and HexaCore OPGW designs

CentraCore AlumaCore HexaCore

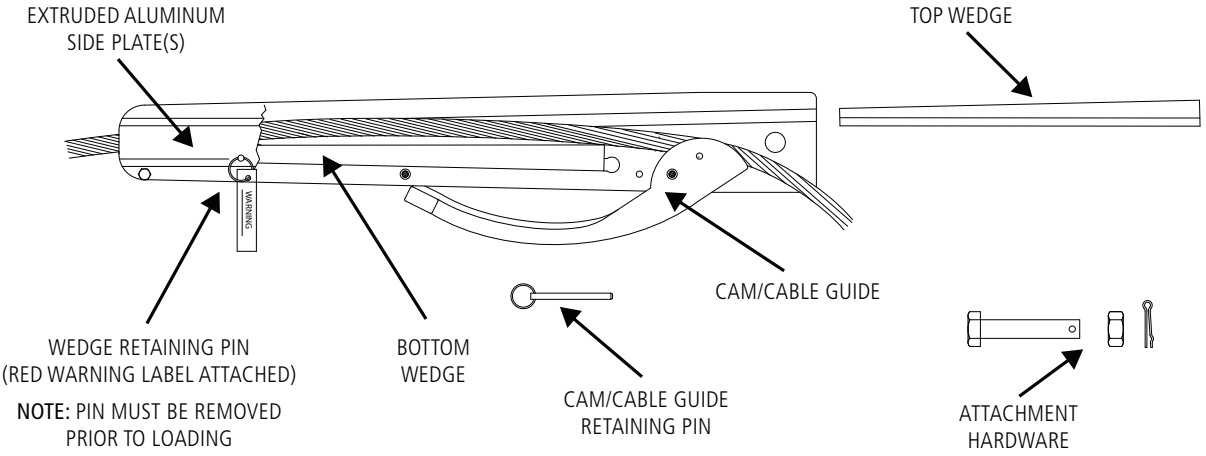
Ordering Information

AFL NO.	OPGW DIAMETER RANGE				WEIGHT	
	inches		mm		lbs	kg
ODEW377/397	0.377	0.397	9.56	10.08	16.0	7.3
ODEW398/418	0.398	0.418	10.09	10.62	16.0	7.3
ODEW419/439	0.419	0.439	10.63	11.15	16.0	7.3
ODEW440/460	0.440	0.460	11.16	11.68	16.0	7.3
ODEW461/481	0.461	0.481	11.69	12.22	16.0	7.3
ODEW482/502	0.482	0.502	12.23	12.75	16.0	7.3
ODEW503/523	0.503	0.523	12.76	13.28	16.0	7.3
ODEW524/544	0.524	0.544	13.29	13.82	16.0	7.3
ODEW545/565	0.545	0.565	13.83	14.35	16.0	7.3
ODEW566/586	0.566	0.586	14.36	14.88	16.0	7.3
ODEW587/607	0.587	0.607	14.89	15.42	16.0	7.3
ODEW608/628	0.608	0.628	15.43	15.95	16.0	7.3
ODEW629/649	0.629	0.649	15.96	16.48	16.0	7.3
ODEW650/670	0.650	0.670	16.49	17.02	16.0	7.3
ODEW671/691	0.671	0.691	17.03	17.55	16.0	7.3
ODEW692/712	0.692	0.712	17.56	18.08	16.0	7.3
ODEW713/733	0.713	0.733	18.09	18.62	16.0	7.3
ODEW734/754	0.734	0.754	18.63	19.15	16.0	7.3

DESCRIPTION	AFL NO.
Removal Tool for OPGW Wedge Dead End (sold separately, effective up to 10,000 lbs)	B9527-B

Wedge Dead End for Optical Ground Wire (OPGW)

Components of OPGW Wedge Dead End



Link Plate

Dead End Link Plate

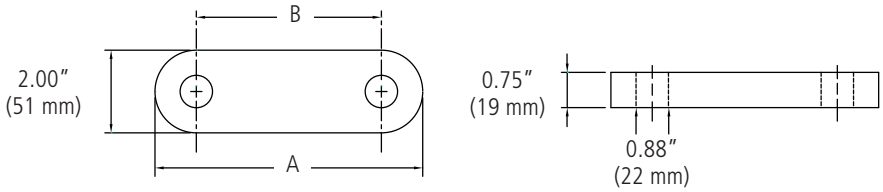
The Dead End Link Plate is made from galvanized steel and has an ultimate strength of 40,000 lbs. (18,140 kg).

Ordering Information

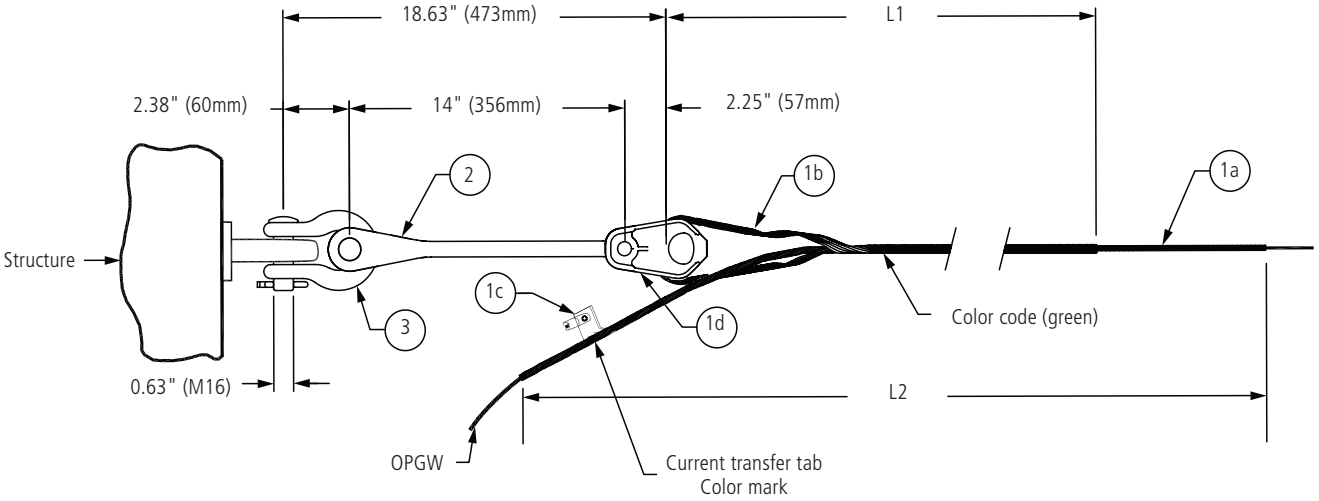
AFL NO.	DISTANCE A	DISTANCE B	WEIGHT
ODELP05	7 inches (177 mm)	5 inches (127 mm)	2.42 lbs. (1.1 kg)
ODELP10	12 inches (304 mm)	10 inches (254 mm)	4.40 lbs. (2.0 kg)
ODELP15	17 inches (432 mm)	15 inches (381 mm)	6.16 lbs. (2.8 kg)

Material: Galvanized Steel; Ultimate Strength: 40,000 lbs. (18,140 kg)

Dimensions



Formed Wire Dead End for OPGW Cable



Features

- Line or elevation angles greater than 30°
- Specify right or left lay direction
- Designed for 95% of the cable's rated breaking strength up to rated component strength (see table)
- Dead end component may be reused once during initial installation

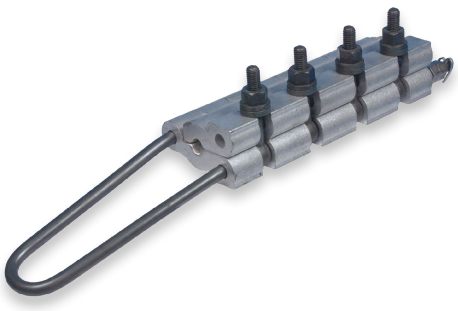
Item	Description	Material
1a	Reinforcing Rods (SRR)	Aluminum clad Steel
1b	Formed Wire Dead-End	Aluminum clad Steel
1c	Current Transfer Tab	High Strength Aluminum
1d	Thimble Clevis	Galvanized Ductile Iron
2	Extension Link	Galvanized Steel
3	Anchor Shackle	Galvanized Steel

Ordering Information

AFL NO.[1]	DIAMETER RANGE				COLOR CODE	RATED COMPONENT STRENGTH	DEAD END COMPONENT LENGTH "L1" IN. (M)	STRUCTURAL REINFORCING ROD LENGTH "L2" IN. (M)
	MIN. (IN)	MAX. (IN)	MIN. (MM)	MAX. (MM)				
OWD355/399C	0.355	0.399	9	10.1	Blue	20,000	34 (0.86)	37 (0.94)
OWD400/449C	0.4	0.449	10.2	11.4	Blue	20,000	36 (0.91)	40.5 (1.03)
OWD450/504C	0.45	0.504	11.5	12.8	Red	25,000	39 (0.99)	45 (1.14)
OWD505/555C	0.505	0.555	12.9	14.1	Orange	25,000	42 (1.07)	47.5 (1.21)
OWD556/610C	0.556	0.61	14.2	15.5	Black	25,000	45 (1.14)	51.5 (1.31)
OWD611/680C	0.611	0.68	15.6	17.2	Green	25,000	49 (1.24)	56 (1.42)
OWD681/755C	0.681	0.755	17.3	19.1	Pink	25,000	64 (1.63)	71.5 (1.82)
OWD756/830C	0.756	0.83	19.2	21.1	Yellow	25,000	68 (1.73)	76 (1.93)
OWD831/925C	0.831	0.925	21.2	23.5	Brown	25,000	73 (1.85)	81.5 (2.06)
OWD926/1030C	0.926	1.03	23.6	26.2	Purple	25,000	79 (2.01)	89.5 (2.27)

Add suffix "L" for lefthand lay or "R" for righthand lay.

Ordering Example: For 0.360" lefthand lay OPGW cable, the AFL number is OWD355/399CL.



Comealong for Optical Ground Wire – OCA Series

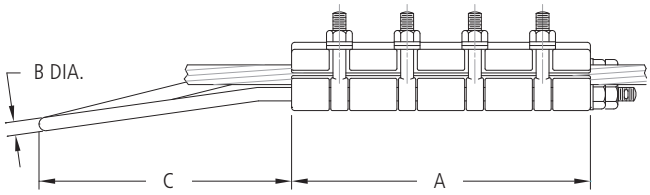
OPGW Comealongs are stringing tools designed for pulling optical ground wire up to initial sag tensions. If the required tension is greater than the rated tension of a single comealong, two or more comealongs should be used (refer to Installation Instructions). When desired sag tension is reached, the cable should be dead ended promptly and the comealong removed.

Comealongs must receive periodic maintenance. This practice should consist of a thorough cleaning with close inspection for nicked or rough cable grooves, cracked body, bent eye bolts, or damaged bail. The eyebolts should be kept clean and oiled. The cable groove should be kept clean and dry. After each six months use and at the beginning of each job, all comealongs should be subjected to a pull test equal to its rated strength. If any damage is found, the comealong should be disposed of properly.

Features

- Highly engineered product
- Extruded aluminum body for greater strength and tolerance control
- Bails are magnafluxed for quality assurance
- Double lock nuts with cotter pins on the bail
- Peened 1/2" eye bolts prevent loss of nuts and washers
- Angled bail provides clearance between the conductor and the hoist to protect the cable from damage
- Approved for use on AFL cable only
- Approved for use without testing on cables designed to meet OPGW cable standard IEEE 1138

Specifications



OPGW DIAMETER RANGE (IN.)	EYEBOLTS		DIMENSIONS						WEIGHT	
			A		B		C			
	DIA.	NO.	IN.	MM	IN.	MM	IN.	MM	LB.	KG
0 -.820	1/2"	4	11	279	.5	13	8	203	9	4.08
.821-1.000	5/8"	4	12.5	318	.62	16	8	203	16	7.26

For installation instructions, see page 139.

Ordering Instructions

Refer to charts on next page for part numbers.

OCA + **Cable Diameter Range**

Ordering Example: For OCA Series Comealong with a .500" to .509" cable diameter range, the part number is OCA500/509.

LOAD RATING: Maximum tension limit is 50% of the rated strength of the OPGW or 5,000 pounds, whichever value is smaller.

WARNING: Comealongs are not intended for use as dead ends and are not recommended to hold conductors at sag tension limits for longer than 6 hours.

continued

Comealong for Optical Ground Wire—OCA Series (cont.)

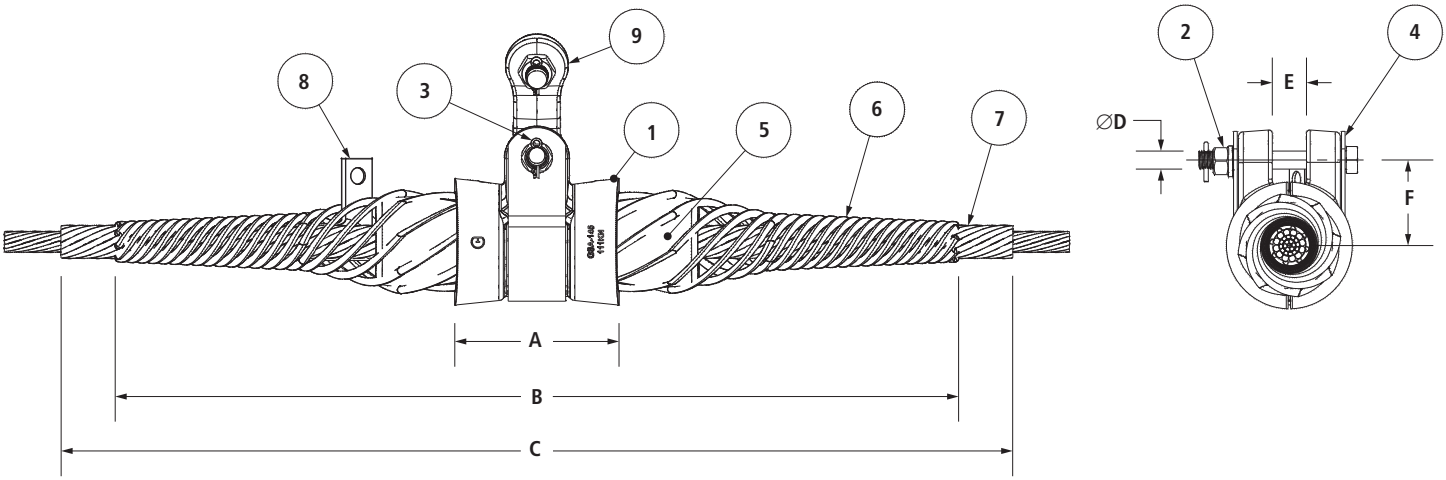
AFL NO.	CABLE DIAMETER RANGE (INCHES)	
	MIN	MAX
OCA310/319	.310	.319
OCA320/329	.320	.329
OCA330/339	.330	.339
OCA340/349	.340	.349
OCA350/359	.350	.359
OCA360/369	.360	.369
OCA370/379	.370	.379
OCA380/389	.380	.389
OCA390/399	.390	.399
OCA400/409	.400	.409
OCA410/419	.410	.419
OCA420/429	.420	.429
OCA430/439	.430	.439
OCA440/449	.440	.449
OCA450/459	.450	.459
OCA460/469	.460	.469
OCA470/479	.470	.479
OCA480/489	.480	.489
OCA490/499	.490	.499
OCA500/509	.500	.509
OCA510/519	.510	.519
OCA520/529	.520	.529
OCA530/539	.530	.539
OCA540/549	.540	.549
OCA550/559	.550	.559
OCA560/569	.560	.569
OCA570/579	.570	.579
OCA580/589	.580	.589
OCA590/599	.590	.599
OCA600/609	.600	.609
OCA610/619	.610	.619
OCA620/629	.620	.629
OCA630/639	.630	.639
OCA640/649	.640	.649
OCA650/659	.650	.659

AFL NO.	CABLE DIAMETER RANGE (INCHES)	
	MIN	MAX
OCA660/669	.660	.669
OCA670/679	.670	.679
OCA680/689	.680	.689
OCA690/699	.690	.699
OCA700/709	.700	.709
OCA710/719	.710	.719
OCA720/729	.720	.729
OCA730/739	.730	.739
OCA740/749	.740	.749
OCA750/759	.750	.759
OCA760/769	.760	.769
OCA770/779	.770	.779
OCA780/789	.780	.789
OCA790/799	.790	.799
OCA800/809	.800	.809
OCA810/819	.810	.819
OCA820/829	.820	.829
OCA830/839	.830	.839
OCA840/849	.840	.849
OCA850/859	.850	.859
OCA860/869	.860	.869
OCA870/879	.870	.879
OCA880/889	.880	.889
OCA890/899	.890	.899
OCA900/909	.900	.909
OCA910/919	.910	.919
OCA920/929	.920	.929
OCA930/939	.930	.939
OCA940/949	.940	.949
OCA950/959	.950	.959
OCA960/969	.960	.969
OCA970/979	.970	.979
OCA980/989	.980	.989
OCA990/999	.990	.999

LOAD RATING: Maximum tension limit is 50% of the rated strength of the OPGW or 5,000 pounds, whichever value is smaller.

WARNING: Comealongs are not intended for use as dead ends and are not recommended to hold conductors at sag tension limits for longer than 6 hours.

Double Layer Formed Wire Suspension for OPGW – Single



Item	Description	Material
1	Housing	Aluminum
2	Bolt, Split Washer, Nut	Galvanized Steel
3	Cotter Pin	Stainless Steel
4	Strap	Aluminum
5	Insert	EPDM & Aluminum
6	Outer Rods	Aluminum
7	Inner Rods	Aluminum
8	Current Transfer Tab	Aluminum
9	Y-Clevis Eye (optional)	Galvanized Steel

Features

- Single suspension for line or elevation angle changes up to 30°
- Slip load initially 10% to 20% of standard OPGW rated breaking strength
- Suspension components cannot be reused

Ordering Information

OSU	YYY/YYY	C	L
Double Layer Formed Wire Suspension for OPGW – Single	Cable Range Code in Decimal Inches (see table on following page)	C = Y-Clevis Eye C90 = Y-Clevis Eye 90 Blank = No Clevis Eye	L = Left Hand Lay R = Right Hand Lay

Example: For Standard Left Hand Lay OPGW with diameter of 0.571 inches and Y-Clevis Eye, order AFL No. OSU566/573CL.

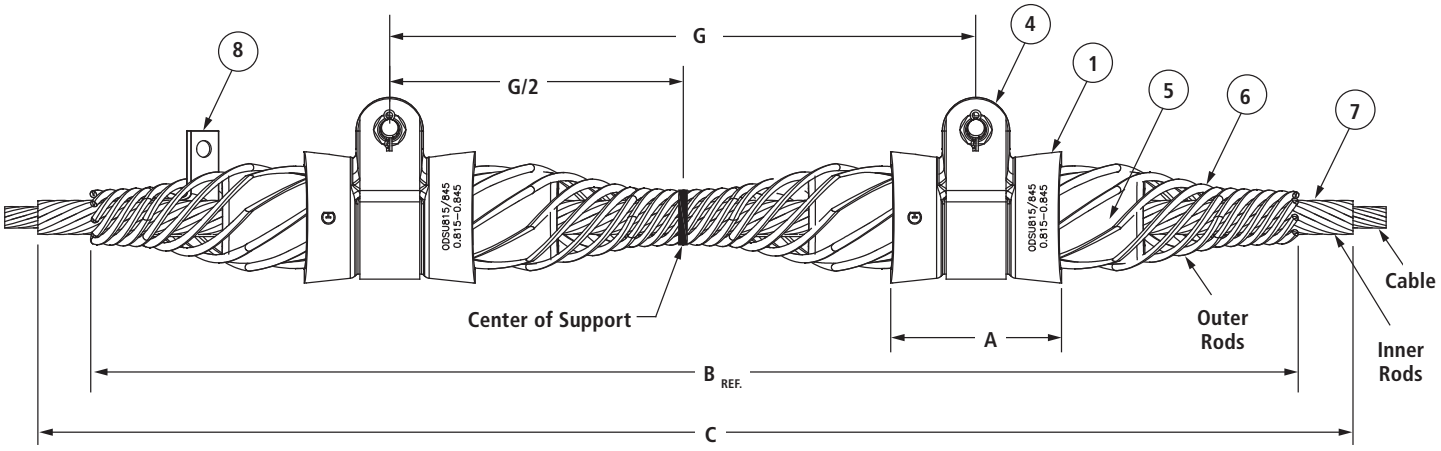
continued

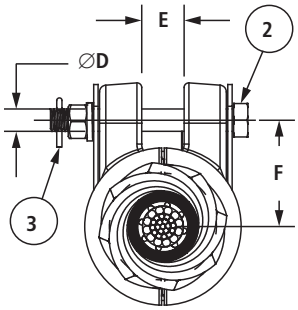
Double Layer Formed Wire Suspension for OPGW – Single (cont.)

CABLE RANGE (in decimal inches)	RODS PER SET		HOUSING	OUTER RODS	INNER RODS	BOLT DIA.	CLEVIS SPACING	BOLT CENTER TO FIBER CENTER	COLOR CODE
	INNER	OUTER	A	B	C	D	E	F	
354/381	9	11	3.86	42.00	66.00	0.63	0.75	2.32	BLUE
382/398									GREEN
399/418	10								YELLOW
419/439	10	11	3.86	42.00	67.00	0.63	0.75	2.32	BLACK
440/458	11			43.00	68.00				WHITE
459/461	10	10	4.53	46.00	72.00		0.88	2.38	ORANGE
462/476									PURPLE
477/503	11				73.00				ORANGE
504/511	12	10	4.53	46.00	76.00	0.63	0.88	2.38	PURPLE
512/536	11	11		49.00					BLUE
537/559					77.00				GREEN
560/565			5.00					2.68	GREEN
566/573		12			79.00				BLACK
574/598				54.00					WHITE
599/625					81.00				BROWN
626/632	11	11	5.71	63.00	94.00	0.63	1.19	2.93	RED
633/666									BLUE
667/682									GREEN
683/710									YELLOW
711/728	12	12	5.71	63.00	94.00	0.63	1.19	2.93	BLACK
729/744									WHITE
745/750									WHITE
751/786									BROWN
787/814	11	11	6.10	72.00	100.00	0.75	1.25	3.36	GREEN
815/845	11	11	6.10	72.00	100.00	0.75	1.25	3.36	YELLOW
846/855									BLUE
856/894				80.00					BLACK
895/907	12	12							WHITE
908/916	12	12	6.10	80.00	100.00	0.75	1.25	3.36	PURPLE
917/929									BROWN
930/942									RED
943/977	13	13							ORANGE

continued

Double Layer Formed Wire Suspension for OPGW – Double





Item	Description	Material
1	Housing	Aluminum
2	Bolt, Nut	Galvanized Steel
3	Cotter Pin	Stainless Steel
4	Strap	Aluminum
5	Insert	EPDM & Aluminum
6	Outer Rods	Aluminum
7	Inner Rods	Aluminum
8	Current Transfer Tab	Aluminum

Features

- Double suspension for line or elevation angle changes from 30° to 60°
- Slip load initially 10% to 20% of standard OPGW rated breaking strength
- Suspension components cannot be reused

Ordering Information

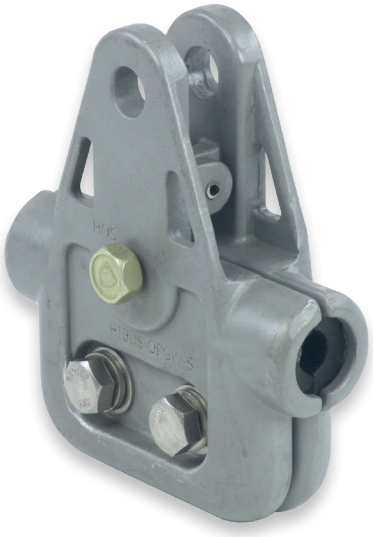
ODSU	YYY/YYY	L
Double Layer Formed Wire Suspension for OPGW – Double	Cable Range Code in Decimal Inches (see table on following page)	L = Left Hand Lay R = Right Hand Lay

Example: For Standard Left Hand Lay OPGW with diameter of 0.571 inches, order AFL No. ODSU566/573L.

continued

Double Layer Formed Wire Suspension for OPGW – Double (cont.)

CABLE RANGE (in decimal inches)	VERTICAL ULTIMATE STRENGTH (lbs)	RODS PER SET		HOUSING	OUTER RODS	INNER RODS	BOLT DIA.	CLEVIS SPACING	BOLT CENTER TO FIBER CENTER	HOUSING CENTER TO HOUSING CENTER	COLOR CODE
		INNER	OUTER	A	B	C	D	E	F	G	
354/381	15,000	9	11	3.86	60.00	84.00	0.63	0.75	2.32	18.00	BLUE
382/398											GREEN
399/418		10									YELLOW
419/439											BLACK
440/458		11			61.00						WHITE
459/461	20,000	10	10	4.53	64.00	90.00	0.63	0.88	2.38	18.00	ORANGE
462/476											PURPLE
477/503		11									ORANGE
504/511		12									PURPLE
512/536		11	11		67.00	94.00					BLUE
537/559											GREEN
560/565				5.00					2.68	22.00	GREEN
566/573			12		76.00	102.00					BLACK
574/598											WHITE
599/625											BROWN
626/632	25,000	11	11	5.71	89.00	120.00	0.63	1.19	2.93	26	RED
633/666											BLUE
667/682											GREEN
683/710											YELLOW
711/728		12	12								BLACK
729/744											WHITE
745/750											WHITE
751/786											BROWN
787/814	25,000	11	11	6.10	101.00	129.00	0.75	1.25	3.36	29.00	GREEN
815/845											YELLOW
846/855			12								BLUE
856/894		12			112.00	132.00					BLACK
895/907											WHITE
908/916											PURPLE
917/929											BROWN
930/942											RED
943/977		13	13								ORANGE



HIBUS® Series OPGW Suspension

The Hinged Bushing Suspension is designed to reduce the static and dynamic stress at the attachment point on all types of OPGW fiber cables without the use of protective rods. Eliminating the need for the rods was achieved by the use of a unique bushing system that allows the OPGW cable to better withstand the effects of aeolian vibration. Test results have proven its ability to provide superior protection for your fiber system. The hinged concept on the suspension configuration provides self alignment of the housing halves. All of the hardware is captive except for the attachment pin.

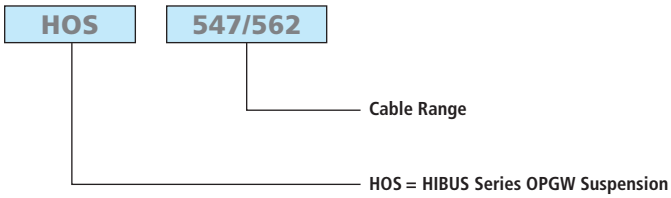
Test reports available include vibration test, slip test, ultimate strength and angle test.

Clamp rated slip load at 20% of RBS for cables with less than 25,000 lbs breaking load. Contact AFL for slip rating on cables greater than 25,000 lbs RBS.

Features

- Self-aligning housing halves
- Stress relief bushing system
- Aluminum clamp body with captive stainless steel mounting bolts
- Galvanized steel mounting pin with cotter pin
- Line angles up to 20° for single unit, up to 40° for two units using an 18" yoke plate.

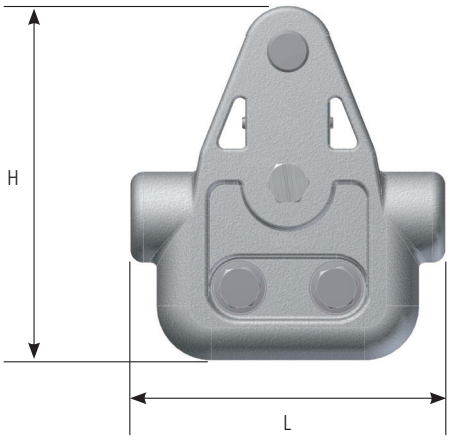
Ordering Information

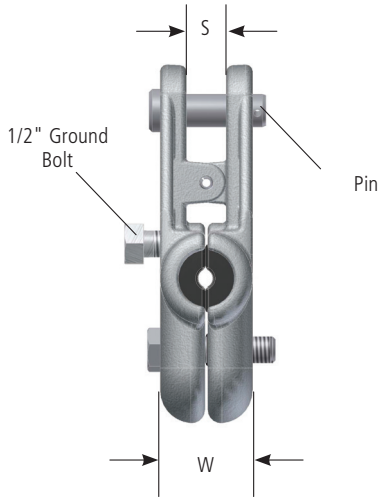


ORDERING EXAMPLE:
For a HIBUS Series OPGW Suspension with a 0.547"- 0.562" cable range, the part number is HOS547/562.

continued

HIBUS® Series OPGW Suspension

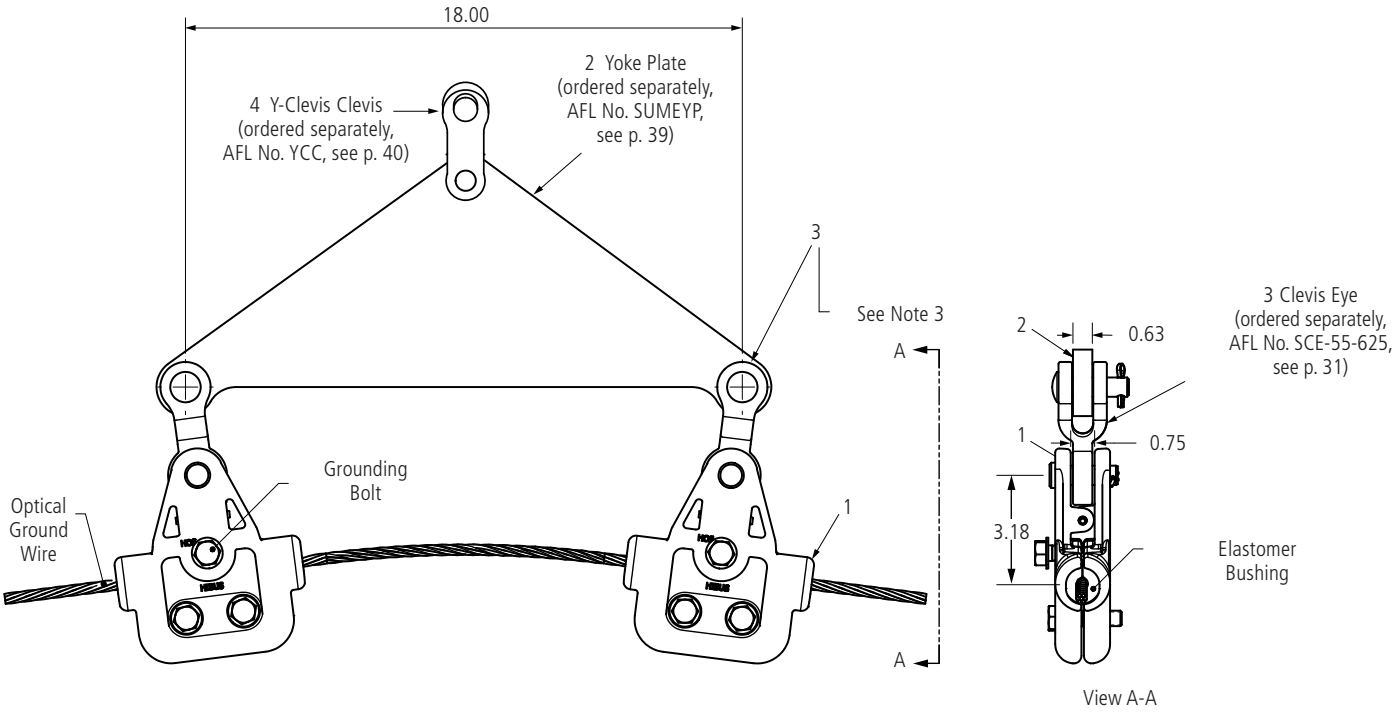




AFL NO.	RANGE (IN)		RANGE (MM)		LENGTH (L)	HEIGHT (H)	WIDTH (W)	CLEVIS WIDTH (S)	WEIGHT (LBS)	VERT. LOAD RATING (LBS)	PIN SIZE
	MIN	MAX	MIN	MAX							
HOS335/345	0.335	0.345	8.51	8.76	6.1"	6.8"	1.75"	.75"	3.4	20,000	0.625" x 2.00"
HOS346/360	0.346	0.360	8.77	9.14							
HOS361/375	0.361	0.375	9.15	9.53							
HOS376/390	0.376	0.390	9.54	9.91							
HOS391/406	0.391	0.406	9.92	10.31							
HOS407/418	0.407	0.418	10.32	10.62							
HOS419/434	0.419	0.434	10.63	11.02							
HOS435/448	0.435	0.448	11.03	11.38							
HOS449/465	0.449	0.465	11.39	11.81							
HOS466/480	0.466	0.480	11.82	12.19							
HOS481/500	0.481	0.500	12.20	12.70							
HOS501/516	0.501	0.516	12.71	13.11							
HOS517/531	0.517	0.531	13.12	13.49							
HOS532/546	0.532	0.546	13.50	13.87							
HOS547/562	0.547	0.562	13.88	14.27							
HOS563/577	0.563	0.577	14.28	14.66							
HOS578/584	0.578	0.584	14.67	14.83							
HOS585/599	0.585	0.599	14.84	15.21							
HOS600/614	0.600	0.614	15.22	15.60							
HOS615/629	0.615	0.629	15.61	15.98							
HOS630/644	0.630	0.644	15.99	16.36							
HOS645/659	0.645	0.659	16.37	16.74							
HOS660/666	0.660	0.666	16.75	16.92							
HOS667/681	0.667	0.681	16.93	17.30							
HOS682/696	0.682	0.696	17.31	17.68							
HOS697/711	0.697	0.711	17.69	18.06							
HOS712/726	0.712	0.726	18.07	18.44							
HOS727/741	0.727	0.741	18.45	18.82							
HOS742/750	0.742	0.750	18.83	19.05							

continued →

HIBUS® OPGW Double Suspension – Configuration Assemblies



Bill of Material

ITEM	DESCRIPTION	AFL OR DWG. NO.	REQ'D
1	HIBUS OPGW Suspension Clamp Assembly	HOS XXX/XXX	2
2	Yoke Plate	SUMEYP	1
3	Clevis Eye	SCE-55-625	2
4	Y-Clevis Clevis	YCC	1

Strength Rating Information

1. Hibus opgw [optical ground wire] Suspension Clamp - Item (1) ultimate strength rating: 20,000 lbs.

2. Hibus opgw [optical ground wire] Suspension Clamp rated slip load @ 20% of rts for cables with less than 25,000 breaking load. Contact AFL for slip load rating on cables greater than 25,000 lbs. Rts.

3. Attachment hardware:

   Yoke plate - Item (2) - ultimate strength rating: 40,000 lbs.
   Clevis eye - Item (3) - ultimate strength rating: 25,000 lbs.
   Y-Clevis Clevis - Item (4) - ultimate strength rating: 30,000 lbs.

4. Max line angle is 40 degrees.

HIBUS® Series OPGW Trunnion

The HIBUS Trunnion is designed to reduce the static and dynamic stress at the attachment point on all types of OPGW fiber cables without the use of protective rods. Eliminating the need for the rods was achieved by the use of a unique bushing system that allows the OPGW cable to better withstand the effects of aeolian vibration. Test results have proven its ability to provide superior protection for your fiber system. All of the hardware is captive except for attachment pin.

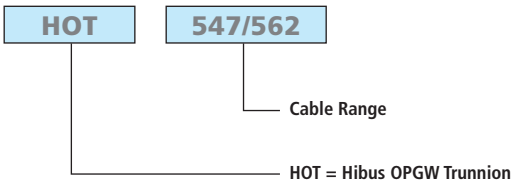
Test reports available include vibration test, slip test, ultimate strength, and angle test.

Clamp rated slip load at 20% of RBS for cables with less than 25,000 lbs breaking load. Contact AFL for slip rating on cables greater than 25,000 lbs RBS.

Features

- Stress relief bushing system
- Aluminum clamp body with stainless steel captive securing bolts
- Line angles up to 20°

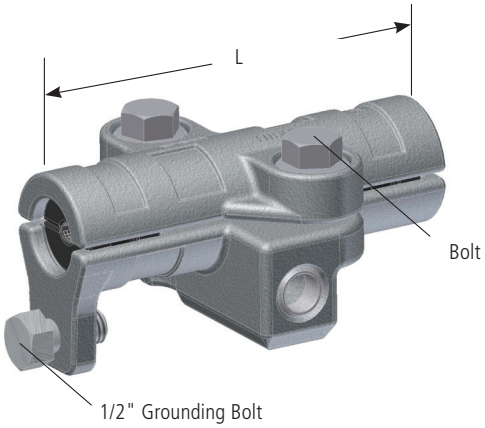
Ordering Information

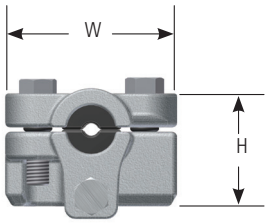


ORDERING EXAMPLE:
For a HIBUS Series OPGW Trunnion with a 0.547"- 0.562" cable range, the part number is HOT547/562.

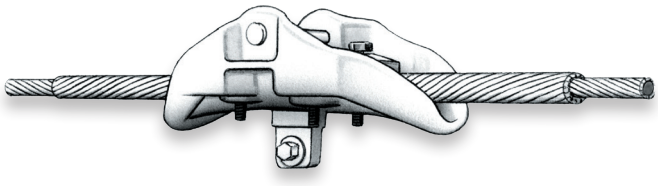
continued

HIBUS® Series OPGW Trunnion

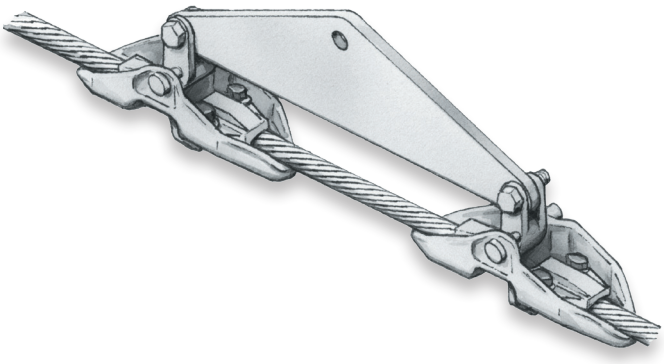




AFL NO.	RANGE (IN)		RANGE (MM)		LENGTH (L)	HEIGHT (H)	WIDTH (W)	WEIGHT (LBS)	VERT. LOAD RATING (LBS)
	MIN	MAX	MIN	MAX					
HOT335/345	0.335	0.345	8.51	8.76	6.1"	2.5"	3.8"	2.3	20,000
HOT346/360	0.346	0.360	8.77	9.14					
HOT361/375	0.361	0.375	9.15	9.53					
HOT376/390	0.376	0.390	9.54	9.91					
HOT391/406	0.391	0.406	9.92	10.31					
HOT407/418	0.407	0.418	10.32	10.62					
HOT419/434	0.419	0.434	10.63	11.02					
HOT435/448	0.435	0.448	11.03	11.38					
HOT449/465	0.449	0.465	11.39	11.81					
HOT466/480	0.466	0.480	11.82	12.19					
HOT481/500	0.481	0.500	12.20	12.70					
HOT501/516	0.501	0.516	12.71	13.11					
HOT517/531	0.517	0.531	13.12	13.49					
HOT532/546	0.532	0.546	13.50	13.87					
HOT547/562	0.547	0.562	13.88	14.27					
HOT563/577	0.563	0.577	14.28	14.66					
HOT578/584	0.578	0.584	14.67	14.83					
HOT585/599	0.585	0.599	14.84	15.21					
HOT600/614	0.600	0.614	15.22	15.60					
HOT615/629	0.615	0.629	15.61	15.98					
HOT630/644	0.630	0.644	15.99	16.36					
HOT645/659	0.645	0.659	16.37	16.74					
HOT660/666	0.660	0.666	16.75	16.92					
HOT667/681	0.667	0.681	16.93	17.30					
HOT682/696	0.682	0.696	17.31	17.68					
HOT697/711	0.697	0.711	17.69	18.06					
HOT712/726	0.712	0.726	18.07	18.44					
HOT727/741	0.727	0.741	18.45	18.82					
HOT742/750	0.742	0.750	18.83	19.05					



Single Suspension



Double Suspension shown with optional Yoke Plate and Clevis Eyes

Mechanical Suspensions—Single and Double

Supporting spans of Optical Ground Wire cable through a wide range of line angle changes, the unique design of the lightweight AFL Mechanical Suspension installs easily while supporting vertical, transverse, longitudinal unbalanced loads and angle pulls without damaging the cable strands or affecting optical fiber performance. Breakaway bolts ensure proper installation torque while eliminating the need for specialized torque wrenches. The assemblies are designed for fast installation to minimize costs.

Features

- Compact design:
  - Single Suspension = 34" in length
  - Double Suspension = 48" in length
- Ideal for helicopter installation
- Unique keeper design allows installation without removing bolts (fewer loose parts)
- Grounding lug included, eliminating additional accessories for electrical bonding
- Shorter than formed wire suspensions, allowing installation from the support structure
- Standard assembly includes suspension unit and rods

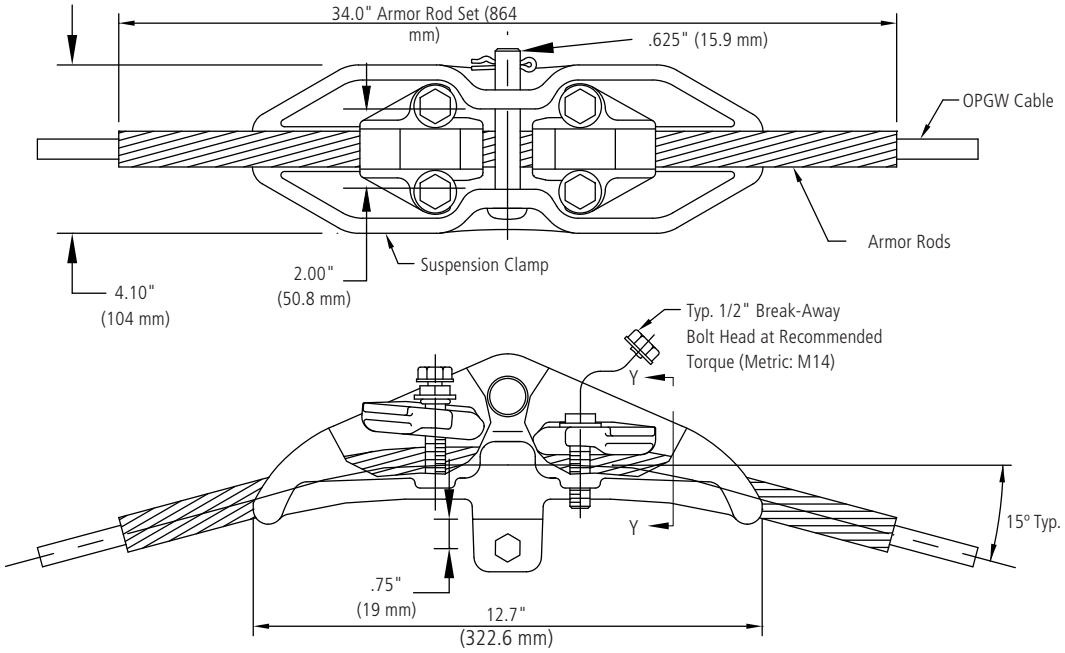
Qualifications

GOVERNING BODY	STANDARD CODE	TESTS
IEEE	1138	Vibration Galloping

continued

Mechanical Suspensions—Single and Double (cont.)

Single Mechanical Suspension for OPGW



Ordering Information—Single

Assembly includes suspension and rods. For line or elevation angle changes up to 30°.

OPGW DIAMETER		EST. WEIGHT		AFL NO.
INCHES	MILLIMETERS	LBS.	KG	
0.350 - 0.389	8.89 - 9.88	5.7	2.6	SUME350/389
0.390 - 0.420	9.91 - 10.67	5.7	2.6	SUME390/420
0.421 - 0.449	10.69 - 11.40	5.8	2.6	SUME421/449
0.450 - 0.475	11.43 - 12.07	5.8	2.6	SUME450/475
0.476 - 0.499	12.09 - 12.67	5.8	2.6	SUME476/499
0.500 - 0.527	12.70 - 13.39	5.8	2.6	SUME500/527
0.528 - 0.555	13.41 - 14.10	5.8	2.6	SUME528/555
0.556 - 0.584	14.12 - 14.83	6.3	2.9	SUME556/584
0.585 - 0.614	14.86 - 15.60	6.3	2.9	SUME585/614
0.615 - 0.646	15.62 - 16.41	6.3	2.9	SUME615/646
0.647 - 0.679	16.43 - 17.25	6.3	2.9	SUME647/679
0.680 - 0.714	17.27 - 18.14	6.3	2.9	SUME680/714
0.715 - 0.770	18.16 - 18.54	6.3	2.9	SUME715/770

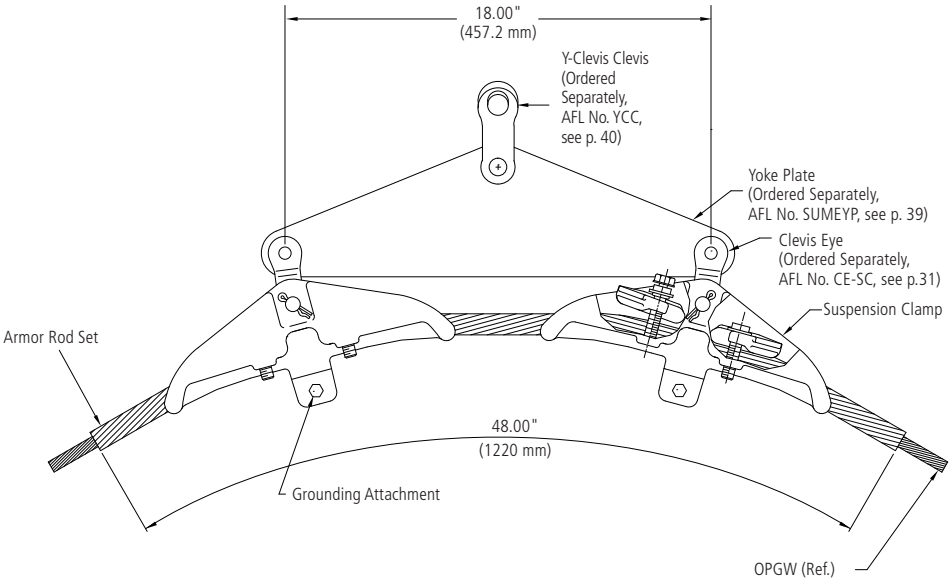
Ordering Example

For 0.512" diameter cable, the part number is SUME500/527.

NOTES:
1. For metric hardware, add suffix "M" to part number.
2. Contact AFL for OPGW cable over 0.770 inch diameter.
3. Installation instructions are available online for the Single Mechanical Suspension.

Mechanical Suspensions—Single and Double (cont.)

Double Suspension for OPGW



Ordering Information—Double

Standard unit includes suspensions and rods. For line or elevation angle changes from 31° to 60°.

OPGW DIAMETER		EST. WEIGHT		AFL NO.
INCHES	MILLIMETERS	LBS.	KG	
0.350 - 0.389	8.89 - 9.88	5.7	2.6	ODSME350/389
0.390 - 0.420	9.91 - 10.67	5.7	2.6	ODSME390/420
0.421 - 0.449	10.69 - 11.40	5.8	2.6	ODSME421/449
0.450 - 0.475	11.43 - 12.07	5.8	2.6	ODSME450/475
0.476 - 0.499	12.09 - 12.67	5.8	2.6	ODSME476/499
0.500 - 0.527	12.70 - 13.39	5.8	2.6	ODSME500/527
0.528 - 0.555	13.41 - 14.10	5.8	2.6	ODSME528/555
0.556 - 0.584	14.12 - 14.83	6.3	2.9	ODSME556/584
0.585 - 0.614	14.86 - 15.60	6.3	2.9	ODSME585/614
0.615 - 0.646	15.62 - 16.41	6.3	2.9	ODSME615/646
0.647 - 0.679	16.43 - 17.25	6.3	2.9	ODSME647/679
0.680 - 0.714	17.27 - 18.14	6.3	2.9	ODSME680/714
0.715 - 0.770	18.16 - 18.54	6.3	2.9	ODSME715/770

Ordering Example

For 0.512" diameter cable, the part number is ODSME500/527.

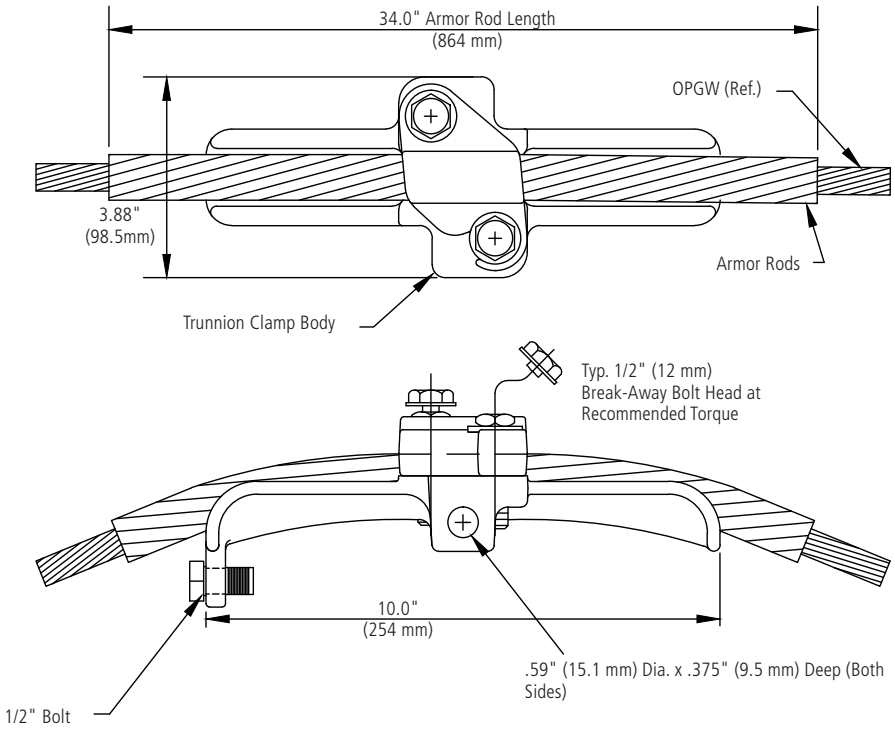
NOTES:
1. For metric hardware, add suffix "M" to part number.
2. For optional yoke plate (as shown), order separately as SUMEYP.
3. Clevis eyes sold separately, see page 31.
4. Y-Clevis Clevis sold separately, see page 40.
5. Contact AFL for OPGW cable over 0.770 inch diameter.
6. Installation instructions are available online for the Double Mechanical Suspension.

Trunnion for OPGW

The trunnion support clamp is used to secure the OPGW cable to a trunnion type bracket configuration. Either mounted directly to the tower or an insulator, the clamp provides enough force to maintain the designed slip load without causing cable attenuation. For more information, contact factory regarding slip load capabilities.

Features

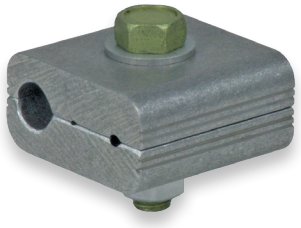
- Keeper is designed for easy installation without removal of keeper bolts. Break-away head bolts ensure proper installation torque.
- Clamp assembly includes Armor Rod set.
- Weight: 3.5 lbs. (1.6 kg)
- Line angles up to 20°



Ordering Information

AFL NO.	OPGW CABLE DIAMETER RANGE	
	INCHES	MILLIMETERS
OTR421/449G	.421 - .449	10.69 - 11.40
OTR450/475G	.450 - .475	11.43 - 12.07
OTR476/499G	.476 - .499	12.09 - 12.67
OTR500/527G	.500 - .527	12.70 - 13.39
OTR528/555G	.528 - .555	13.41 - 14.10
OTR556/584G	.556 - .584	14.12 - 14.83
OTR585/614G	.585 - .614	14.86 - 15.60
OTR615/646G	.615 - .646	15.62 - 16.41
OTR647/679G	.647 - .679	16.43 - 17.25
OTR680/714G	.680 - .714	17.27 - 18.14
OTR715/750G	.715 - .750	18.16 - 19.05

NOTE: For installation instructions, see page 136.



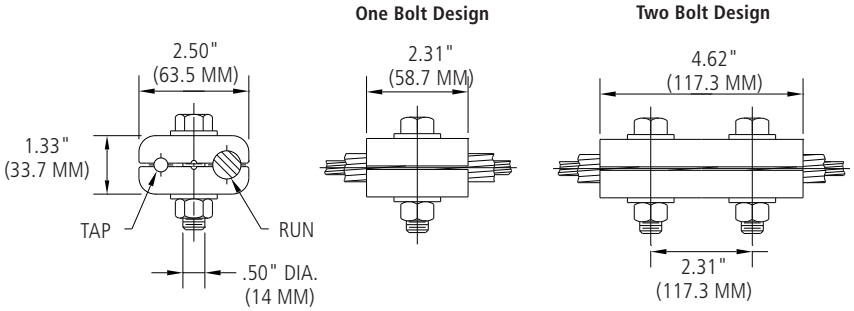
Bonding Clamps for OPGW

The Bonding Clamp is used to ground OPGW to the tower by attaching to the tower grounding wire. Specific requirements vary from one utility to another. The product is an aluminum extruded parallel groove clamp. The clamp is available with one or two bolts, depending on the application requirements.

Features

- Hardware is high strength aluminum
- Clamp grooves are coated with NO-OX-ID and prefilled with Alnox.
- Recommended bolt torque: 25 ft.-lbs.

Specifications



Ordering Information

O	BC	XX	YY	#
OPGW	Bonding Clamp	Run Groove Code	Tap Groove Code	Number of Bolts

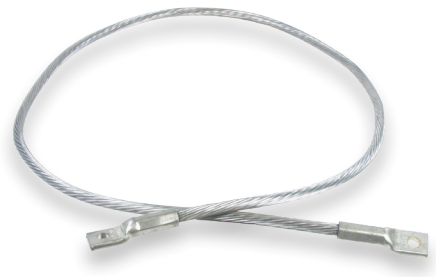
1 = One Bolt Design
2 = Two Bolt Design

GROOVE CODE	GROOVE RANGE (inches)
A1	.112" - .126"
B1	.127" - .141"
C1	.142" - .156"
D1	.157" - .171"
E1	.172" - .186"
F1	.187" - .201"
G1	.202" - .216"
H1	.217" - .231"
J1	.232" - .246"
K1	.247" - .261"
L1	.262" - .276"
M1	.277" - .291"
N1	.292" - .306"
P1	.307" - .321"
Q1	.322" - .336"
R1	.337" - .351"
S1	.352" - .366"

GROOVE CODE	GROOVE RANGE (inches)
T1	.367" - .381"
U1	.382" - .396"
V1	.397" - .411"
W1	.412" - .424"
X1	.425" - .440"
Y1	.441" - .454"
Z1	.455" - .464"
A2	.465" - .480"
B2	.481" - .495"
C2	.496" - .510"
D2	.511" - .525"
E2	.526" - .540"
F2	.541" - .555"
G2	.556" - .570"
H2	.571" - .585"
J2	.586" - .600"
K2	.601" - .615"

GROOVE CODE	GROOVE RANGE (inches)
L2	.616" - .630"
M2	.631" - .645"
N2	.646" - .660"
P2	.661" - .675"
Q2	.676" - .690"
R2	.691" - .705"
S2	.706" - .720"
T2	.721" - .735"
U2	.736" - .750"
V2	.751" - .765"
W2	.766" - .780"
X2	.781" - .795"
Y2	.796" - .810"
Z2	.811" - .825"
A3	.826" - .840"
B3	.841" - .855"

NOTE: For installation instructions, see page 148.



Aluminum Bonding Wire

The Bonding Wire is used in conjunction with our dead end and suspension clamps to provide a path to ground from the OPGW cable to the tower. Bonding Wires are available in multiple lengths, lug sizes, and terminal angle options.

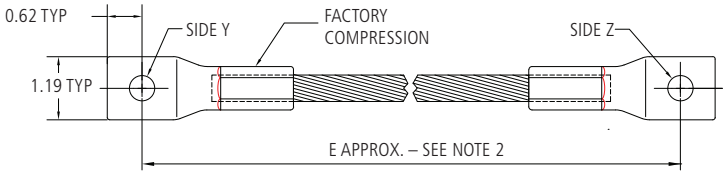
For more information on AFL's bonding assembly product offerings, applications, and configurations, please review the "OPGW and OHGW Bonding Assembly Selection" technical white paper at https://learn.aflglobal.com/white-papers

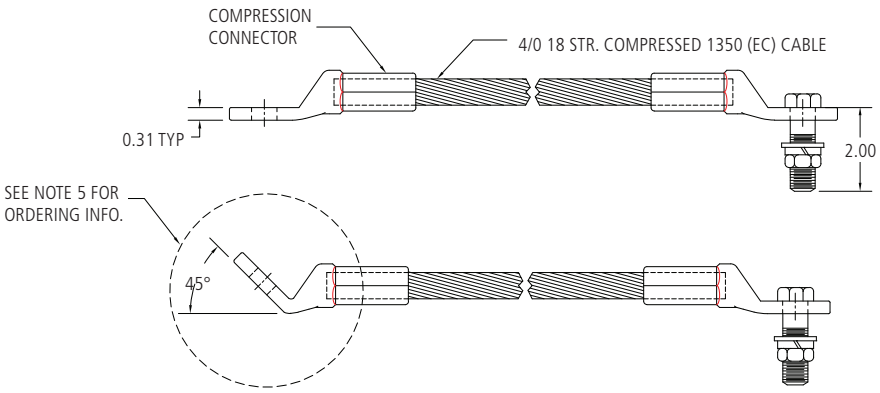
Ordering Information

BWAL	YY		H	/	ZZ		H	–	LL
Aluminum Bonding Wire	**Terminal Selection Code – Side Y –** (Smaller End)	**Terminal Angle** Blank = 0° Bend D = 45 ° Bend	**Hardware** H = Hardware Blank = No hardware		**Terminal Selection Code – Side Z –** (Larger End)	**Terminal Angle** Blank = 0° Bend D = 45 ° Bend	**Hardware** H = Hardware Blank = No hardware		**Length in Inches** (See Chart) *

DIMENSION "E"	TERMINAL		
(length in inches)*	SELECTION CODE**	HARDWARE SIZE	MOUNT HOLE DIAMETER
24	38	3/8"	0.438
36	50	1/2"	0.531
40	62	5/8"	0.688
60	75	3/4"	0.812
68			

NOTES: 1. Connectors to be pre-compressed onto cable at factory.
2. If assembly does not contain two hole diameter codes, one terminal is supplied, and dimension "E" references wire end.
3. (*) For additional lengths not found in chart, contact AFL.
4. (**) To order 45° angled terminal, add suffix 'D' to selection code. Example: (BWAL50DH/50D-36).





Tinned Copper Flexible Braided Bonding Strap

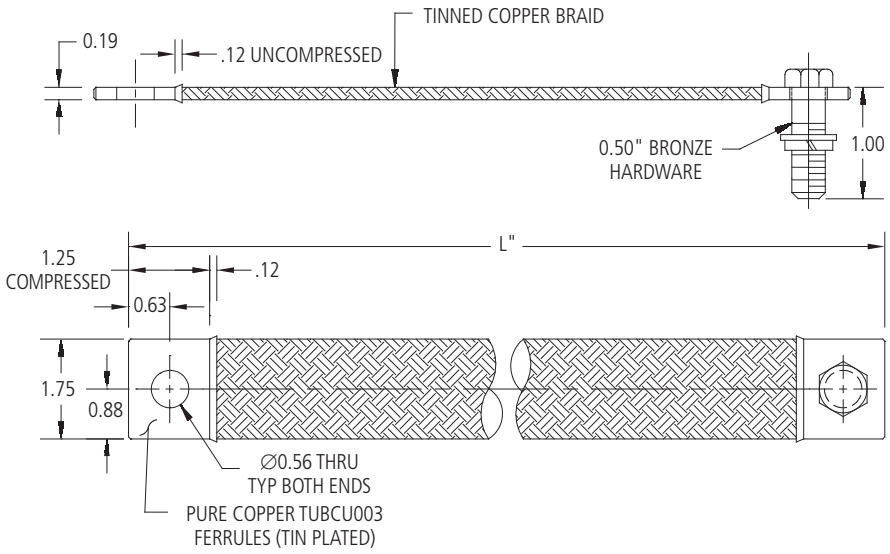
The Braided Bonding Strap is used in conjunction with our dead end and suspension clamps to provide a path to ground from the OPGW cable to the tower. Bonding straps are available in multiple lengths as shown in the table below.

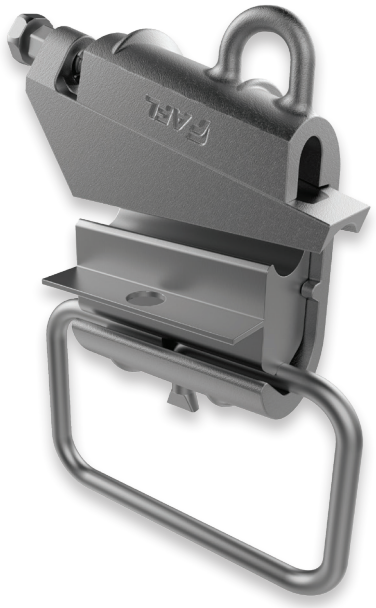
For more information on AFL's bonding assembly product offerings, applications and configurations, please review the "OPGW and OHGW Bonding Assembly Selection" technical white paper at https://learn.aflglobal.com/white-papers.

Ordering Information

BWCF	50SN	NH100	/	50SN	–	LL
Tinned Copper Flexible Braided Bonding Strap	Terminal Hole for 1/2" Hardware	1" Bolt, Flat Washer, Split Washer		Terminal Hole for 1/2" Hardware		Length in Inches (See Chart) *

AFL NO.	L (inches)
BWCF50SNH100/50SN-60	60
BWCF50SNH100/50SN-48	48
BWCF50SNH100/50SN-36	36
BWCF50SNH100/50SN-24	24





Hotline Stirrup Connectors for OPGW

AFL's OPGW Clamps are used to connect the optical ground wire in a manner providing protection to both the cable strands and underlying optical fibers. The bolted wedge technology makes installations quicker, easier and safer when compared with traditional tap connectors by eliminating the need for specialized tooling for the same type of connection. Once the appropriate pressure is obtained by the wedge, the breakaway bolt will shear off giving a visual indication that a correct installation has been made.

This connector is reusable and can easily be removed by backing out the bolt, which will drive out the wedge. AFL recommends replacing the bolt and applying more inhibitor grease when reusing.

The wedge stirrup connectors are comprised of high strength aluminum castings, a breakaway bolt, a tin-plated copper bail and a highly conductive aluminum interface, providing a secure, reliable solution with an installation that is both fast and simple.

Features

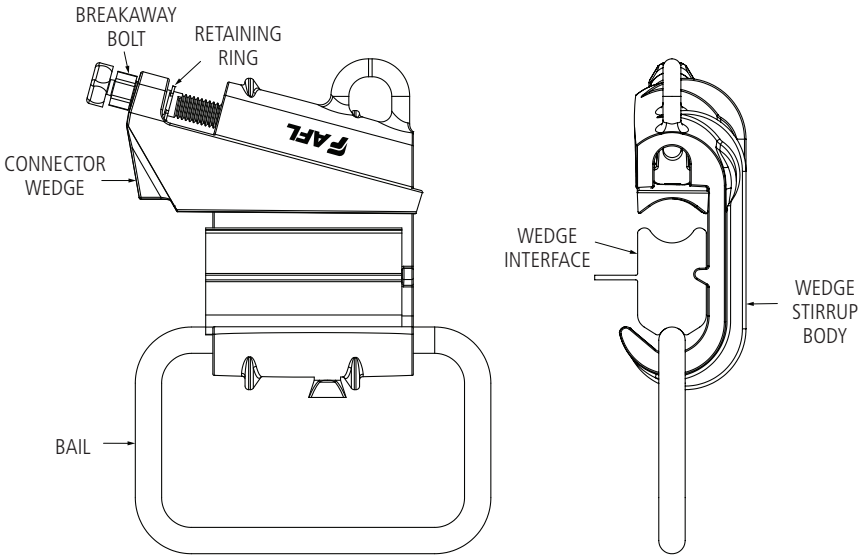
- Material
  - Wedge Stirrup Body—Aluminum Alloy
  - Connector Wedge—Aluminum Alloy
  - Wedge Interface—Aluminum Alloy
  - Bail— Tin Plated Copper
  - Breakaway Bolt—Aluminum Alloy
  - Retaining Ring—Steel
- Breakaway Bolt Torque: 10 ft-lbs

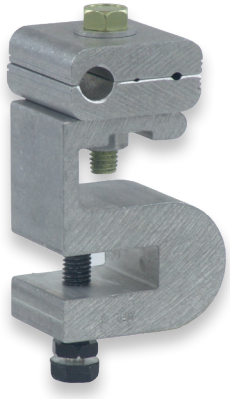
Standard Packaging

QUANTITY	WEIGHT
25	25 lbs

Ordering Information

LINE NO.	AFL NO.	CONDUCTOR DIAMETER RANGE	BAIL SIZE	BAIL AMPACITY
1	SCA-162/292B1	0.162" - 0.292"	1/0	550
2	SCA-292/398B1	0.292" - 0.398"		
3	SCA-414/522B1	0.414" - 0.522"		
4	SCA-502/574B1	0.502" - 0.574"		
5	SCA-586/724B1	0.586" - 0.724"		





Guide Clamp Shown with Adaptor

Guide Clamps for OPGW

The Guide Clamp is used to guide OPGW cable down steel towers, steel poles, concrete poles and wood poles to splice locations. The Guide Clamps may be bolted to the tower or poles. Additionally, adapters are available for the steel towers and steel & concrete poles.

Guide Clamps are typically two groove clamps spaced five to eight feet apart to help maintain alignment of and support the OPGW down the towers or poles.

Features

- Hardware is high strength aluminum
- Clamp grooves are coated with NO-OX-ID and prefilled with Alnox.
- Recommended bolt torque: 25 ft.-lbs.

Ordering Information

O	GC	XX	YY	Z	M
OPGW	Guide Clamp	Groove Code (Larger Cable)	Groove Code (Smaller Cable)	Indicates Adapters	Hardware
				A = Banding Adapter B = Lattice Adapter for web thickness 0.25" - 0.72" C = Lattice Adapter for web thickness 0.72" - 1.25" Omit = No adapter desired	M = Metric

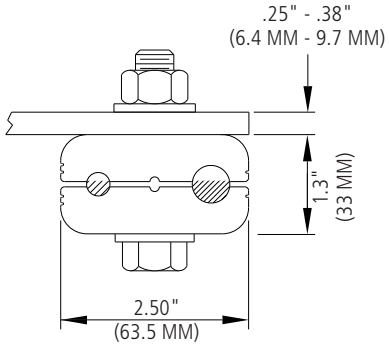
GROOVE CODE	GROOVE RANGE (inches)
A1	.112" - .126"
B1	.127" - .141"
C1	.142" - .156"
D1	.157" - .171"
E1	.172" - .186"
F1	.187" - .201"
G1	.202" - .216"
H1	.217" - .231"
J1	.232" - .246"
K1	.247" - .261"
L1	.262" - .276"
M1	.277" - .291"
N1	.292" - .306"
P1	.307" - .321"
Q1	.322" - .336"
R1	.337" - .351"
S1	.352" - .366"

GROOVE CODE	GROOVE RANGE (inches)
T1	.367" - .381"
U1	.382" - .396"
V1	.397" - .411"
W1	.412" - .424"
X1	.425" - .440"
Y1	.441" - .454"
Z1	.455" - .464"
A2	.465" - .480"
B2	.481" - .495"
C2	.496" - .510"
D2	.511" - .525"
E2	.526" - .540"
F2	.541" - .555"
G2	.556" - .570"
H2	.571" - .585"
J2	.586" - .600"
K2	.601" - .615"

GROOVE CODE	GROOVE RANGE (inches)
L2	.616" - .630"
M2	.631" - .645"
N2	.646" - .660"
P2	.661" - .675"
Q2	.676" - .690"
R2	.691" - .705"
S2	.706" - .720"
T2	.721" - .735"
U2	.736" - .750"
V2	.751" - .765"
W2	.766" - .780"
X2	.781" - .795"
Y2	.796" - .810"
Z2	.811" - .825"
A3	.826" - .840"
B3	.841" - .855"

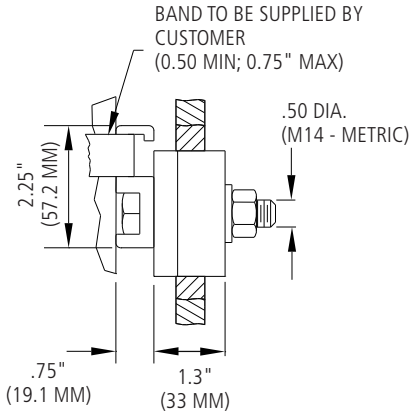
Guide Clamps for OPGW

Guide Clamps and Optional Guide Clamp Adapters



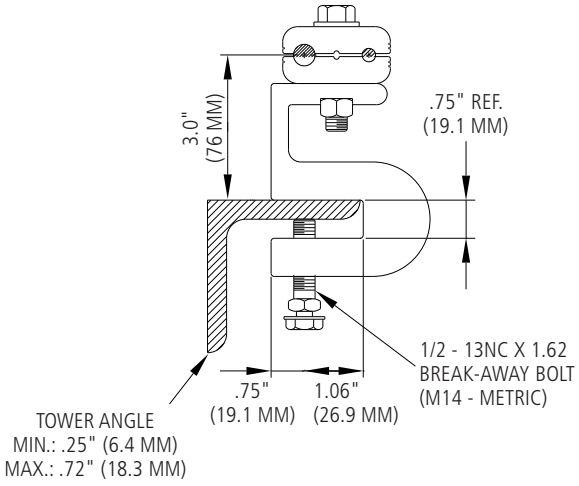
OGCXXYY

No Adapter



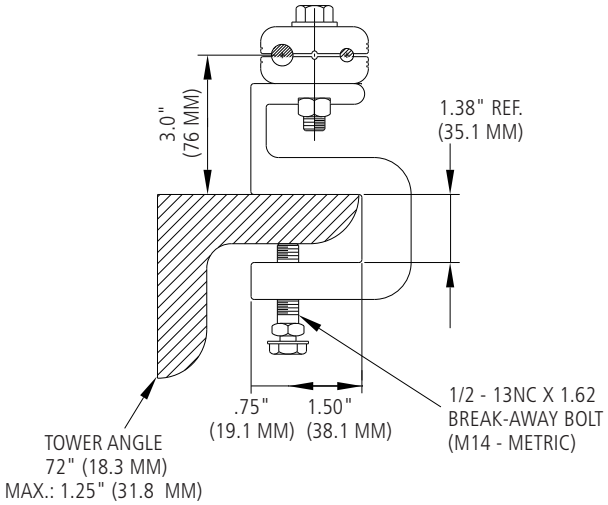
OGCXXYYA

TYPE A ADAPTER (BAND-
ING)
EST. WT.: .96 LBS. (.44 KG)



OGCXXYYB

TYPE B ADAPTER (LATTICE)
EST. WT.: 1.98 LBS. (.90 KG)



OGCXXYYC

TYPE C ADAPTER (LATTICE)
EST. WT.: 2.20 LBS. (1.00 KG)

Downlead Clamp shown with Adapter B

Downlead Clamps for OPGW and ADSS

AFL Downlead Clamps are used to guide Optical Ground Wire from the top of the structure to the splice box. AFL's Downlead Clamps install easily and provide proper spacing and hold strength without damage to the cable. From poles to towers, AFL offers a full line of OPGW Downlead Clamps to meet the needs of any application.

Features

- Slip strength: >100 lbs.
- Lattice adapters provided with break-away bolts for precise torque during installation
- Steel tower guide clamps available with adapters to eliminate the need for drilling
- Banding adapters available

Ordering Information – Downlead Clamp & Adapter

GROOVE CODE	OPGW DIAMETER (inches)	COLOR CODE
B4	0.350 - 0.500	Red
B5	0.501 - 0.600	Green
B6	0.601 - 0.700	Yellow
B7	0.701 - 0.800	Blue
B8	0.801 - 0.900	White
B9	0.901 - 1.000	Black
B10	1.001 - 1.100	Orange

FD	OA	XX	YY	Z
Fiber Downlead	**OPGW and ADSS**	**Groove Code** (Larger Cable)	**Groove Code** (Smaller Cable)	**Indicates Adapters** A = Banding Adapter B = Lattice Adapter for web thickness 0.25" - 0.72" C = Lattice Adapter for web thickness 0.25" - 1.25" D = 3/8" diameter X 4" lag bolt Omit = No adapter desired

Ordering Example:
For 0.528" dia. OPGW and 0.484 ADSS with pole banding (Type A), the part number is FDOA-B4B5A.

NOTES: 1. See next page for optional downlead clamp adapters.
2. For installation instructions, see page 143.

continued

Download Clamps for OPGW

Dimensions

FIG. 1

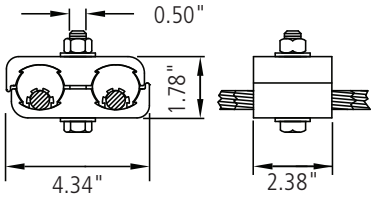
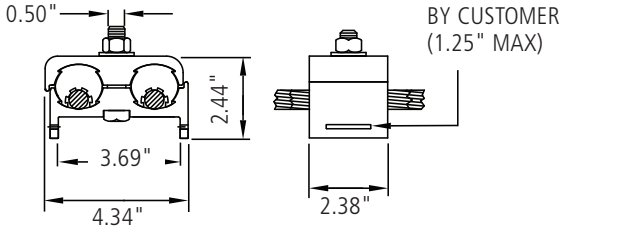
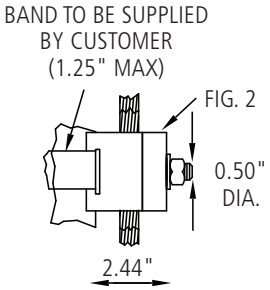


FIG. 2



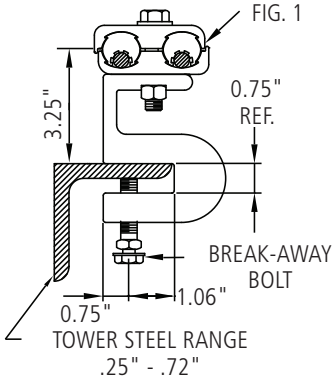
FDOA XXYY
NO ADAPTER

Download Clamp Adapters



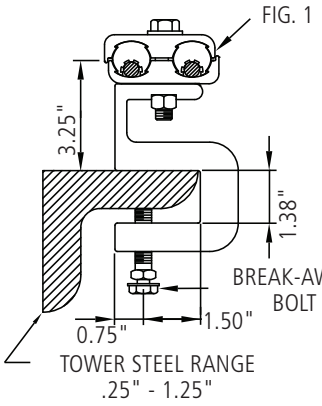
FDOA XXYYA

TYPE A ADAPTER
WITH FIGURE 2
BANDING CONFIGURATION
EST. WEIGHT: .96 LBS.



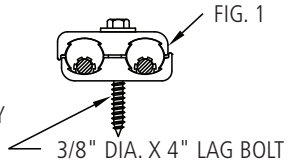
FDOA XXYYB

TYPE B ADAPTER
WITH FIGURE 1
LATTICE CONFIGURATION
EST. WEIGHT: 1.98 LBS.



FDOA XXYYC

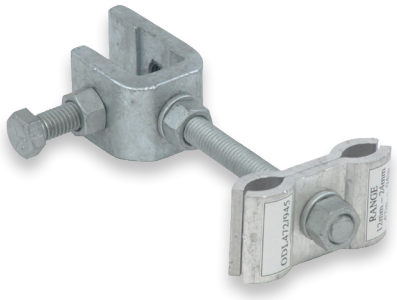
TYPE C ADAPTER
WITH FIGURE 1
LATTICE CONFIGURATION
EST. WEIGHT: 2.20 LBS.



FDOA XXYYD

TYPE D ADAPTER
WITH FIGURE 1
LATTICE CONFIGURATION
EST. WEIGHT: .96 LBS.

continued

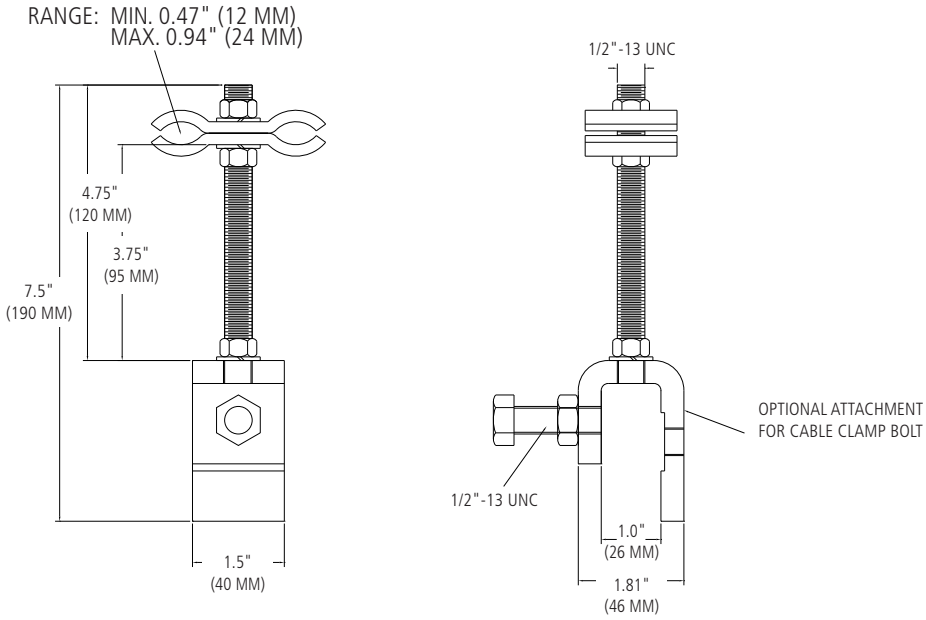


Downlead Clamps for OPGW

Downlead clamps are used to secure the OPGW fiber optic cable as it is trained down the pole or tower. AFL's downlead clamp incorporates a unique design feature that allows the clamp to cover a broad cable range. This feature reduces the customer's stocking requirements when dealing with numerous cable diameters. The clamp has four attachment options that provide the versatility needed when dealing with a variety of wood or steel poles and lattice towers. Normal spacing for downloead clamps is six to eight feet.

Ordering Information

AFL NO.	CABLE DIAMETER RANGE inches (mm)	
	MIN	MAX
ODL472/945	0.472 (12)	0.945 (24)



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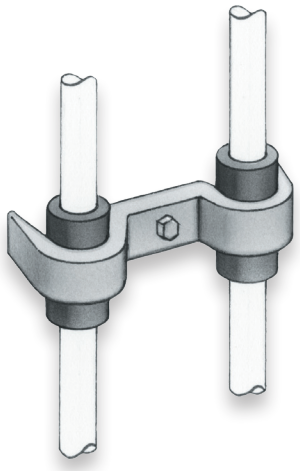


Wood Pole Clamp

Wood Pole Clamps for OPGW

Guide clamps are typically two groove clamps used to guide the cable to splice locations. Clamps are spaced 5 to 8 feet apart to help maintain alignment of the cable down the towers or poles. Not applicable to OGW series.

Features

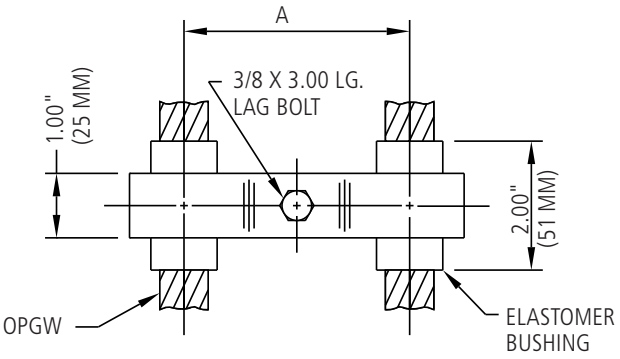
- Slip strength: >100 lbs.

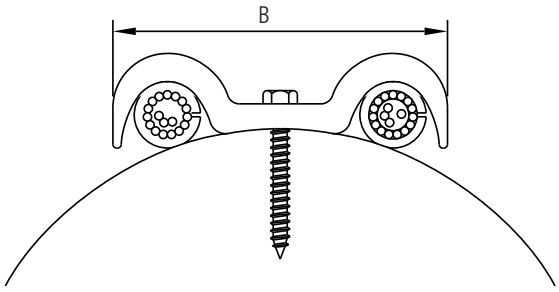
Ordering Information – Wood Pole Clamp

(Note: not available with metric hardware; 3/8" x 3" lag bolt included)

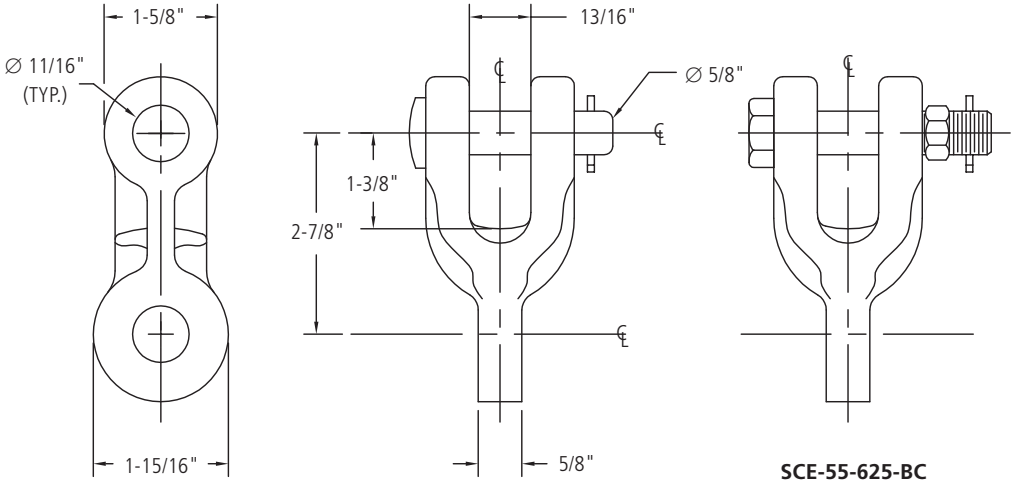
OPGW DIAMETER IN. (MM)	DIMENSIONS IN. (MM)		WEIGHT LBS. (KG)	AFL NO.
	A	B		
0.469 - 0.561 (11.9 - 14.2)	2.81 (71)	4.25 (108)	0.33 (0.15)	OGW469/561
0.562 - 0.655 (14.3 - 16.6)	3.50 (89)	5.19 (132)	0.46 (0.21)	OGW562/655
0.656 - 0.750 (16.7 - 19.1)	3.50 (89)	5.19 (132)	0.46 (0.21)	OGW656/750

Ordering Example: For AC-64/528 AlumaCore OPGW, the part number is OGW469/561.





Standard Clevis Eye



SCE-55-625-BC

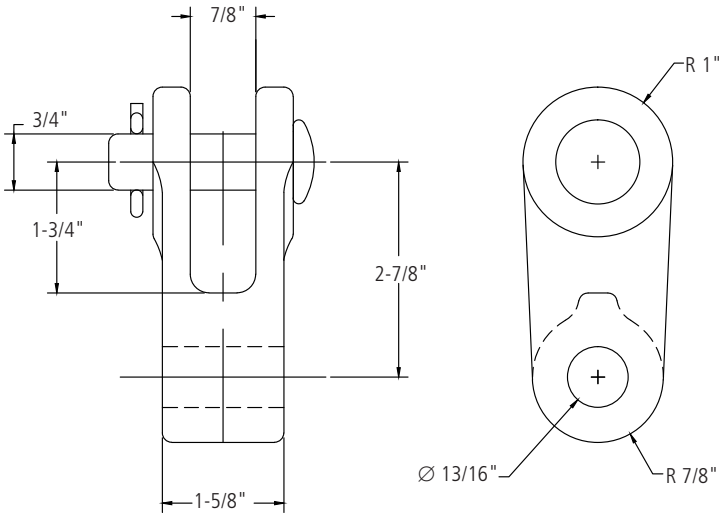
MATERIAL
Hot Dip Galvanized Ductile Iron

Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT EACH (LBS.)	APPLICATION
SCE-55-625	25,000	1.35	HIBUS Double Suspension

NOTE: *For Bolt, Nut and Cotter instead of Clevis Pin and Cotter, add suffix "-BC" to AFL number.*

Clevis Eye

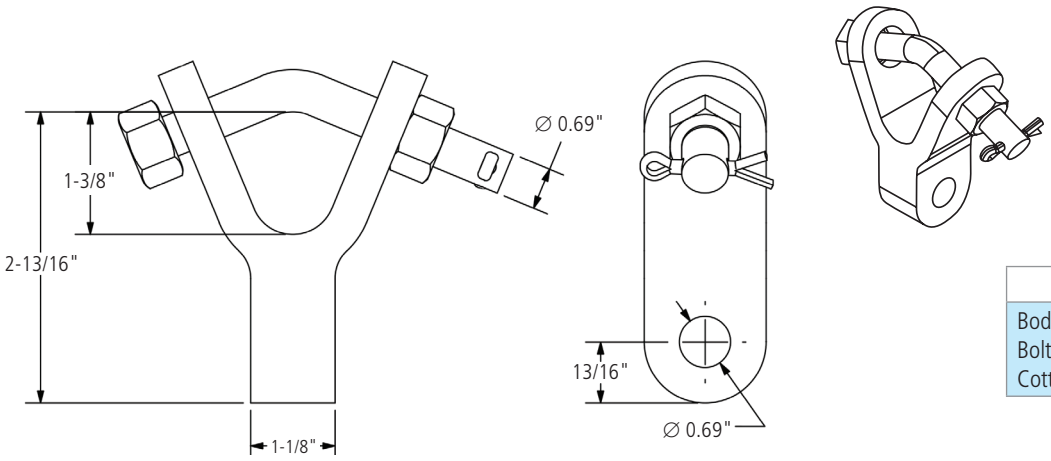


MATERIAL
Body – Ductile Iron Pin – Galvanized Steel Cotter Pin – Stainless Steel

Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT (LBS.)	APPLICATION
CE-SC	35,000	1.7	Mechanical Double Suspension

Y Clevis Eye

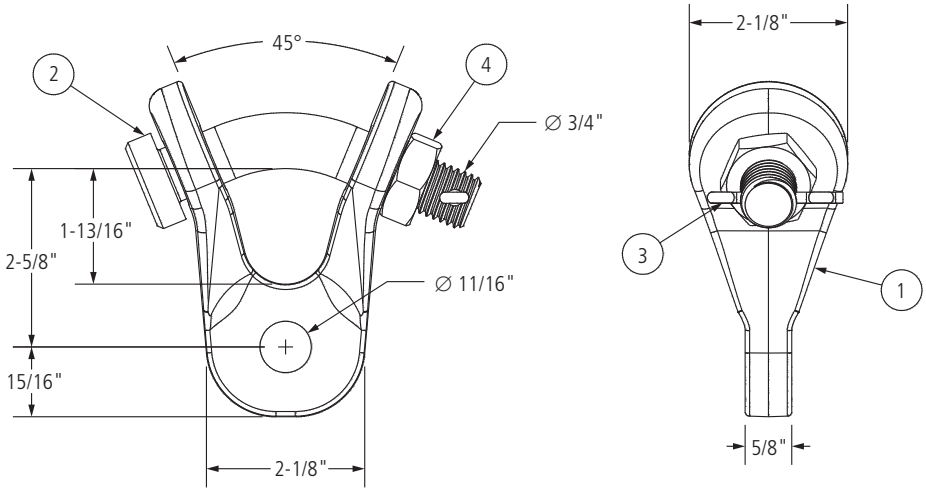


MATERIAL
Body – Forged Steel Bolt, Nut – Galvanized Steel Cotter Pin – Stainless Steel

Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT (LBS.)	APPLICATION
YCE-690-1125	30,000	2.0	Mechanical Suspension (SUME)

Y Clevis Eye 90°

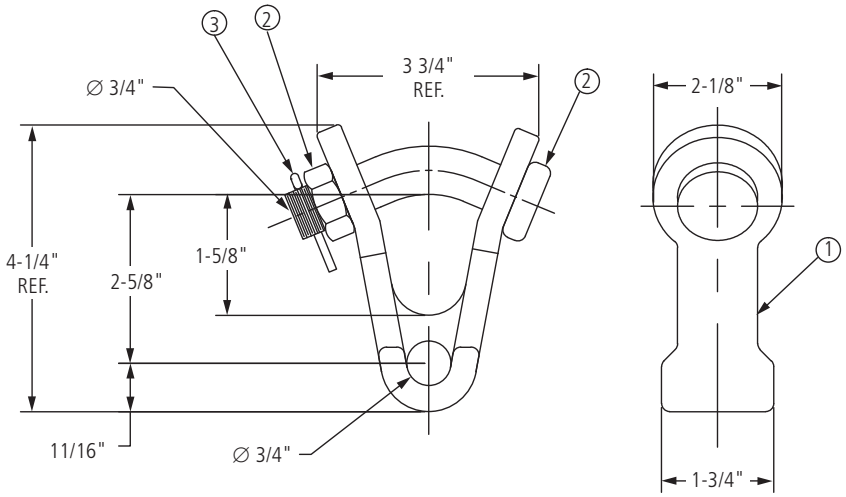


ITEM	DESCRIPTION	MATERIAL
1	Body	Forged Steel
2	Bolt	Galvanized Steel
3	Cotter Pin	Stainless Steel
4	Nut	Galvanized Steel

Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT (LBS.)	APPLICATION
YC90E-688-625	30,000	2.2	HIBUS Suspension

Y Clevis Eye 90° (for Mechanical Suspensions)

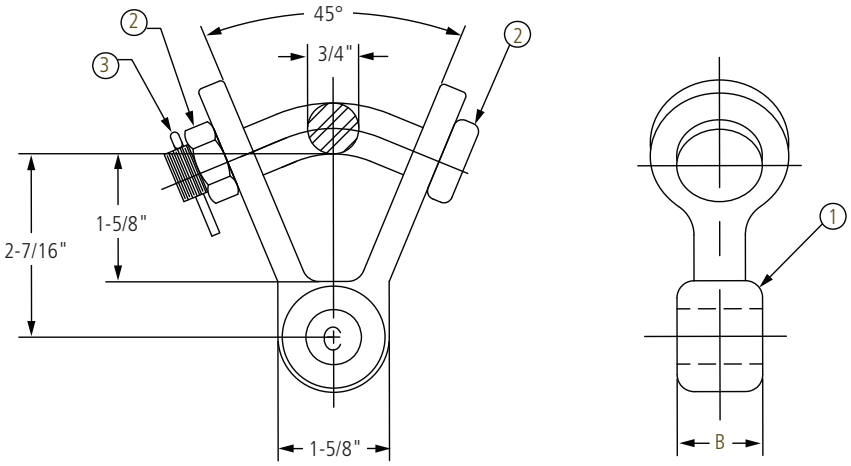


ITEM	DESCRIPTION	MATERIAL
1	Body	Forged Steel
2	Bolt, Nut	Galvanized Steel
3	Cotter Pin	Stainless Steel

Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT (LBS.)	APPLICATION
YC90E-750-1750	30,000	2.4	Mechanical Suspension (SUME)

Y Clevis Eye 90° (for Use with Formed Wire Suspension)



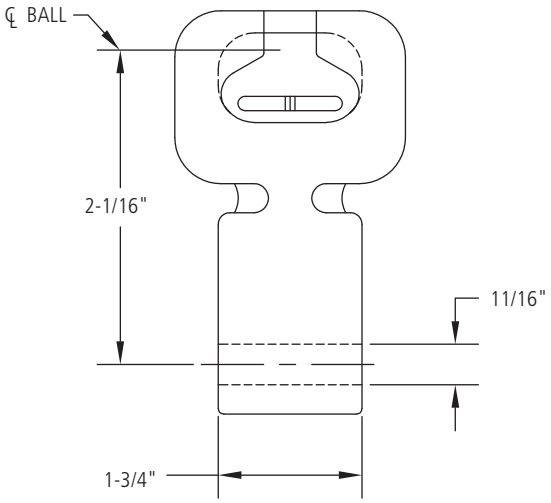
ITEM	DESCRIPTION	MATERIAL
1	Body	Forged Steel
2	Bolt, Nut	Galvanized Steel
3	Cotter Pin	Stainless Steel

Ordering Information

AFL NO.	CABLE DIAMETER RANGE		APPROX. DIMENSIONS In. (mm)		ULTIMATE STRENGTH (LBS.)	APPLICATION NOTES
	(In.)	(mm)	B	C		
YCE90FS354/458	0.354-0.458	9.0-11.6	5/8 (15.0)	11/16 (17.5)	15,000	Formed Wire Suspension
YCE90FS459/625	0.459-0.625	11.7-15.9	3/4 (19.1)	11/16 (17.5)	20,000	
YCE90FS626/1057	0.626-1.057	16.0-26.8	1 1/16 (27)	13/16 (20.6)	25,000	

NOTE: For use with formed wire hardware.

Socket Eye SC

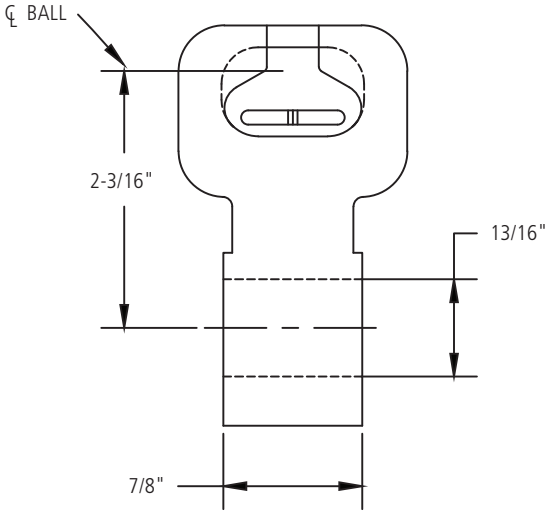


MATERIAL
Body, Clevis Bolt – Galvanized Steel Cotter Pin – Stainless Steel

Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT EACH (LBS.)
SE-SC	30,000	1.80

Socket Eye BDE

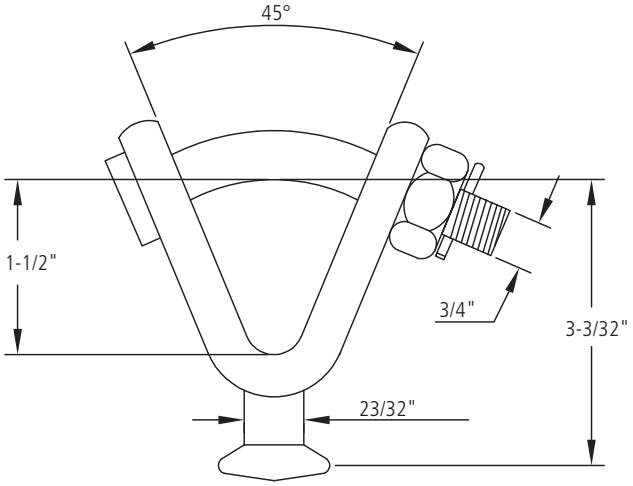


MATERIAL
Galvanized Ductile Iron

Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT EACH (LBS.)
SE-BDE	30,000	1.21

Ball Y Clevis

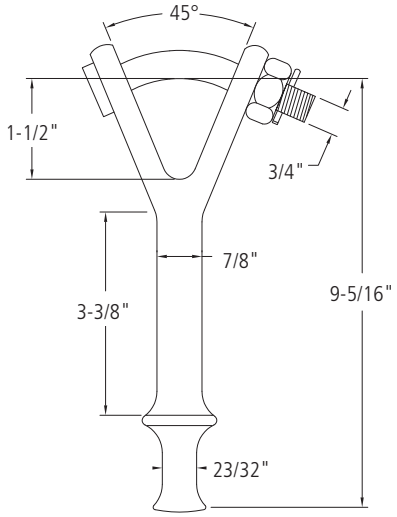


MATERIAL
Body, Clevis Bolt – Galvanized Steel Cotter Pin – Stainless Steel

Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT EACH (LBS.)
YCBS	30,000	1.90

Hot Line Y Clevis Ball

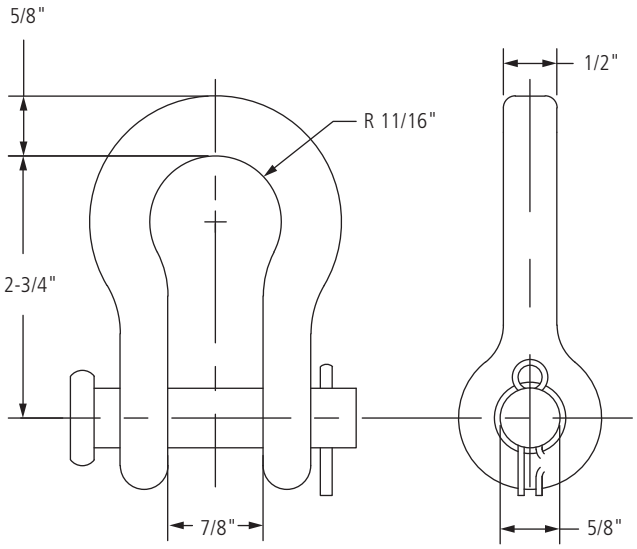


MATERIAL
Body, Clevis Bolt – Galvanized Steel Cotter Pin – Stainless Steel

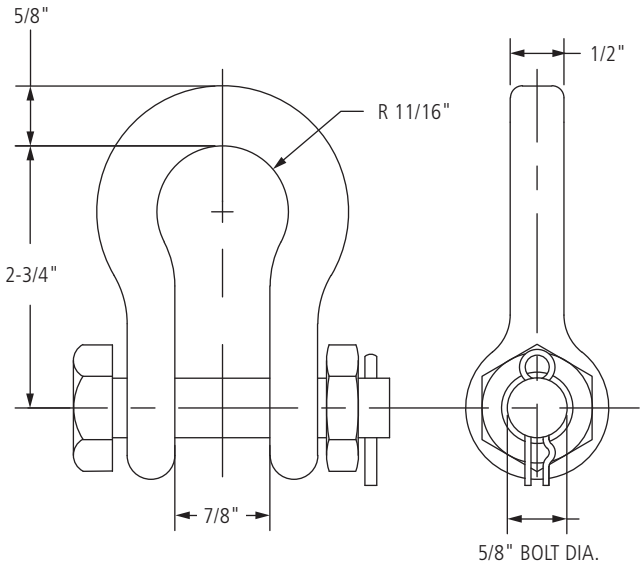
Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT EACH (LBS.)
YCBHL	30,000	2.80

Anchor Shackle 30L



Anchor Shackle 30L-BNC

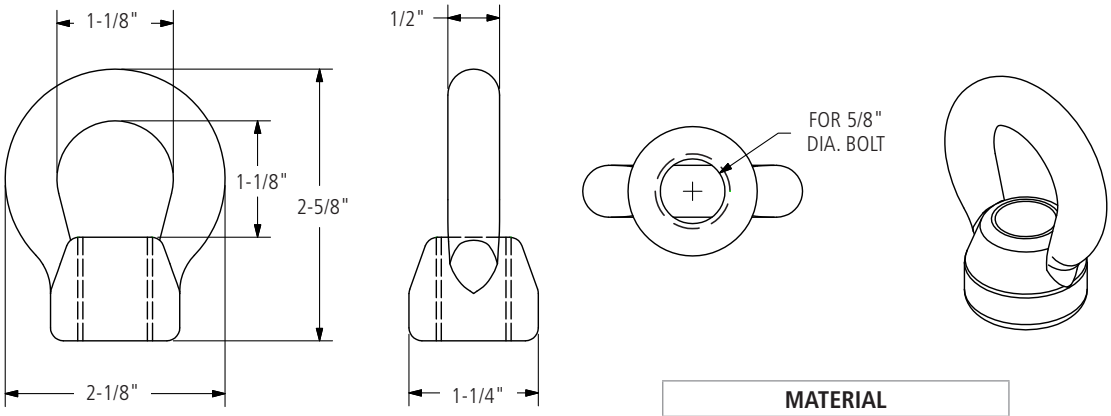


MATERIAL
Body – Forged Steel Bolt – Galvanized Steel Cotter Pin – Stainless Steel

Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT EACH (LBS.)
ANSH30L	30,000	1.1
ANSH30L-BNC	30,000	1.1

Oval Eye Nut

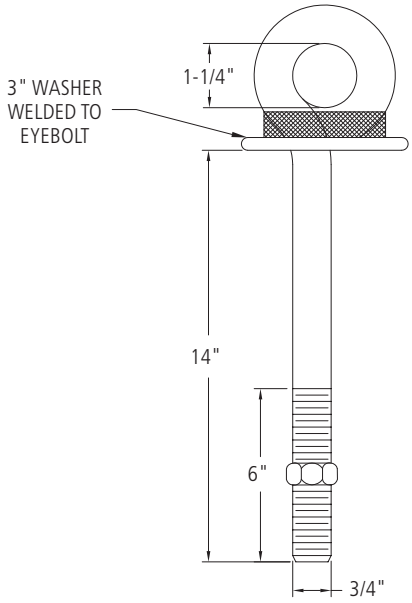


MATERIAL
Forged Steel

Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT EACH (LBS.)
PSM00221	12,400	0.46

Shoulder Eye Bolt

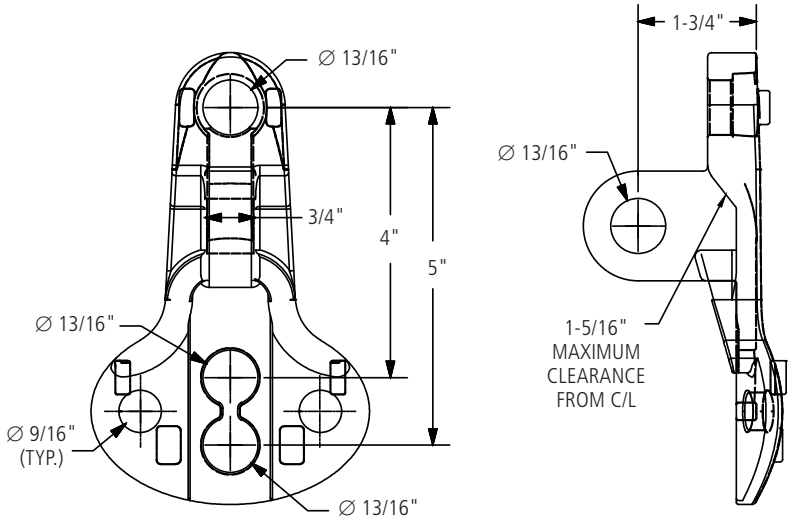


MATERIAL
Eyebolt – Galvanized Steel Nut – Stainless Steel

Ordering Information

AFL NO.	MINIMUM TENSILE STRENGTH (LBS.)	APPROX. WEIGHT PER 100 PIECES (LBS.)
SEB-3/4-14	18,350	320

Pole Eye Plate

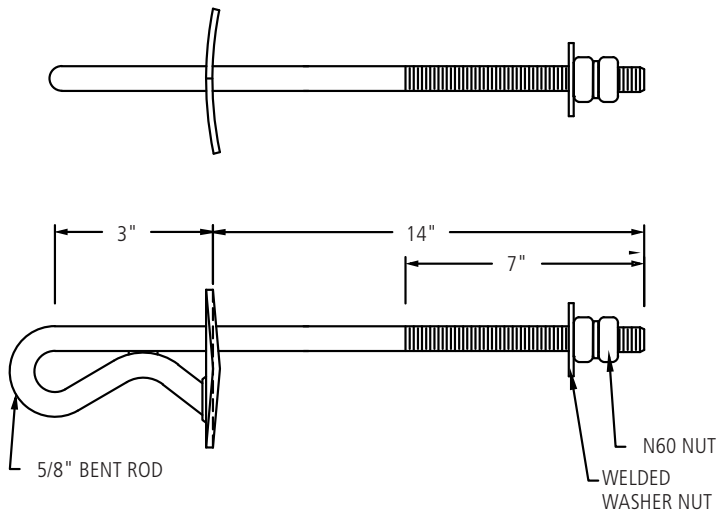


MATERIAL
Hot Dip Galvanized Ductile Iron

Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT EACH (LBS.)
EP1	21,000	2.2

Shield Wire Support

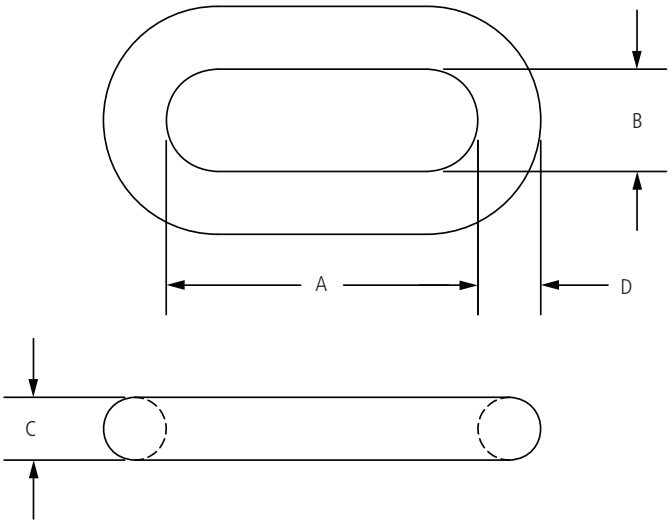


MATERIAL
Galvanized Steel

Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT PER BOX OF 4 PIECES (LBS.)
SFOSB-WP-14	5,000	2.50

Chain Link

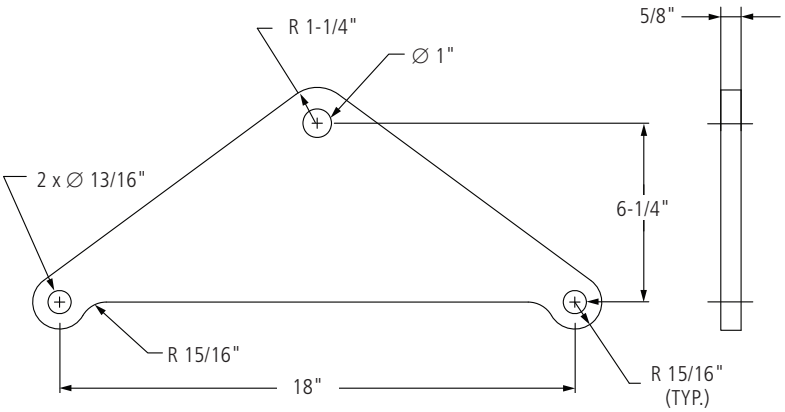


MATERIAL
Forged Steel

Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	DIMENSIONS IN INCHES			
		A	B	C	D
CL-4	30,000	2-1/4	1	1/2	1/2
CL-5	40,000	3-1/4	1	5/8	5/8

Yoke Plate

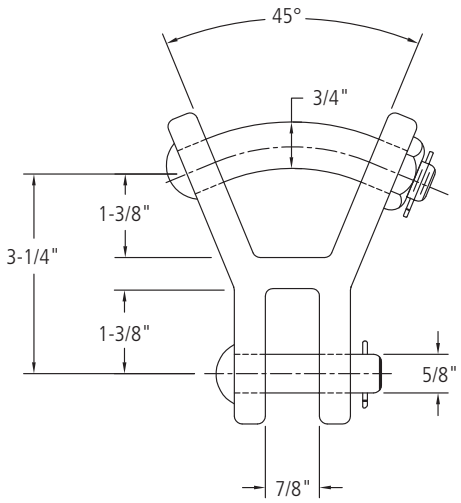


MATERIAL
Galvanized Steel

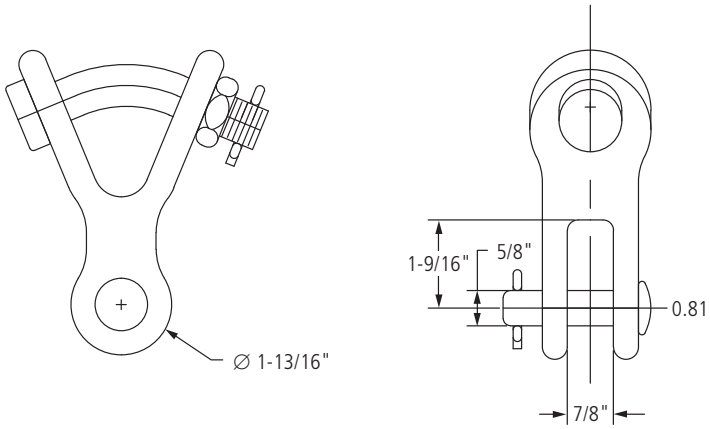
Ordering Information

AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT EACH (LBS.)	APPLICATION
SUMEYP	40,000	14.8	Double Mechanical Suspension

Y Clevis Clevis



Y Clevis Clevis 90°



MATERIAL
Body – Galvanized Ductile Iron Hardware – Galvanized Steel

Ordering Information

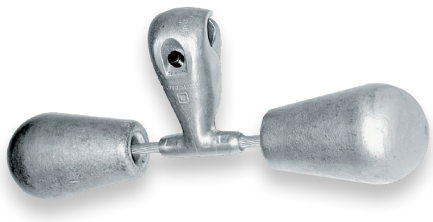
AFL NO.	ULTIMATE STRENGTH (LBS.)	APPROX. WEIGHT (LBS.)	APPLICATION
YCC	30,000	2.50	HIBUS Double Suspension and Mechanical Double Suspension
YCC-90	30,000	1.50	

Stainless Steel Tube Straightening Tool

The Stainless Steel Tube Straightening Tool is used to straighten the stainless steel buffer tubes on stranded stainless steel tube OPGW cables.

Ordering Information

AFL NO.
SSTS



Vibration Damper

Vibration Dampers work to cancel damaging fatigue caused by wind-induced vibration. Most tuned damping devices operate best near their natural frequencies. AFL vibration dampers are designed for efficient transfer and dissipation of energy over a wide spectrum of frequencies. They feature all aluminum clamp construction to match expansion/contraction of conductor and break-away bolts for easy installation and proper torque.

Ordering Information

OPGW CABLE DIAMETER (inches)	AFL NO.
0.360 - 0.460	OVD360/460
0.461 - 0.570	OVD461/570
0.571 - 0.675	OVD571/675
0.676 - 0.770	OVD676/770
0.771 - 0.870	OVD771/870
0.871 - 0.970	OVD871/970

Ordering Example:
For AC-64/528 AlumaCore OPGW, the AFL number is OVD461/570

NOTES:
1. For metric hardware, add suffix "M" to item number.
2. Line evaluations and recommendations (including usage and placement) available upon request.
3. Installation instructions on page 135.
4. Vibration recommendation form on page 138.

OPGW Anti-Rotational Device

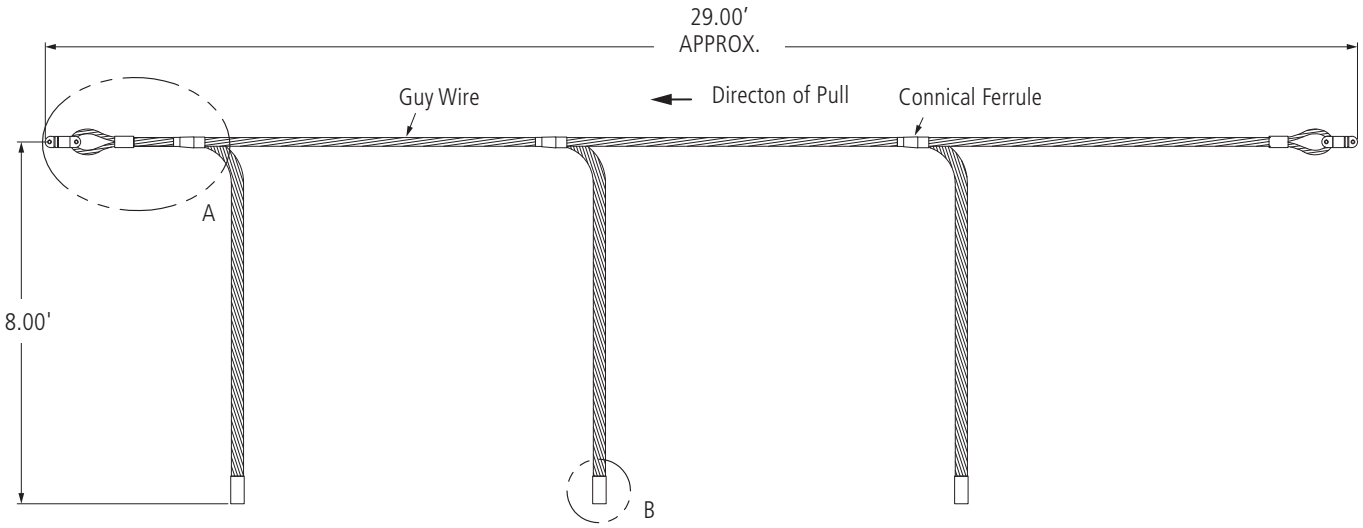
The Anti-Rotational Device provides a means of stringing fiber optic cable without introducing torsion stress. This unique concept prevents the cable from twisting as it travels over the pulling blocks. Left uncontrolled, the optical cable's delicate fibers could be permanently damaged during installation.

Ordering Information

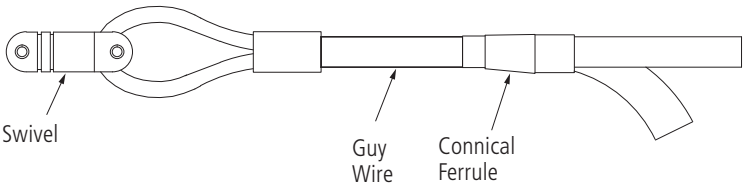
AFL NO.
ARD-OPGW-29

Notes

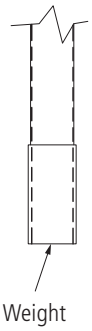
1. Make sure all hoses and guy grip fall in the direction of the pull.
2. Connical ferrules allow easy transition through sheave.
3. Estimated weight of attachment is 14 lbs. each.
4. Working load is 5,000 lbs.



DETAIL A



DETAIL B



26 kV Isolator Kit for OPGW

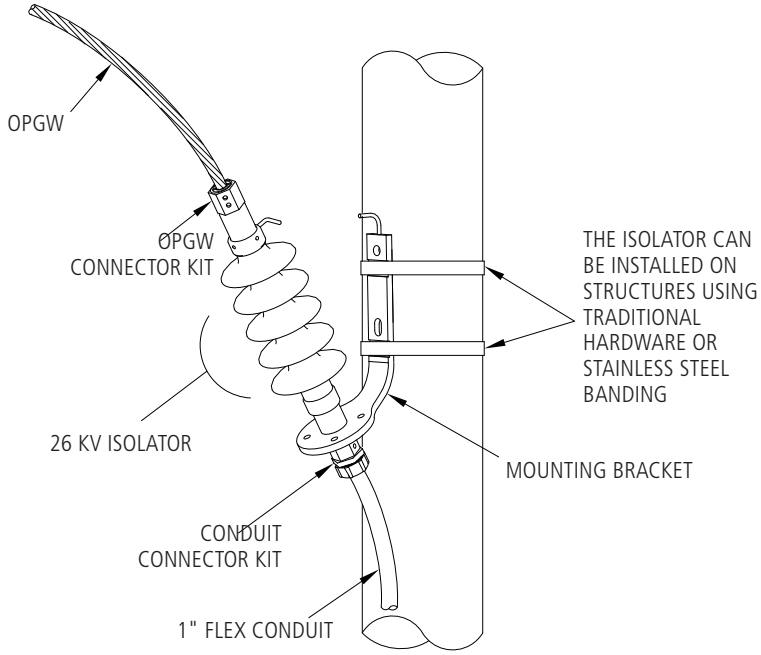
The 26 kV Isolator Kit is designed for aerial optical cable system applications in which complete electrical discontinuity is required. The isolator kit provides reliable interruption of electrical current, at voltages up to 26 kV and is a critical component of optical conductor and neutral systems, as well as optical ground-wire systems in which sectionalization of transient currents is required. The isolator can be installed on structures using traditional hardware or stainless steel banding.

Kit Includes

- OPGW Connector Kit
- 26 kV Isolator
- Conduit Connector Kit
- Mounting Bracket
- For use on AFL AlumaCore cables only

Specifications

PARAMETER	VALUE
Max. Voltage	26 kV
Weight	5 lbs. (approx.)

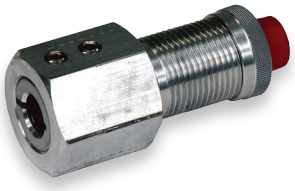


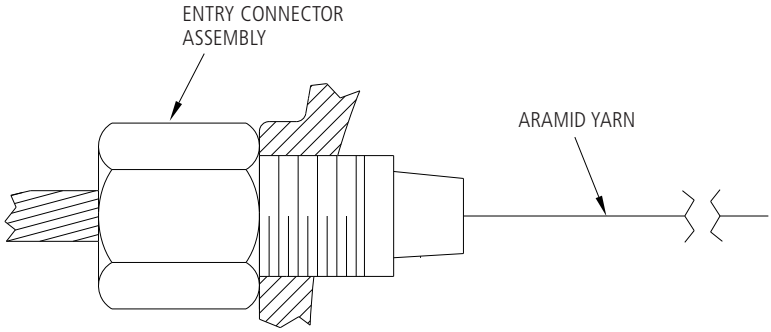
Ordering Information

ISOL	P	XX/YY	ZZZ
Isolator	Blank = Standard Bracket (as shown) P = 90° Bracket for Routing Cable Parallel to Pole	Cross Sectional Area Aluminum Strands / AW Strands (mm^2)	Cable OD (Decimal Inches)

Ordering Example: ISOL47/53/680

Connector Kit for Isolator

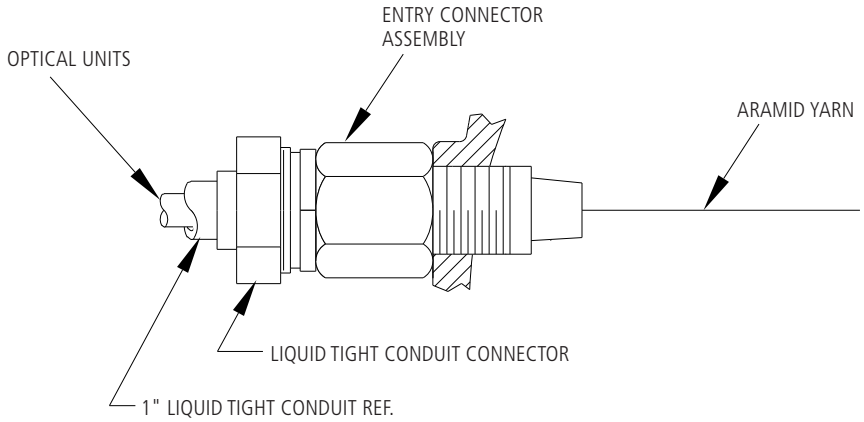




Ordering Information

OI	CK	YYY/YY	XXX
Isolator	Connector Kit	Cross Sectional Area of OPGW Strands (mm^2)	Diameter of Cable in Decimal Inches

Connector Kit for Isolator with Liquid Tight Conduit



Ordering Information

OI	CK	YYY/YY	XXX	LTM
Isolator	Connector Kit	Cross Sectional Area of OPGW Strands (mm^2)	Diameter of Cable in Decimal Inches	LTM for 1 inch Liquid Tight Conduit

ADESDFW2-256 and 307

ADELD2E-323T and 383T

ADELD2E-424005TE
* shown with optional thimble eye

Mini-Dead Ends

The Mini-Dead Ends are designed for fast and easy installation of your ADSS Mini-Span® cable. The Mini-Dead End is ideal in crowded distribution environments where its shorter length allows for efficient installation. This unique low-cost product is used in typical spans with 1%-2% installation sag.

Features

- Easy and quick installation
- No special tools or hardware required for installation
- Small, requiring less storage space

Ordering Information

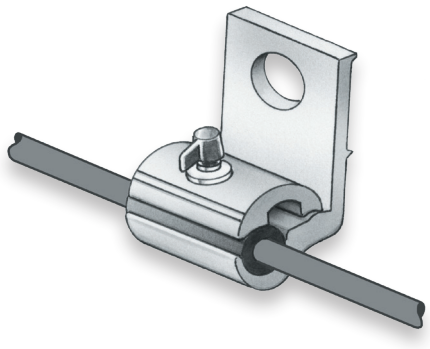
APPLICATION & DESCRIPTION	AFL NO.
Aerial Drop 256 150 ft NESC heavy, 275 ft NESC medium, 550 ft NESC light	ADESDFW2-256
Aerial Drop 307—Short Span (250 lb max. tension) 65 ft NESC heavy, 115 ft NESC medium, 210 ft NESC light	ADESDFW2-307
Aerial Drop 307—Long Span 220 ft NESC heavy, 400 ft NESC medium, 675 ft NESC light	ADELD2E-013TE
ADSS Mini-Span 323 175 ft NESC heavy, 300 ft NESC medium, 500 ft NESC light	ADELD2E-323T
ADSS Mini-Span 383 180 ft NESC heavy, 300 ft NESC medium, 450 ft NESC light	ADELD2E-383T
ADSS Mini-Span 424 275 ft NESC heavy, 450 ft NESC medium, 600 ft NESC light	ADELD2E-424005

NOTE: Part numbers ADEW10J1-AL535, and ADEW16J1-AL693 attach to structure via common pole hardware sold separately such as thimble eye, ram's head, guy hooks, etc.

For spans greater than the span lengths above, contact Customer Service.

Mini-Bracket

Mini Brackets are used for short and medium spans of ADSS fiber optic cable as well as Aerial Drop cables. Mini Brackets are sized to fit specific ADSS diameters. Standard Mini Brackets are employed with fitted bushings to provide a good support/groove fit and to prevent the support from damaging the cable. The bolted supports are supplied with aluminum captive bolts to simplify installation with no loose parts.



Mini-Bracket

Features

- Maximum one side angle: 8.5 degrees
- Estimated weight: 2.9 lbs. (1.3 Kg)
- Maximum rated strength: 3,000 lbs.
- Hand tighten bolt to 25 in. lbs. (2.8 N-m)
- Slip load at 4 to 6% of RBS
- BABA compliant

Ordering Information

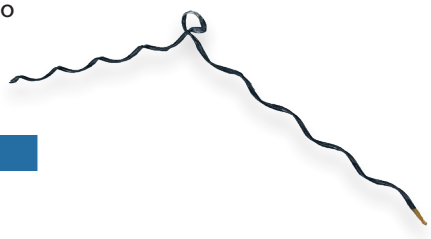
DESCRIPTION	AFL NO.
Aerial Drop 256 maximum line angle =17° (150 ft NESC heavy, 275 ft NESC medium, 550 ft NESC light)	AMBB256
Aerial Drop 307 maximum line angle =17° (220 ft NESC heavy, 400 ft NESC medium, 675 ft NESC light)	AMBB307
ADSS Mini-Span 424 maximum line angle =17° (275 ft NESC heavy, 450 ft NESC medium, 600 ft NESC light)	AMBB424
ADSS Mini-Span 484 maximum line angle =17° (275 ft NESC heavy, 400 ft NESC medium, 525 ft NESC light)	AMBB484-535
ADSS Mini-Span 535 maximum line angle =17° (350 ft NESC heavy, 550 ft NESC medium, 675 ft NESC light)	AMBB484-535

* For BABA-compliant part number, add "-BABA" to end of part number.

BABA compliant configurations and part numbers indicated where applicable.
For complete list of compliant part numbers, see *AFL BABA Compliant Equipment List* on our website.

Mini Formed Wire Tangent Support (FTS)

Formed Wire Tangent Supports (FTS) are used with ADSS Mini-Span® 323 and Mini-Span® 383 for short span applications. Tangent supports provide a method of attaching AFL's smallest ADSS Mini-Span designs with excellent unbalanced load capability and bend relief support. This product is designed to connect directly to J-hooks on wood poles for an economical solution.



ATS 321/330
ATS 371/383

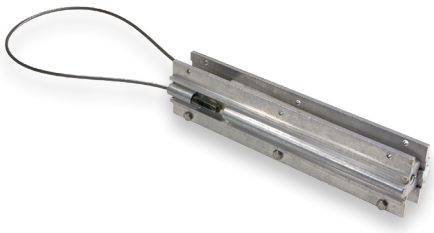
Ordering Information

DESCRIPTION	AFL NO.
ADSS Mini-Span 323 maximum line angle = 20°(175 ft NESC heavy, 300 ft NESC medium, 500 ft NESC light)	ATS321/330
ADSS Mini-Span 383 maximum line angle = 20°(180 ft NESC heavy, 300 ft NESC medium, 450 ft NESC light)	ATS371/383

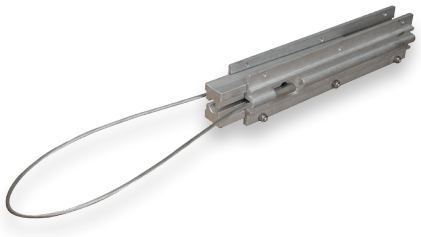
Wedge Dead End

(to be used only on Standard ADSS Cable up to 0.890" diameter, 144 fibers)

AFL offers wedge dead ends that ease and speed ADSS cable installation. The ADSS Wedge Dead End is ideal in crowded distribution environments because its shorter length allows for safer and efficient installation. The Wedge Dead End comes with all parts assembled. The side plates are properly aligned with spacers and self-locking hex bolts, as well as retainers. Lubricated wedges are pre-installed inside the body of the dead end.



ADEW10J1-AL535



ADEW16J1-AL693

Caution: The load ratings shown here are based on performance results of certain cable configurations and may not be representative of all manufacturers' ADSS cable designs. AFL strongly recommends that before using this product, you contact AFL to obtain the recommended load rating and to verify that the wedge dead end has been qualified for use with the proposed cable. AFL will perform a qualification test at no charge.

Benefits

- Wedge-type design is safer than spiral wrap style dead ends
- Fewer parts, smaller and easier to store
- Attaches to structure via common pole hardware sold separately (thimble eye, ram's head, etc.)

Features

- Easier and faster installation
- Lower total system costs
- No special tools or hardware required for installation

Specifications

Parameter	Value
Wedge Length	10" or 16" depending on cable characteristics
Cable O.D.	0.512" to 0.890" (13 mm to 22.6 mm)
Hold Strength	100% of Maximum Rated Cable Load (MRCL)
Maximum Attenuation Change	0.05 dB at 100% MRCL

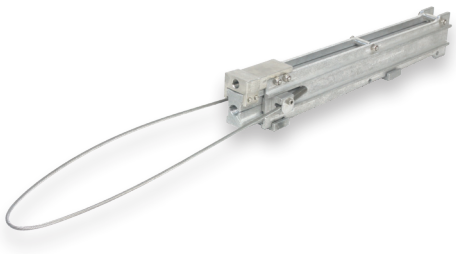
Application & Description	AFL No.
ADSS Mini-Span® 535 500 ft NESC heavy, 700 ft NESC medium, 875 ft NESC light, maximum loading capability is 1500 lbs.	ADEW10J1-AL535
ADSS Mini-Span 693 500 ft NESC heavy, 600 ft NESC medium, 750 ft NESC light, maximum loading capability is 1500 lbs.	ADEW16J1-AL693

Ordering Information for Double Jacket Cables

ADE	W	16	J2	—	AL	YYY
ADSS Dead End	Wedge Type Dead End	Length of wedge component 16 = 16 inch type Max. Load Rating = 3000 lbs.	ADSS Jacket Type J2 = Double Layer		Cable Manufacturer Code AL = AFL	Cable Diameter (in Inches)

Application Notes:

1. For use with ADSS cables with polyethylene jackets in low voltage environments only. Not for use in high voltage environments where tracking resistant cables are required.
2. AFL fiber optic cable and related hardware are designed to work as a system. Dead ends may not be available for cable from other manufacturers.



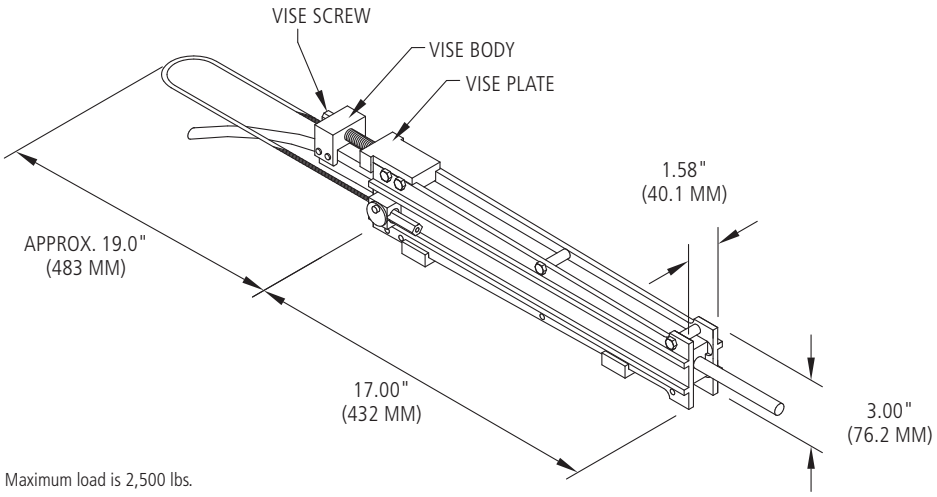
Temporary Grip

Temporary Grips are used in stringing the ADSS during sagging and where it is necessary to make short term catch on the ADSS.

The Temporary grip for ADSS is a high strength aluminum body designed to hold 2,500 pounds or 50% of MRCL of the cable.

Application Notes:

1. Mechanical Grip for Use with Polyethylene Outer Jackets Only



Maximum load is 2,500 lbs.

Thimble Clevis is included to attach temporary grip bail to chain hoist.

Ordering Information

A	TG	MEM	XXX	A
ADSS	Temporary Grip		ADSS Cable Diameter (in Decimal Inches)	

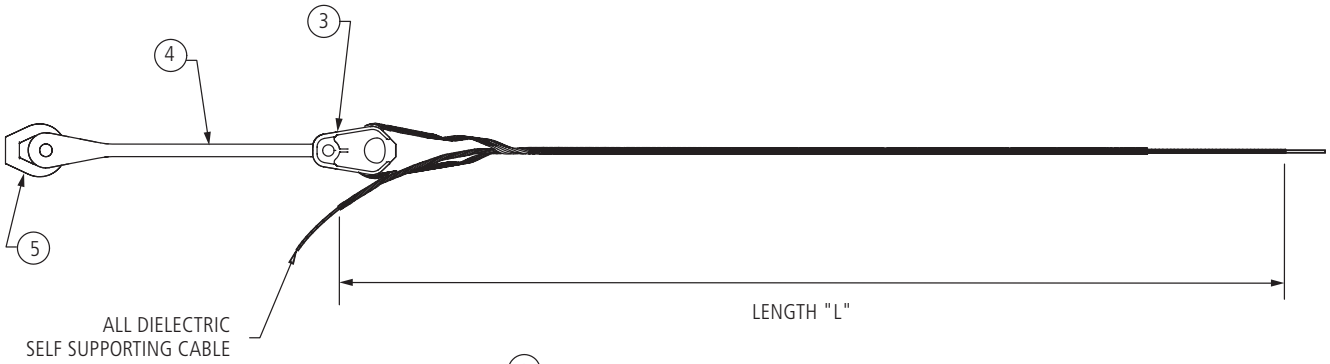
Ordering Information for Additional Wedges

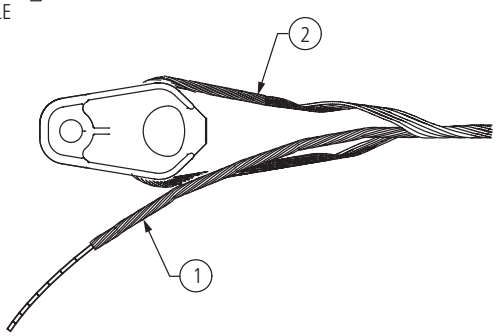
A	TG	W	XXX
ADSS	Temporary Grip	Wedge Set	Cable O.D. in Inches x 1000 (Cable Dia. = 0.420" - 0.890")

CAUTION:

1. The Temporary Grip is only to be used for AFL's ADSS fiber optic cables with standard polyethylene jackets with the O.D. ranging from 0.420" - 0.890".
2. For cables with an O.D. outside of this range, please contact AFL.

Limited Tension Formed Wire Dead End for ADSS Cable





Item	Description	Material
1	Reinforcing Rods (SRR)	Galvanized Steel
2	Formed Wire Dead-End	Galvanized Steel
3	Thimble Clevis	Aluminum
4	Extension Link	Aluminum
5	5/8 Eye Nut	Aluminum

* Drawing above is representative

Features

- Components strength—6,500 lbs.
- Maximum initial tension—up to 1,000 lbs.
- Maximum loaded tension—up to 2,500 lbs.
- Dead end component may be reused once during initial installation
- Contact AFL for track-resistant ADSS application
- BABA compliant

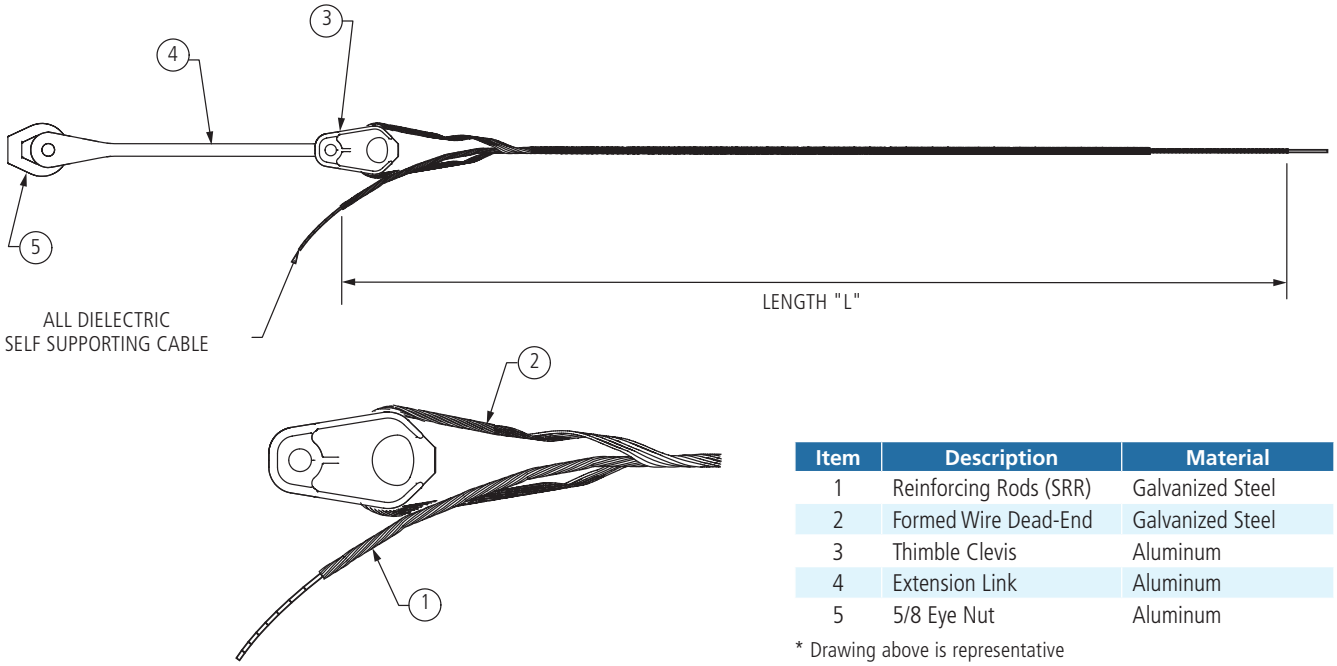
Ordering Information

AFL No.	Cable OD (in.)	Length "L" (in.)	Color Code
ADESE380/400C	0.380 - 0.400	48	Red
ADESE400/424C	0.400 - 0.424	48	Black
ADESE425/451C	0.425 - 0.451	48	Yellow
ADESE452/481C	0.452 - 0.481	48	Green
ADESE482/510C	0.482 - 0.510	48	Orange
ADESE511/542C	0.511 - 0.542	48	Blue
ADESE543/577C	0.543 - 0.577	48	White
ADESE578/613C	0.578 - 0.613	48	Red
ADESE614/651C	0.614 - 0.651	48	Black
ADESE652/692C	0.652 - 0.692	48	Yellow
ADESE693/737C	0.693 -0.737	48	Green
ADESE738/784C	0.738 - 0.784	48	Orange
ADESE785/834C	0.785 - 0.834	48	Blue
ADESE835/889C	0.835 - 0.889	48	White
ADESE890/945C	0.890 - 0.945	48	Red
ADESE946/1007C	0.946 - 1.007	48	Black
ADESE1008/1073C	1.008 - 1.073	60	Yellow
ADESE1074/1140C	1.074 - 1.140	60	Green
ADESE1141/1212C	1.141 - 1.212	60	Orange
ADESE1213/1288C	1.213 - 1.288	60	Blue

* For BABA-compliant part number, add "-BABA" to end of part number.

BABA compliant configurations and part numbers indicated where applicable.
For complete list of compliant part numbers, see *AFL BABA Compliant Equipment List* on our website.

Medium Tension Formed Wire Dead End for ADSS Cable



Item	Description	Material
1	Reinforcing Rods (SRR)	Galvanized Steel
2	Formed Wire Dead-End	Galvanized Steel
3	Thimble Clevis	Aluminum
4	Extension Link	Aluminum
5	5/8 Eye Nut	Aluminum

* Drawing above is representative

Features

- Component strength—6,500 lbs.
- Maximum initial tension—up to 2,000 lbs.
- Maximum loaded tension—up to 4,000 lbs.
- Dead end component may be reused once during initial installation
- Contact AFL for track-resistant ADSS application
- BABA compliant

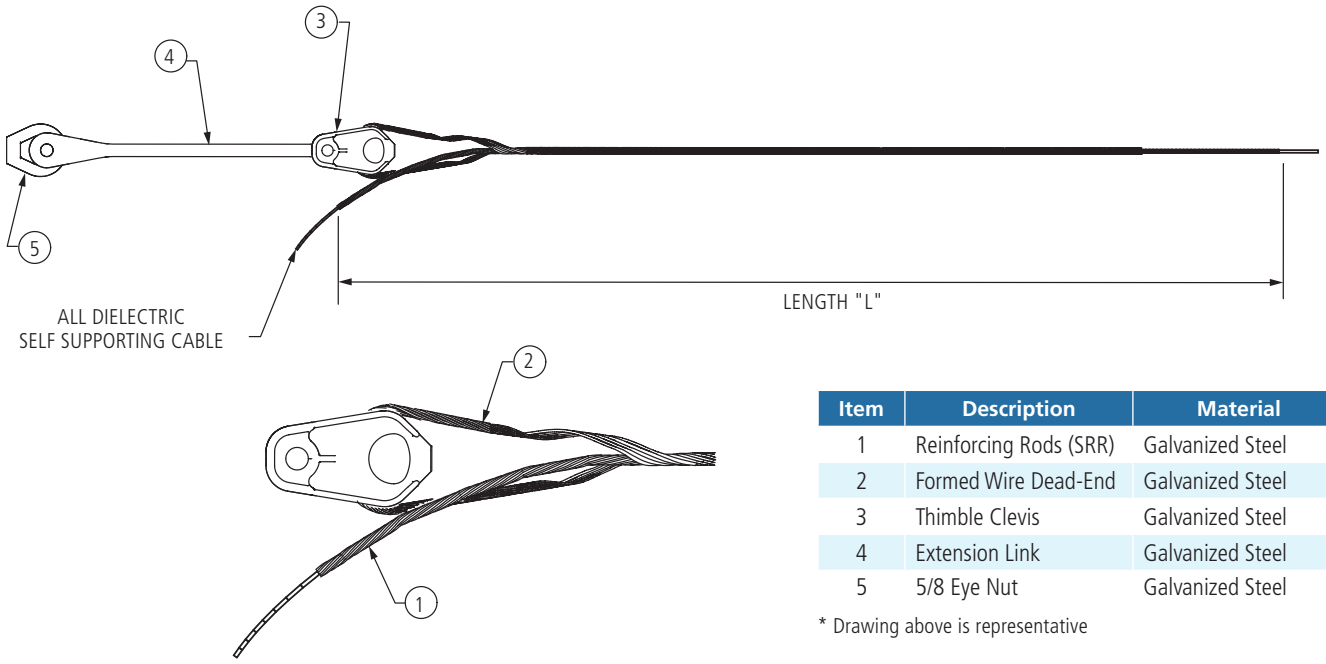
Ordering Information

AFL No.	Cable OD (in.)	Length "L" (in.)	Color Code
ADEME482/510C	.482-.510	72	Orange
ADEME511/542C	.511-.542	73	Blue
ADEME543/577C	.543-.577	74	White
ADEME578/613C	.578-.613	78	Red
ADEME614/651C	.614-.651	80	Black
ADEME652/692C	.652-.692	80	Yellow
ADEME693/737C	.693-.737	82	Green
ADEME738/784C	.738-.784	88	Orange
ADEME785/834C	.785-.834	92	Blue
ADEME835/889C	.835-.889	94	White
ADEME890/945C	.890-.945	96	Red
ADEME946/1007C	.946-1.007	98	Black
ADEME1008/1073C	1.008-1.073	102	Purple
ADEME1074/1140C	1.074-1.140	102	Pink
ADEME1141/1212C	1.141-1.212	104	Brown
ADEME1213/1288C	1.213-1.288	107	Orange

* For BABA-compliant part number, add "-BABA" to end of part number.

BABA compliant configurations and part numbers indicated where applicable.
For complete list of compliant part numbers, see *AFL BABA Compliant Equipment List* on our website.

Semi-High Tension Formed Wire Dead End for ADSS Cable



Item	Description	Material
1	Reinforcing Rods (SRR)	Galvanized Steel
2	Formed Wire Dead-End	Galvanized Steel
3	Thimble Clevis	Galvanized Steel
4	Extension Link	Galvanized Steel
5	5/8 Eye Nut	Galvanized Steel

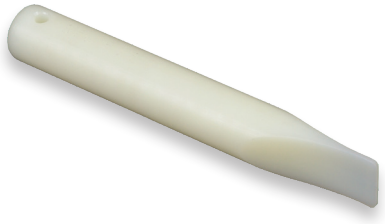
* Drawing above is representative

Features

- Components strength—15,000 lbs.
- Maximum initial tension—up to 4,000 lbs.
- Maximum loaded tension—up to 7,500 lbs.
- Dead end component may be reused once during initial installation
- Contact AFL for Length Information and track-resistant ADSS application
- Lengths range from 100" to 134"

Ordering Information

AFL No.	Cable OD (in.)	Length "L" (in.)	Color Code
ADELE482/510C	.482-.510	98	Orange
ADELE511/542C	.511-.542	98	Blue
ADELE543/577C	.543-.577	100	White
ADELE578/613C	.578-.613	104	Red
ADELE614/651C	.614-.651	106	Black
ADELE652/692C	.652-.692	106	Yellow
ADELE693/737C	.693-.737	108	Green
ADELE738/784C	.738-.784	113	Orange
ADELE785/834C	.785-.834	118	Blue
ADELE835/889C	.835-.889	119	White
ADELE890/945C	.890-.945	121	Red
ADELE946/1007C	.946-1.007	123	Black
ADELE1008/1073C	1.008-1.073	126	Purple
ADELE1074/1140C	1.074-1.140	127	Pink
ADELE1141/1212C	1.141-1.212	129	Brown
ADELE1213/1288C	1.213-1.288	133	Orange

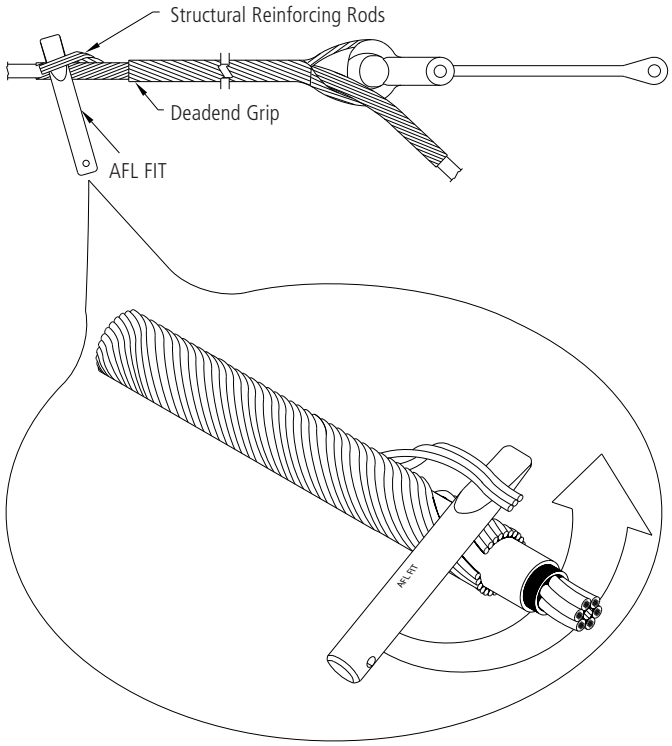


AFL FIT
(Formed Wire Installation Tool)

The nonmetallic AFL Fit Tool is used to install formed wire components without damaging the cable. Use of metal instruments to aid in the installation of formed wire components can result in cable damage.

Ordering Information:

AFL NO.
AFL-FIT



Multi-Drop Thimble Eye
(ordered separately)

Drop Dead End shown with
Single-Drop Thimble Eye

Flat Drop Dead End

The Flat Drop Dead Ends are designed for use on flat drop cables.

Available with AFL's Multi-Drop Thimble Eye (second photo) which is used to anchor aerial round drop cables to the distribution structure. The Thimble Eye has uniform radial slots that can accommodate up to four formed wire dead ends per thimble eye and support tensioning up to 90 degrees from the installation hardware.

Features

- Made of Aluminum Alloy material
- Installation tension is ≤maximum of rated cable load
- Easy and quick installation
- No special tools or hardware required for installation
- Small, requiring less storage space
- Five-rod construction
- Available with Multi-Drop Thimble Eye (ordered separately)

Ordering Information

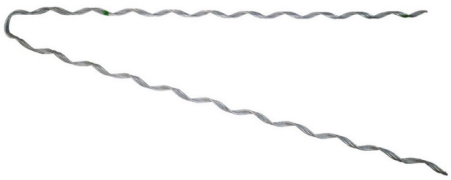
To order with Drop Dead End with Thimble Eye, add suffix "TE" to AFL No.

AFL NO.	CABLE OD (in.)	LENGTH (in.)	TENSILE STRENGTH (lbs)	WEIGHT (lbs)	COLOR CODE
ADELD4F309/341	0.309 - 0.341	41.3	<MRCL	0.33	Blue

For more information on the optional Multi-Drop Thimble Eye (ordered separately), see specification sheet.

Multi-Drop Thimble Eye
(ordered separately)

Drop Dead End shown with
Single-Drop Thimble Eye



Drop Dead End

Round Drop Dead End

The Round Drop Dead Ends are designed for use on round drop cables.

Available with AFL's Multi-Drop Thimble Eye (second photo) which is used to anchor aerial round drop cables to the distribution structure. The Thimble Eye has uniform radial slots that can accommodate up to four formed wire dead ends per thimble eye and support tensioning up to 90 degrees from the installation hardware.

Features

- Made of Galvanized Steel material
- Easy and quick installation
- No special tools or hardware required for installation
- Small, requiring less storage space
- Three-rod construction
- Available with Multi-Drop Thimble Eye (ordered separately)

Ordering Information

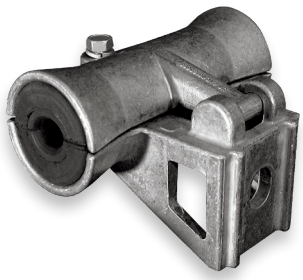
To order with Drop Dead End with Thimble Eye, add suffix "TE" to AFL No.

AFL NO.	CABLE OD (in.)	LENGTH (in.)	TENSILE STRENGTH (lbs)	WEIGHT (lbs)	COLOR CODE
ADED326/365	0.326 - 0.365	32.48	2, 248	1.76	Green

For more information on the optional Multi-Drop Thimble Eye (ordered separately), see specification sheet.

Trunnion Assemblies—Single and Double Cables

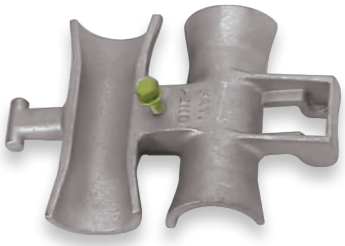
AFL offers trunnions with various mounting capabilities: bolted, banded or standoff. Trunnions reduce installation costs by functioning as a pull-through during installation (maximum line angle for stringing is 15° total, 7.5° per side, number of structures not to exceed 30). No block or pulley is needed provided these conditions are met.



Single Trunnion Cable Support

Double Trunnion Cable Support (closed)

Double Trunnion Cable Support (open)



Conversion Kit

Features

- May be used as a pull-through by removing the bushing inserts
- Double cable supports option
- High-strength aluminum
- Smaller and more compact design
- Facilitates faster installation
- Color-coded range taking inserts for easy identification
- Versatile mounting styles to fit different structure types: bolted, banded or standoff
- Banding and pole hardware supplied by customer
- Lowers the total cost of installation
- Span Length: 600 ft.—NESC Heavy
1,200 ft.—NESC Light
- BABA compliant

Ordering Information—Single Cable Support

AFL No.	Cable O.D. Range		Estimated Weight		Bushing Color Code
	inches	millimeters	lbs	kg	
ATGN325/375	0.325" - 0.375"	8.26 - 9.53	2.06	.934	Green + White
ATGN376/419	0.376" - 0.419"	9.55 - 10.64	2.06	.934	Orange + White
ATGN420/474	0.420" - 0.474"	10.67 - 12.05	2.05	.930	Purple + White
ATGN475/525	0.475" - 0.525"	12.07 - 13.34	2.05	.930	Blue
ATGN526/575	0.526" - 0.575"	13.36 - 14.61	2.05	.930	Orange
ATGN576/625	0.576" - 0.625"	14.63 - 15.88	2.04	.925	Brown
ATGN626/675	0.626" - 0.675"	15.90 - 17.15	2.04	.925	Green
ATGN676/725	0.676" - 0.725"	17.17 - 18.42	2.03	.921	White
ATGN726/775	0.726" - 0.775"	18.44 - 19.69	2.03	.921	Red
ATGN776/825	0.776" - 0.825"	19.71 - 20.96	2.02	.916	Purple
ATGN826/875	0.826" - 0.875"	20.98 - 22.23	2.02	.916	Yellow
ATGN876/925	0.876" - 0.925"	22.25 - 23.50	2.02	.916	Pink
ATGN926/959	0.926" - 0.959"	23.52 - 24.36	2.02	.916	Blue + White
ATGN960/1045	0.960" - 1.045"	24.38 - 26.54	2.02	.916	Gray

* For BABA-compliant part number, add "-BABA" to end of part number.

Application Notes:

1. For use with ADSS cables with polyethylene jackets in low voltage environments only. Not for use in high voltage environments where tracking resistant cables are required.
2. As a stringing block:
   Maximum line angle = 15° (7.5° per side)
   Maximum number of structures = 30
3. For final installation:
   Maximum line angle = 22° (11° per side)

BABA compliant configurations and part numbers indicated where applicable. For complete list of compliant part numbers, see *AFL BABA Compliant Equipment List* on our website.

continued

Trunnion Assemblies (cont.)

Ordering Information—Double Tangent Support

Bushing Number		Cable O.D. Range		Bushing Color Code	Maximum Span Capabilities Using NESC Loads in feet/meters	Estimated Weight	
"A"	"B"	inches	millimeters		Heavy	lbs	kg
325	325	.325-.375	8.26-9.53	Green + White	600/182.9	4.00	1.814
376	376	.376-.419	9.55-10.64	Orange + White	600/182.9	4.00	1.814
420	420	.420-.474	10.67-12.04	Purple + White	600/182.9	3.99	1.810
475	475	.475-.525	12.07-13.34	Blue	600/182.9	3.99	1.810
526	526	.526-.575	13.36-14.61	Orange	600/182.9	3.99	1.810
576	576	.576-.625	14.63-15.88	Brown	600/182.9	3.98	1.805
626	626	.626-.675	15.90-17.15	Green	600/182.9	3.98	1.805
676	676	.676-.725	17.17-18.42	White	600/182.9	3.97	1.801
726	726	.726-.775	18.44-19.69	Red	600/182.9	3.97	1.801
776	776	.776-.825	19.71-20.96	Purple	600/182.9	3.96	1.796
826	826	.826-.875	20.98-22.23	Yellow	600/182.9	3.96	1.796
876	876	.876-.925	22.25-23.50	Pink	500/152.4	3.96	1.796
926	926	.926-.959	23.52-24.36	Blue + White	CONTACT AFL	3.96	1.796
960	960	.960-1.045	24.38-26.54	Gray	CONTACT AFL	3.96	1.796

* For BABA-compliant part number, add "-BABA" to end of part number.

How to Order

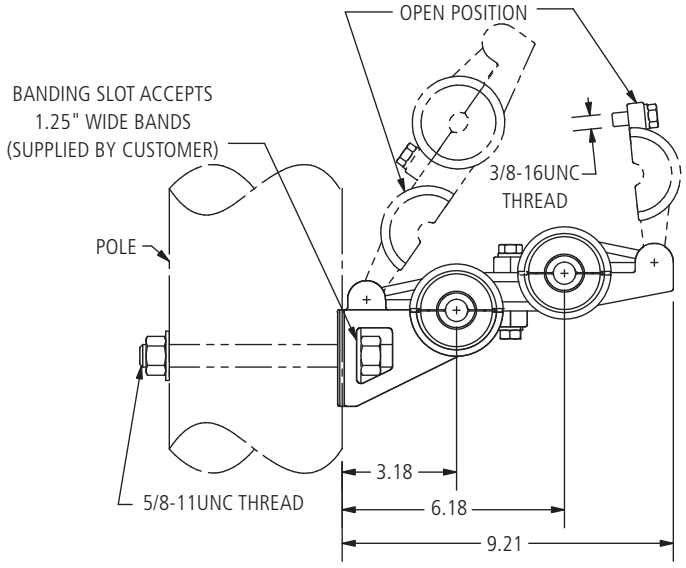
Order by assembling part number as shown:

DATGN		A		B
	Bushing "A" Number		Bushing "B" Number	

- Reference table above. See Note 1 below.
- Example:
  - First cable 0.500" OD → Bushing "A" number = 475
  - Second cable 0.750" OD → Bushing "B" number = 726
  - Order by part number: DATGN**475**A**726**B

Notes:

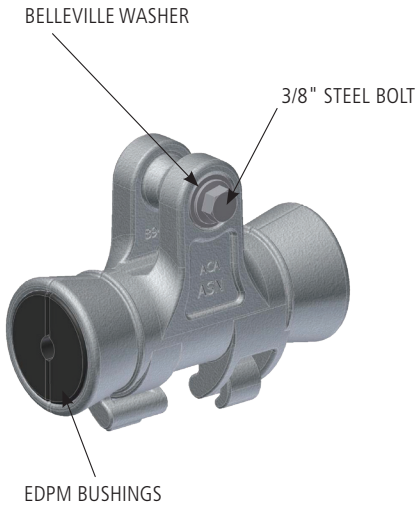
1. Bushing "A" and "B" may be the same or different.
2. Attachment hardware or stainless steel banding to be supplied by customer.
3. To order Conversion Kits, use part number DATGNDCBCWH.



BABA compliant configurations and part numbers indicated where applicable. For complete list of compliant part numbers, see AFL BABA Compliant Equipment List on our website.

ADSS Suspension Unit

AFL's ADSS suspension unit is used to provide long term performance for spans up to 1200 feet (see span rating below). The interlocking halves of the aluminum body clamp provides positive alignment and utilize our proven EDPM bushings to gently grip the cable. The 3/8" mounting bolt is held captive by an o-ring. This product cannot be used as a stringing device.



Specifications

Parameter	Value
Span Length Rating	600 feet (200 meters) NESC Heavy 900 feet (274 meters) NESC Medium 1200 feet (365 meters) NESC Light
Vertical Load Rating	5000 lbs
Torque Requirement	Mounting bolt should be tightened to 25 ft-lb
Mounting Hardware	5/8" oval eye nut and anchor shackle (both parts not shown) can be included in the assembly by adding the suffix "AS01" to the part number
Line Angle	Max line angle is 30 degrees
Cable Types Recommended	For use on standard polyethylene jackets only DO NOT USE on track resistant cables
Slip Strength	Contact AFL for specific slip strength requirements

Ordering Information

AFL No.	Cable Range		Weight		Bushing Color Code
	inches	mm	lbs	kg	
ASN325/375	0.325-0.375	8.3-9.5	2.2	1.0	Green + White
ASN376/419	0.376-0.419	9.6-10.6			Orange + White
ASN420/474	0.420 - 0.474	10.7 - 12.0			Purple + White
ASN475/525	0.475 - 0.525	12.1 - 13.3			Blue
ASN526/575	0.526 - 0.575	13.4 - 14.6			Orange
ASN576/625	0.576 - 0.625	14.6 - 15.9			Brown
ASN626/675	0.626 - 0.675	15.9 - 17.1			Green
ASN676/725	0.676 - 0.725	17.2 - 18.4			White
ASN726/775	0.726 - 0.775	18.4 - 19.7			Red
ASN776/825	0.776 - 0.825	19.7 - 21.0			Purple
ASN826/875	0.826 - 0.875	21.0 - 22.2			Yellow
ASN876/925	0.876 - 0.925	22.3 - 23.5			Pink
ASN926/959	0.926 - 0.959	23.5 - 24.4			—
ASN960/1045	0.960 - 0.1045	24.4 - 26.5			Gray

Correct orientation of bushing shown above.

* For BABA-compliant part number, add "-BABA" to end of part number.

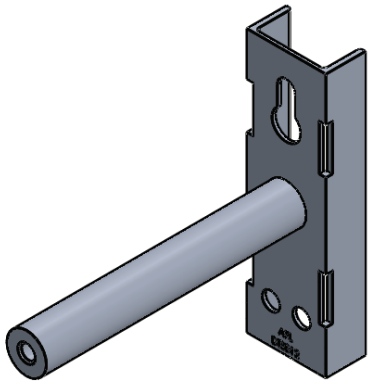
Application Note: For use with ADSS cables with polyethylene jackets in low voltage environments only. Not for use in high voltage environments where tracking resistant cables are required.

BABA compliant configurations and part numbers indicated where applicable.
For complete list of compliant part numbers, see *AFL BABA Compliant Equipment List* on our website.

Standoff Bracket for ADSS Hardware Clamps

Features

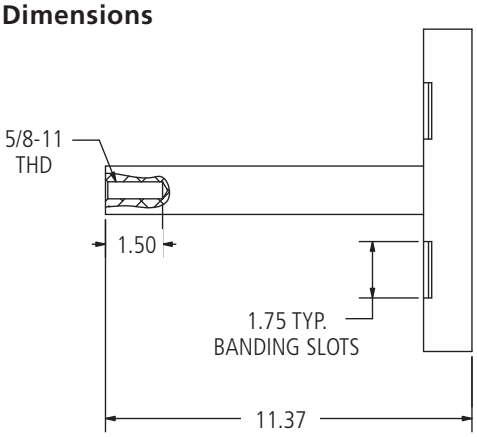
- Aluminum material
- Positions the AFL ADSS trunnion or AFL ADSS suspension 14" off of structure
- Vertical load rating 1,250 lbs, horizontal load rating 1,250 lbs
- Attachment hardware supplied by customer
- Recommended hardware:
  - ATGN trunnion attachment to bracket:
    - 5/8-11 x 1-1/2" long hex head bolt
  - ASN suspension attachment to bracket:
    - 5/8-11 eyebolt and anchor shackle
  - Standoff bracket attachment to structure:
    - 5/8 bolt in top attachment hole
    - 1/2 or 5/8 lag screw in bottom hole(s)
    - 1-1/2 or 1-5/8 banding through both top and bottom banding slots

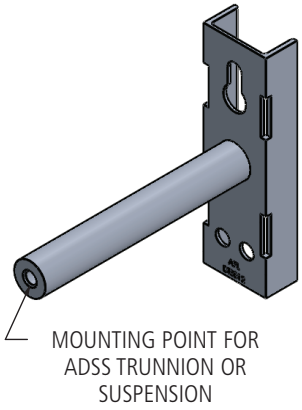


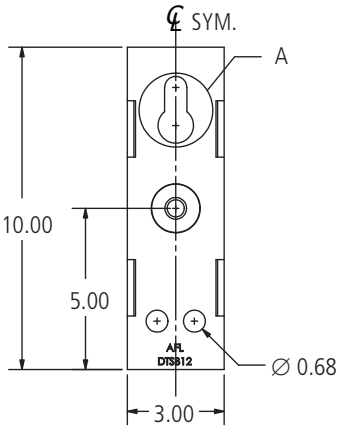
Ordering Information

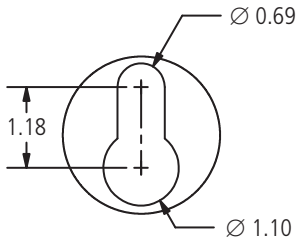
AFL No.	Description	Weight
DTSB12	14" Standoff Bracket for AFL's ATGN Trunnion Clamp or ASN Suspension Clamp for use with ADSS Fiber Optic Cable	2.5 lbs.

Dimensions



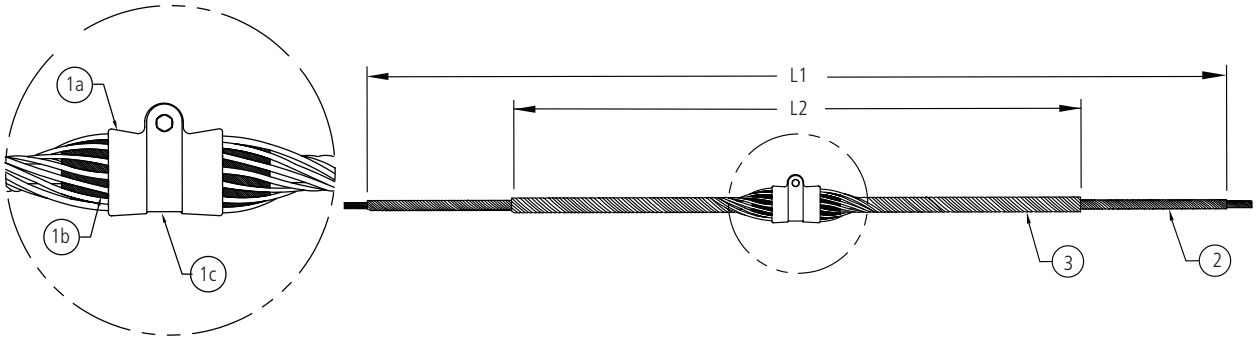






DETAIL A

Formed Wire Suspension for ADSS Cable



Features

- For line or elevation angle changes less than 30°
- Max vertical load—20,000 lbs.

Item	Description	Material
1a,c	Suspension Housing	Aluminum Alloy
1b	Insert (2 Halves)	Elastomer
2	Reinforcing Rods (SRR)	Aluminum Alloy
3	Outer Support Rods	Aluminum Alloy

Ordering Information

Cable O.D. Range	Structural Reinforcement Rods				Outer Rods				AFL No.
	Length "L1" (inches)	Rod Dia. (inches)	Rods Per Set	Color Code	Length "L2" (inches)	Rod Dia. (inches)	Rods Per Set	Color Code	
0.399" - 0.418"	80	.146	10	Yellow	42	.204	11	Yellow	ASU399/418
0.419" - 0.439"	80	.146	10	Black	42	.204	11	Black	ASU419/439
0.440" - 0.458"	81	.146	11	White	43	.204	11	White	ASU440/458
0.459" - 0.461"	84	.167	10	Purple	46	.250	10	Orange	ASU459/461
0.462" - 0.476"	84	.167	10	Purple	46	.250	10	Purple	ASU462/476
0.477" - 0.503"	84	.146	12	Orange	46	.250	10	Orange	ASU477/503
0.504" - 0.511"	84	.146	12	Red	46	.250	10	Purple	ASU504/511
0.512" - 0.536"	87	.167	11	Blue	49	.250	11	Blue	ASU512/536
0.537" - 0.559"	87	.167	11	Green	49	.250	11	Green	ASU537/559
0.560" - 0.565"	87	.167	11	Green	49	.250	11	Green	ASU560/565
0.566" - 0.573"	92	.182	11	Black	54	.250	12	Black	ASU566/573
0.574" - 0.598"	92	.182	11	Black	54	.250	12	White	ASU574/598
0.599" - 0.625"	92	.182	12	Brown	54	.310	12	Brown	ASU599/625
0.626" - 0.632"	102	.204	11	Red	63	.310	11	Red	ASU626/632
0.633" - 0.666"	102	.204	11	Red	63	.310	11	Blue	ASU633/666
0.667" - 0.682"	102	.204	12	Yellow	63	.310	11	Green	ASU667/682
0.683" - 0.710"	102	.204	12	Yellow	63	.310	11	Yellow	ASU683/710
0.711" - 0.728"	102	.204	12	White	63	.310	12	Black	ASU711/728
0.729" - 0.744"	102	.204	12	White	63	.310	12	White	ASU729/744
0.745" - 0.750"	102	.204	12	White	63	.310	12	White	ASU745/750
0.751" - 0.786"	102	.204	13	White	63	.310	12	Brown	ASU751/786
0.787" - 0.814"	111	.250	11	Green	72	.365	11	Green	ASU787/814
0.815" - 0.845"	111	.250	12	Yellow	72	.365	11	Yellow	ASU815/845
0.846" - 0.855"	111	.250	12	Green	72	.365	12	Blue	ASU846/855
0.856" - 0.894"	119	.250	12	Black	80	.365	12	Black	ASU856/894
0.895" - 0.907"	119	.250	12	White	80	.365	12	White	ASU895/907
0.908" - 0.916"	119	.250	13	Purple	80	.365	12	Purple	ASU908/916
0.917" - 0.929"	119	.250	13	Brown	80	.365	12	Brown	ASU917/929
0.930" - 0.942"	119	.250	13	Red	80	.365	12	Red	ASU930/942
0.943" - 0.977"	119	.250	13	Orange	80	.365	13	Orange	ASU943/977

Download Clamp shown with Adapter B

Downlead Clamp for ADSS
(with or without Unequal Diameters)

AFL Downlead Clamps are used to guide ADSS wire from the top of the structure to the splice box. Our clamps install easily and provide proper spacing and hold strength without damage to the cable. From poles to towers, we offer a full line of ADSS Downlead Clamps to meet the needs of any application.

Features

- Slip strength: >100 lbs.
- Lattice adapters provided with break-away bolts for precise torque during installation
- Steel tower guide clamps available with adapters to eliminate the need for drilling
- Banding adapters available

Ordering Information – Downlead Clamp and Adapter

BUSHING DESIGNATION	DIAMETER (INCHES)	COLOR CODE
B4	0.350 - 0.500	red
B5	0.501 - 0.600	green
B6	0.601 - 0.700	yellow
B7	0.701 - 0.800	blue
B8	0.801 - 0.900	white
B9	0.901 - 1.000	black
B10	1.001 - 1.100	orange

FD	OA	XX	YY	Z	M
Fiber Downlead	**OPGW and ADSS**	**Bushing Designation** (Smaller Dia.)	**Bushing Designation** (Larger Dia.)	**Indicates Adapters** A = Banding Adapter B = Lattice Adapter for web thickness 0.25" - 0.72" C = Lattice Adapter for web thickness 0.72" - 1.25" D = 3/8" diameter x 4" lag bolt E = Lattice Adapter for web thickness 0.25" - 1.25" Omit = No adapter desired	**M for Metric Hardware**

Ordering Example

For 0.528" dia. OPGW and 0.484 ADSS with pole banding (Type A), the part number is FDOA-B4B5A.

NOTES: 1. If metric hardware is desired, add a "M" suffix to the end.
2. See next page for optional downlead clamp adapters.

Download Clamp and Optional Download Clamp Adapters

Dimensions

FIG. 1

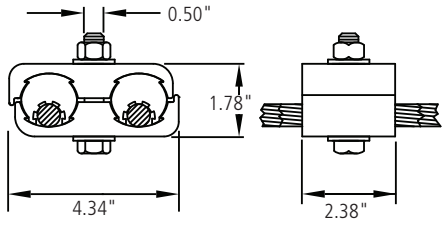
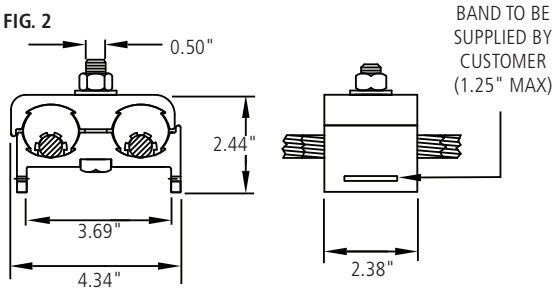


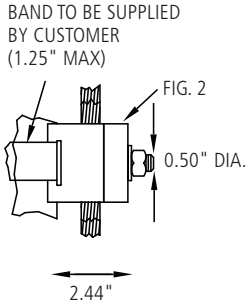
FIG. 2



FDOA XXYY

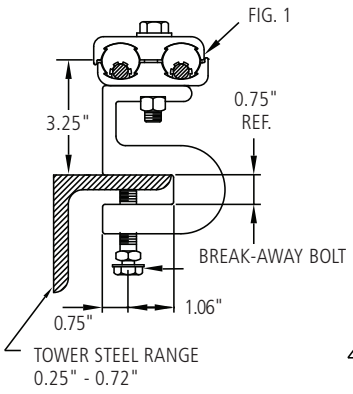
NO ADAPTER

Download Clamp Adapters



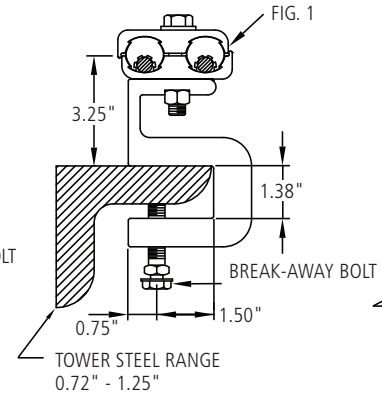
FDOA XXYYA

TYPE A ADAPTER WITH FIG. 2
BANDING CONFIGURATION
EST. WEIGHT: 0.96 LBS.



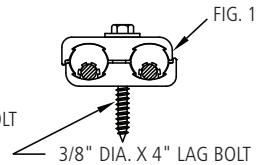
FDOA XXYYB

TYPE B ADAPTER WITH FIG. 1
LATTICE CONFIGURATION
EST. WEIGHT: 1.98 LBS.



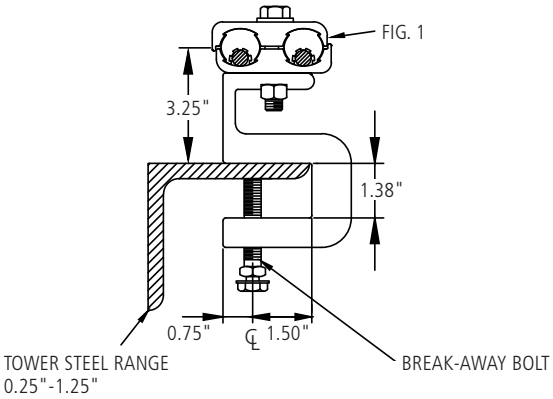
FDOA XXYYC

TYPE C ADAPTER WITH FIG. 1
LATTICE CONFIGURATION
EST. WEIGHT: 2.20 LBS.



FDOA XXYYD

TYPE D ADAPTER WITH FIG. 1
LATTICE CONFIGURATION
EST. WEIGHT: 0.96 LBS.

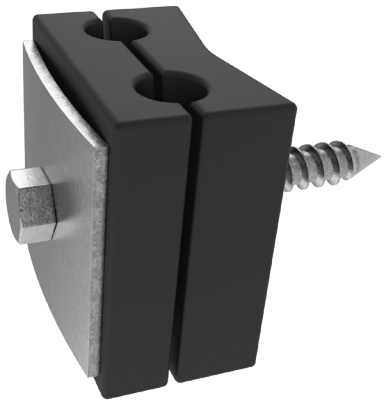


FDOA XXYYE

TYPE E ADAPTER WITH FIG. 1
LATTICE CONFIGURATION
EST. WEIGHT: 2.20 LBS.

AGC Series ADSS Downlead Clamp

AFL's AGC Series Downlead Clamps are used to guide ADSS Fiber Optic Cable from the top of the structure to the splice location. Our clamps install easily and provide proper spacing and hold strength without damage to the cable. From poles to towers, we offer a full line of ADSS Downlead Clamps to meet the needs of any application.



AGC Series ADSS Downlead Clamp with galvanized steel hardware

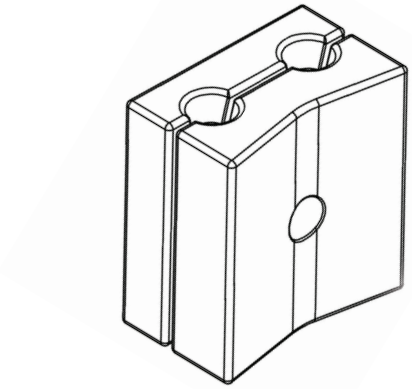
Features

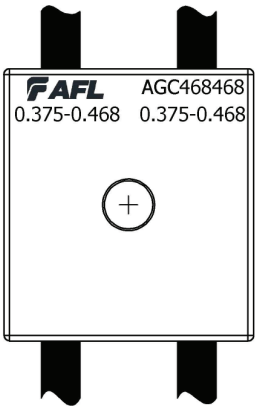
- Compressive elastomer material protects cable jacket
- Galvanized lag screw, square curved washer and standard round washers included
- BABA compliant

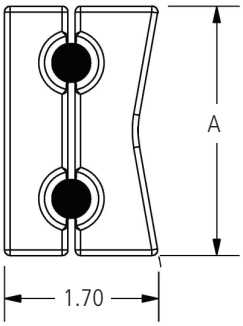
Ordering Information

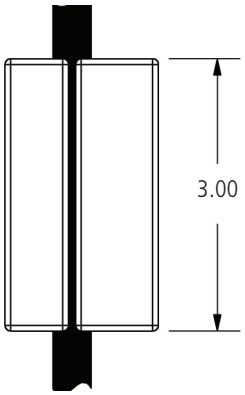
AFL No.	Groove Code	Cable Diameter (inches)		Dimensions (inches)
		Min.	Max.	A
AGC468468D	468	0.375	0.468	2.75
AGC562562D	562	0.469	0.562	2.75
AGC656656D	656	0.563	0.656	2.75
AGC750750D	750	0.657	0.750	2.75
AGC849849D	849	0.751	0.849	3.00
AGC948948D	948	0.850	0.948	3.00
AGC105105D	105	0.949	1.050	3.00

* For BABA-compliant part number, add "-BABA" to end of part number.
Note: Alternative configurations are available. Please contact AFL for additional information.









BABA compliant configurations and part numbers indicated where applicable.
For complete list of compliant part numbers, see *AFL BABA Compliant Equipment List* on our website.

FDCT Series Flat Drop Cable Tangent/Downlead

The Flat Drop Cable Tangent accessory provides a means of suspending the flat drop cable to structures where termination is undesirable. The accessory can also be used in downlead applications to guide flat drop cables from the top of the structure to the splice box.

FDCT-4D

Features

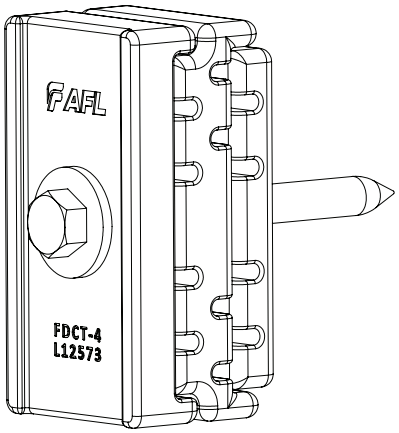
- Compressive elastomer material protects cable jacket
- Lag screw attachment hardware kit available
- Can be banded or bolted in downlead applications

Ordering Information

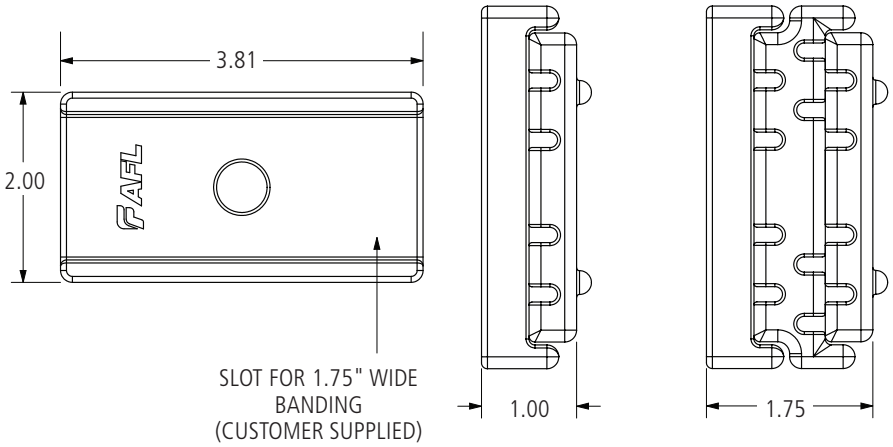
AFL No.	Flat Drop Capacity	Hardware Included
FDCT-4	up to 4	—
FDCT-12	up to 12	—
FDCT-4D	up to 4	Lag screw hardware kit
FDCT-12D	up to 12	Lag screw hardware kit

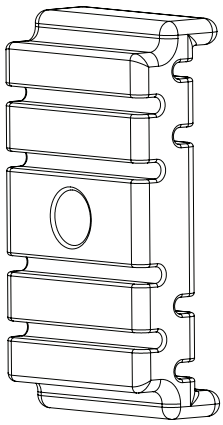
FDCT	—	XX	D
Flat Drop Cable Tangent/ Downlead		**Flat Drop Capacity 4 or 12**	**Optional** 1 ea 0.5 x 4.0 Lag Screw and Std. Round Washer

Ordering Example: To hold up to 12 flat drop cables, with lag screw hardware kit included, order part number FDCT-12D.



FDCT-12D





FDCT-5-12
Adapter may be ordered separately for increase in flat drop count

RDCT Series Round Drop Cable Tangent/Downlead

The Round Drop Cable Tangent accessory provides a means of suspending the round drop cable to structures where termination is undesirable. The accessory can also be used in downlead applications to guide round drop cables from the top of the structure to the splice box.

Features

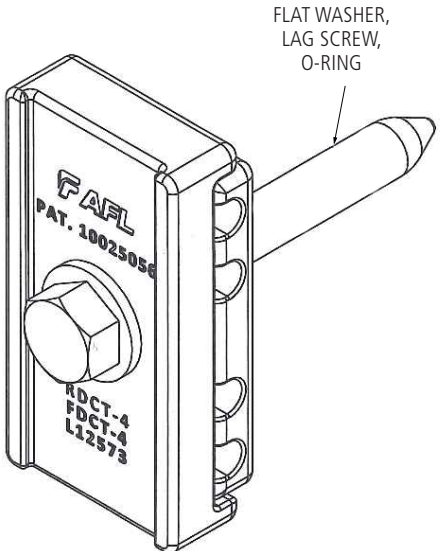
- Compressive elastomer material protects cable jacket
- Lag screw attachment hardware kit available
- Can be banded or bolted in downlead applications
- Max cable diameter: 0.336"

Ordering Information

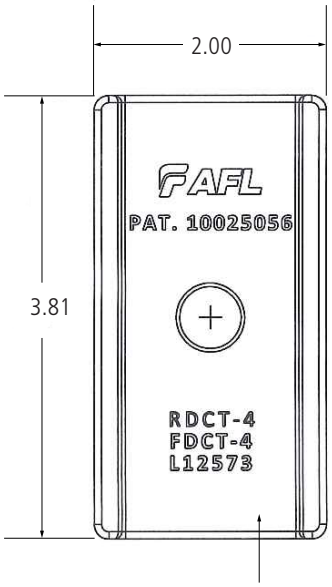
AFL NO.	ROUND DROP CAPACITY	HARDWARE INCLUDED
RDCT-4	Up to 4	—
RDCT-4D	Up to 4	Lag screw hardware kit

RDCT	—	XX	D
Round Drop Cable Tangent/ Downlead		**Round Drop Capacity, 4**	**Optional** 1 ea 0.5 x 4.0 Lag Screw and Std. Round Washer

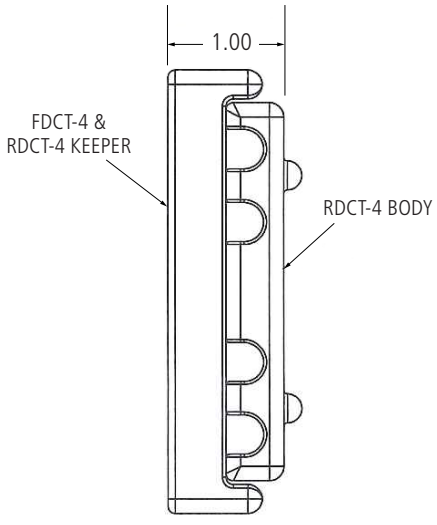
Ordering Example: To hold four (4) round drop cables with lag screw hardware kit included, order part number RDCT-4D.



RDCT-4



SLOT FOR 1.75" WIDE
BANDING
(CUSTOMER SUPPLIED)



Multi-Drop Thimble Eye for Round Drop ADSS

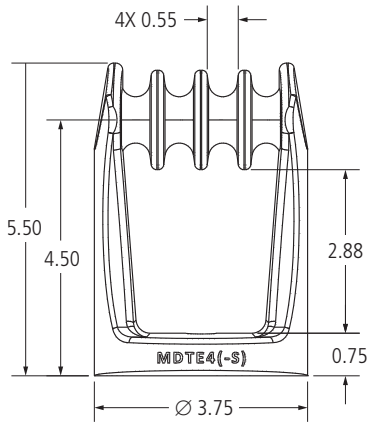
The AFL Multi-Drop Thimble Eye is used to anchor aerial round drop cables to the distribution structure. The uniform radial slots can accommodate up to four formed wire deadends per thimble eye and support tensioning up to 90 degrees from the installation hardware. This is particularly useful when double deadending is required.

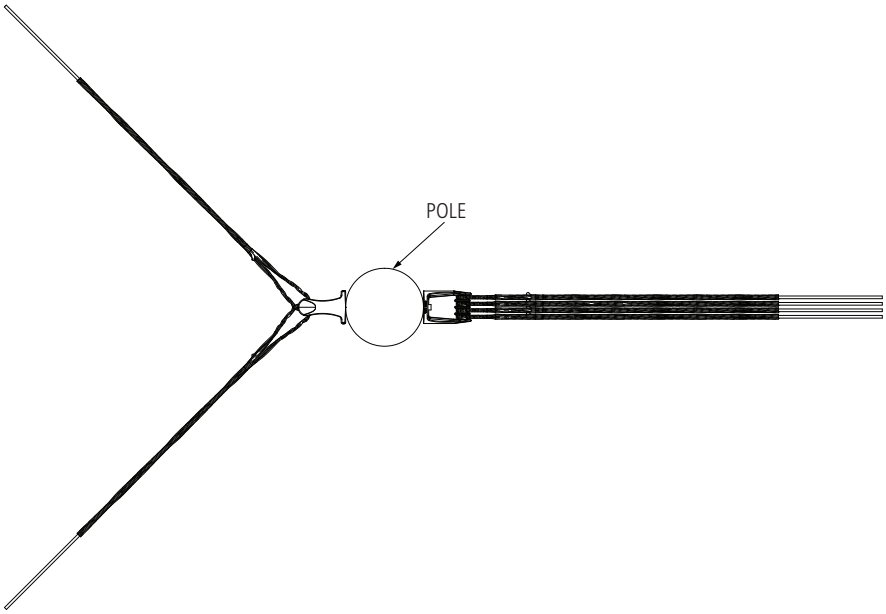
Features

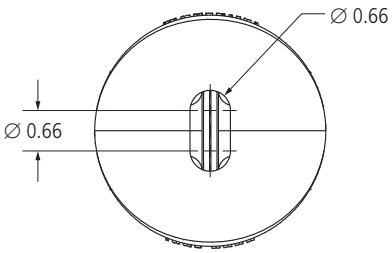
- Anchors up to four aerial drop cables
- Supports tensioning 90° from installation hardware
- Slot base for ease of installation

Ordering Information

AFL NO.	RATED STRENGTH (LBS.)	APPROX. WEIGHT (LBS.)
MDTE4-S	8,000	1.75

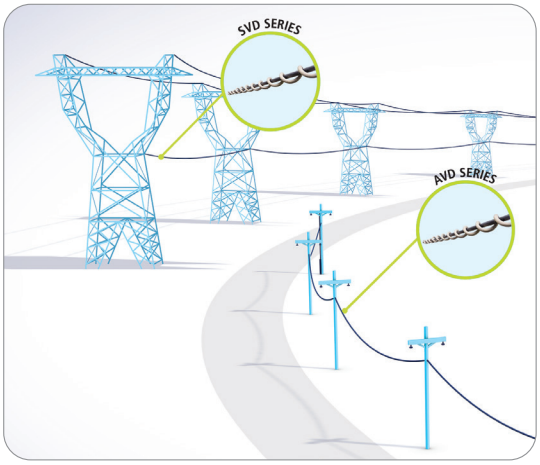






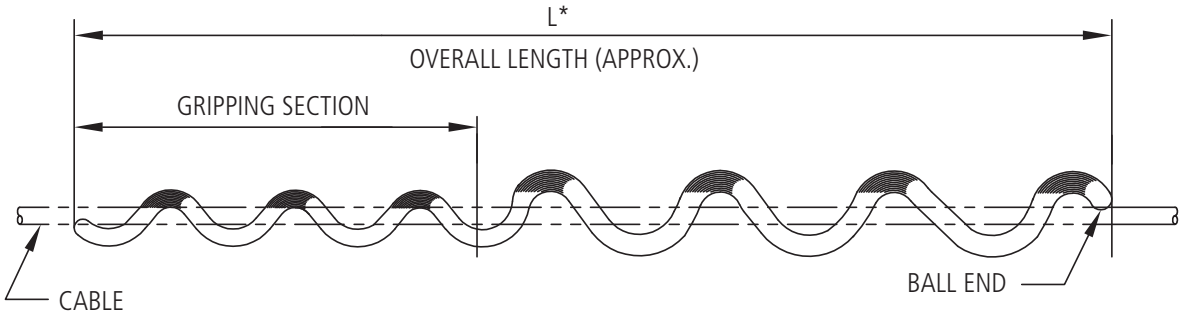
SVD Series Spiral Vibration Dampers

AFL's SVD Series Spiral Vibration Dampers are designed to eliminate the damage caused by Aeolian vibration and reduce overall vibration on bare cables. Made of weather-resistant, non-corrosive plastic, these dampers have a large, helically-formed damping section sized for the cable. A smaller gripping section gently grips the cable. Each damper is marked with the conductor range and color coded to indicate the cable diameter size range.



Line design, temperature, tension, wind flow exposure and history of vibration on similar construction in the location are factors to consider when determining the amount of protection required. Installation can be on both sides of the support location—at least one hand-width from the ends of Armor Rods or cable hardware. Depending on the customer's specific conditions, AFL recommends the SVD Spiral Vibration Damper in accordance with the recommended application chart for the following:

- Conductors between 0.250 inches and 0.500 inches O.D. (used with tietop insulators and rural construction)
- Optical Ground Wires (OPGW) and Overhead Ground Wires (OHGW) in accordance with the recommended application chart



* For "L" dimensions, see table below.

Ordering Information

Select catalog number based on cable diameter. Example: for 0.512" diameter, order SVD462/563

Conductor Diameter Cross Reference

AFL No.	PLP No.	Conductor Diameter Range inches (mm)	"L" Rod Length inches (mm)	Weight lbs (kg)	Color Code	Standard Pack
SVD250/326	5050103	0.250-0.326 (6.35-8.29)	49 (1244)	29 (13.154)	Light Blue	50
SVD327/461	5050104	0.327-0.461 (8.30-11.72)	51 (1295)	31 (14.061)	Black	50
SVD462/563	5050105	0.462-0.563 (1.73-14.32)	53 (1346)	34 (15.422)	Yellow	50
SVD564/770	5050106	0.564-0.770 (14.33-19.30)	64 (1625)	50 (22.679)	Green	25

High Mass Cross Reference

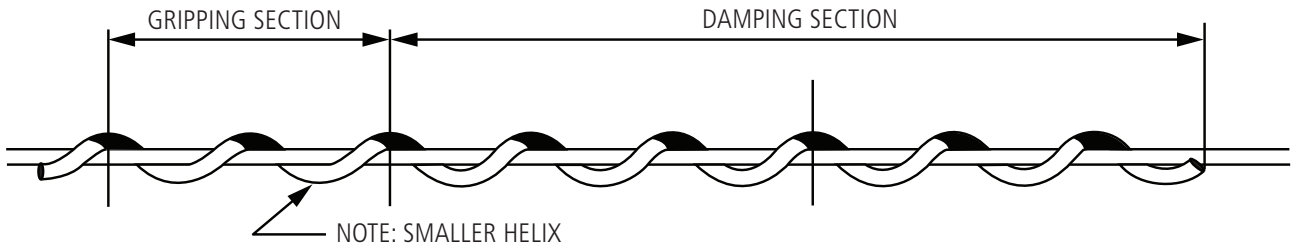
AFL No.	PLP No.	Conductor Diameter Range inches (mm)	"L" Rod Length inches (mm)	Weight lbs (kg)	Color Code	Standard Pack
SVD250/326HM	5050200	0.250-0.326 (6.35-8.29)	87 (2209)	55 (24.948)	Light Blue	50
SVD327/461HM	5050201	0.327-0.461 (8.30-11.72)	91 (2311)	60 (27.216)	Black	50
SVD462/563HM	5050202	0.462-0.563 (1.73-14.32)	94 (2387)	65 (29.483)	Yellow	50
SVD564/770HM	5050203	0.564-0.770 (14.33-19.30)	96 (2438)	55 (24.948)	Green	25

continued

SVD Series Spiral Vibration Dampers (cont.)

Damper Recommendations for Placement

Damper Recommendation applies for specified AFL dampers only. If alternative type or different manufacturer dampers are applied instead, it is possible that damage will occur on the conductor and/or the accessories.



	Initial Tension Percentage of Cable Rated Breaking Strengh at Nominal Temperature 60°F							
	0-10%		11-15%		16-20%		>20%	
Span Length	Standard	High Mass	Standard	High Mass	Standard	High Mass	Standard	High Mass
< 800 ft.	2/s	1/s	2/s	1/s	4/s	2/s	4/s	2/s
801-1400 ft.	4/s	2/s	4/s	2/s	6/s	4/s	6/s	4/s
1401-2400 ft.	6/s	4/s	6/s	4/s	8/s	4/s	8/s	4/s
2401-3000 ft.	8/s	4/s	8/s	4/s	10/s	6/s	10/s	6/s
3001-3500 ft.	10/s	6/s	10/s	6/s	12/s	6/s	12/s	6/s
3501-4000 ft.	12/s	6/s	12/s	6/s	16/s	8/s	16/s	8/s
4001-4500 ft.	16/s	8/s	16/s	8/s	18/s	10/s	18/s	10/s
4501-5000 ft.	18/s	10/s	18/s	10s	20/s	10/s	20/s	10/s

Symbol Designation

2/s = 2 dampers per span, 1 on each end of the span
4/s = 2 dampers in tandem on each end of the span
6/s = 3 dampers in tandem on each end of the span
8/s = 3 dampers in tandem + 1 damper on each end of the span
10/s = 3 dampers in tandem + 2 dampers in tandem on each end of the span
12/s = 3 dampers in tandem + 3 dampers in tandem on each end of the span
16/s = 3 dampers in tandem + 3 dampers in tandem + 2 dampers in tandem on each end of the span
18/s = 3 dampers in tandem + 3 dampers in tandem + 3 dampers in tandem on each end of the span
20/s = 3 dampers in tandem + 3 dampers in tandem + 3 dampers in tandem + 1 damper on each end of the span

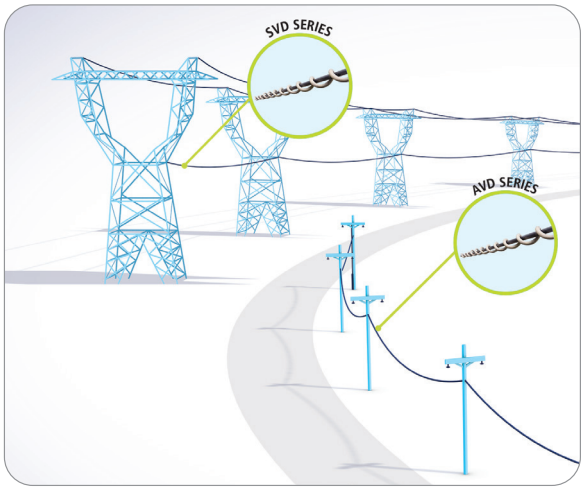
Placement and Spacing

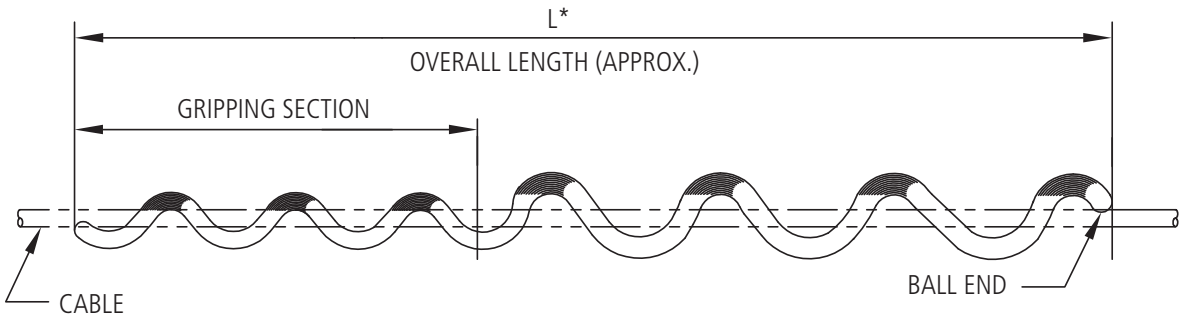
1. SVD shall be placed approximately 5 inches away from any line hardware (suspension, deadend, armor rods, other SVDs, etc.).
2. SVDs can be nestled in tandem for up to three units to prevent the units from interfering with each other.
3. SVDs shall be applied to bare cable only to ensure proper performance.

AVD Series Spiral Vibration Dampers

AFL's AVD Series Spiral Vibration Dampers are designed to eliminate the damage caused by Aeolian vibration and reduce overall vibration on bare All-Dielectric Self-Supporting (ADSS) cables. Made of weather-resistant, non-corrosive plastic, these dampers have a large, helically-formed damping section sized for the ADSS cable. A smaller gripping section gently grips the ADSS cable. Each damper is marked with the conductor range and color coded to indicate the cable diameter size range.

Line design, temperature, tension, wind flow exposure and history of vibration on similar construction in the location are factors to consider when determining the amount of protection required. Installation can be on both sides of the support location—at least one hand-width from the ends of Armor Rods or cable hardware. Depending on the customer's specific conditions, AFL recommends the AVD Spiral Vibration Damper for ADSS cable in accordance with the recommended application chart.





* For "L" dimensions, see table below.

Ordering Information

Select catalog number based on cable diameter. Example: for 0.512" diameter, order AVD462/563

Conductor Diameter Cross Reference

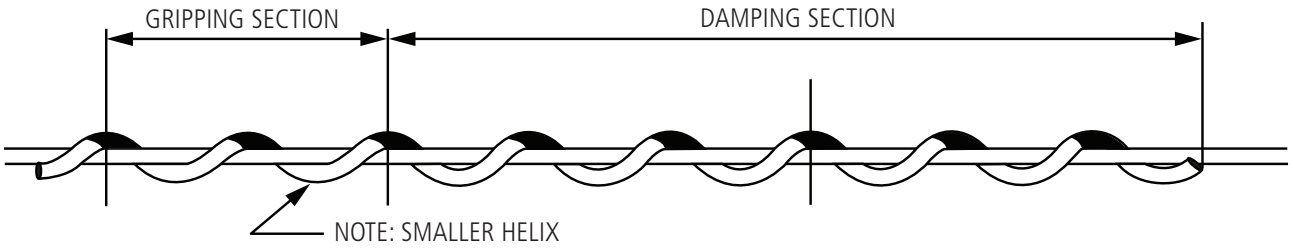
AFL No.	PLP No.	Conductor Diameter Range inches (mm)	"L" Rod Length inches (mm)	Weight lbs (KG)	Standard Pack
AVD250/326	50502393	0.250-0.326 (6.35-8.29)	49 (1244)	27 (12.247)	50
AVD327/461	50502272	0.327-0.461 (8.30-11.72)	51 (1295)	30 (12.701)	50
AVD462/563	50502274	0.462-0.563 (1.73-14.32)	53 (1346)	30 (13.608)	50
AVD564/770	50509862	0.564-0.770 (14.33-19.30)	64 (1625)	47 (21.319)	25
AVD771/876	50503057	0.771-0.876 (19.58-22.25)	71 (1803)	29 (13.154)	25
AVD877/1000	50503576	0.877-1.000 (22.26-25.40)	75 (1905)	36 (16.329)	25
AVD1001/1250	50503909	1.001-1.250 (25.41-31.75)	90 (2286)	41 (18.597)	25

continued

AVD Series Spiral Vibration Dampers (cont.)

Damper Recommendations for Placement

Damper Recommendation applies for specified AFL dampers only. If alternative type or different manufacturer dampers are applied instead, it is possible that damage will occur on the conductor and/or the accessories.



	Initial Tension Percentage of Cable Rated Breaking Strength (RBS) at Nominal Temperature 60°F				
Span Length	**0-10%**	**11-15%**	**16-20%**	**21-25%**	**>25%**
< 250 ft.	0	2/s	2/s	2/s	2/s
251-500	2/s	2/s	2/s	2/s	4/s
501-800	2/s	2/s	2/s	4/s	4/s
801-1600	4/s	4/s	4/s	6/s	6/s
1601-2400	6/s	6/s	6/s	8/s	8/s
2401-3000	8/s	8/s	8/s	10/s	10/s
3001-3500	10/s	10/s	10/s	12/s	12/s
3501-4000	12/s	12/s	12/s	16/s	16/s
4001-4500	16/s	16/s	16/s	16/s	18/s
4501-5000	18/s	18/s	18/s	18/s	20/s

Symbol Designation

2/s = 2 dampers per span, 1 on each end of the span

4/s = 2 dampers in tandem on each end of the span

6/s = 3 dampers in tandem on each end of the span

8/s = 3 dampers in tandem + 1 damper on each end of the span

10/s = 3 dampers in tandem + 2 dampers in tandem on each end of the span

12/s = 3 dampers in tandem + 3 dampers in tandem on each end of the span

16/s = 3 dampers in tandem + 3 dampers in tandem + 2 dampers in tandem on each end of the span

18/s = 3 dampers in tandem + 3 dampers in tandem + 3 dampers in tandem on each end of the span

20/s = 4 dampers in tandem + 3 dampers in tandem + 3 dampers in tandem on each end of the span

Placement and Spacing

1. AVD shall be placed approximately 5 inches away from any line hardware (suspension, deadend, armor rods, other SVDs, etc.).
2. AVDs can be nestled in tandem for up to three units to prevent the units from interfering with each other.
3. AVDs shall be applied to bare cable only to ensure proper performance.

Fiber Storage Units for ADSS Fiber Optic Cable

AFL Fiber Storage Units (FSU) are used to conveniently store an extra length of cable along the ADSS cable run for later use. Furnished as pairs (kit contains two Fiber Storage Units and two sets of hanger brackets), these FSUs are constructed from UV stabilized PPE thermoplastic. All basic hardware for attachment to the ADSS cable is provided. ADSS cable mount support brackets meet Telcordia® specifications. Epoxy coated clamping devices meet ASTM specifications A153 and B695.

The mounting bracket features an angled, tent-profile, epoxy-coated bracket for standard ADSS cable mounting.

Features

- Small profile and side facing channel minimizes ice and leaf loading
- Constructed from UV stabilized PPE thermoplastic
- Basic hanging hardware (bolts, nuts, washers) and strand clamps all included
- Tie-wrap slots for securing cable
- Epoxy-coated strand clamps

Specifications

PARAMETER	FOSP-ADSS-12	FOSP-ADSS-17
Nominal Channel Width - in. (cm)	0.625	1.00
Minimum Bend Diameter - in. (cm)	12	17.5

Ordering Information

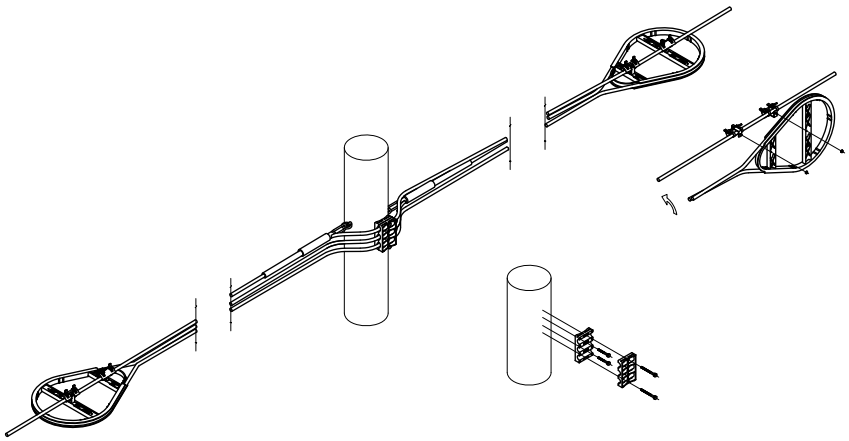
DESCRIPTION	FOSP-ADSS-12	FOSP-ADSS-17
FOS ADSS Kit	FA000049	FA000050

Kits contain one pair of FOSP and two sets of hanger brackets.

Qualifications

GOVERNING BODY	STANDARD CODE
ASTM	ASTM A153, ASTM B695

Typical Installation Diagram



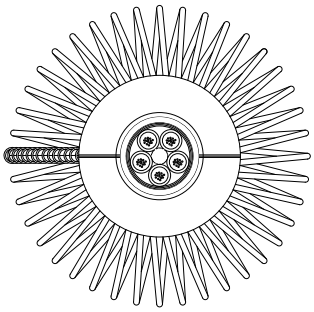
Telcordia is a registered trademark of Telcordia Technologies, Inc.

Corona Ring for ADSS Cable

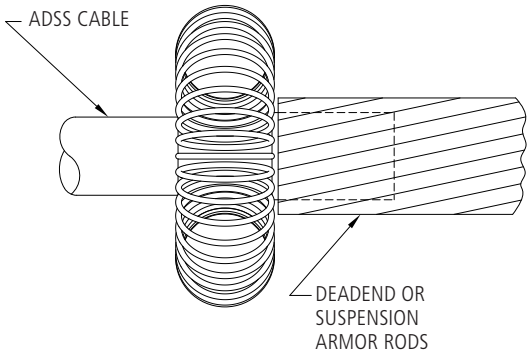
Ordering Information

A	CR	XXX
ADSS CABLE	Corona Ring	Cable Diameter in Decimal Inches

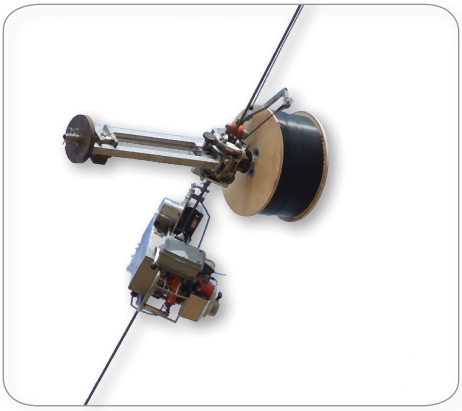
Ordering Example:
For a .685" diameter ADSS, the AFL number is ACR685



CORONA RING ASSEMBLY



Note: Corona coil clamp component should be installed under the rods of the dead end or suspension.



SkyWrap®

Successfully installed worldwide since 1982, SkyWrap is a fiber optic cable helically applied on ground wires or phase conductors. A specially designed spinning machine is used to wrap the cable under controlled conditions. This system offers a complete communication link designed and engineered for high-voltage environments at low cost.

SkyWrap is the ideal solution when access to the overhead line is problematic due to environment or terrain. The installation equipment is lightweight, easy to handle and quick to install. When power outages are hard to coordinate SkyWrap can be installed on ground wire while the phase conductors remain live, or on phase conductors with single circuit outage.

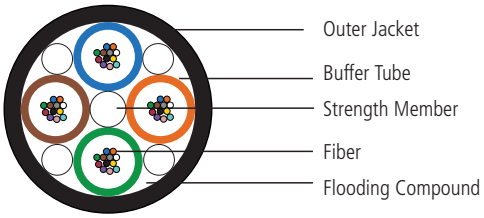
Features

- Suitable for use on distribution lines
- Gel-filled buffer tubes are S-Z stranded for easy mid-span access
- Design details listed below for span lengths up to 457 metres and fiber counts up to 144
- Requires the use of formed wire dead ends single circuit outage on phase
- Complete lifetime turn-key solutions
- Over 30 years installation experience

Benefits

- Quick, cost effective installation
- Utilise existing power line infrastructure
- Use where access is limited (e.g. mountains and river crossings)
- Use for both ground wires and phase conductors
- Live line installations on ground wire or single circuit outage on phase

Cable Components



Temperature Specifications

TEMPERATURE RANGE	
OPERATING	-40°C to +85°C
STORAGE	-40°C to +50°C
INSTALLATION	-20°C to +50°C

continued

SkyWrap®

Part Number

FIBER TYPE		FIBER COUNT	CABLE TYPE	# TUBES
SW	—	n	x	4
SW = Standard Design SW200 = using 200 micron fibers		up to 144	CA = Standard Ground HA = Standard Phase JM = Birdshot Ground HM = Birdshot Phase	

SkyWrap Ordering Information

ITEM NUMBER	FIBER COUNT	CABLE O.D.	WEIGHT	LENGTH PER REEL	CASSETTE LENGTH
		mm	km/kg	m	m
STANDARD GROUND WIRE					
SW-nCA4	04 - 24	6.4	36	2,440	4,880
SW-nCA4	26 - 48	6.6	39	2,295	4,590
SW-nCA4	50 - 96	8.0	59	1,562	3,124
BIRDSHOT RESISTANT GROUND WIRE					
SW-nJM4	04 - 24	7.3	46	1,826	3,652
SW-nJM4	26 - 48	7.5	50	1,730	3,460
SW-nJM4	50 - 96	8.9	71	1,228	2,456
SW200-nJM4	100-144	8.7	55	1,285	2,570
STANDARD PHASE CONDUCTOR					
SW-nHA4	04 - 24	7.3	55	1,914	3,828
SW-nHA4	26 - 48	7.5	59	1,813	3,626
SW-nHA4	50 - 96	8.9	82	1,288	2,576
BIRDSHOT RESISTANT PHASE CONDUCTOR					
SW-nHM4	04 - 24	8.0	61	1,594	3,188
SW-nHM4	26 - 48	8.2	65	1,517	3,034
SW-nHM4	50 - 96	9.6	89	1,107	2,214
SW200-nHM4	100-144	9.4	81	1,154	2,308

Note: Diameter and weight subject to change without notice

Installation Equipment Information

PARAMETER	VALUE
Typical Weight (includes cable and balance weight)	250 kg
Min-Max Radius of Rotation	0.87 - 1.45 m
Wrapping Speed	5 km per hour

Installation Hardware

A full range of hardware and accessories are available as part of the SkyWrap solution. Many different options are available to suit individual structure types and environmental conditions. Please contact AFL for more information.

High Voltage SkyWrap®

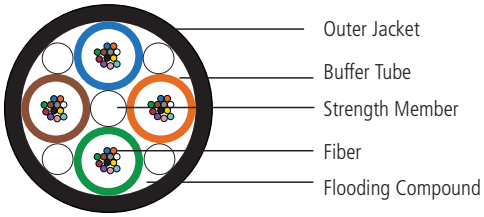
High Voltage SkyWrap is a specialized solution that permits the installation of SkyWrap onto phase conductors at system voltages of up to 300 kV. The solution is applicable for power lines without ground wires with conductors running at system voltages between 150-300 kV, opening up new transmission lines for power utilities to add fiber optic cable to their power network.

The system is developed, tested and approved to the applicable standards for working in this challenging environment, while maintaining all the key features and benefits of the SkyWrap system in terms of ease and speed of installation.

Features

- System voltages of 150 kV to 300 kV with no ground wire
- Pre-made Phase-To-Ground Insulator system ensures quick, simple and secure installation of critical components
- SkyWrap cable retained with dual layer anti-tracking sheath providing protection against shotgun damage, UV light, pollution, lightning and fault current conditions and electric field effects
- Small size and low weight ensures minimum loads are applied to the overhead line
- System tested to standards for tracking and erosion, leakage current, partial discharge (PD) and radio-interferance voltage (RIV)

Cable Components



Part Number

FIBER TYPE		FIBER COUNT	CABLE TYPE	# TUBES
SW	—	n	x	4
SW = Standard Design SW200 = using 200 micron fibers		up to 144	HA = Standard Phase HM = Birdshot Phase	

continued

High Voltage SkyWrap®

SkyWrap Ordering Information

ITEM NUMBER	FIBER COUNT	CABLE O.D.	WEIGHT	LENGTH PER REEL	CASSETTE LENGTH
		mm	km/kg	m	m
STANDARD PHASE CONDUCTOR					
SW-nHA4	04 - 24	7.3	55	1,914	3,828
SW-nHA4	26 - 48	7.5	59	1,813	3,626
SW-nHA4	50 - 96	8.9	82	1,288	2,576
BIRDSHOT RESISTANT PHASE CONDUCTOR					
SW-nHM4	04 - 24	8.0	61	1,594	3,188
SW-nHM4	26 - 48	8.2	65	1,517	3,034
SW-nHM4	50 - 96	9.6	89	1,107	2,214
SW200-nHM4	100-144	9.4	81	1,154	2,308

NOTE: Diameter and weight subject to change without notice.
Single-mode, multi-mode and non-zero dispersion-shifted fiber types are available on request.

Qualifications

GOVERNING BODY	STANDARD CODE
IEEE	1591.3
CISPR	18-2

Temperature Specifications

TEMPERATURE RANGE	
OPERATING	-40°C to +85°C
STORAGE	-40°C to +50°C
INSTALLATION	-20°C to +50°C

Contact AFL for further details.

SkyWrap® Ground Wire Hardware

A full range of hardware is available for fixing the SkyWrap cable to ground wire tower arrangements. The cable can be passed around tower tops using a specially designed bypass accessory known as a 'balehanger'. SkyWrap cable is passed down the tower to joint enclosures or termination joints in protective conduits. All cable clamps are supplied for fixing the SkyWrap cable as required.

Features

- All tower fittings are available for a range of tower or pole designs
- Tower mounted enclosure boxes are 830 x 380 x 260 mm
- All accessories are robust, weather-proof design
- Suitable for up to 144 fibers or 288 fibers with double SkyWrap applied
- Joint enclosure can be locked for added security

Typical Tower Arrangements

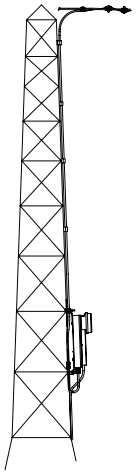


FIG. 1 – Termination Joint

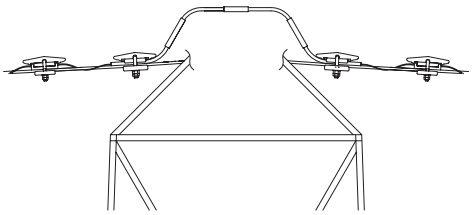


FIG. 2 – In-line Bypass

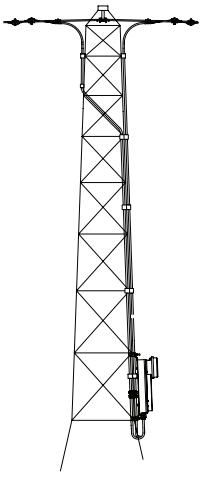


FIG. 3 – In-line Joint

Ordering Information

FIG. NO.	ARRANGEMENT		TOWER HEIGHT (Metres)			STRUCTURE TYPE			CONDUCTOR SIZE (mm)			DOUBLE WRAP	FIBER COUNT
			<25	<35	<60	LATTICE TOWER	STEEL/CONCRETE POLE	WOOD POLE	9-22	20-31	30-43		12-144
1	Termination Joint	TCD	L	M	H	902	906	962	A	B	C	D	nnF
2	In-line Bypass	TCD	–	–	–	909	909	909	A	B	C	D	–
3	In-line Joint	TCD	L	M	H	901	905	961	A	B	C	D	nnF

Example: TCD-L906BD48F or TCD-909A

Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
IEEE	1591.3 1594	Fittings Cable
BS EN	50411-3	Tower Mounted Enclosure Boxes

Contact AFL for further details.

SkyWrap® Phase Wire Hardware

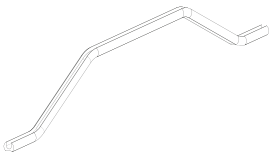
A full range of hardware is available for fixing the SkyWrap cable to phase wire tower arrangements. The cable is passed around and kept away from conductor fittings using a specially designed bypass accessory known as 'balehanger'. SkyWrap cable is passed down the tower to joint enclosures or termination joints via a specially design system called Phase-to-Ground. This system provides electrical isolation and mechanical support to transition the SkyWrap cable from phase conductor to a tower mounted enclosure. Conductor mounted enclosures or 'donuts' are also available for SkyWrap cable, this enclosure is held at the same electric potential as the conductor keeping the joint protected by the Faraday Effect. Hardware fittings are available for tension and suspension tower designs using lattice towers, wood, steel or concrete poles.

Features

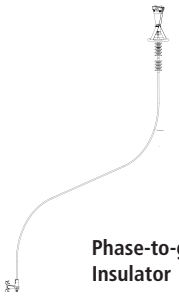
- Robust weather-proof, track resistant designs to suit environmental and polluted conditions
- Available for up to 288 fibers
- Tower mounted enclosure boxes are 830 x 380 x 260 mm
- Suitable for up to 300 kV system voltage

Key AccessWrap Components for System Voltages up to 50 kV

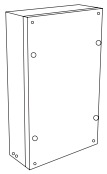
Conductor mounted Joint case



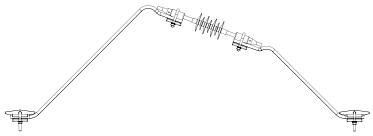
Balehanger



Phase-to-ground Insulator

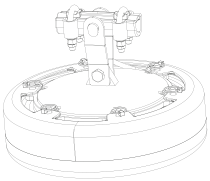


Tower mounted Joint enclosure

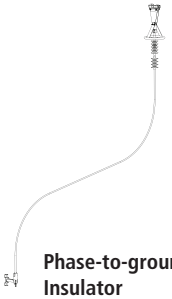


Section Pole Insulator

Key Components for System Voltages up to 150 kV

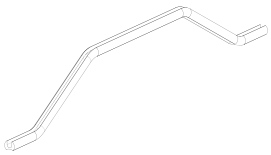


Conductor mounted Joint case



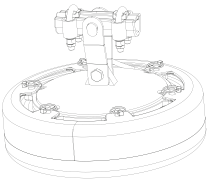
Phase-to-ground Insulator

Tower mounted Joint enclosure

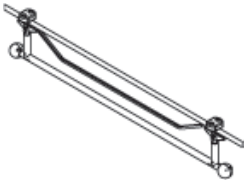


Aluminium balehanger

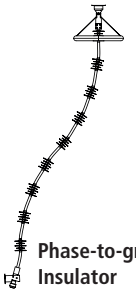
Key Components for System Voltages up to 300 kV



Conductor mounted Joint case



Balehanger



Phase-to-ground Insulator

Tower mounted Joint enclosure

continued

SkyWrap® Phase Wire Hardware

Typical Tower Arrangements

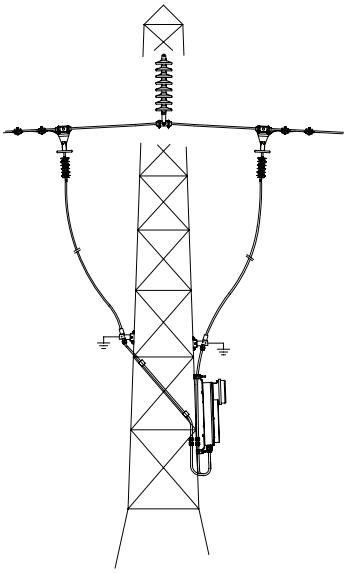


FIG. 1 – In-line Joint

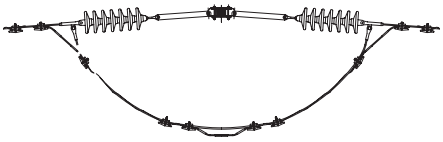


FIG. 2 – Tension Bypass

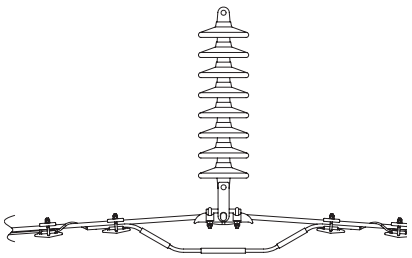


FIG. 3 – Suspension Bypass

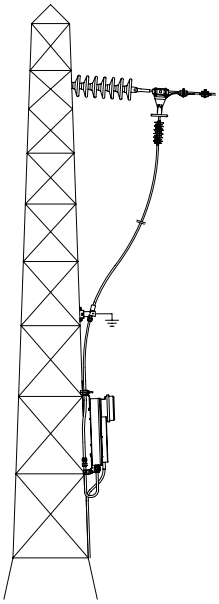


FIG. 4 – Termination Joint

Ordering Information

ARRANGEMENT			TOWER HEIGHT (Metres)			STRUCTURE TYPE					CONDUCTOR SIZE (mm)				DOUBLE WRAP	FIBER COUNT
FIG. NO. & TOWER TYPE	SYSTEM KV		<25	<35	<60	LATTICE TOWER	STEEL/ CONCRETE POLE	WOOD POLE	TENSION	SUSPENSION	9-22	20-31	30-43	42-60		12-144
1 In-line Joint	50	TCD	L	M	H	–	1016	1016	–	–	A	B	C	–	D	nnF
	150	TCD	L	M	H	912	916	920	–	–	A	B	C	–	D	nnF
	300	TCD	–	–	–	301	–	–	–	–		B	C	D	D	nnF
2 Tension Bypass	50	TCD	–	–	–	–	1010	1010	–	–	A	B	C	–	D	–
	150	TCD	–	–	–	927	927	927	–	–	A	B	C	–	D	–
	300	TCD	–	–	–	308	–	–	–	–		B	C	D	D	nnF
3 Suspension Bypass	50	TCD	–	–	–	–	1009	1009	–	–	A	B	C	–	D	–
	150	TCD	–	–	–	926	926	926	–	–	A	B	C	–	D	–
	300	TCD	–	–	–	303	–	–	–	–		B	C	D	D	nnF
4 Termination Joint	50	TCD	L	M	H	–	1017	1017	–	–	A	B	C	–	D	nnF
	150	TCD	L	M	H	913	917	921	–	–	A	B	C	–	D	nnF
	300	TCD	–	–	–	302	–	–	–	–		B	C	D	D	nnF
Conductor Mounted Joint	50	TCD	–	–	–	–	1025	1025	–	–	A	B	C	–	D	–
	150	TCD	L	M	H	–	–	–	924	925	A	B	C	–	D	nnF
	300	TCD	–	–	–	306	–	–	–	–		B	C	D	D	nnF

Example: TCD-L916BD48F or TCD-927A

Qualifications

GOVERNING BODY	STANDARD CODE	COMPONENT
IEEE	1591.3	Fittings
IEC	60, 1109 60060-1, 61109, 60437	Phase-to-Ground Donut
BS	5049 part 2-994	Donut

GOVERNING BODY	STANDARD CODE	COMPONENT
CISPR	18-2	Donut
BS EN	50411-3	Joint Enclosures

Contact AFL for further details.

Opti-Guard Splice Enclosure

The Opti-Guard Splice Enclosure from AFL offers an impressive spectrum of features which makes it the best selection for your splice protection needs. Its unique and flexible design was created with the "real-world" technician in mind. The Opti-Guard combines optimized system performance with unparalleled ease of use. It is resistant to water, ultraviolet rays, temperature and ballistics. Opti-Guard installs easily without messy tapes or adhesives. It provides the flexibility needed to handle the most demanding installation scenarios.

Features

- Accomodates up to 672 single fusion splices
- Craft friendly design requires no specialized tools to install and minimizes required training
- Easy to maintain and re-enter; no re-entry kit required
- Unit is lightweight and mounts to many types of structures
- May be bolted or banded; no special adapters needed
- Specially designed non-metallic housing
- Environmentally sealed to protect fibers
- Accepts up to six individual cables
- Accommodates most cable types in most environments
- Versatile cable tie-off system resists up to 100 pounds of tension per cable

Ordering Information

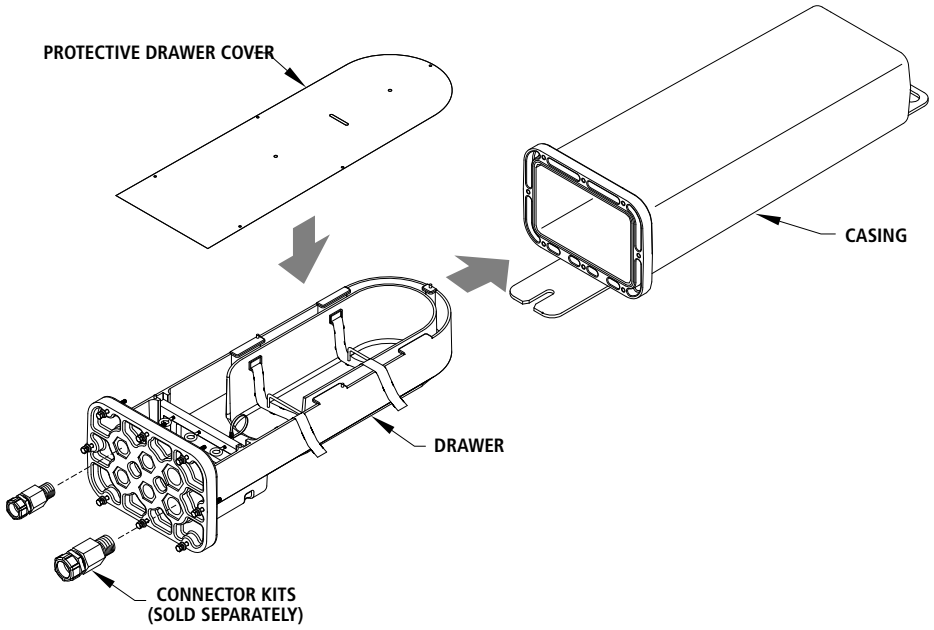
DESCRIPTION	MODEL	AFL NO.
Supplied without Splice Trays or Cable Connectors. These items ordered separately	Opti-Guard Splice Enclosure	OG03
Capacity of up to 72 single fusion splices per tray	Opti-Guard Splice Tray	OGST01-72
Capacity of up to 96 single fusion splices per tray	Opti-Guard Splice Tray	OGST01-96
60 mm, Fujikura FP3 (standard) 40 mm, Fujikura FP3-40 (special applications only) *Sold in packs of ten (not included with splice trays)*	Splice Protection Sleeves	SPS60 SPS40
Ballistic shield for Opti-Guard Splice Enclosure	Opti-Guard Bullet Guard	OGBGS-01
Order one kit for each stainless steel tube	Opti-Guard Fiber Routing Kit	OGFKO1
Used for Optical Ground Wire	Connector Kit	SLCK, SCK, APCK
Used for All-Dielectric Self-Supporting (ADSS) Cable and Loose Tube Cable	Connector Kit	BCK
Used to store extra length of optical ground wire cable	External Coil Bracket	CB-44-3AL

NOTE: Refer to page on Connector Kit for AFL number set-up.

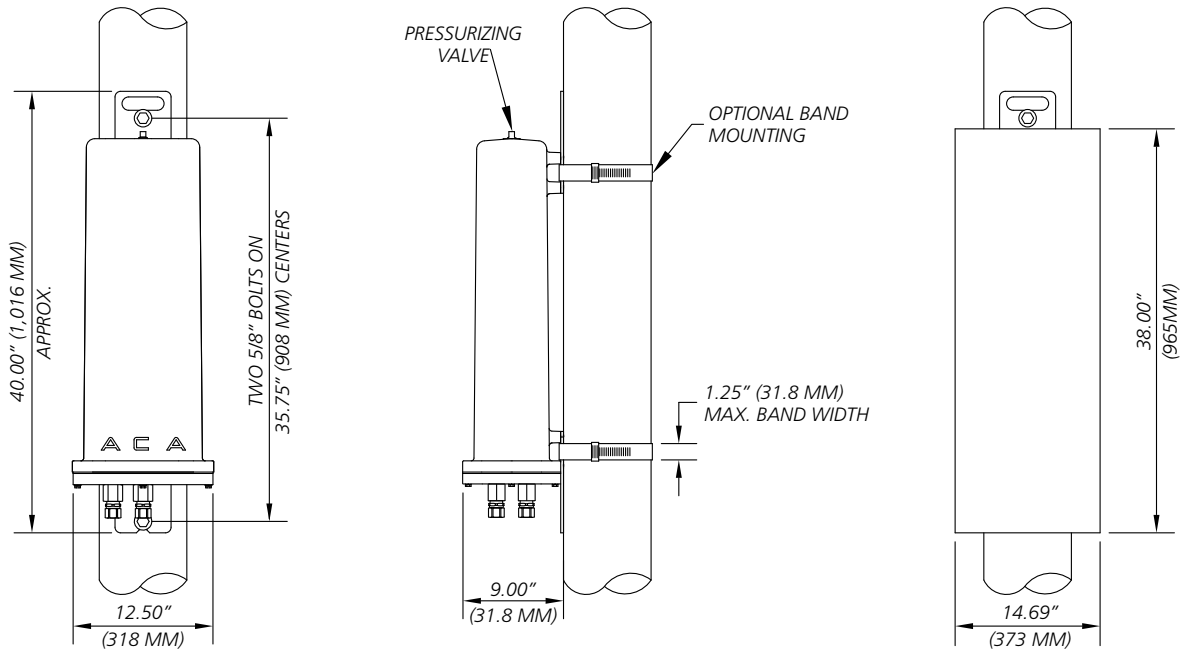
continued

Opti-Guard Splice Enclosure

Exploded View



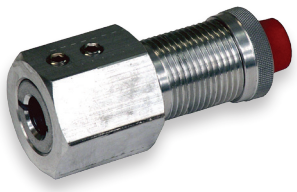
Mounting Details and Options



continued

Connector Kits for Opti-Guard and SB01 Splice Enclosures—OPGW Cable

Connector Kit: Optical Ground Wire



Optical Ground Wire Connector Kit

ZZZZ — OPGW Connector Kit Cable Type
SLCK = Slotted Core
SCK = MiniCore, HexaCore or PentaCore
APCK = CentraCore, AlumaCore

Y — Inner Layer Range Code in Decimal Inches (see Table 1)

XXX/XXX — Cable Diameter Range Code in Decimal Inches (see Table 2)

Ordering Example: For 0.571" diameter SX-67/49/571, which has a layer 1 total diameter of 0.358", the AFL number is SCKB569/583.

Table 1 – Inner Layer Range Codes

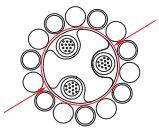
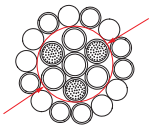
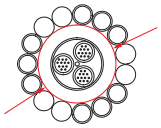
RANGE CODE	 SLOTTED CORE DIAMETER	 MINICORE, HEXACORE OR PENTACORE LAYER 1 DIAMETER	 CENTRACORE OR ALUMACORE PIPE DIAMETER
A	0.185 - 0.227	0.000 - 0.230	0.185 - 0.227
B	0.228 - 0.264	0.231 - 0.500	0.228 - 0.264
C	0.265 - 0.300	0.501 - 0.636	0.265 - 0.300
D	0.301 - 0.374	—	0.301 - 0.374
E	0.375 - 0.479	—	0.375 - 0.479
F	0.480 - 0.550	—	0.480 - 0.550
G	0.551 - 0.630	—	0.551 - 0.630
H	0.631 - 0.700	—	0.631 - 0.700

Table 2 – Cable Diameter Range Codes

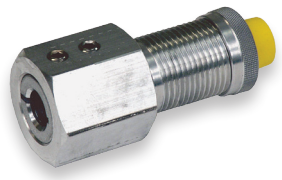
RANGE CODE	CABLE DIAMETER RANGE	
	MIN.	MAX.
225/240	0.225	0.240
241/255	0.241	0.255
256/271	0.256	0.271
272/286	0.272	0.286
287/302	0.287	0.302
303/318	0.303	0.318
319/333	0.319	0.333
334/349	0.334	0.349
350/365	0.350	0.365
366/380	0.366	0.380
381/396	0.381	0.396
397/412	0.397	0.412
413/427	0.413	0.427
428/443	0.428	0.443
444/459	0.444	0.459
460/474	0.460	0.474
475/490	0.475	0.490

RANGE CODE	CABLE DIAMETER RANGE	
	MIN.	MAX.
491/506	0.491	0.506
507/521	0.507	0.521
522/537	0.522	0.537
538/553	0.538	0.553
554/568	0.554	0.568
569/583	0.569	0.583
584/599	0.584	0.599
600/615	0.600	0.615
616/630	0.616	0.630
631/646	0.631	0.646
647/662	0.647	0.662
663/677	0.663	0.677
678/693	0.678	0.693
694/708	0.694	0.708
709/727	0.709	0.727
728/740	0.728	0.740

continued

Connector Kits for Opti-Guard and SB01 Splice Enclosures—Black Jacket Cable

Connector Kit: All-Dielectric Self-Supporting Fiber Optic Cable



All-Dielectric Self-Supporting Connector Kit

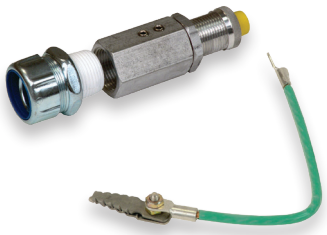
BCK
Black Jacket Cable Connector Kit

XXX/XXX
Range Code in Decimal Inches (see Table 1 below)

F
Blank = No Additional Connector Assembly Required
F = 1" Flex Conduit Connector Required

Ordering Example: For 0.528" diameter ADSS, the AFL number is BCK522/537.

Connector Kit: Loose Tube Fiber Optic Cable



Armored Loose Tube Connector Kit

BCK
Black Jacket Cable Connector Kit

XXX/XXX
Range Code in Decimal Inches (see Table 1 below)

B
Options
Blank = No Additional Connector Assembly Required
F = 1" Flexible Conduit Connector Required
A = Armor Ground Assembly Required
B = Armor Ground Assembly and 1" Flexible Conduit Connector Required

Ordering Example: For 0.510" armored loose tube (duct) cable with flexible conduit and armor ground connections, the AFL number is BCK507/521B.

Table 1

RANGE CODE	CABLE DIAMETER RANGE	
	MIN.	MAX.
225/240	0.225	0.240
241/255	0.241	0.255
256/271	0.256	0.271
272/286	0.272	0.286
287/302	0.287	0.302
303/318	0.303	0.318
319/333	0.319	0.333
334/349	0.334	0.349
350/365	0.350	0.365
366/380	0.366	0.380
381/396	0.381	0.396
397/412	0.397	0.412
413/427	0.413	0.427
428/443	0.428	0.443
444/459	0.444	0.459
460/474	0.460	0.474
475/490	0.475	0.490

RANGE CODE	CABLE DIAMETER RANGE	
	MIN.	MAX.
491/506	0.491	0.506
507/521	0.507	0.521
522/537	0.522	0.537
538/553	0.538	0.553
554/568	0.554	0.568
569/583	0.569	0.583
584/599	0.584	0.599
600/615	0.600	0.615
616/630	0.616	0.630
631/646	0.631	0.646
647/662	0.647	0.662
663/677	0.663	0.677
678/693	0.678	0.693
694/708	0.694	0.708
709/727	0.709	0.727
728/740	0.728	0.740

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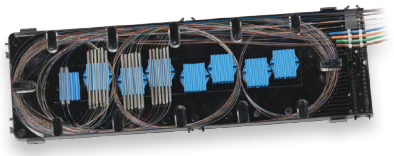


Opti-Guard Splice Tray

Opti-Guard Splice Tray

The Opti-Guard Splice Tray is specifically designed to be used with the Opti-Guard Splice Enclosure.

Features

- 72 or 96 fiber splice capacity
- Manifolds are easily removed for lower fiber counts
- Clear cover for easy fiber identification

Ordering Information

MODEL	AFL NO.
Opti-Guard Splice Tray (72 fiber)	OGST01-72
Opti-Guard Splice Tray (96 fiber)	OGST01-96
60 mm Splice Protection Sleeve	SPS60
40 mm Splice Protection Sleeve	SPS40

Opti-Guard Bullet Guard

Opti-Guard Bullet Guard

The Opti-Guard Bullet Guard is designed to supplement the ballistic resistance of the Opti-Guard Splice Enclosure.

Features

- Can be retrofitted onto existing installations without disturbing cables
- Only a standard flat-blade screwdriver required for installation

Ordering Information

MODEL	AFL NO.
Opti-Guard Bullet Guard	OGBGS-01

Opti-Guard Fiber Routing Kit

Opti-Guard Fiber Routing Kit

The Opti-Guard Fiber Routing Kit provides all of the materials to properly route fibers from a stainless steel tube to the OGST01-72 splice tray inside the Opti-Guard splice enclosure.

Features

- Primary transition tubing leads fiber from stainless steel tube to splice tray
- Heat Shrink tubing guides fibers as they exit the stainless steel tube
- Cable ties provided to secure tubing to the tray and the end of the stainless steel tube

Ordering Information

MODEL	AFL NO.
Opti-Guard Fiber Routing Kit	OGFK01

NOTE: Order one kit for each stainless steel tube.

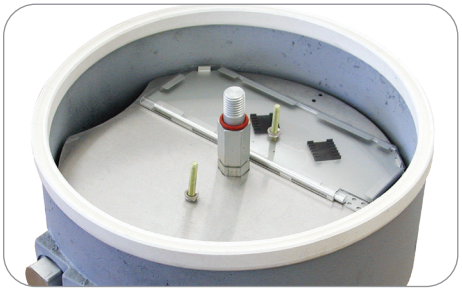
SB01

SB01 Splice Enclosure

AFL's splice enclosure provides protection from all types of elements. From weather to bullets, the iron and steel construction requires no additional protective covering. Furnished with four plugged cable ports (2 aluminum and 2 plastic) for either All-Dielectric Self-Supporting (ADSS) or Optical Ground Wire (OPGW) cables, the splice enclosure can be pre-mounted to a structure before completion of the splicing phase.

With an internal capacity to store approximately 25 feet of buffer tube, the closure is more cost-effective, eliminating the need for an external coil storage bracket (with exception to stainless steel tube optical ground wire designs). The 72-fiber circular fiber tray, constructed of high impact-resistant Lexan®, enables management of up to 144 fibers.
The tray's black base and clear lid enable easy accessibility.

Ideal for electric utilities and optical cable installers, the splice enclosure is versatile and cost-effective for new and existing installations.



SB01 with 12 splice capacity tray

SB01 with 72 splice capacity tray

Top view of new SB01 gasket
(AFL No. C11508-1)

Features

- Up to 144-fiber splice capacity, depending on cable design
- Customizable kit with no special re-entry kits required
- Splice tray constructed of high impact-resistant Lexan®
- Manufactured of iron and steel; bullet-resistant
- Pre-mountable enabling easy re-entry and access
- Unique new gasket with top-center radius eliminates the need for RTV sealant
- New C11508-1 gasket can be retrofitted to existing splice closures

Ordering Instructions – Step 1

DESCRIPTION	AFL NO.
Splice Enclosure including one splice tray for 12 single fused fiber capacity, sealant, organizer tray for additional trays.	SB01
Splice Enclosure including one splice tray for 72 single fused fiber capacity. **Protection sleeves not included.**	SB01-72
Splice Enclosure including two splice trays for 72 single fused fiber capacity, a total of 144 splices. **Protection sleeves not included.**	SB01-144

Cable connector kits required to complete installation are sold separately. Refer to "Ordering Instructions" Steps 2 and 3 on the following pages to complete your order.

Ordering Instructions – Step 2

CONNECTOR KIT	APPLICATION
SLCK, SCK, APCK	Optical Ground Wire
BCK	All-Dielectric Self-Supporting (ADSS) Fiber Optic Cable Loose Tube Fiber Optic Cable

Refer to page on connector kits for AFL number set-up.

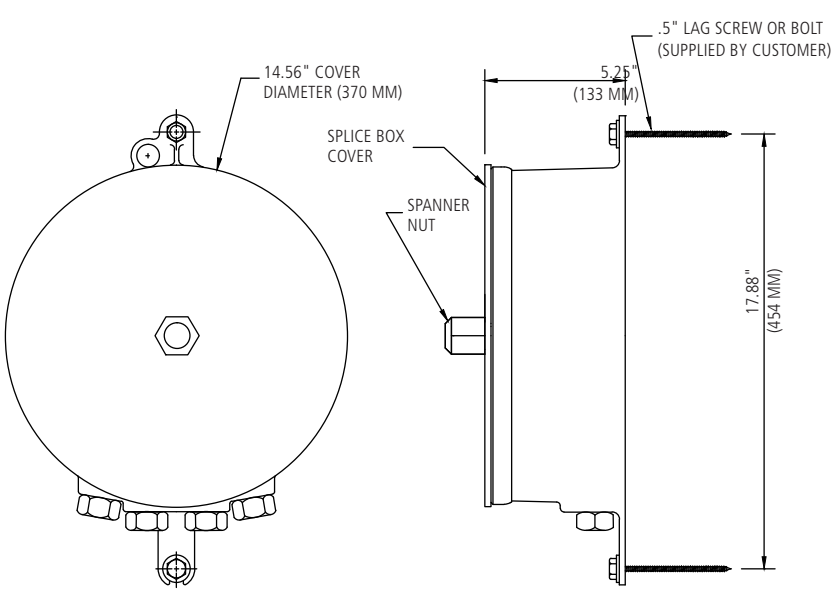
continued

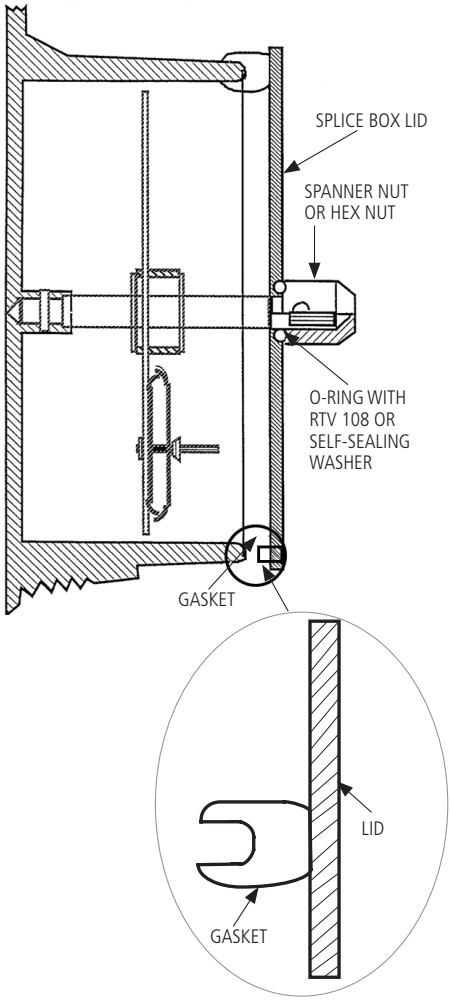
SB01 Splice Enclosure (cont.)

Specifications

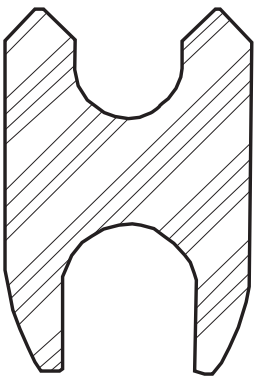
PARAMETER	VALUE
Maximum Tray Capacity (depending on tray type)	4 ST1 Trays or 2 ST72 Trays
Maximum Fiber Count (depending on tray type)	48 with ST1; 144 with (2) ST72
Weight	52 lbs. (23.57 kg)
Diameter	14.56 in. (370 mm)
Height (with cover)	5.25 in (133.35 mm)
Mounting Distance (hole to hole)	17.88 in (454.15 mm)

Dimensions

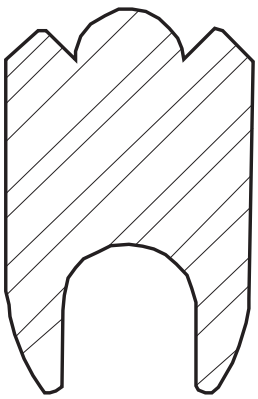




NOTE: Banding and steel tower adapters are available in lieu of bolts.



Old Gasket Design

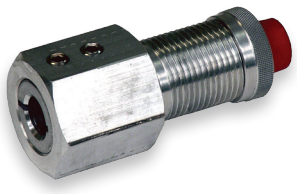


New Gasket Design (AFL No. C11508-1)

continued

Connector Kits for Opti-Guard and SB01 Splice Enclosures—OPGW Cable

Connector Kit: Optical Ground Wire



Optical Ground Wire Connector Kit

ZZZZ — OPGW Connector Kit Cable Type
SLCK = Slotted Core
SCK = MiniCore, HexaCore or PentaCore
APCK = CentraCore, AlumaCore

Y — Inner Layer Range Code in Decimal Inches (see Table 1)

XXX/XXX — Cable Diameter Range Code in Decimal Inches (see Table 2)

Ordering Example: For 0.571" diameter SX-67/49/571, which has a layer 1 total diameter of 0.358", the AFL number is SCKB569/583.

Table 1 – Inner Layer Range Codes

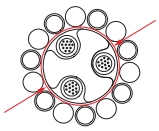
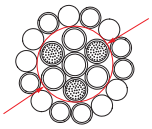
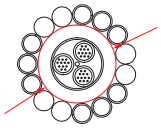
RANGE CODE	 SLOTTED CORE DIAMETER	 MINICORE, HEXACORE OR PENTACORE LAYER 1 DIAMETER	 CENTRACORE OR ALUMACORE PIPE DIAMETER
A	0.185 - 0.227	0.000 - 0.230	0.185 - 0.227
B	0.228 - 0.264	0.231 - 0.500	0.228 - 0.264
C	0.265 - 0.300	0.501 - 0.636	0.265 - 0.300
D	0.301 - 0.374	—	0.301 - 0.374
E	0.375 - 0.479	—	0.375 - 0.479
F	0.480 - 0.550	—	0.480 - 0.550
G	0.551 - 0.630	—	0.551 - 0.630
H	0.631 - 0.700	—	0.631 - 0.700

Table 2 – Cable Diameter Range Codes

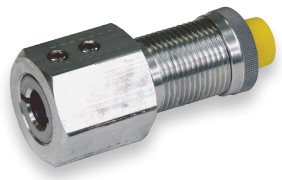
RANGE CODE	CABLE DIAMETER RANGE	
	MIN.	MAX.
225/240	0.225	0.240
241/255	0.241	0.255
256/271	0.256	0.271
272/286	0.272	0.286
287/302	0.287	0.302
303/318	0.303	0.318
319/333	0.319	0.333
334/349	0.334	0.349
350/365	0.350	0.365
366/380	0.366	0.380
381/396	0.381	0.396
397/412	0.397	0.412
413/427	0.413	0.427
428/443	0.428	0.443
444/459	0.444	0.459
460/474	0.460	0.474
475/490	0.475	0.490

RANGE CODE	CABLE DIAMETER RANGE	
	MIN.	MAX.
491/506	0.491	0.506
507/521	0.507	0.521
522/537	0.522	0.537
538/553	0.538	0.553
554/568	0.554	0.568
569/583	0.569	0.583
584/599	0.584	0.599
600/615	0.600	0.615
616/630	0.616	0.630
631/646	0.631	0.646
647/662	0.647	0.662
663/677	0.663	0.677
678/693	0.678	0.693
694/708	0.694	0.708
709/727	0.709	0.727
728/740	0.728	0.740

continued

Connector Kits for Opti-Guard and SB01 Splice Enclosures—Black Jacket Cable

Connector Kit: All-Dielectric Self-Supporting Fiber Optic Cable



All-Dielectric Self-Supporting Connector Kit

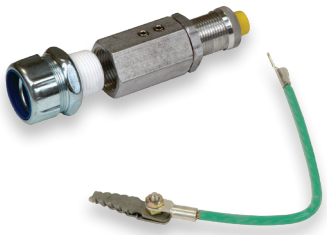
BCK — Black Jacket Cable Connector Kit

XXX/XXX — Range Code in Decimal Inches (see Table 1 below)

F — Blank = No Additional Connector Assembly Required
F = 1" Flex Conduit Connector Required

Ordering Example: For 0.528" diameter ADSS, the AFL number is BCK522/537.

Connector Kit: Loose Tube Fiber Optic Cable



Armored Loose Tube Connector Kit

BCK — Black Jacket Cable Connector Kit

XXX/XXX — Range Code in Decimal Inches (see Table 1 below)

B — Options
Blank = No Additional Connector Assembly Required
F = 1" Flexible Conduit Connector Required
A = Armor Ground Assembly Required
B = Armor Ground Assembly and 1" Flexible Conduit Connector Required

Ordering Example: For 0.510" armored loose tube (duct) cable with flexible conduit and armor ground connections, the AFL number is BCK507/521B.

Table 1

RANGE CODE	CABLE DIAMETER RANGE	
	MIN.	MAX.
225/240	0.225	0.240
241/255	0.241	0.255
256/271	0.256	0.271
272/286	0.272	0.286
287/302	0.287	0.302
303/318	0.303	0.318
319/333	0.319	0.333
334/349	0.334	0.349
350/365	0.350	0.365
366/380	0.366	0.380
381/396	0.381	0.396
397/412	0.397	0.412
413/427	0.413	0.427
428/443	0.428	0.443
444/459	0.444	0.459
460/474	0.460	0.474
475/490	0.475	0.490

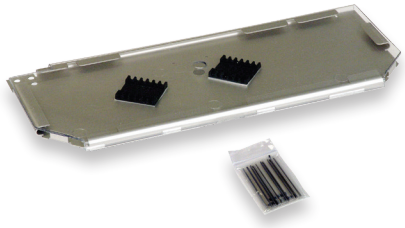
RANGE CODE	CABLE DIAMETER RANGE	
	MIN.	MAX.
491/506	0.491	0.506
507/521	0.507	0.521
522/537	0.522	0.537
538/553	0.538	0.553
554/568	0.554	0.568
569/583	0.569	0.583
584/599	0.584	0.599
600/615	0.600	0.615
616/630	0.616	0.630
631/646	0.631	0.646
647/662	0.647	0.662
663/677	0.663	0.677
678/693	0.678	0.693
694/708	0.694	0.708
709/727	0.709	0.727
728/740	0.728	0.740

continued

SB01 Splice Enclosures Accessories

Ordering Instructions – Step 3

The SB01 includes accessories that allow for up to 12 fiber splices. Additional components shown below may be ordered when more than 12 splices are required.



Splice Tray

The SB01 Splice Tray organizes and protects the fiber splices.

Features

- 12 single-fused fiber splice capacity
- Includes 13 splice protection sleeves

Ordering Information

MODEL	AFL NO.
SB01 Splice Tray	ST1

TT1 Transition Tray

The SB01 Transition Tray is used to divide fibers into groups for routing into splice trays. To be used for OPGW cables containing stainless steel tubes.

Features

- 48 fiber capacity
- Used in conjunction with SB01 Furcation Kit
- Not required for ST1-72 tray
- Not required with AlumaCore OPGW designs

Ordering Information

MODEL	AFL NO.
SB01 Transition Tray	TT1

72 Fiber Splice Tray

The 72 Fiber Splice Tray is used to organize and protect up to 72 single fused fibers in the SB01 splice enclosure.

Features

- 72 single-fused fiber splice capacity
- Protection sleeves sold separately

Ordering Information

MODEL	AFL NO.
72 Fiber Splice Tray	ST1-72

SB01 Furcation Kit

The SB01 Furcation Kit includes the materials required to properly divide fibers into groups inside the SB01 splice enclosure.

Features

- Contains tubing to protect and guide fibers inside the splice enclosure
- Includes cable ties to secure buffer tubes to the splice tray

Ordering Information

MODEL	AFL NO.
SB01 Furcation Kit	SB01FK

BPC-AX-BG2 Bullet Guard

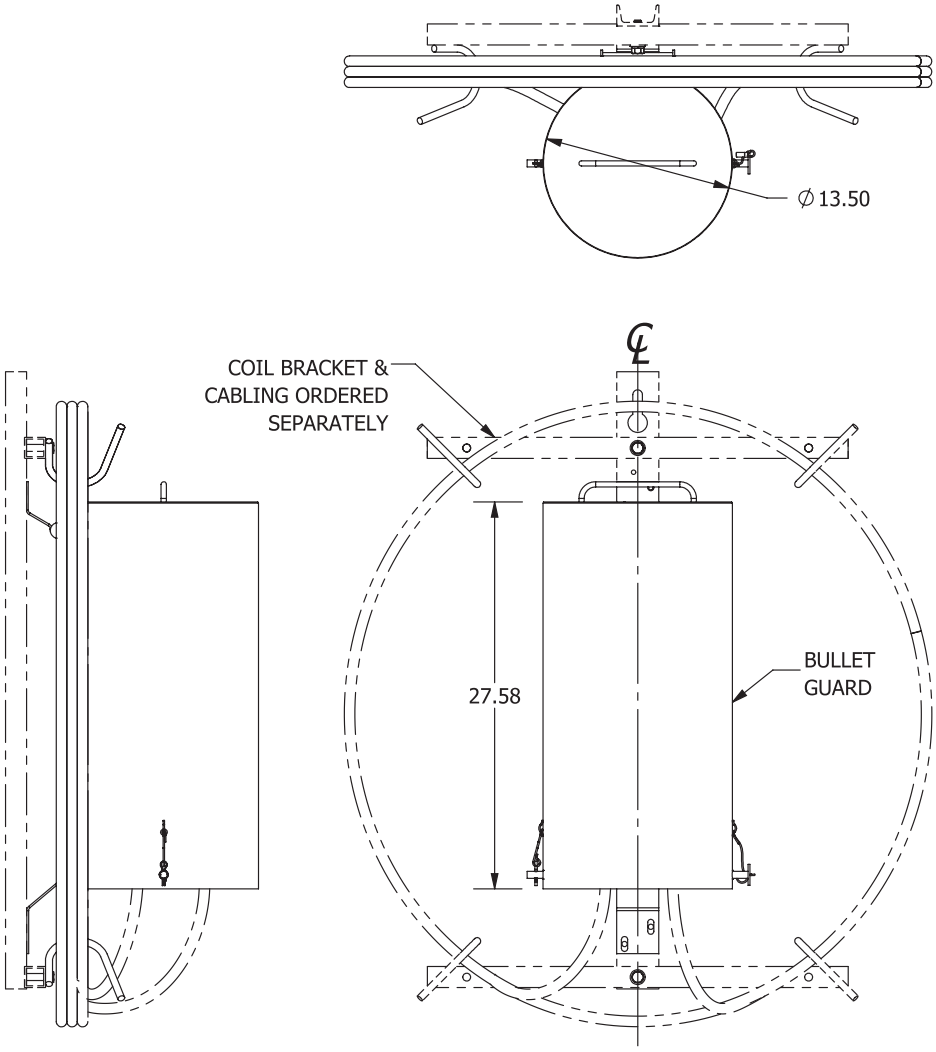
Introducing the BPC-AX-BG2 Bullet Guard. Engineered to resist small firearms, even at close range, this guard ensures unparalleled security. Its drop-in hinge design simplifies attachment to the coil bracket, while stainless steel construction with a bead-blasted finish ensures durability. Equipped with an attached lifting hook and hardware retention cables, installation and maintenance are made effortless. The Bullet Guard promises enhanced security and performance for enclosure systems, offering peace of mind to our valued customers.

Compatible with AFL's Apex® X-2 and X-2S Sealed Splice Closures.

BPC-AX-BG2

BPC-AX-BG2 Exploded View
(Apex not included)

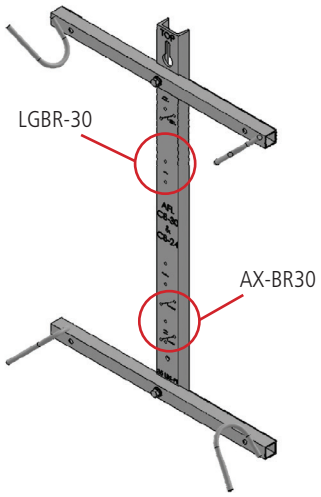
Installation Diagram



Ordering Information

MODEL	AFL NO.
BPC-AX-BG2 Bullet Guard Canister	BPC-AX-BG2

CB-30-3AL External Coil Bracket



Features

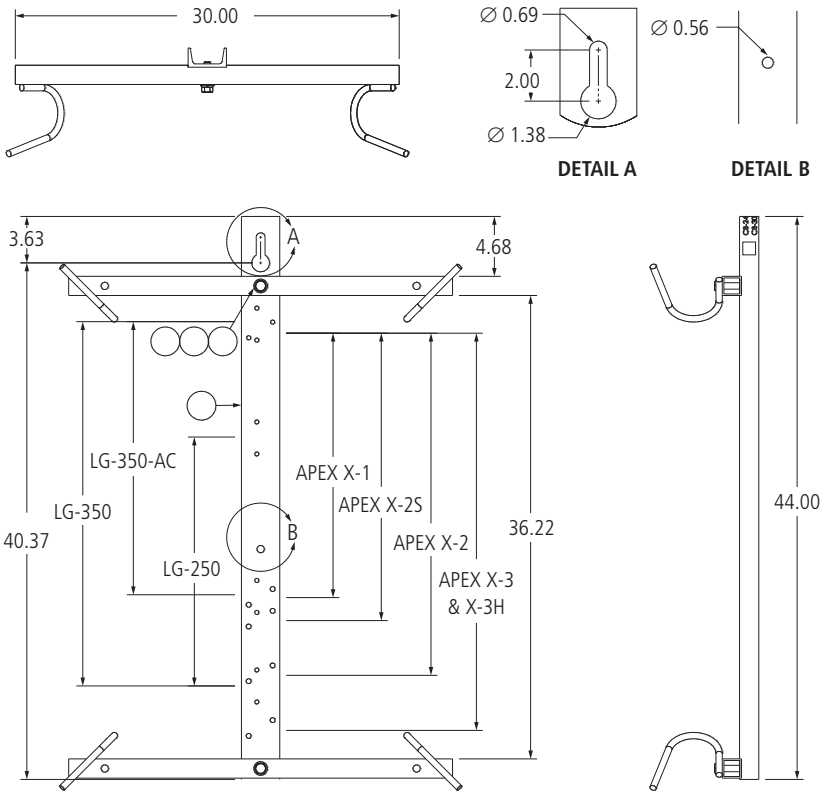
- Stores extra length of AFL-ADSS® cable
- Aluminum Material
- For use with AFL's Apex® models (X-2, X-2S, X-3, X-3H) LG-250, LG-350 and LG-350-AC sealed splice closures
- Shipped in three pieces and requires field assembly
- Can be bolted or banded to structure
- Mounting bracket available for Apex® and LG Series Sealed Splice Closures
- BABA compliant

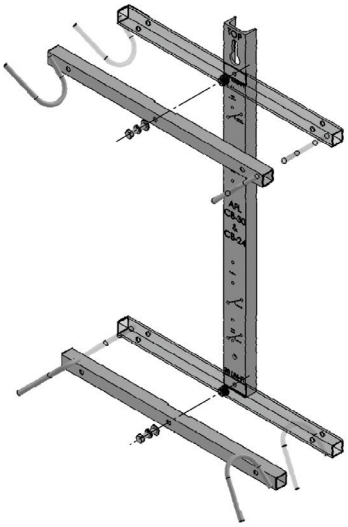
Estimated Cable Storage Lengths and Loading Capacity

Cable O.D. (in)	Estimated Cable Length (ft)	Loading Capacity (lbs)
0.50	250	400
0.75	150	
1.00	100	

NOTE: For cable storage capacity greater than either of the values in table, please contact AFL.

Installation Diagram





INSTALLATION NOTES:

1. Place tube assemblies in location as shown at right.
2. Stainless steel bolts to be torqued to 35 lbs-ft.

Ordering Information

Model	AFL No.
CB-30-3AL ADSS Coil Storage Bracket for LG Series Sealed Splice Closures	CB-30-3AL
Pole/wall mount kit for Apex X-2 and X-2S Sealed Splice Closures	AX-BR30
Pole/wall mount kit for Apex X-3 and X-3H Sealed Splice Closures	AX-BR33
Mounting Bracket for LG Series Sealed Splice Closures	LGBR-30

* For BABA-compliant part number, add "-BABA" to end of part number.

BABA compliant configurations and part numbers indicated where applicable. For complete list of compliant part numbers, see *AFL BABA Compliant Equipment List* on our website.

CB-44-3AL External Coil Bracket

Features

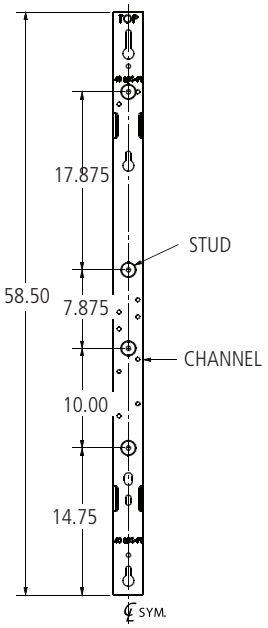
- Stores extra length of ADSS or OPGW
- Aluminum Material
- For use with Apex® sealed splice closures and SB01 and Opti-Guard splice enclosures
- Shipped in three pieces, requires field assembly
- Can be bolted or banded to structure

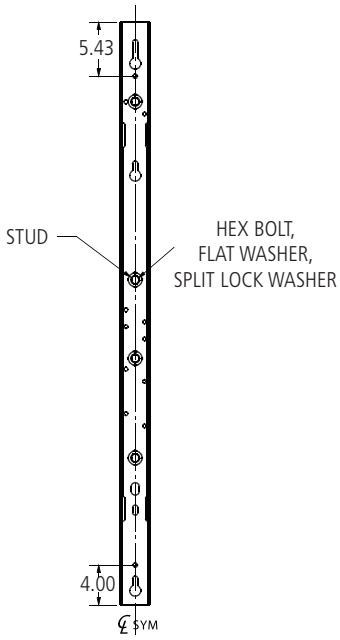
Estimated Cable Storage Lengths and Loading Capacity

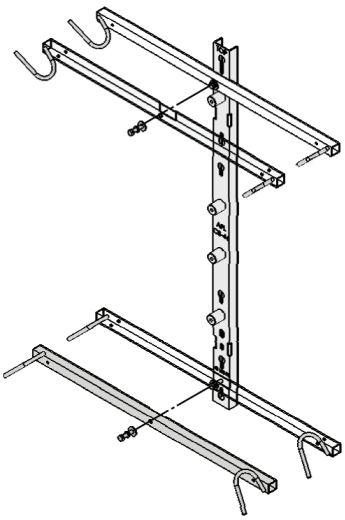
Cable O.D. (in)	Estimated Cable Length (ft)	Loading Capacity (lbs)
0.50	400	400
0.75	200	
1.00	150	

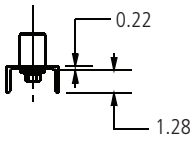
NOTE: For cable storage capacity greater than either of the values in table, please contact AFL.

Dimensions









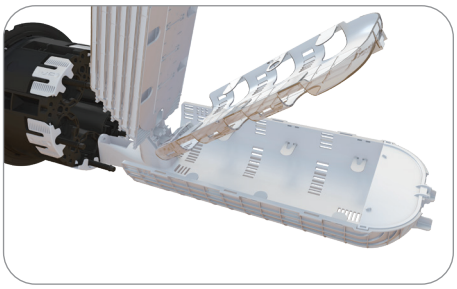
NOTE:
Place tube assemblies in location as shown.

Ordering Information

Model	AFL NO.
CB-44-3AL External Coil Bracket	CB-44-3AL

Apex® X-3 Sealed Splice Closure

The Apex X-3 is a sealed splice closure designed for protecting optical fiber splices in both above- or below-grade applications in a butt configuration. The Apex X-3 is capable of up to 864 single fusion, 1296 mass fusion with standard ribbon, or 5184 (200 µm, 2592 max for 250 µm) mass fusion with "rollable ribbon" fiber types such as AFL's SpiderWeb Ribbon® (SWR®). Cables are sealed by a unique wedge system spaced evenly around the circumference of the closure's base. Each cable seal is opened by a press-to-release lever and sealing is completed by actuating a single screw for each cable. Each cable is sealed individually, ensuring original craftsmanship when cables may be added at a later date. Up to 6 splice trays are attached and hinge off a central organizer. A plastic slack storage basket resides underneath the trays with ample tie down points for managing tube and fiber slack.



Open to access Apex X-3 splice trays and lock at 72 degrees

Features

- Individual cable sealing ports with tool-less release mechanism and gel sealing
- Hinging, lockable splice trays
- Plastic slack storage basket with optional segmented basket to separate ribbon and loose tube slack storage
- Six cable ports with up to six ground lugs
- Capable of up to 16 drop cables with an expressed distribution cable using multi-drop entry kits
- Splice trays with universal splice modules capable of holding single fusion, mass fusion and mechanical splices as well as other devices such as passive optical splitters
- Dome-to-base O-ring seal retained into dome to prevent loss or damage, but is still replaceable if necessary

Specifications

Parameter	Value
Dimensions – L x D, in (cm)	32.0 x 14 (81.3 x 35.6)
Weight, No Trays – lb (kg)	30 lbs. (13.61 kg)
Splice Capacity – Single, Mass (SWR), Mass (Standard)	864, 5184, 1296
Splice Tray Capacity	6
Cable Diameter, Single Port, in (mm)	0.40" - 1.38" (10.16 - 35.052)
Cable Diameter, Multi-Drop Kit, in (mm)	0.20" – 0.39" (5.0 – 9.9) or flat drop
Application	Direct Bury, Handhole, Aerial, Pole/Wall
Designed in accordance with Telcordia GR-771	Up to 15 ft. water-head
Shipping Standards	9 per pallet (48x40)

BABA/ BEAD compliant configurations and part numbers indicated where applicable. Non-compliant items may be eligible for BEAD De Minimis waiver. For complete list of compliant part numbers, see AFL BEAD Program Compliant Equipment List: AFLglobal.com/BEAD

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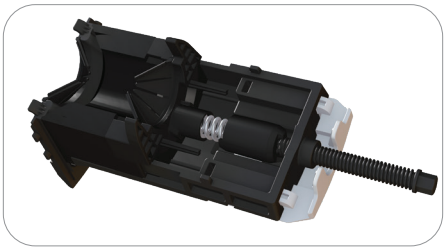
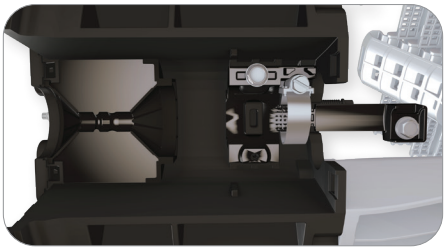
Apex® X-3 Sealed Splice Closure



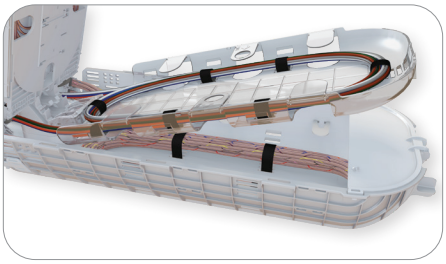
Gel Sealing

Individual wedges located evenly around the circumference of the base are removed with the press of a button. When cables are in place and ready to be sealed, the gel is compressed by a single screw, decreasing installation time. Individual port seals ensure cables never become unsealed when adding new cables at a later date.



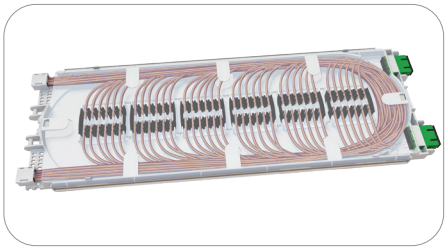
Cable Entry Ports and Cable Attachment Unit (CAU)

The cable entry ports surrounding the circumference of the base accept single cables from 0.4" to 1.46" in diameter. These ports can be expanded through the use of optional drop cable entry kits, allowing up to 4 flat drops or cables from 0.2" to 0.39" to use a single port. Additionally, each port has the capability to be paired with its own grounding lug if necessary. Closures can be configured with enough CAU kits for 0 to 6 cables from the factory. For closures with less than 6, additional cables can be added through the use of additional cable strain relief kits sold separately.



Slack Storage

A molded slack storage basket allows for use of the entire cross section of the closure to maximize storage. An optional segmented hinging basket is available to separate ribbon and loose tube slack, and can be locked in the upward position for access to expressed fibers below.



Splice Trays with Modular Splice Holders

Splice trays are organized in a hinging array that automatically lock when tilted to the upward position for easy access to the splice trays and slack storage below. The universal splice module holds up to 24 single fusion quad-stacked, 6 mass fusion or 12 mass fusion double-stacked when using SWR, or 6 mechanical splices as well as devices such as PLC splitters. This eliminates the need for specifying and stocking multiple splice trays for multiple applications such as WDM and PLC Splitters, (photo at left shown with ASC bulkhead test ports installed). This can be mix-and-match.

Ordering Information

AX	–	3	–	B	–	L	–	0	–	2	–	6	–	B
Apex Closures		**Closure Size**		**Basket Type**		**Tray Type**		**Number of Trays**		**Cable Strain Relief Hardware Kits**		**Number of Ground Lugs**		**Inner Basket**
AX = Standard BX = BEAD Compliant		3 = X-3 Size		B = X-3 Sized Basket		X = No preinstalled tray L = X-3 Square Tray Loaded with splice modules		0 1 2 3 4 5 6		0 1 2 3 4 5 6		0 1 2 3 4 5 6		X = No Inner Basket B = Include Inner Basket

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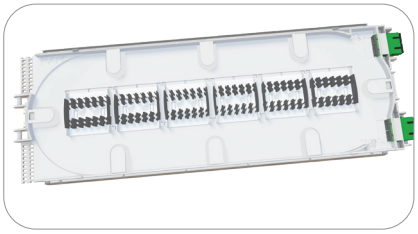
Apex® X-3 Sealed Splice Closure

Splice Trays and Splice Modules

Apex X-3 closures utilize X-3 square splice trays. Trays can be ordered empty or fully loaded with splice modules. For "rollable" type ribbon such as AFL's SpiderWeb Ribbon®, closures can be fully loaded with 6 splice trays for 5184 SWR or 864 quad-stacked single fiber splices or 144 fibers per tray. For standard ribbon, AFL recommends half loaded for 18 mass splices single-stacked, or 216 fibers per tray.

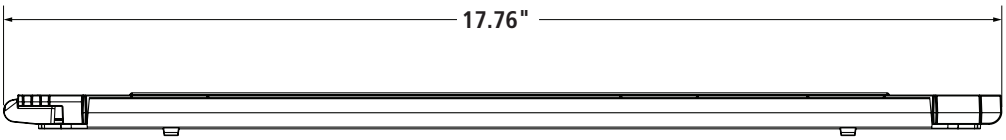


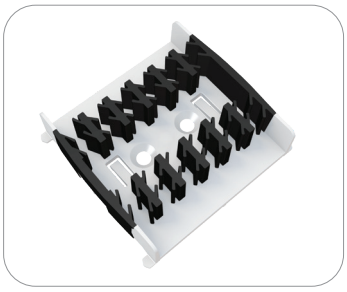
Ordering Information

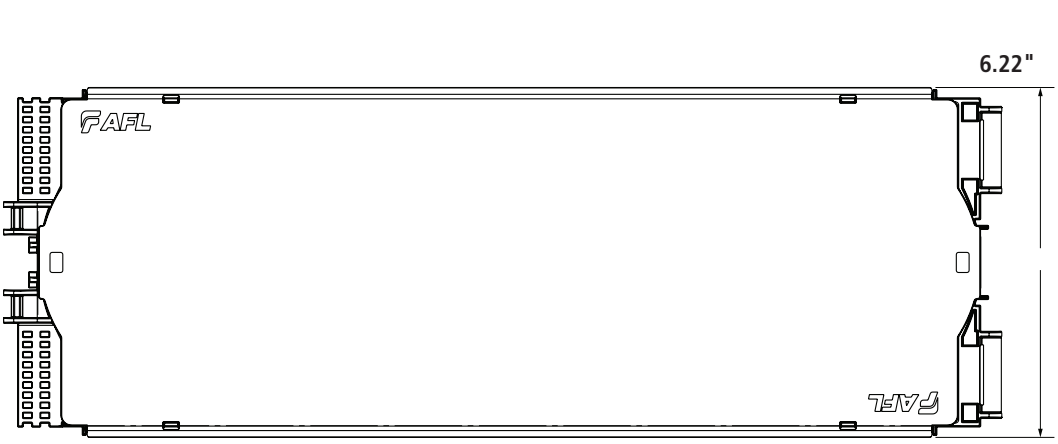
Description	Tray Capacity		Afl No.	AFL BABA Compliant No.
	Single	Mass		
X-3 Tray Fully Loaded with Six (6) Splice Modules (864 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR)	108 triple stacked 144 quad stacked**	864**	AX-TRAY-3-S-6	BX-TRAY-3-S-6
Additional splice module (18 single fusion double/quad stacked, 12 mass fusion double stacked, 6 mechanical) Pack of 20	–	–	AX-TRAY-MOD-20	BX-TRAY-MOD-20
X-3 Square Tray Empty	–	–	AX-TRAY-3-S-E	BX-TRAY-3-S-E
FP-40 40 mm Single Fiber Slim Protection Sleeve	–	–	S018262	NA - May be Eligible for BEAD De Minimis Waiver
FP-60 60 mm Single Fiber Slim Protection Sleeve	–	–	S018263	

* 864 fibers per tray with mass fusion (5184 total closure capacity) only recommended for 200 µm type rollable ribbon. For 250 µm, cut capacity in half with single-stacking.
** When using AFL's Slim Protection Sleeves

Dimensions







Apex® X-3 Sealed Splice Closure

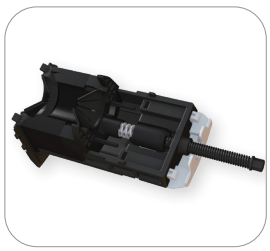
Installation Kits and Accessories

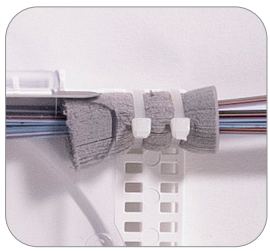
The AFL Apex closure line has a variety of installation accessories kits to fit many applications. Additional accessories may be available. Contact AFL.


CAU Kit


Ring Clamp Replacement Kit

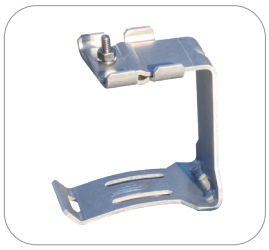

O-Ring Grease Kit


Wedge Replacement Kit


Foam Retention

Ordering Information — Replacement Kits

Description	AFL No.	AFL BEAD Compliant No.
REPLACEMENT KITS		
X-3 and X-3H Single Cable Strain Relief/Cable Attachment Unit (CAU) Kit	AX-KIT-CBLSTRN-3	NA - May be Eligible for BEAD De Minimis Waiver
X-3 and X-3H Dome-to-Base Locking Ring Clamp Replacement Kit	AX-KIT-CLAMP-3	
X-3 and X-3H Dome Replacement Kit	AX-KIT-DOME-3	
X-3 and X-3H Inner Base Gel Replacement Kit	AX-KIT-GEL-3	
X-3 Inner Basket Kit	AX-KIT-SBASKET-3	
Apex O-Ring Grease, Pack of 10	AX-KIT-GREASE-10	
X-3 and X-3H Dome to Base O-Ring Replacement Kit	AX-KIT-ORING-3	
X-3 and X-3H Wedge Replacement Kit	AX-KIT-WEDGE-3	
WTC-SWR Bundle Splice Tray Retention Kit - Includes 25 foam grommets for retaining SWR bundles to splice trays	HW000406	
Velcro, 75 Foot Length Roll – For securing SWR bundles in the slack basket	FC001759	


Apex Aerial Hanger Bracket


Apex Pole/Wall Mount


Adjustable Aerial Hanger Bracket


Mesh Transition Tubing

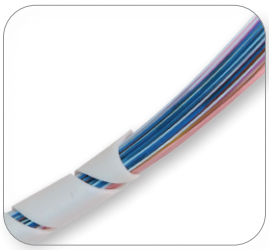

Universal Installation Stand

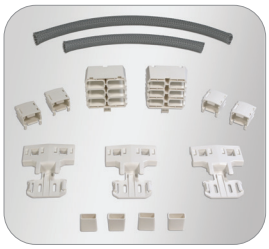
Ordering Information — Accessories

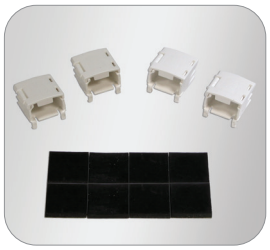
Description	AFL No.	AFL BEAD Compliant No.
ACCESSORIES		
X-3 and X-3H Pole/wall mount kit	AX-BR33	BX-BR33
Aerial strand mount hanger kit	AX-KIT-AERIAL-1	BX-KIT-AERIAL-1
Adjustable Aerial Strand Mount Hanger kit	AX-KIT-AERIAL-ADJ	BX-KIT-AERIAL-ADJ
ADSS Aerial hanger brackets	AX-KIT-AERIAL-ADSS	BX-KIT-AERIAL-ADSS
X-3 and X-3H Multi-Drop Cable Entry Kit (fits up to 4 cables 0.20" to 0.39" in diameter or flat drop cable)	AX-KIT-DROP-4-3	NA - May be Eligible for BEAD De Minimis Waiver
Apex Internal Multiple Ground Bonding Kit	AX-KIT-GNDLD-5	
Apex Cable Bonding Kit (Bonds armored cable sheath to ground) – Pack of 10	AX-KIT-GROUND-10	
1/4" Colored Mesh Transition Tubing, 250' Spool (*Replace "XX" with color per TIA-598 color code - BL, OR, GN, BR, GY, WH, RD, BK, YL, VI, NP or PP)	AX-KIT-TUBE-014-XX*	
Apex Universal Installation Stand	AX-KIT-U-STAND	

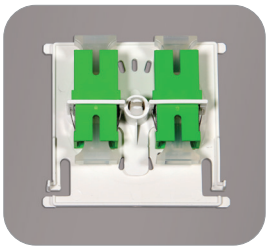
Apex® X-3 Sealed Splice Closure

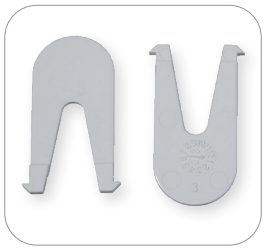
Installation Accessories (cont.)


Silicone Spiral Wrap


AFRS Kit 1


AFRS Kit 2


SC Bulkhead Adapter Kit


Replacement Slack Storage Basket Tabs

Ordering Information — Accessories

Description	AFL No.	AFL BEAD Compliant No.
ACCESSORIES		
Silicone Spiral Wrap, 5.5 Foot Length	FC001657	NA - May be Eligible for BEAD De Minimis Waiver
Apex Advanced Fiber Retention System (AFRS) Kit 1 – Used for Ribbon Cable (Flat Matrix, SWR, Tubed, Central Core). Kit includes: Mesh Basket Adapter (2 ea.), Mesh Housing (2 ea.), Mesh Insert (24 ea.), V-Clips (12 ea.), and Clean Cut Gray Mesh (13 ft.).	AX-KIT-AFRSRBN	
Apex AFRS Kit 2 – Used for Loose Tube Cable. Kit includes: V-Clip (24 ea.) and Retention Pads (6 sheets of 8 pads)	AX-KIT-AFRSLT	
Apex AFRS Kit 3 – V-Clip bulk kit. Includes: V-Clips (120 ea.) and Mesh Inserts (120 ea.)	AX-KIT-AFRSVC-120	
Apex AFRS Kit 4 – Mesh bulk kit. Includes: Clean Cut Gray Mesh (100 ft.)	AX-KIT-AFRSMESH-100FT	
Apex AFRS Kit 5 – Mesh Housing bulk kit. Includes: Mesh Basket Adapter (10 ea.) and Mesh Housing (10 ea.)	AX-KIT-AFRSAH-10	
Apex AFRS Kit 6 – Mesh Basket Adapter bulk kit. Includes: Mesh Basket Adapter (10 ea.)	AX-KIT-AFRSA-10	
Apex Bulkhead Kit with Plate SC/APC Adapters, 1 kit	AX-TRAY-ASC	
Apex Bulkhead Kit with Plate with SC/UPC Adapters, 1 kit	AX-TRAY-USC	
Apex Bulkhead Kit with Plate SC/APC Adapters, 6 pc kit	AX-TRAY-ASC-6	
Apex Bulkhead Kit with Plate SC/UPC Adapters, 6 pc kit	AX-TRAY-USC-6	
Apex Replacement Slack Storage Basket Tabs – Pack of 25	AX-KIT-BTAB-25	

Ordering Information — Accessories

Description	Split Ratio	AFL No.	AFL BEAD Compliant No.
SPLITTER MODULES FOR SPLICE TRAYS			
X-3 Tray with Six Splice Modules, (1) 1x2 PLC Splitter	1x2	AX-TRAY-3-S-12-1	AX-TRAY-3-S-12-1
X-3 Tray with Six Splice Modules, (1) 1x4 PLC Splitter	1x4	AX-TRAY-3-S-14-1	AX-TRAY-3-S-14-1
X-3 Tray with Six Splice Modules, (1) 1x8 PLC Splitter	1x8	AX-TRAY-3-S-18-1	AX-TRAY-3-S-18-1
X-3 Tray with Six Splice Modules, (1) 1x16 PLC Splitter	1x16	AX-TRAY-3-S-116-1	AX-TRAY-3-S-116-1
X-3 Tray with Six Splice Modules, (1) 1x32 PLC Splitter	1x32	AX-TRAY-3-S-132-1	AX-TRAY-3-S-132-1

Apex® X-3H Sealed Splice Closure

The Apex X-3H is a sealed splice closure designed for protecting optical fiber splices in both above- or below-grade applications in a butt configuration. The Apex X-3H is capable of up to 1728 mass fusion with standard ribbon or 6912 (200 µm, 3456 max for 250 µm) mass fusion with "rollable ribbon" fiber types such as AFL's SpiderWeb Ribbon® (SWR®). Cables are sealed by a unique wedge system spaced evenly around the circumference of the closure's base. Each cable seal is opened by a press-to-release lever and sealing is completed by actuating a single screw for each cable. Each cable is sealed individually, ensuring original craftsmanship when cables may be added at a later date. Up to 8 splice trays are attached and hinge off a central organizer. A plastic slack storage basket resides underneath the trays with ample tie down points for managing tube and fiber slack.

Features

- Individual cable sealing ports with tool-less release mechanism and gel sealing
- Hinging, lockable splice trays
- Plastic slack storage basket designed for high count WTC with SWR and other rollable ribbon cable
- Six cable ports with up to six ground lugs
- Optimized for 6912 200 µm fiber end splice
- Splice trays with universal splice modules capable of holding single fusion, mass fusion and mechanical splices as well as other devices such as passive optical splitters
- Dome-to-base O-ring seal retained into dome to prevent loss or damage, but is still replaceable if necessary

Specifications

Parameter	Value
Dimensions – L x D, in (cm)	32.0 x 14 (81.3 x 35.6)
Weight, No Trays – lb (kg)	30 (13.6)
Splice Capacity – Mass (SWR), Mass (Standard)	6912, 1728
Splice Tray Capacity	8
Cable Diameter, Single Port, in (mm)	0.40" - 1.38" (10.16 - 35.052)
Application	Handhole, Aerial, Pole/Wall, Direct Bury
Operating Temperature	-40°F to 149°F (-40°C to 65°C)
Testing	15 ft. Waterhead test
Shipping Standards	9 per pallet (48x40)

BABA/ BEAD compliant configurations and part numbers indicated where applicable. Non-compliant items may be eligible for BEAD De Minimis waiver. For complete list of compliant part numbers, see AFL BEAD Program Compliant Equipment List: AFLglobal.com/BEAD

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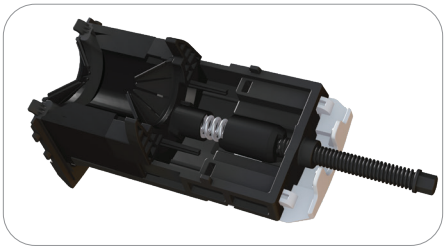
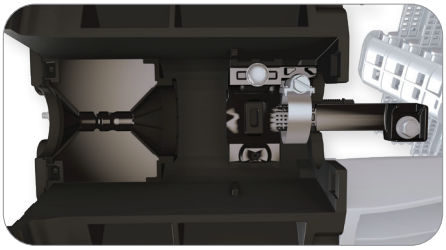
Apex® X-3H Sealed Splice Closure



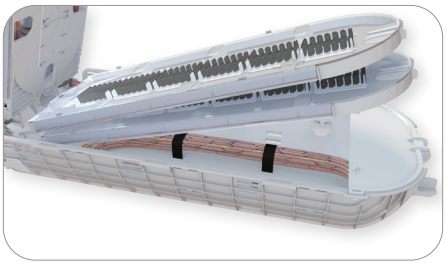
Gel Sealing

Individual wedges located evenly around the circumference of the base are removed with the press of a button. When cables are in place and ready to be sealed, the gel is compressed by a single screw, decreasing installation time. Individual port seals ensure cables never become unsealed when adding new cables at a later date.



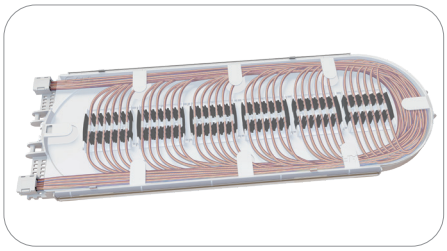
Cable Entry Ports and Cable Attachment Unit (CAU)

The cable entry ports surrounding the circumference of the base accept single cables from 0.4" to 1.38" in diameter. Additionally, each port has the capability to be paired with its own grounding lug if necessary. Closures can be configured with enough strain relief kits for 0 to 6 cables from the factory. For closures with less than 6, additional cables can be added through the use of additional cable strain relief kits sold separately.



Slack Storage

A molded slack storage basket allows for use of the entire cross section of the closure to maximize storage.



Splice Trays with Modular Splice Holders

Apex X-3H round splice trays are organized in a hinging array that automatically lock when tilted to the upward position for easy access to the splice trays and slack storage below. The Apex X-3H round splice trays are only compatible with the X-3H closure. The universal splice module holds up to 24 single fusion, 6 mass fusion or 12 mass fusion double-stacked when using SWR, or 6 mechanical splices as well as devices such as PLC splitters. This eliminates the need for specifying and stocking multiple splice trays for multiple applications.

Ordering Information

AX	–	3H	–	B	–	L	–	0	–	2	–	6	–	X
Apex Closures		**Closure Size**		**Basket Type**		**Tray Type**		**Number of Trays**		**Cable Strain Relief Hardware Kits**		**Number of Ground Lugs**		**Inner Basket**
AX = Standard BX = BEAD Compliant		3H = X-3H Size		B = X-3H Sized Basket		X = No preinstalled tray L = X-3 Square Tray Loaded with splice modules		0 **OR** 8		0 1 2 3 4 5 6		0 1 2 3 4 5 6		X = No Inner Basket

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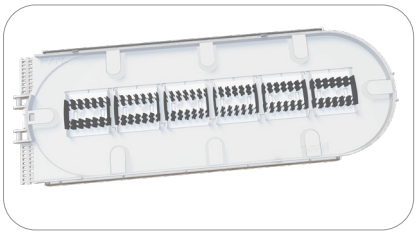
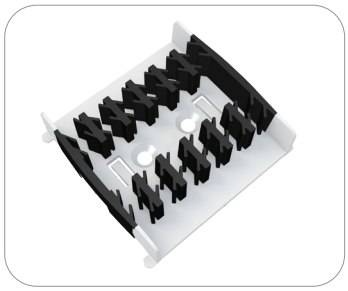
Apex® X-3H Sealed Splice Closure

Splice Trays and Splice Modules

Apex X-3H closures utilize X-3H round splice trays. Trays can be ordered empty or fully loaded with splice modules. For "rollable" type ribbon such as AFL's SpiderWeb Ribbon®, trays can be fully loaded for 72 double-stacked mass splices, or 864 fibers per tray. For standard ribbon, AFL recommends half loaded for 18 mass splices single-stacked, or 216 fibers.



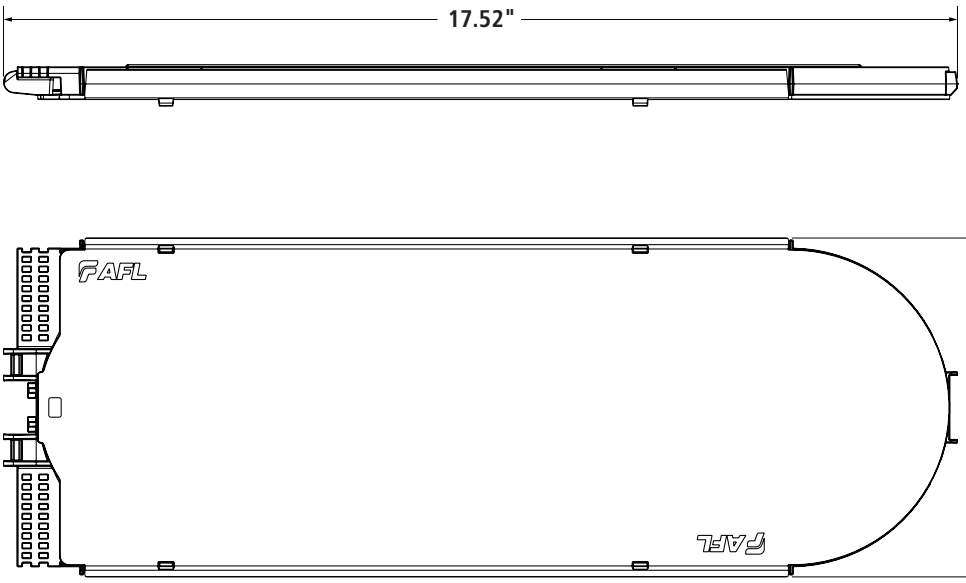


Ordering Information

Description	Tray Capacity Mass	AFL No.	AFL BABA Compliant No.
X-3H Tray Fully Loaded with Six (6) Splice Modules (864 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR)	864**	AX-TRAY-3-R-6	BX-TRAY-3-R-6
Additional splice module (18 single fusion triple stacked, 12 mass fusion double stacked, 6 mechanical) – Pack of 20	–	AX-TRAY-MOD-20	BX-TRAY-MOD-20
X-3H Round Tray Empty	–	AX-TRAY-3-R-E	BX-TRAY-3-R-E
FP-40 40 mm Single Fiber Slim Protection Sleeve	–	S018262	NA - May be Eligible for BEAD De Minimis Waiver
FP-60 60 mm Single Fiber Slim Protection Sleeve	–	S018263	

* 864 fibers per tray with mass fusion (6912 total closure capacity) only recommended for 200 µm type rollable ribbon. For 250 µm, cut capacity in half with single-stacking.
** When using AFL's Slim Protection Sleeves

Dimensions



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Apex® X-3H Sealed Splice Closure

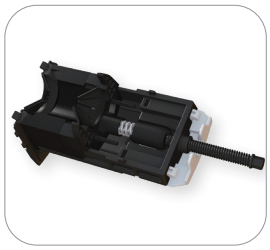
Installation Kits and Accessories

The AFL Apex closure line has a variety of installation accessories kits to fit many applications. Additional accessories may be available. Contact AFL.

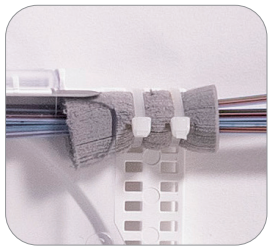
CAU Kit

Ring Clamp Replacement Kit

O-Ring Grease Kit



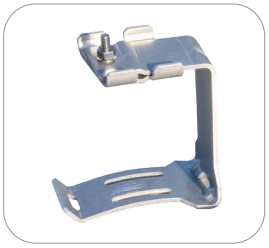
Wedge Replacement Kit



Foam Retention

Ordering Information — Replacement Kits

Description	AFL No.	AFL BEAD Compliant No.
Replacement Kits		
X-3 and X-3H Single Cable Strain Relief/Cable Attachment Unit (CAU) Kit	AX-KIT-CBLSTRN-3	NA - May be Eligible for BEAD De Minimis Waiver
X-3 and X-3H Dome-to-Base Locking Ring Clamp Replacement Kit	AX-KIT-CLAMP-3	
X-3 and X-3H Dome Replacement Kit	AX-KIT-DOME-3	
X-3 and X-3H Inner Base Gel Replacement Kit	AX-KIT-GEL-3	
Apex O-Ring Grease, Pack of 10	AX-KIT-GREASE-10	
X-3 and X-3H Dome to Base O-Ring Replacement Kit	AX-KIT-ORING-3	
X-3 and X-3H Wedge Replacement Kit	AX-KIT-WEDGE-3	
WTC-SWR Bundle Splice Tray Retention Kit - Includes 25 foam grommets for retaining SWR bundles to splice trays	HW000406	
Velcro, 75 Foot Length Roll – For securing SWR bundles in the slack basket	FC001759	



Apex Aerial Hanger Bracket

Apex Pole/Wall Mount

Adjustable Aerial Hanger Bracket

Mesh Transition Tubing

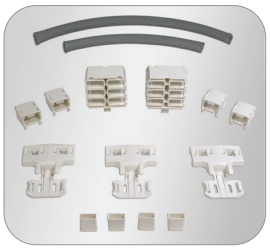
Universal Installation Stand

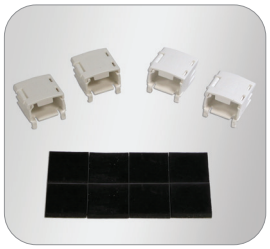
Ordering Information — Accessories

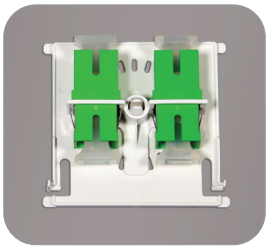
Description	AFL No.	AFL BABA Compliant No.
Accessories		
X-3 and X-3H Pole/wall mount kit	AX-BR33	BX-BR33
Aerial strand mount hanger kit	AX-KIT-AERIAL-1	BX-KIT-AERIAL-1
Adjustable Aerial Strand Mount Hanger kit	AX-KIT-AERIAL-ADJ	BX-KIT-AERIAL-ADJ
ADSS Aerial hanger brackets	AX-KIT-AERIAL-ADSS	BX-KIT-AERIAL-ADSS
X-3 and X-3H Multi-Drop Cable Entry Kit (fits up to 4 cables 0.20" to 0.39" in diameter or flat drop cable)	AX-KIT-DROP-4-3	NA - May be Eligible for BEAD De Minimis Waiver
Apex Internal Multiple Ground Bonding Kit	AX-KIT-GNDLD-5	
Apex Cable Bonding Kit (Bonds armored cable sheath to ground) – Pack of 10	AX-KIT-GROUND-10	
1/4" Colored Mesh Transition Tubing, 250' Spool (*Replace "XX" with color per TIA-598 color code - BL, OR, GN, BR, GY, WH, RD, BK, YL, VI, NP or PP)	AX-KIT-TUBE-014-XX*	
Apex Universal Installation Stand	AX-KIT-U-STAND	

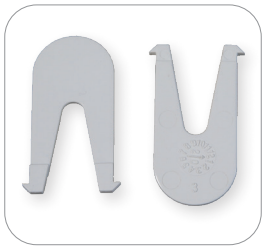
Apex® X-3H Sealed Splice Closure


Silicone Spiral Wrap


AFRS Kit 1


AFRS Kit 2


SC Bulkhead Adapter Kit


Replacement Slack Storage Basket Tabs

Ordering Information — Accessories

Description	AFL No.	AFL BEAD Compliant No.
Accessories		
Silicone Spiral Wrap, 5.5 Foot Length	FC001657	NA - May be Eligible for BEAD De Minimis Waiver
Apex Advanced Fiber Retention System (AFRS) Kit 1 – Used for Ribbon Cable (Flat Matrix, SWR, Tubed, Central Core). Kit includes: Mesh Basket Adapter (2 ea.), Mesh Housing (2 ea.), Mesh Insert (24 ea.), V-Clips (12 ea.), and Clean Cut Gray Mesh (13 ft.).	AX-KIT-AFRSRBN	
Apex AFRS Kit 2 – Used for Loose Tube Cable. Kit includes: V-Clip (24 ea.) and Retention Pads (6 sheets of 8 pads)	AX-KIT-AFRSLT	
Apex AFRS Kit 3 – V-Clip bulk kit. Includes: V-Clips (120 ea.) and Mesh Inserts (120 ea.)	AX-KIT-AFRSVC-120	
Apex AFRS Kit 4 – Mesh bulk kit. Includes: Clean Cut Gray Mesh (100 ft.)	AX-KIT-AFRSMESH-100FT	
Apex AFRS Kit 5 – Mesh Housing bulk kit. Includes: Mesh Basket Adapter (10 ea.) and Mesh Housing (10 ea.)	AX-KIT-AFRSAH-10	
Apex AFRS Kit 6 – Mesh Basket Adapter bulk kit. Includes: Mesh Basket Adapter (10 ea.)	AX-KIT-AFRSA-10	
Apex Bulkhead Kit with Plate SC/APC Adapters, 1 kit	AX-TRAY-ASC	
Apex Bulkhead Kit with Plate with SC/UPC Adapters, 1 kit	AX-TRAY-USC	
Apex Bulkhead Kit with Plate SC/APC Adapters, 6 pc kit	AX-TRAY-ASC-6	
Apex Bulkhead Kit with Plate SC/UPC Adapters, 6 pc kit	AX-TRAY-USC-6	

Apex® X-2 Sealed Splice Closure

The Apex X-2 is a sealed splice closure designed for protecting optical fiber splices in both above- or below-grade applications in a butt configuration. The Apex X-2 is capable of up to 576 single fusion, 1152 mass fusion with standard ribbon, or 3456 mass fusion with "rollable ribbon" fiber types such as AFL's SpiderWeb Ribbon® (SWR®). Cables are sealed by a unique wedge system spaced evenly around the circumference of the closure's base. Each cable seal is opened by a press-to-release lever and sealing is completed by actuating a single screw for each cable. Each cable is sealed individually, ensuring original craftsmanship when cables may be added at a later date. Up to 6 splice trays are attached and hinge off a central organizer. A plastic slack storage basket resides underneath the trays with ample tie down points for managing tube and fiber slack.

Features

- Individual cable sealing ports with tool-less release mechanism and gel sealing
- Hinging, lockable splice trays
- Plastic slack storage basket with optional segmented basket to separate ribbon and loose tube slack storage
- Six cable ports with up to six ground lugs
- Capable of up to 16 drop cables with an expressed distribution cable using multi-drop entry kits
- Splice trays with universal splice modules capable of holding single fusion, mass fusion and mechanical splices as well as other devices such as passive optical splitters
- Dome-to-base O-ring seal retained into dome to prevent loss or damage, but is still replaceable if necessary

Specifications

Parameter	Value
Dimensions – L x D, in (cm)	25.0 x 12.0 (64 x 30)
Weight, No Trays – lb (kg)	25 (11.3)
Splice Capacity – Single, Mass (SWR), Mass (Standard)	576, 3456, 1152
Splice Tray Capacity	6
Cable Diameter, Single Port, in (mm)	0.40" – 1.10" (10.0 – 28.0)
Cable Diameter, Multi-Drop Kit, in (mm)	0.20"-0.39" (5.0-9.9) or flat drop
Application	Direct Bury, Handhole, Aerial, Pole/Wall
Testing	Test to and Passed GR-771-CORE 20 ft. Waterhead test
Operating Temperature	-40°F to 149°F (-40°C to 65°C)
Shipping Standards	16 per pallet (40x48)

BABA/ BEAD compliant configurations and part numbers indicated where applicable. Non-compliant items may be eligible for BEAD De Minimis waiver. For complete list of compliant part numbers, see AFL BEAD Program Compliant Equipment List: AFLglobal.com/BEAD

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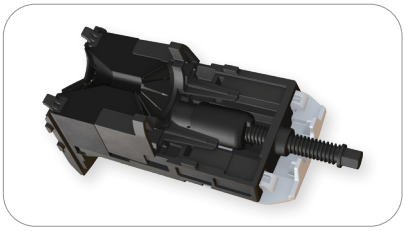
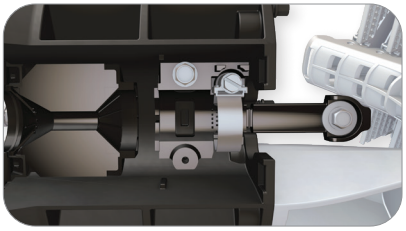
Apex® X-2 Sealed Splice Closure



Gel Sealing

Individual wedges located evenly around the circumference of the base are removed with the press of a button. When cables are in place and ready to be sealed, the gel is compressed by a single screw, decreasing installation time. Individual port seals ensure cables never become unsealed when adding new cables at a later date.

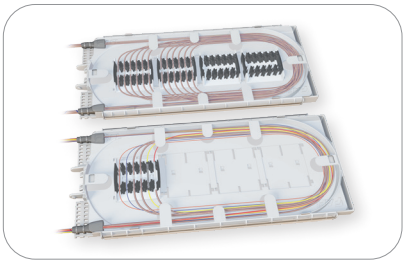


Cable Entry Ports and Strain Relief

The cable entry ports surrounding the circumference of the base accept single cables from 0.4" to 1.10" in diameter. These ports can be expanded through the use of optional drop cable entry kits, allowing up to 4 flat drops or cables from 0.2" to 0.39" to use a single port. Additionally, each port has the capability to be paired with its own grounding lug if necessary. Closures can be configured with enough strain relief kits for 0 to 6 cables from the factory. For closures with less than 6, additional cables can be added through the use of additional cable strain relief kits sold separately.

Slack Storage

A molded slack storage basket allows for use of the entire cross section of the closure to maximize storage. An optional segmented hinging basket is available to separate ribbon and loose tube slack, and can be locked in the upward position for access to expressed fibers below.



Splice Trays with Modular Splice Holders

Splice trays are organized in a hinging array that automatically lock when tilted to the upward position for easy access to the splice trays and slack storage below. The universal splice module holds up to 24 single fusion, 6 mass fusion or 12 mass fusion double-stacked when using SWR, or 6 mechanical splices as well as devices such as PLC splitters or OADM devices. This eliminates the need for specifying and stocking multiple splice trays for multiple applications.

Ordering Information

AX	–	2	–	B	–	L	–	0	–	2	–	6	–	B
Apex Closures		**Closure Size**		**Basket Type**		**Tray Type**		**Number of Trays**		**Cable Strain Relief Hardware Kits**		**Number of Ground Lugs**		**Inner Basket**
AX = Standard BX = BEAD Compliant		2 = X-2 Size		B = X-2 Sized Basket		X = No preinstalled tray L = X-2 Tray Loaded with splice modules		0 1 2 3 4 5 6		0 1 2 3 4 5 6		0 1 2 3 4 5 6		X = No Inner Basket B = Include Inner Basket

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Apex® X-2 Sealed Splice Closure

Splice Trays and Splice Modules

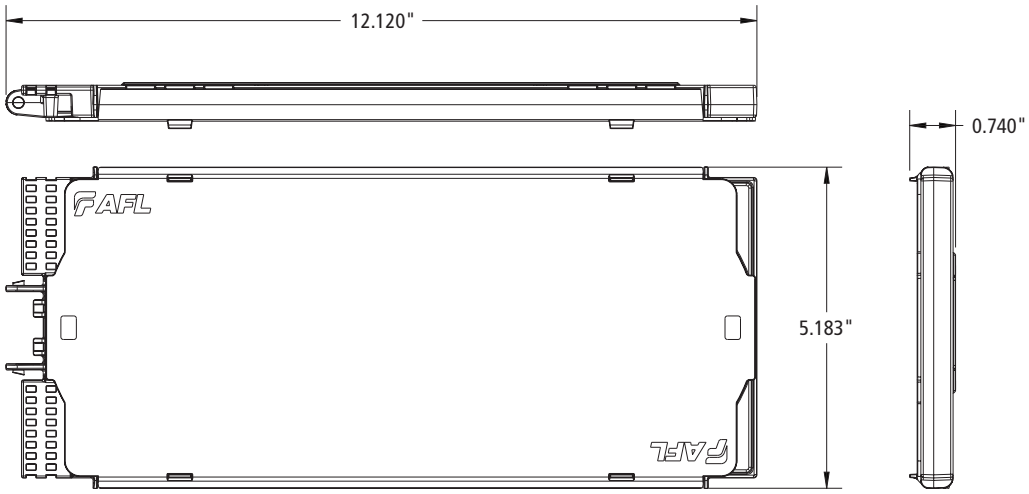
Apex X-2 closures utilize X-2 size splice trays. Trays can be ordered fully loaded or half loaded with splice modules. For "rollable" type ribbon such as AFL's SpiderWeb Ribbon®, trays can be fully loaded for 48 double-stacked mass splices, or 576 fibers total per tray. For standard ribbon, AFL recommends partially loaded for up to 16 mass splices single-stacked, or 192 fibers. Adapter kits available to install FOSC® A-B optical trays.

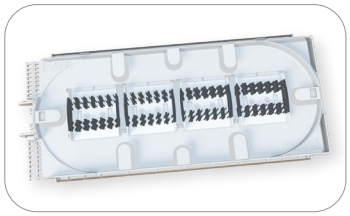
Ordering Information

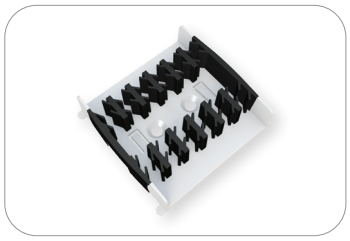
Description	Tray Capacity		AFL No.	AFL BABA Compliant No.
	Single	Mass		
X-2 Tray Fully Loaded with Four Splice Modules (576 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR)	96**	576*	AX-TRAY-2-4	BX-TRAY-2-4
Additional splice module (18 single fusion triple stacked,12 mass fusion double stacked, 6 mechanical) – Pack of 20	–	–	AX-TRAY-MOD-20	BX-TRAY-MOD-20
X-2 Tray Empty	–	–	AX-TRAY-2-E	BX-TRAY-2-E
FP-40 40 mm Single Fiber Slim Protection Sleeve	–	–	S018262	NA - May be Eligible for BEAD De Minimis Waiver
FP-60 60 mm Single Fiber Slim Protection Sleeve	–	–	S018263	

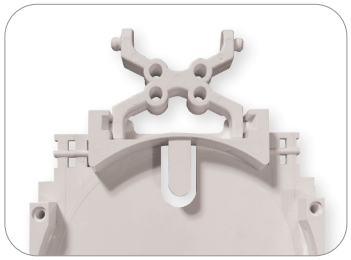
* 576 fibers per tray with mass fusion double-stacking (3456 total closure capacity) only recommended for 200 µm type rollable ribbon. For 250 µm, cut capacity in half with single-stacking.
** When using AFL's Slim Protection Sleeves

Dimensions









Apex® X-2 Sealed Splice Closure

Installation Kits and Accessories

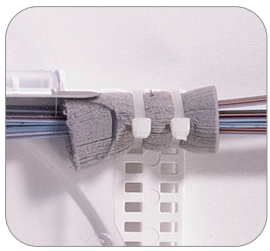
The AFL Apex closure line has a variety of installation accessories kits to fit many applications. Additional accessories may be available. Contact AFL.

CAU Kit

Ring Clamp Replacement Kit

O-Ring Grease Kit

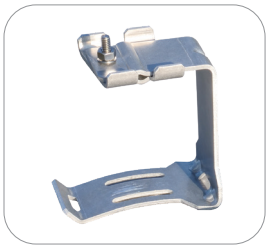
Wedge Replacement Kit



Foam Retention

Ordering Information — Replacement Kits

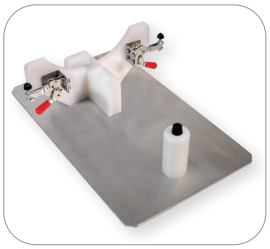
Description	AFL No.	AFL BEAD Compliant No.
Replacement Kits		
X-2 and X-2S Single Cable Strain Relief/Cable Attachment Unit (CAU) Kit	AX-KIT-CBLSTRN	NA - May be Eligible for BEAD De Minimis Waiver
X-2 and X-2S Dome to Base O-Ring Replacement Kit	AX-KIT-ORING-2	
Apex O-Ring Grease, Pack of 10	AX-KIT-GREASE-10	
X-2 and X-2S Dome to Base Locking Ring Clamp Replacement Kit	AX-KIT-CLAMP-2	
X-2 and X-2S Wedge Replacement Kit	AX-KIT-WEDGE-2	
X-2 and X-2S Inner Base Gel Replacement Kit	AX-KIT-GEL-2	
X-2 Basket and Yoke Assembly Kit. Can be used in combination with the basket cover.	AX-KIT-BASKET-2	
X-2 Inner Basket Kit	AX-KIT-SBASKET-2	
X-2 Dome Replacement Kit	AX-KIT-DOME-2	
WTC-SWR Bundle Splice Tray Retention Kit - Includes 25 foam grommets for retaining SWR bundles to splice trays	HW000406	
Velcro, 75 Foot Length Roll – For securing SWR bundles in the slack basket	FC001759	



Apex Aerial Hanger Bracket

Apex Pole/Wall Mount

Adjustable Aerial Hanger Bracket



X-2 and X-2S Installation Stand

Universal Installation Stand

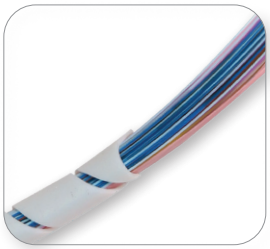
Ordering Information — Accessories

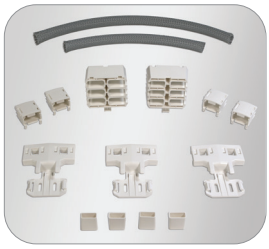
Description	AFL No.	AFL BEAD Compliant No.
Accessories		
Aerial strand mount hanger kit	AX-KIT-AERIAL-1	BX-KIT-AERIAL-1
Pole/wall mount kit	AX-BR30	BX-BR30
Adjustable Aerial Strand Mount Hanger kit	AX-KIT-AERIAL-ADJ	BX-KIT-AERIAL-ADJ
ADSS Aerial hanger brackets	AX-KIT-AERIAL-ADSS	BX-KIT-AERIAL-ADSS
Multi-Drop Cable Entry Kit (fits up to 4 cables 0.20" to 0.39" in diameter or flat drop cable)	AX-KIT-DROP-4	NA - May be Eligible for BEAD De Minimis Waiver
X-2 and X-2S Installation Stand	FC104649	
Apex Universal Installation Stand	AX-KIT-U-STAND	

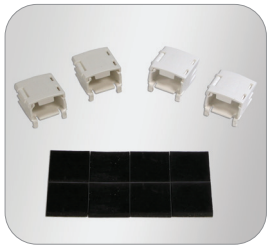
Apex® X-2 Sealed Splice Closure

Installation Accessories (cont.)

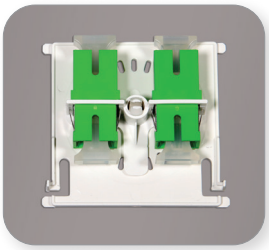

Mesh Transition Tubing

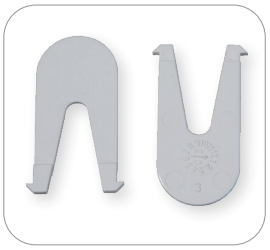

Silicone Spiral Wrap


AFRS Kit 1


AFRS Kit 2


A-B Tray Adapter Kit


SC Bulkhead Adapter Kit


Replacement Slack Storage Basket Tabs

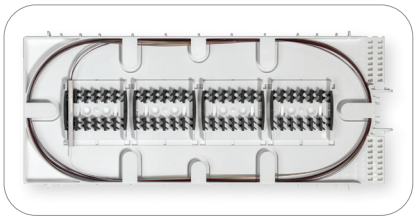
Ordering Information — Accessories (cont.)

Description	AFL No.	AFL BEAD Compliant No.
Accessories		
Apex Cable Bonding Kit (Bonds armored cable sheath to ground) – Pack of 10	AX-KIT-GROUND-10	NA - May be Eligible for BEAD De Minimis Waiver
Apex Internal Multiple Ground Bonding Kit	AX-KIT-GNDLD-5	
1/4" Colored Mesh Transition Tubing, 250' Spool (*Replace "XX" with color per TIA-598 color code - BL, OR, GN, BR, GY, WH, RD, BK, YL, VI, NP or PP)	AX-KIT-TUBE-014-XX*	
Silicone Spiral Wrap, 5.5 Foot Length	FC001657	
Apex Advanced Fiber Retention System (AFRS) Kit 1 – Used for Ribbon Cable (Flat Matrix, SWR, Tubed, Central Core). Kit includes: Mesh Basket Adapter (2 ea.), Mesh Housing (2 ea.), Mesh Insert (24 ea.), V-Clips (12 ea.), and Clean Cut Gray Mesh (13 ft.).	AX-KIT-AFRSRBN	
Apex AFRS Kit 2 – Used for Loose Tube Cable. Kit includes: V-Clip (24 ea.) and Retention Pads (6 sheets of 8 pads)	AX-KIT-AFRSLT	
Apex AFRS Kit 3 – V-Clip bulk kit. Includes: V-Clips (120 ea.) and Mesh Inserts (120 ea.)	AX-KIT-AFRSVC-120	
Apex AFRS Kit 4 – Mesh bulk kit. Includes: Clean Cut Gray Mesh (100 ft.)	AX-KIT-AFRSMESH-100FT	
Apex AFRS Kit 5 – Mesh Housing bulk kit. Includes: Mesh Basket Adapter (10 ea.) and Mesh Housing (10 ea.)	AX-KIT-AFRSAH-10	
Apex AFRS Kit 6 – Mesh Basket Adapter bulk kit. Includes: Mesh Basket Adapter (10 ea.)	AX-KIT-AFRSA-10	
Apex Restoration Kit, 1000' of 144F Non-Armored Wrapping Tube Cable (Apex X-2S is in Restoration Kit)	AX-2S-B-L-4-4-4-X-1R1000F	
Apex A-B Tray Adapter Kit, 1 Kit of 6 pieces	AX-ADPTR-ABTRAY-6	
Apex A-B Tray Adapter Kit, 10 Kits of 6 pieces	AX-ADPTR-ABTRAY-60	
Apex Bulkhead Kit with Plate SC/APC Adapters, 1 kit	AX-TRAY-ASC	
Apex Bulkhead Kit with Plate with SC/UPC Adapters, 1 kit	AX-TRAY-USC	
Apex Bulkhead Kit with Plate SC/APC Adapters, 6 pc kit	AX-TRAY-ASC-6	
Apex Bulkhead Kit with Plate SC/UPC Adapters, 6 pc kit	AX-TRAY-USC-6	
Apex Replacement Slack Storage Basket Tabs – Pack of 25	AX-KIT-BTAB-25	

Apex® X-2 Sealed Splice Closure

Splitter Splice Trays

Passive optical splitters, or PLCs (Planar Lightwave Circuits), can be provided preinstalled into the Apex X-2 splice tray. PLCs can either be installed and splice within the same tray, or provided with a separate dedicated tray for splicing, with fibers routed between trays using protective tubing. A third option provides one additional tray to separate input and output fiber splicing.



Ordering Information

Description	Split Ratio	AFL No.	AFL BEAD Compliant No.
Splitter Modules for Splice Trays			
X-2 Tray with Four Splice Modules, (1) 1x2 PLC Splitter	1x2	AX-TRAY-2-12-1	AX-TRAY-2-12-1
X-2 Tray with Four Splice Modules, (1) 1x4 PLC Splitter	1x4	AX-TRAY-2-14-1	AX-TRAY-2-14-1
X-2 Tray with Four Splice Modules, (1) 1x8 PLC Splitter	1x8	AX-TRAY-2-18-1	AX-TRAY-2-18-1
X-2 Tray with Four Splice Modules, (1) 1x16 PLC Splitter	1x16	AX-TRAY-2-116-1	AX-TRAY-2-116-1
X-2 Tray with Four Splice Modules, (1) 1x32 PLC Splitter	1x32	AX-TRAY-2-132-1	AX-TRAY-2-132-1
X-2 Tray with (1) 1x2 PLC Splitter and Separate Splicing Tray with Four Splice Modules	1x2	AX-TRAY-2-12-2	AX-TRAY-2-12-2
X-2 Tray with (1) 1x4 PLC Splitter and Separate Splicing Tray with Four Splice Modules	1x4	AX-TRAY-2-14-2	AX-TRAY-2-14-2
X-2 Tray with (1) 1x8 PLC Splitter and Separate Splicing Tray with Four Splice Modules	1x8	AX-TRAY-2-18-2	AX-TRAY-2-18-2
X-2 Tray with (1) 1x16 PLC Splitter and Separate Splicing Tray with Four Splice Modules	1x16	AX-TRAY-2-116-2	AX-TRAY-2-116-2
X-2 Tray with (1) 1x32 PLC Splitter and Separate Splicing Tray with Four Splice Modules	1x32	AX-TRAY-2-132-2	AX-TRAY-2-132-2
X-2 Tray with (1) 1x2 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each	1x2	AX-TRAY-2-12-3	AX-TRAY-2-12-3
X-2 Tray with (1) 1x4 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each	1x4	AX-TRAY-2-14-3	AX-TRAY-2-14-3
X-2 Tray with (1) 1x8 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each	1x8	AX-TRAY-2-18-3	AX-TRAY-2-18-3
X-2 Tray with (1) 1x16 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each	1x16	AX-TRAY-2-116-3	AX-TRAY-2-116-3
X-2 Tray with (1) 1x32 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each	1x32	AX-TRAY-2-132-3	AX-TRAY-2-132-3

Apex® X-2S Sealed Splice Closure

The Apex X-2S is a sealed splice closure designed for protecting optical fiber splices in both above- or below-grade applications in a butt configuration. The Apex X-2S is capable of up to 216 single fusion, 432 mass fusion with standard ribbon, or 1728 mass fusion with "rollable ribbon" fiber types such as AFL's SpiderWeb Ribbon® (SWR®). Cables are sealed by a unique wedge system spaced evenly around the circumference of the closure's base. Each cable seal is opened by a press-to-release lever and sealing is completed by actuating a single screw for each cable. Each cable is sealed individually, ensuring original craftsmanship when cables may be added at a later date. Up to 6 splice trays are attached and hinge off a central organizer. A plastic slack storage basket resides underneath the trays with ample tie down points for managing tube and fiber slack.

Features

- Individual cable sealing ports with tool-less release mechanism and gel sealing
- Hinging, lockable splice trays
- Plastic slack storage basket with optional segmented basket to separate ribbon and loose tube slack storage
- Six cable ports with up to six ground lugs
- Capable of up to 16 drop cables with an expressed distribution cable using multi-drop entry kits
- Splice trays with universal splice modules capable of holding single fusion, mass fusion and mechanical splices as well as other devices such as passive optical splitters
- Dome-to-base O-ring seal retained into dome to prevent loss or damage, but is still replaceable if necessary

Specifications

Parameter	Value
Dimensions – L x D, in (cm)	20.0 x 12.0 (51 x 30)
Weight, No Trays – lb (kg)	22 (10)
Splice Capacity – Single, Mass (SWR), Mass (Standard)	216, 1728, 432
Splice Tray Capacity	6
Cable Diameter, Single Port, in (mm)	0.40" – 1.10" (10.0 - 28.0)
Cable Diameter, Multi-Drop Kit, in (mm)	0.20" – 0.39" (5.0 - 9.9) or flat drop
Application	Direct Bury, Handhole, Aerial, Pole/Wall
Operating Temperature	-40°F to 149°F (-40°C to 65°C)
Testing	Test to and Passed GR-771-CORE 20 ft. Waterhead test
Shipping Standards	16 per pallet (40x48)

BABA/ BEAD compliant configurations and part numbers indicated where applicable. Non-compliant items may be eligible for BEAD De Minimis waiver. For complete list of compliant part numbers, see AFL BEAD Program Compliant Equipment List: AFLglobal.com/BEAD

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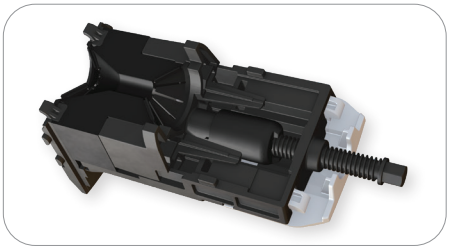
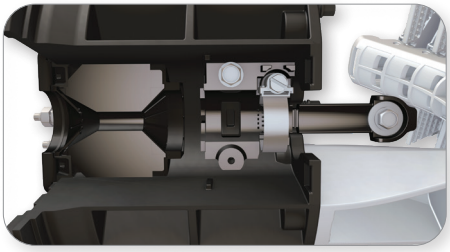
Apex® X-2S Sealed Splice Closure



Gel Sealing

Individual wedges located evenly around the circumference of the base are removed with the press of a button. When cables are in place and ready to be sealed, the gel is compressed by a single screw, decreasing installation time. Individual port seals ensure cables never become unsealed when adding new cables at a later date.

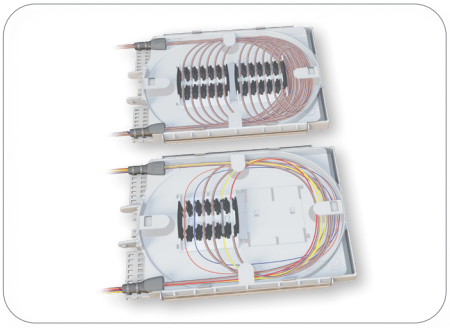


Cable Entry Ports and Strain Relief

The cable entry ports surrounding the circumference of the base accept single cables from 0.4" to 1.10" in diameter. These ports can be expanded through the use of optional drop cable entry kits, allowing up to 4 flat drops or cables from 0.2" to 0.39" to use a single port. Additionally, each port has the capability to be paired with its own grounding lug if necessary. Closures can be configured with enough strain relief kits for 2 to 6 cables from the factory. For closures with less than 6, additional cables can be added through the use of additional cable strain relief kits sold separately.

Slack Storage

A molded slack storage basket allows for use of the entire cross section of the closure to maximize storage.



Splice Trays with Modular Splice Holders

Splice trays are organized in a hinging array that automatically lock when tilted to the upward position for easy access to the splice trays and slack storage below. The universal splice module holds up to 18 single fusion, 6 mass fusion or 12 mass fusion double-stacked when using SWR, or 6 mechanical splices as well as devices such as PLC splitters. This eliminates the need for specifying and stocking multiple splice trays for multiple applications.

Ordering Information

AX	–	2S	–	B	–	L	–	0	–	2	–	6	–	X
Apex Closures		**Closure Size**		**Basket Type**		**Tray Type**		**Number of Trays**		**Cable Strain Relief Hardware Kits**		**Number of Ground Lugs**		**Inner Basket**
AX = Standard BX = BEAD Compliant		2S = X-2S Size		B = X-2S Sized Basket		X = No preinstalled tray L = X-2S Tray Loaded with splice modules		0 1 6		2 4 6		0 2 6		X = No Inner Basket

AFL CERTIFIED BEAD COMPLIANT

AFLglobal.com
1 (800) 866-7385

Apex® X-2S Sealed Splice Closure

Splice Trays and Splice Modules

Apex X-2S closures utilize X-2S size splice trays. Trays can be ordered fully loaded or half loaded with splice modules. For "rollable" type ribbon such as AFL's SpiderWeb Ribbon, trays can be fully loaded for 24 mass splices, or 288 fibers per tray. For standard ribbon, AFL recommends half loaded for 6 mass splices single-stacked, or 72 fibers.

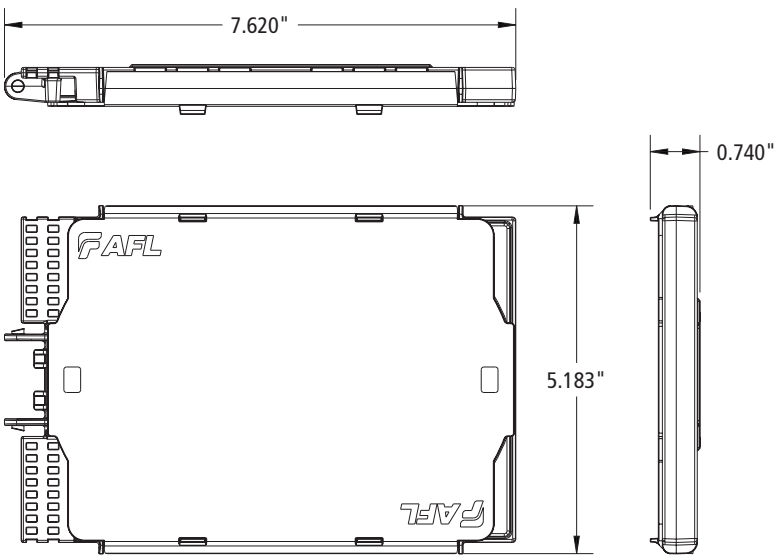
Ordering Information

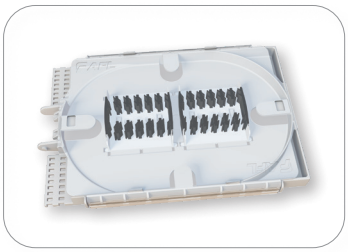
Description	Tray Capacity		AFL No.	AFL BABA Compliant No.
	Single	Mass		
X-2S Tray Fully Loaded with Two Splice Modules (288 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR)	48**	288	AX-TRAY-2S-2	BX-TRAY-2S-2
Additional splice module (18 single fusion triple stacked, 12 mass fusion double stacked, 6 mechanical) – Pack of 20	-	-	AX-TRAY-MOD-20	BX-TRAY-MOD-20
X-2S Tray Empty	-	-	AX-TRAY-2S-E	BX-TRAY-2S-E
FP-40 40 mm Single Fiber Slim Protection Sleeve	-	-	S018262	NA - May be Eligible for BEAD De Minimis Waiver
FP-60 60 mm Single Fiber Slim Protection Sleeve	-	-	018263	

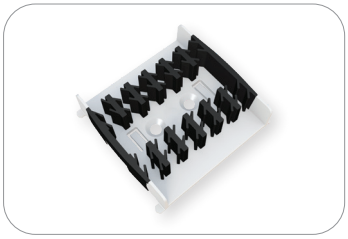
* 288 fibers per tray with mass fusion double-stacking 1728 total closure capacity) only recommended for 200 um type rollable ribbon. For 250 um, cut capacity in half with single-stacking.

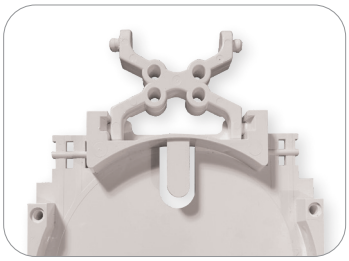
** When using AFL's Slim Protection Sleeves.

Dimensions









Apex® X-2S Sealed Splice Closure

Installation Kits and Accessories

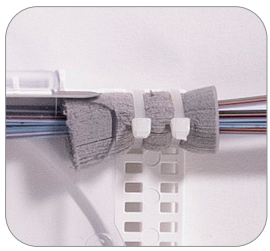
The AFL Apex closure line has a variety of installation accessories kits to fit many applications. Additional accessories may be available. Contact AFL.


CAU Kit


Ring Clamp Replacement Kit

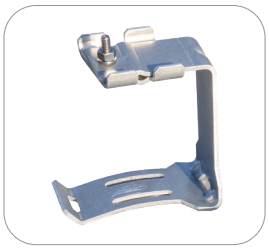

O-Ring Grease Kit


Wedge Replacement Kit


Foam Retention

Ordering Information

Description	AFL No.	AFL No.
Replacement Kits		
X-2 and X-2S Single Cable Strain Relief/Cable Attachment Unit (CAU) Kit	AX-KIT-CBLSTRN	NA - May be Eligible for BEAD De Minimis Waiver
X-2 and X-2S Dome to Base O-Ring Replacement Kit	AX-KIT-ORING-2	
Apex O-Ring Grease, Pack of 10	AX-KIT-GREASE-10	
X-2 and X-2S Dome to Base Locking Ring Clamp Replacement Kit	AX-KIT-CLAMP-2	
X-2 and X-2S Wedge Replacement Kit	AX-KIT-WEDGE-2	
X-2 and X-2S Inner Base Gel Replacement Kit	AX-KIT-GEL-2	
X-2S Basket and Yoke Assembly Kit. Can be used in combination with the basket cover.	AX-KIT-BASKET-2S	
X-2S Dome Replacement Kit	AX-KIT-DOME-2S	
WTC-SWR Bundle Splice Tray Retention Kit - Includes 25 foam grommets for retaining SWR bundles to splice trays	HW000406	
Velcro, 75 Foot Length Roll – For securing SWR bundles in the slack basket	FC001759	


Apex Aerial Hanger Bracket


Apex Pole/Wall Mount


Adjustable Aerial Hanger Bracket


X-2 and X-2S Installation Stand


Universal Installation Stand

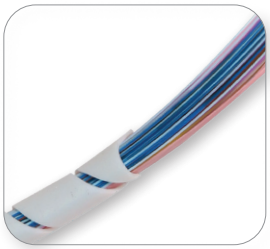
Ordering Information — Accessories

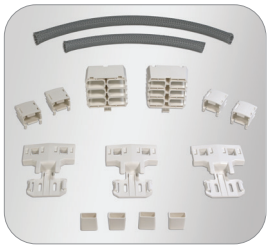
Description	AFL No.	AFL BEAD Compliant No.
Accessories		
Aerial strand mount hanger kit	AX-KIT-AERIAL-1	BX-KIT-AERIAL-1
Pole/wall mount kit	AX-BR30	BX-BR30
Adjustable Aerial Strand Mount Hanger kit	AX-KIT-AERIAL-ADJ	BX-KIT-AERIAL-ADJ
ADSS Aerial hanger brackets	AX-KIT-AERIAL-ADSS	BX-KIT-AERIAL-ADSS
Multi-Drop Cable Entry Kit (fits up to 4 cables 0.20" to 0.39" in diameter or flat drop cable)	AX-KIT-DROP-4	NA - May be Eligible for BEAD De Minimis Waiver
X-2 and X-2S Installation Stand	FC104649	
Apex Universal Installation Stand	AX-KIT-U-STAND	

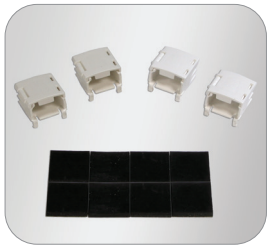
Apex® X-2S Sealed Splice Closure

Installation Accessories (cont.)

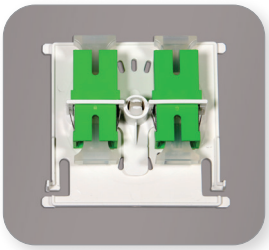

Mesh Transition Tubing

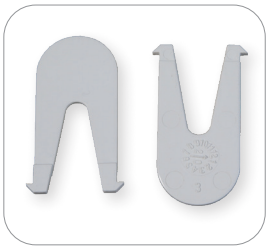

Silicone Spiral Wrap


AFRS Kit 1


AFRS Kit 2


A-B Tray Adapter Kit


SC Bulkhead Adapter Kit


Replacement Slack Storage Basket Tabs

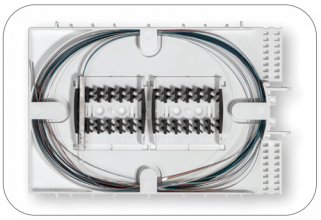
Ordering Information — Accessories (cont.)

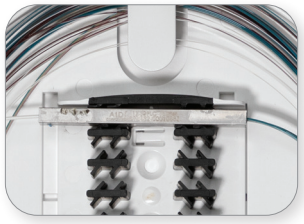
Description	AFL No.	AFL BEAD Compliant No.
Accessories		
1/4" Colored Mesh Transition Tubing, 250' Spool (*Replace "XX" with color per TIA-598 color code - BL, OR, GN, BR, GY, WH, RD, BK, YL, VI, NP or PP)	AX-KIT-TUBE-014-XX*	NA - May be Eligible for BEAD De Minimis Waiver
Silicone Spiral Wrap, 5.5 Foot Length	FC001657	
Apex Cable Bonding Kit (Bonds armored cable sheath to ground) – Pack of 10	AX-KIT-GROUND-10	
Apex Internal Multiple Ground Bonding Kit	AX-KIT-GNDLD-5	
Apex Advanced Fiber Retention System (AFRS) Kit 1 – Used for Ribbon Cable (Flat Matrix, SWR, Tubed, Central Core). Kit includes: Mesh Basket Adapter (2 ea.), Mesh Housing (2 ea.), Mesh Insert (24 ea.), V-Clips (12 ea.), and Clean Cut Gray Mesh (13 ft.).	AX-KIT-AFRSRBN	
Apex AFRS Kit 2 – Used for Loose Tube Cable. Kit includes: V-Clip (24 ea.) and Retention Pads (6 sheets of 8 pads)	AX-KIT-AFRSLT	
Apex AFRS Kit 3 – V-Clip bulk kit. Includes: V-Clips (120 ea.) and Mesh Inserts (120 ea.)	AX-KIT-AFRSVC-120	
Apex AFRS Kit 4 – Mesh bulk kit. Includes: Clean Cut Gray Mesh (100 ft.)	AX-KIT-AFRSMESH-100FT	
Apex AFRS Kit 5 – Mesh Housing bulk kit. Includes: Mesh Basket Adapter (10 ea.) and Mesh Housing (10 ea.)	AX-KIT-AFRSAH-10	
Apex AFRS Kit 6 – Mesh Basket Adapter bulk kit. Includes: Mesh Basket Adapter (10 ea.)	AX-KIT-AFRSA-10	
Apex Restoration Kit, 1000' of 144F Non-Armored Wrapping Tube Cable (Apex X-2S is in Restoration Kit)	AX-2S-B-L-4-4-4-X-1R1000F	
Apex A-B Tray Adapter Kit, 1 Kit of 6 pieces	AX-ADPTR-ABTRAY-6	
Apex A-B Tray Adapter Kit, 10 Kits of 6 pieces	AX-ADPTR-ABTRAY-60	
Apex Bulkhead Kit with Plate SC/APC Adapters, 1 kit	AX-TRAY-ASC	
Apex Bulkhead Kit with Plate with SC/UPC Adapters, 1 kit	AX-TRAY-USC	
Apex Bulkhead Kit with Plate SC/APC Adapters, 6 pc kit	AX-TRAY-ASC-6	
Apex Bulkhead Kit with Plate SC/UPC Adapters, 6 pc kit	AX-TRAY-USC-6	
Apex Replacement Slack Storage Basket Tabs – Pack of 25	AX-KIT-BTAB-25	

Apex® X-2S Sealed Splice Closure

Splitter Splice Trays

Passive optical splitters, or PLCs (Planar Lightwave Circuits), can be provided preinstalled into the Apex X-2S splice tray. PLCs can either be installed and splice within the same tray, or provided with a separate dedicated tray for splicing, with fibers routed between trays using protective tubing. A third option provides one additional tray to separate input and output fiber splicing.





Ordering Information

Description	Split Ratio	AFL No.	AFL BEAD Compliant No.
Accessories			
X-2S Tray with Four Splice Modules, (1) 1x2 PLC Splitter	1x2	AX-TRAY-2S-12-1	AX-TRAY-2S-12-1
X-2S Tray with Two Splice Modules, (1) 1x4 PLC Splitter	1x4	AX-TRAY-2S-14-1	AX-TRAY-2S-14-1
X-2S Tray with Two Splice Modules, (1) 1x8 PLC Splitter	1x8	AX-TRAY-2S-18-1	AX-TRAY-2S-18-1
X-2S Tray with Two Splice Modules, (1) 1x16 PLC Splitter	1x16	AX-TRAY-2S-116-1	AX-TRAY-2S-116-1
X-2S Tray with Two Splice Modules, (1) 1x32 PLC Splitter	1x32	AX-TRAY-2S-132-1	AX-TRAY-2S-132-1
X-2S Tray with (1) 1x2 PLC Splitter and Separate Splicing Tray with Four Splice Modules	1x2	AX-TRAY-2S-12-2	AX-TRAY-2S-12-2
X-2S Tray with (1) 1x4 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x4	AX-TRAY-2S-14-2	AX-TRAY-2S-14-2
X-2S Tray with (1) 1x8 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x8	AX-TRAY-2S-18-2	AX-TRAY-2S-18-2
X-2S Tray with (1) 1x16 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x16	AX-TRAY-2S-116-2	AX-TRAY-2S-116-2
X-2S Tray with (1) 1x32 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x32	AX-TRAY-2S-132-2	AX-TRAY-2S-132-2
X-2S Tray with (1) 1x2 PLC Splitter and 2 Separate Splicing Trays with Four Splice Modules each	1x2	AX-TRAY-2S-12-3	AX-TRAY-2S-12-3
X-2S Tray with (1) 1x4 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x4	AX-TRAY-2S-14-3	AX-TRAY-2S-14-3
X-2S Tray with (1) 1x8 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x8	AX-TRAY-2S-18-3	AX-TRAY-2S-18-3
X-2S Tray with (1) 1x16 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x16	AX-TRAY-2S-116-3	AX-TRAY-2S-116-3
X-2S Tray with (1) 1x32 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x32	AX-TRAY-2S-132-3	AX-TRAY-2S-132-3

Apex® X-1 Sealed Splice Closure

The Apex X-1 is a sealed splice closure designed for protecting optical fiber splices in both above- or below-grade applications in a butt configuration. The Apex X-1 is capable of up to 144* single fusion, 432 mass fusion with standard ribbon, or 864 mass fusion with "rollable ribbon" fiber types such as AFL's SpiderWeb Ribbon® (SWR®). Cables are sealed by a unique wedge system spaced evenly around the circumference of the closure's base. Each cable seal is opened by a press-to-release lever and sealing is completed by actuating a single screw for each cable. Each cable is sealed individually, ensuring original craftsmanship when cables may be added at a later date. Up to three splice trays are attached and hinge off a central organizer. A plastic slack storage basket resides underneath the trays with ample tie down points for managing tube and fiber slack.

Features

- Individual cable sealing ports with tool-less release mechanism and gel sealing
- Hinging, lockable splice trays
- Plastic slack storage basket with convenient multiple tie-down points with Velcro or tie wraps
- Four cable ports with up to three ground lugs
- Capable of up to 8 drop cables with an expressed distribution cable using multi-drop entry kits
- Splice trays with universal splice modules capable of holding single fusion, mass fusion and mechanical splices as well as other devices such as passive optical splitters
- Dome-to-base O-ring seal retained into dome to prevent loss or damage, but is still replaceable if necessary

Specifications

Parameter	Value
Dimensions – L x D, in (cm)	19.0 x 9.0 (48 x 23)
Weight, No Trays – lb (kg)	10 lbs
Splice Capacity – Single, Mass (SWR), Mass (Standard)	144*, 864, 432
Splice Tray Capacity	3
Cable Diameter, Single Port, in (mm)	0.40" – 1.10" (10.0 - 28.0)
Cable Diameter, Multi-Drop Kit, in (mm)	0.20" – 0.39" (5.0 - 9.9) or flat drop
Application	Direct Bury, Handhole, Aerial, Pole/Wall
Operating Temperature	-40°F to 149°F (-40°C to 65°C)
Testing	20 foot water head
Shipping Standards	16 per pallet (40x48)

* When using AFL Single Fiber Slim Protection Sleeves

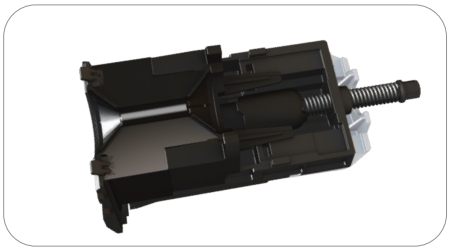
BABA/ BEAD compliant configurations and part numbers indicated where applicable. Non-compliant items may be eligible for BEAD De Minimis waiver. For complete list of compliant part numbers, see AFL BEAD Program Compliant Equipment List: AFLglobal.com/BEAD

continued

Apex® X-1 Sealed Splice Closure

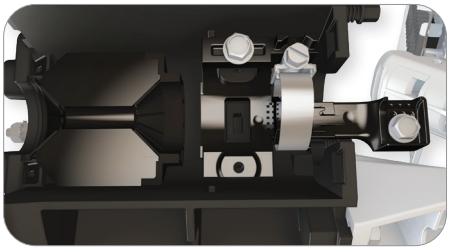
Gel Sealing

Individual wedges located evenly around the circumference of the base are removed with the press of a button. When cables are in place and ready to be sealed, the gel is compressed by a single screw, decreasing installation time. Individual port seals ensure cables never become unsealed when adding new cables at a later date.



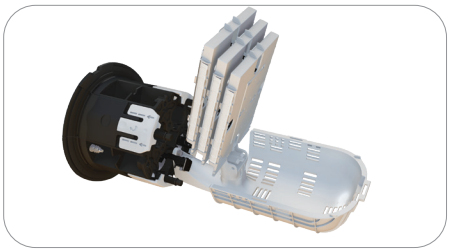
Cable Entry Ports and Strain Relief

The cable entry ports surrounding the circumference of the base accept single cables from 0.4" to 1.1" in diameter. These ports can be expanded through the use of optional drop cable entry kits, allowing up to 4 flat drops or cables from 0.2" to 0.39" to use a single port. Additionally, each port has the capability to be paired with its own grounding lug if necessary. Closures can be configured with enough strain relief kits for 0 to 4 cables from the factory. For closures with less than 6, additional cables can be added through the use of additional cable strain relief kits sold separately.



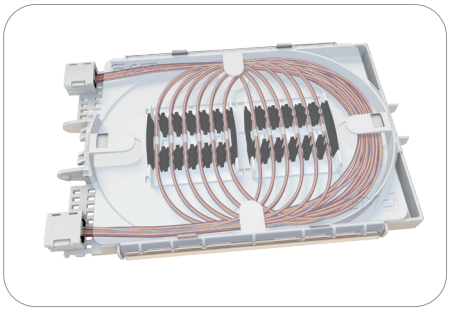
Slack Storage

A molded slack storage basket allows for use of the entire cross section of the closure to maximize storage.



Splice Trays with Modular Splice Holders

Splice trays are organized in a hinging array that automatically lock when tilted to the upward position for easy access to the splice trays and slack storage below. The universal splice module holds up to 24 single fusion, 6 mass fusion or 12 mass fusion double-stacked when using SWR, or 6 mechanical splices as well as devices such as PLC splitters and OADM devices. This eliminates the need for specifying and stocking multiple splice trays for multiple applications.



Ordering Information

AX	–	1	–	B	–	L	–	0	–	2	–	1	–	X
Apex Closures AX = Standard BX = BEAD Compliant		**Closure Size** 1 = X-1 Size		**Basket Type** B = X-1 Sized Basket		**Tray Type** X = No preinstalled tray L = X-1 Tray Loaded with splice modules		**Number of Trays** 0 1 2 3		**Cable Strain Relief Hardware Kits** 0 1 2 3 4		**Number of Ground Lugs** 0 1 3		**Inner Basket** X = No Inner Basket

AFL CERTIFIED BEAD COMPLIANT

AFLglobal.com
1 (800) 866-7385

Apex® X-1 Sealed Splice Closure

Splice Trays and Splice Modules

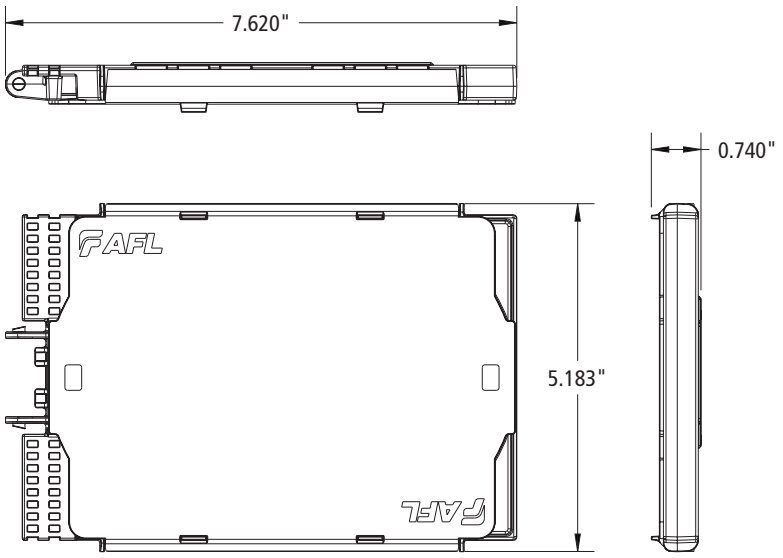
Apex X-1 closures utilize X-2S size splice trays. Trays can be ordered fully loaded or half loaded with splice modules. For "rollable" type ribbon such as AFL's SpiderWeb Ribbon®, trays can be fully loaded for 24 mass splices, or 288 fibers per tray. For standard ribbon, AFL recommends half loaded for 6 mass splices single-stacked, or 72 fibers. Adapter kits available to install up to four FOSC® A optical trays.

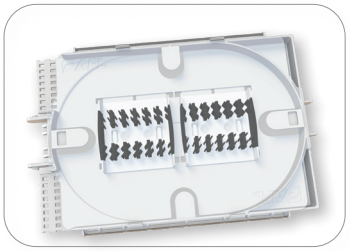
Ordering Information

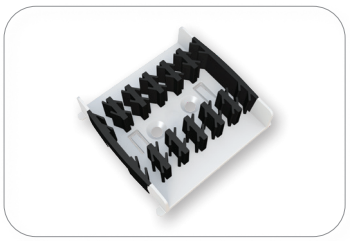
Description	Tray Capacity			AFL No.	AFL BEAD Compliant No.
	Single	Mass (SWR)	Mass (Standard)		
X-2S Tray Fully Loaded with Two Splice Modules (288 fibers per tray only recommended for rollable ribbon, e.g. AFL SWR)	36 triple stack 48 quad stack**	288	144	AX-TRAY-2S-2	BX-TRAY-2S-2
Additional splice module – Pack of 20	18 triple stack 24 quad stack**	144	144	AX-TRAY-MOD-20	BX-TRAY-MOD-20
X-2S Tray Empty	–	–	–	AX-TRAY-2S-E	
FP-40 40 mm Single Fiber Slim Protection Sleeve	–	–	–	S018262	NA - May be Eligible for BEAD De Minimis Waiver
FP-60 60 mm Single Fiber Slim Protection Sleeve	–	–	–	S018263	

* 288 fibers per tray with mass fusion double-stacking (864 total closure capacity) only recommended for 200 µm type rollable ribbon. For 250 µm, cut capacity in half with single-stacking.
** When using AFL's Slim Protection Sleeves

Dimensions







Apex® X-1 Sealed Splice Closure

Installation Kits and Accessories

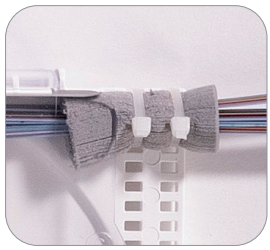
The AFL Apex closure line has a variety of installation accessories kits to fit many applications. Additional accessories may be available. Contact AFL.

X-1 CAU Kit

Ring Clamp Replacement Kit

O-Ring Grease Kit

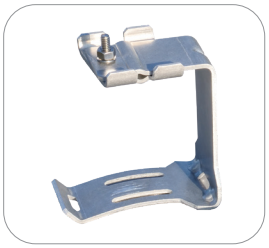
X-1 Wedge Replacement Kit



Foam Retention

Ordering Information — Replacement Kits

Description	AFL No.	AFL BEAD Compliant No.
Replacement Kits		
X-1 Single Cable Strain Relief/Cable Attachment Unit (CAU) Kit	AX-KIT-CBLSTRN-1	NA - May be Eligible for BEAD De Minimis Waiver
X-1 Dome to Base O-Ring Replacement Kit	AX-KIT-ORING-1	
Apex O-Ring Grease, Pack of 10	AX-KIT-GREASE-10	
X-1 Dome to Base Locking Ring Clamp Replacement Kit	AX-KIT-CLAMP-1	
X-1 Wedge Replacement Kit	AX-KIT-WEDGE-2	
X-1 Inner Base Gel Replacement Kit	AX-KIT-GEL-1	
X-1 Basket and Yoke Assembly Kit. Can be used in combination with the basket cover.	AX-KIT-BASKET-1	
X-1 Dome Replacement Kit	AX-KIT-DOME-1	
WTC-SWR Bundle Splice Tray Retention Kit – Includes 25 foam grommets for retaining SWR bundles to splice trays	HW000406	
Velcro, 75 Foot Length Roll – For securing SWR bundles in the slack basket	FC001759	



Apex Aerial Hanger Bracket

Apex Pole/Wall Mount

Adjustable Aerial Hanger Bracket

Universal Installation Stand

Multi-Drop Cable Entry Kit

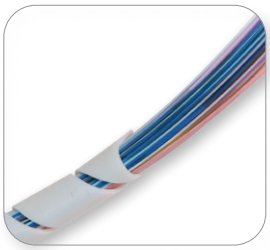
Ordering Information — Accessories

Description	AFL No.	AFL BEAD Compliant No.
Accessories		
Aerial strand mount hanger kit	AX-KIT-AERIAL-1	BX-KIT-AERIAL-1
Pole/wall mount kit	AX-BR30	BX-BR30
Adjustable Aerial Strand Mount Hanger kit	AX-KIT-AERIAL-ADJ	BX-KIT-AERIAL-ADJ
ADSS Aerial hanger brackets	AX-KIT-AERIAL-ADSS	BX-KIT-AERIAL-ADSS
Multi-Drop Cable Entry Kit (fits up to 4 cables 0.20" to 0.39" in diameter or flat drop cable)	AX-KIT-DROP-4-1	NA - May be Eligible for BEAD De Minimis Waiver
Apex Universal Installation Stand	AX-KIT-U-STAND	

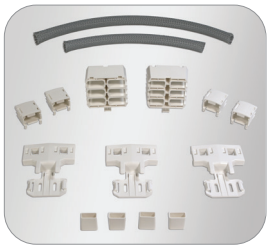
Apex® X-1 Sealed Splice Closure

Installation Accessories (cont.)

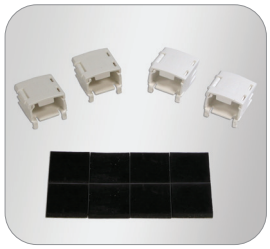
Mesh Transition Tubing



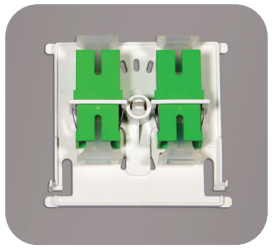
Silicone Spiral Wrap



AFRS Kit 1



AFRS Kit 2



SC Bulkhead Adapter Kit

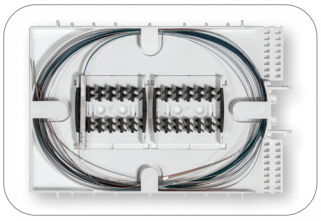
Ordering Information — Accessories (cont.)

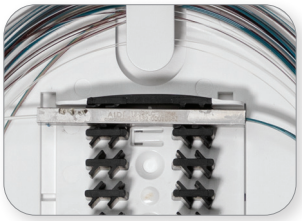
Description	AFL No.	AFL BEAD Compliant No.
Accessories		
1/4" Colored Mesh Transition Tubing, 250' Spool (*Replace "XX" with color per TIA-598 color code - BL, OR, GN, BR, GY, WH, RD, BK, YL, VI, NP or PP)	AX-KIT-TUBE-014-XX*	
Silicone Spiral Wrap, 5.5 Foot Length	FC001657	
Apex Cable Bonding Kit (Bonds armored cable sheath to ground) – Pack of 10	AX-KIT-GROUND-10	
Apex Internal Multiple Ground Bonding Kit	AX-KIT-GNDLD-5	
Apex Advanced Fiber Retention System (AFRS) Kit 1 – Used for Ribbon Cable (Flat Matrix, SWR, Tubed, Central Core). Kit includes: Mesh Basket Adapter (2 ea.), Mesh Housing (2 ea.), Mesh Insert (24 ea.), V-Clips (12 ea.), and Clean Cut Gray Mesh (13 ft.).	AX-KIT-AFRSRBN	
Apex AFRS Kit 2 – Used for Loose Tube Cable. Kit includes: V-Clip (24 ea.) and Retention Pads (6 sheets of 8 pads)	AX-KIT-AFRSLT	NA - May be Eligible for BEAD De Minimis Waiver
Apex AFRS Kit 3 – V-Clip bulk kit. Includes: V-Clips (120 ea.) and Mesh Inserts (120 ea.)	AX-KIT-AFRSVC-120	
Apex AFRS Kit 4 – Mesh bulk kit. Includes: Clean Cut Gray Mesh (100 ft.)	AX-KIT-AFRSMESH-100FT	
Apex AFRS Kit 5 – Mesh Housing bulk kit. Includes: Mesh Basket Adapter (10 ea.) and Mesh Housing (10 ea.)	AX-KIT-AFRSAH-10	
Apex AFRS Kit 6 – Mesh Basket Adapter bulk kit. Includes: Mesh Basket Adapter (10 ea.)	AX-KIT-AFRSA-10	
Apex Restoration Kit, 1000' of 144F Non-Armored Wrapping Tube Cable (Apex X-2S is in Restoration Kit)	AX-2S-B-L-4-4-4-X-1R1000F	
Apex Bulkhead Kit with Plate SC/APC Adapters, 1 kit	AX-TRAY-ASC	
Apex Bulkhead Kit with Plate with SC/UPC Adapters, 1 kit	AX-TRAY-USC	
Apex Bulkhead Kit with Plate SC/APC Adapters, 6 pc kit	AX-TRAY-ASC-6	

Apex® X-1 Sealed Splice Closure

X-2S Splitter Splice Trays

Passive optical splitters, or PLCs (Planar Lightwave Circuits), can be provided preinstalled into the Apex X-2S splice tray. PLCs can either be installed and splice within the same tray, or provided with a separate dedicated tray for splicing, with fibers routed between trays using protective tubing. A third option provides one additional tray to separate input and output fiber splicing.

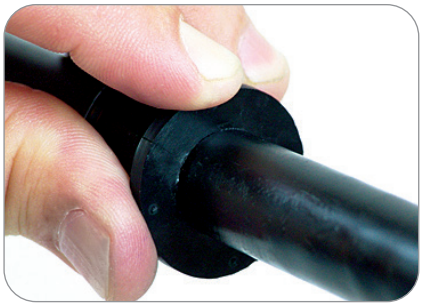




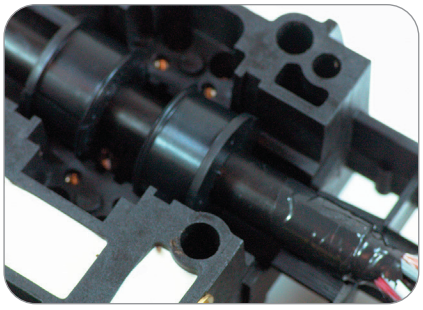
Ordering Information

Description	Split Ratio	AFL No.	AFL BEAD Compliant No.
Splitter Modules for Splice Trays			
X-2S Tray with Four Splice Modules, (1) 1x2 PLC Splitter	1x2	AX-TRAY-2S-12-1	AX-TRAY-2S-12-1
X-2S Tray with Two Splice Modules, (1) 1x4 PLC Splitter	1x4	AX-TRAY-2S-14-1	AX-TRAY-2S-14-1
X-2S Tray with Two Splice Modules, (1) 1x8 PLC Splitter	1x8	AX-TRAY-2S-18-1	AX-TRAY-2S-18-1
X-2S Tray with Two Splice Modules, (1) 1x16 PLC Splitter	1x16	AX-TRAY-2S-116-1	AX-TRAY-2S-116-1
X-2S Tray with Two Splice Modules, (1) 1x32 PLC Splitter	1x32	AX-TRAY-2S-132-1	AX-TRAY-2S-132-1
X-2S Tray with (1) 1x2 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x2	AX-TRAY-2S-12-2	AX-TRAY-2S-12-2
X-2S Tray with (1) 1x4 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x4	AX-TRAY-2S-14-2	AX-TRAY-2S-14-2
X-2S Tray with (1) 1x8 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x8	AX-TRAY-2S-18-2	AX-TRAY-2S-18-2
X-2S Tray with (1) 1x16 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x16	AX-TRAY-2S-116-2	AX-TRAY-2S-116-2
X-2S Tray with (1) 1x32 PLC Splitter and Separate Splicing Tray with Two Splice Modules	1x32	AX-TRAY-2S-132-2	AX-TRAY-2S-132-2
X-2S Tray with (1) 1x2 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x2	AX-TRAY-2S-12-3	AX-TRAY-2S-12-3
X-2S Tray with (1) 1x4 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x4	AX-TRAY-2S-14-3	AX-TRAY-2S-14-3
X-2S Tray with (1) 1x8 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x8	AX-TRAY-2S-18-3	AX-TRAY-2S-18-3
X-2S Tray with (1) 1x16 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x16	AX-TRAY-2S-116-3	AX-TRAY-2S-116-3
X-2S Tray with (1) 1x32 PLC Splitter and 2 Separate Splicing Trays with Two Splice Modules each	1x32	AX-TRAY-2S-132-3	AX-TRAY-2S-132-3

Expandable to support various cable diameters



Ease of installation (no tapes, washers, or glue)



Multiple layers of sealing protection

LightGuard® Peel and Seal Grommet Systems for Sealed Fiber Optic Closures

AFL's cable sealing grommet technology for the LightGuard (LG) Sealed Fiber Optic Closures improves sealing technology utilitizing MULTICENTRIC® Grommets that do away with time-consuming tasks such as installing washers and messy sealing tapes for cable entry. MULTICENTRIC Grommets are designed to accept a wide range of cable diameters, eliminating the need to stock a variety of diameter-specific grommet kits.

Conversion kits for old LG-100, LG-200, and LG-300 closures allows for "Peel and Seal" grommet technology to be used without changing out the existing closure.

Features

- All Peel and Seal Grommet Systems support loose tube, core tube, dielectric and armored cable designs
- Installation and re-entry using common hand tools
- Accepts a wide range of cable diameters
- Fast and easy to install
- Fits existing AFL LightGuard sealed closures
- Fully sealed to protect fiber and splices ensuring longevity
- Full conversion kits and dual cable entry port kits

Single Dual Quad

Ordering information

SEALED CLOSURE FULL CONVERSION KITS (SINGLE AXIS CABLE ENTRY)

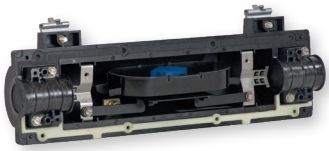
DESCRIPTION	AFL NO.
3 Port Drop Grommet (LG-150/250)	FC000655
Dual Express Grommets for LG-350	FC000337
Quad Express Grommets for LG-350	FC000421
Single Cable Grommet Kit, Drop Port	FC000628
4 Port Drop Grommet (LG-350 / LG-350-AC)	FC000422
LG-350 Express Single Cable Grommet Kit	FC000726
LG-350 Drop Single Cable Grommet Kit	FC000727

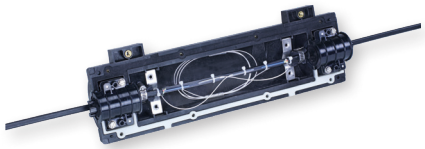
Qualifications

GOVERNING BODY	STANDARD CODE
Telcordia	GR-771
Rural Utilities Service (RUS)	515

Contact AFL for further details.

LightGuard® 55 Sealed Fiber Optic Splice Closure





In-line Repair Closure (IRC) for repair of flat or round drop cables

Designed with versatility in mind, the LightGuard (LG) 55 sealed closure from AFL offers a variety of solutions including repair and distribution splicing, grounding for Fiber-in-the-Loop applications, and for use as an isolation gap with armored cables. This closure accepts stranded loose tube or ribbon fiber cables in either armored or dielectric configurations and can be utilized in a butt or in-line configuration.

The LG-55 closure incorporates a unique cable clamp design sealing the cable, allowing both of the cover halves to be removed without disturbing the contents. In addition, AFL's Peel & Seal Grommet System™ is incorporated to ensure a tight fit on various cable diameters, fully sealing the closure and protecting the fiber while eliminating cumbersome tape and washers—making installation fast and easy.

Features

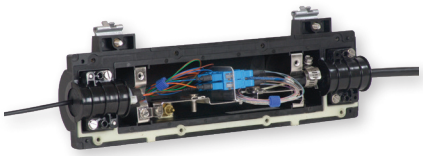
- Accommodates cables to 0.70" O.D for splicing and grounding/bonding
- Incorporates the Peel and Seal Grommet System, fully sealing the closure
- Includes removable, integral central splicing module and individual cable retention clamps
- Requires only a common can wrench for installation

Specifications

PARAMETER	VALUE
Splice Capacity (Max.)—Single, Mass, Mechanical	24, n/a, 24
Number of Splice Trays (Max.)—Single, Mass, Mechanical*	1, n/a, 1
Cable Entrance Configuration	Butt or In-line
Cable Sizes (Min. O.D. - Max. O.D.) **Included Grommets** Single in. (mm) Double Express Port Only in. (mm) **Additional Grommets** Quad Express Port Only in. (mm)	**(2) Express Ports** 0.40" - 0.70" (10.0 - 25.4) 0.26" - 0.44" (6.6 - 11.2) 0.26" - 0.38" (6.6 - 9.7)
Dimensions—(L x D) in. (mm)	14.0" x 4.0" (343.0 x 101.6)
Weight—lbs. (kg)	3.0 (1.36)

Ordering Information

DESCRIPTION	MODEL NO.	AFL NO.
LG-55 FC000034-PS Fiber Optic Splice Closure—Stores up to 32 single fusion, includes 2 single cable grommets and 1 dual cable grommet kit for sealing/retention and 2 ground terminals. Splice tray and hanger brackets included. Not included: Cable Grounding Kits	LG55-U-1	FC000034-PS
LL-2425 Single Splice Tray—Stores (32) single fusion splices. Maximum of 1 trays in the LG55. Tray Included.	LL-2425	FC000053
LG-350 Single Grommet Kit (Min. 0.40" - Max. 1.00") For use in LG-55 on Express Port side.	LG-350 Exp Single Kit	FC000726
LG-350 Dual Grommet Kit (Min. 0.26" - Max. 0.44") For use in LG-55 on Express Port side.	LG-350 Exp Dual Kit	FC000337
LG-350 Quad Grommet Kit (Min. 0.26" - Max. 0.38") For use in LG-55 on Express Port side.	LG-350 Exp Quad Kit	FC000421
LG-55 Grommet Kit (1) 3 flat drop grommet (flat drop 0.31" or round cable up to 0.25") and (1) dual grommet (Min. 0.26" - Max. 0.44").	LG-55 Drop Kit	FC000807
Cable Grounding Kit (pack of 5)—Clamp-On Ground Cable Only	CGK-5	FC001091
*Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices.	VHB Tape	FA000089



LightGuard® 55-SC
Sealed Fiber Optic Splice Closure

AFL's LightGuard (LG) 55-SC sealed closure retains all the features of the LG-55, but includes a unique patching system that utilizes pre-terminated SC fiber assemblies or field-installable connectors such as the FASTConnect® SC.

An innovative solution that can be used to facilitate a link between traffic control cabinets and entrance cables, the LG-55-SC closure allows for rapid restoration and minimal damage to a fiber optic cable should an impact disable the cabinet. A breakable tie wrap secures the pre-connectorized cable to one side of the closure (traffic control cabinet), while the main entrance cable is secured with a more rugged cable clamp, allowing the system to separate during a damaging impact.

Features

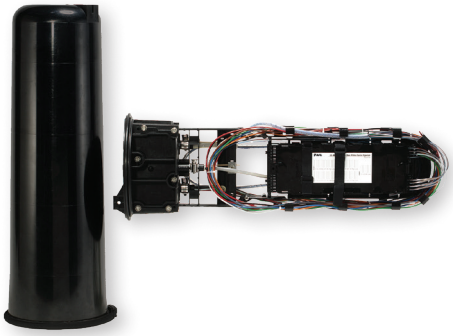
- Durable cover assembly that provides protection for all internal components and acts as an interface/anchor to the cable clamps
- Unique cable clamp seal to anchor the cable to the cover assembly
- Movable sheath retention bracket keeps cable bends at a minimum
- Accommodates up to four SC/UPC connectors
- Utilizes AFL's Peel & Seal Grommet System™, ensuring a tight fit on various cable diameters while eliminating cumbersome tape and washers
- Requires only a common can wrench for installation

Specifications

PARAMETER	VALUE
Cable Sizes (Min. O.D. - Max. O.D.)	0.4" - 0.7"
Maximum Cable Entry	2 ports (one each end)
Dimensions - (L x D) in. (mm)	14" x 4" (356.0 mm x 1022.0 mm)

Ordering Information

DESCRIPTION	MODEL NO.	AFL NO.
The LG-55-SC allows for 4 SC connectionsto be installed. A FASTConnect or FUSEConnect, filed installable connectors would be used for the connections. The field side cable is held with a tie-wrap while the signal side is secured to the closure with a hose clamp. This allows for a break-out should a vehicle make contact with a traffic box leaving the signal side cable intact.	LG-55-SC	FC000481-PS
Dual Cable Entry Port Kit – Allows two cables to enter closure from each cable port.	Dual Cable Entry Port Kit	FC000062
Quad Cable Entry Port Kits – Allows 4 cables to enter closure from each cable port	Quad Cable Entry Port Kit	FC000421
Cable Grounding Harness Kit – Includes (5) Clamp-On 9.5" long ground wires AWG #6 conductor	CGK-5	FC001091



LightGuard® 350
Sealed Fiber Optic Splice Closure

The LightGuard (LG) 350 is a sealed dome closure designed for large count fiber splicing (up to 480 single or 1152 mass) in a butt configuration. Utilized in aerial or underground environments where a sealed closure is required, the LG-350 is ideal for express, ring or long haul applications and requires only a common can wrench for installation.

Features

- Supports stranded loose tube or ribbon fiber cables in either armored or dielectric configurations
- Installation and re-entry requires only a common can wrench
- Fully sealed to protect fiber and splices ensuring longevity
- Fully kitted with all parts to install five cables

Specifications

PARAMETER	VALUE	
Splice Capacity (Max.)—Single, Mass, Mechanical	480, 1152, 108	
Number of Splice Trays (Max.)—Single, Mass, Mechanical*	12, 8, 8	
Cable Entrance Configuration	Butt	
Cables	5 to 11	
Cable Sizes (Min. O.D. - Max. O.D.) **Included Grommets** Single in. (mm) **Additional Grommets** Dual Express Port Only in. (mm) Quad Express Port Only in. (mm) (4) Flat Drop Port Only in. (mm)	**(2) Express Ports** 0.40" - 1.00" (10.0 - 25.4) 0.26" - 0.44" (6.6 - 11.2) 0.26" - 0.38" (6.6 - 9.7)	**(3) Drop Ports** 0.26" - 0.80" (6.6 - 20.0) 0.19" x 0.34" (4.8 x 8.6) or 0.25" round (6.4)
Dimensions—(L x D) in. (mm)	28.0" x 10.0" (710.0 x 254.0)	
Weight - lbs. (kg)	16 (7.26)	

continued

LightGuard® 350 Sealed Fiber Optic Splice Closure

Ordering Information

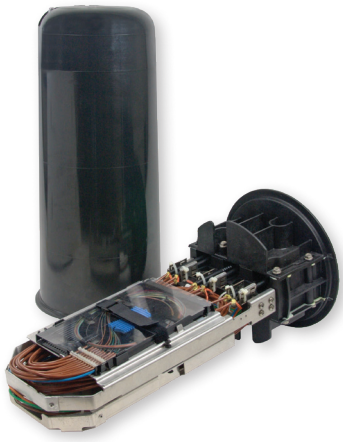
DESCRIPTION	AFL NO.
LG-350-U-0 Fiber Optic Splice Closure – Stores 480 single fusion or 1152 mass fusion, includes (5) cable kits for sealing/retention and (2) ground terminals with removable bond. Not included: Splice Trays, Cable Grounding Kits or Hanger Brackets	FC000009-PS
LL-2400 Single Splice Tray – Stores (24) single fusion splices. Maximum of 12 trays in the LG-350	91710-06
LL-2448 Universal Splice Tray – Stores (24) single fusion or (4) mass fusion splices (48 F). Maximum of 8 trays in the LG-350	911289-00-02
LL-4848 Mass Splice Tray – Stores (12) mass fusion splices (144 F). Maximum of 8 trays in the LG-350	911437-00-02
LL-2448-48S Single Splice Tray – Stores (48) single fusion splices. Maximum of 8 trays in the LG-350	FA000045
LL-4896 Universal Splice Tray – Stores (96) single fusion splices or (24) mass fusion splices (288 F). Maximum of 5 trays in the LG-350	911676-00-02
LL-4896-R Mass Splice Tray – Stores (24) mass fusion splices (288 F). Maximum of 5 trays in the LG-350	FA000022
LL-4896-L Single Splice Tray – Stores (96) single fusion splices. Maximum of 5 trays in the LG-350	FA000023
LL-7644 Universal Splice Tray – Stores (60) single fusion or (288) mass fusion splices or a combination of both in an easy-to-use, deep splice tray. For use with LG-350SD	FA000044
LL-7060 Splice Tray – Stores (60) single fusion splices in an easy-to-use, deep splice tray – For use in LG-350	FA000042
LL-7144 Splice Tray – Stores (288) mass fusion splices in an easy-to-use, deep splice tray – For use in LG-350	FA000043
LG-350 Single Grommet Kit (Min. 0.40" - Max. 1.00") – For use in LG-350/AC/SD on Express Port side	FC000726
LG-350 Dual Grommet Kit (Min. 0.26" - Max. 0.44") – For use in LG-350/AC/SD on Express Port side	FC000337
LG-350 Quad Grommet Kit (Min. 0.26" - Max. 0.38") – For use in LG-350/AC/SD on Express Port side	FC000421
LG-350 Single Grommet Kit (Min. 0.26" - Max. 0.80") – For use in LG-350/AC/SD on Drop Port side	FC000727
LG-350 Drop 4 Flat Drop Grommet Kit – For use with standard flat drop cable and round cable up to 0.25" O.D.	FC000422
Universal Aerial Strand Hanger Kit – For use with LG-150/250/350	FC000006
Extended Offset Strand Hanger Kit – For use with LG-150/250/350	FC000208
PWK Pole or Wall Mount Bracket – For use with LG-150/250/350	LGBR-30
OPGW Dual Cable Bracket Kit – For use with LG-150/250/350	FC000683
OPGW Quad Cable Bracket Kit for use when installing Sealed Closures – For use with LG-350	FC000747
1x6 Fiber Router Kit with furcation tubes	FC000070
CGK-5Cable Grounding Kit (pack of 5) – Clamp-On Ground Cable Only	FC001091
*Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices.	FA000089
O-Ring and Lock Ring Kit – For use with LG-350/350AC/SD	FC000775

* See Accessory Specifications. See Splice Tray Specifications.
Micro Duct Grommets available. Please call Customer Service for details.

Qualifications

GOVERNING BODY	STANDARD CODE
Telcordia	GR-771
Rural Utilities Service (RUS)	Listed

Contact AFL for further details.



LightGuard® 350-AC Drop Access Sealed Fiber Optic Splice Closure

The LightGuard (LG) 350-AC is a sealed dome closure designed for medium count fiber splicing (up to 144 single or 432 mass) in a butt configuration where space may be limited. Utilized in aerial or underground environments where a sealed closure is required, the LG-350-AC is designed for "drop access" applications providing access for up to 12 drops. The LG-350-AC is ideal for for Fiber-to-the-Home installations in small hand-hole application and requires only a common can wrench for installation.

Features

- Less than 20" overall length; ideal for small hand-holes
- Supports stranded loose tube or ribbon fiber cables in either armored or dielectric configurations
- Installation and re-entry requires only a common can wrench
- Fully sealed to protect fiber and splices ensuring longevity
- Fully kitted with all parts to install two cables and up to 12 drops

Specifications

PARAMETER	VALUE	
Splice Capacity (Max.)—Single, Mass, Mechanical	144, 432, 48	
Number of Splice Trays (Max.) - Single , Mass, Mechanical*	4, 3, 4	
Cable Entrance Configuration	Butt	
Cables	2 to 8 Express with up to 12 Drop	
Cable Sizes (Min. O.D. - Max. O.D.) **Included Grommets** Single in. (mm) (4) Flat Drop Only in. (mm) **Additional Grommets** Dual Express Port Only in. (mm) Quad Express Port Only in. (mm) (4) Flat Drop Port Only in. (mm)	**(2) Express Ports** 0.40" - 1.00" (10.0 - 25.4) 0.26" - 0.44" (6.6 - 11.2) 0.26" - 0.38" (6.6 - 9.7)	**(3) Drop Ports** (4 port) 0.26" - 0.80" (6.6 - 20.0) 0.19" x 0.34" (4.8 x 8.6) or 0.25" round (6.4)
Dimensions - (L x D) in. (mm)	19.8" x 10.0" (503.0 x 254.0)	
Weight - lbs. (kg)	12.0 (5.44)	

continued

LightGuard® 350-AC Drop Access Sealed Fiber Optic Splice Closure

Ordering Information

DESCRIPTION	AFL NO.
LG-350-AC Fiber Optic Splice Closure—Stores 144 single fusion or 432 mass fusion, includes (2) Express cable kits and (12) Drop cable kits for sealing/retention and (2) ground terminals with removable bond. Included: (1) LL-4808L Splice Tray Not included: Cable Grounding Kits, or Hanger Brackets	FC000412
LL-4808L-R Universal Splice Tray—Stores (36) single fusion splices or (12) mass fusion splices (144 F). Maximum of 4 trays in the LG-350-AC.	FA000037
LL-4808-R Mass Splice Tray—Stores (12) mass fusion splices (144 F). Maximum of 4 trays in the LG-350-AC	FA000020
LL-4808-L Single Splice Tray—Stores (36) single fusion splices. Maximum of 4 trays in the LG-350-AC	FA000021
LG-350 Single Grommet Kit (Min. 0.40" - Max. 1.00")—For use in LG-55/LG-350/LG-350-AC on Express Port side	FC000726
LG-350 Dual Grommet Kit (Min. 0.26" - Max. 0.44")—For use in LG-55/LG-350/LG-350-AC on Express Port side	FC000337
LG-350 Quad Grommet Kit (Min. 0.26" - Max. 0.38")—For use in LG-55/LG-350/LG-350-AC on Express Port side	FC000421
LG-350 Single Grommet Kit (Min. 0.26" - Max. 0.80")—For use in LG-350/AC/SD on Drop Port side	FC000727
LG-350 Drop 4 Flat Drop Grommet Kit—For use with standard flat drop cable and round cable up to 0.25" O.D.	FC000422
Universal Aerial Strand Hanger Kit—For use with LG-150/250/350	FC000006
Extended Offset Strand Hanger Kit—For use with LG-150/250/350	FC000208
PWK Pole or Wall Mount Bracket—For use with LG-150/250/350	LGBR-30
OPGW Dual Cable Bracket Kit—For use with LG-150/250/350	FC000683
1x6 Fiber Router Kit with furcation tubes	FC000070
CGK-5 Cable Grounding Kit (pack of 5)—Clamp-On Ground Cable Only	FC001091
*Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices.	FA000089
LG-350 O-Ring and Lock Ring Kit—For use with LG-350/AC/SD	FC000775

* See Accessory Specifications.
See Splice Tray Specifications.

Qualifications

GOVERNING BODY	STANDARD CODE
Telcordia	GR-771
Rural Utilities Service (RUS)	Listed

Contact AFL for further details.

LightGuard® 350XL
Sealed Fiber Optic Splice Closure

The LightGuard (LG) 350XL is a sealed dome closure designed for large count fiber splicing (up to 864 single or 2592 mass) in a butt configuration. Utilized in aerial or underground environments where a sealed closure is required, the LG-350XL is ideal for high fiber count splicing and requires only a common can wrench for installation. A Phillips head screw is used to secure the tray support to the basket.

Features

- Supports stranded loose tube or ribbon fiber cables in either armored or dielectric configurations
- Installation and re-entry requires only a common can wrench
- Fully sealed to protect fiber and splices ensuring longevity
- Fully kitted with all parts to install five cables
- Accommodates up to 7 cables
- Oversized basket allows multiple configurations of slack storage
- O-Ring and Locking Ring for increased protection

Specifications

PARAMETER	VALUE	
Splice Capacity (Max.)—Single, Mass, Mechanical	864, 2592, 288	
Number of Splice Trays (Max.)—Single, Mass, Mechanical*	9, 9, 9	
Cable Entrance Configuration	Butt	
Cables	5 to 7	
Cable Sizes (Min. O.D. - Max. O.D.) **Included Grommets** Single in. (mm) **Additional Grommets** Dual Exp. Port Only in. (mm)	**(2) Express Ports** 0.40" - 1.18" (10.0 - 30.0) 0.38" - 0.56" (9.7 - 14.2)	**(3) Drop Ports** 0.30" - 1.08" (7.6 - 27.4)
Dimensions - (L x D) in. (mm)	31.0" x 12.00" (788.5 x 305.0)	
Weight - lbs. (kg)	25.0 (11.3)	

continued

LightGuard® 350XL Sealed Fiber Optic Splice Closure

Ordering Information

DESCRIPTION	AFL NO.
LG-350XL-U-0 Fiber Optic Splice Closure – Stores 864 single fusion or 2592 mass fusion, includes (5) cable kits for sealing/retention and (2) ground terminals with removable bond. Not included: Splice Trays, Cable Grounding Kits or Hanger Brackets	FC000010-PS
LL-4896 Universal Splice Tray – Stores (96) single fusion splices or (24) mass fusion splices (288 F), *Mechanical. Max. of 9 trays in the LG-350XL	911676-00-02
LL-4896-R Mass Splice Tray – Stores (24) mass fusion splices (288 F). Max. of 9 trays in the LG-350XL	FA000022
LL-4896-L Single Splice Tray – Stores (96) single fusion splices. Max. of 9 trays in the LG-350XL	FA000023
LG-350XL Single Grommet Kit (Min. 0.40" - Max. 1.18") – For use in LG-350XL on Express Port side	FC000870
LG-350XL Dual Grommet Kit (Min. 0.38" - Max. 0.56") – For use in LG-350XL on Express Port side	FC000688
LG-350XL Single Grommet Kit (Min. 0.30" - Max. 1.08") – For use in LG-350XL on Drop Port side	FC000871
LG-350XL Drop 4 Flat Drop Grommet Kit – For use with standard flat drop cable and round cable up to 0.25" O.D.	FC001713
Strand Mount Hanger Bracket – For use with LG-350XL in strand or vault mounting	912215-00-00
1x6 Fiber Router Kit with furcation tubes	FC000070
CGK-5 Cable Grounding Kit (pack of 5) – Clamp-On Ground Cable Only	FC001091
*Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices.	FA000089
O-Ring and Lock Ring Kit – For use with LG-350XL	FC001328
Transition tubing 16.25" long – Used to transport ribbon to the splice trays. (20) per kit	FC001372

* See LL-4896 Splice Tray Specifications.

Qualifications

GOVERNING BODY	STANDARD CODE
Telcordia	GR-771
Rural Utilities Service (RUS)	Listed

Contact AFL for further details.

LightGuard® Aerial Weathertight Fiber Optic Splice Closures

The AFL family of Aerial Weathertight Splice Closures is designed to provide a cost-effective solution for your aerial splicing needs. Quality engineering reduces the installation time, training and complexity associated with fiber splicing in the field. The closures have all been designed to be installed without the need for special tools, heat, adhesives, drills or any powered equipment. Durable and easy to install, these closures will improve productivity, reduce labor expenses and last the life of the plant.

Features

- Individual, patented, self-sizing cable grommets and strength member tie downs provide for cable additions without disturbing those previously installed
- Unique tongue-in-groove closure seal and back-to-back grommet design provides for a weathertight and insect seal
- Closures are re-enterable without the need for any re-entry kits and require only a common can wrench for installation

Specifications

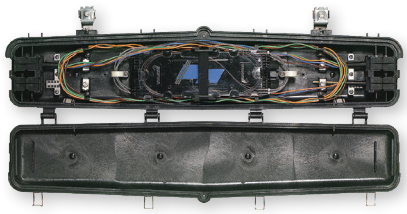
PARAMETER	LG-410-U-0	LG-420-U-0	LG-500-U-0	LG-600-U-0
Splice Capacity (Max.) – Single, Mass, Mechanical	144, 432, 36	12, 48, 12	144, 432, 36	384, 1152, 96
Splice Tray Capacity – Single, Mass	4, 2	n/a, n/a	4, 2	12, 8, 8
Cable Ports	4-8	4-6	4-8	6 (3 per end)
Cable Entrance	In-line, Butt	In-line (taut sheath)	In-line, Butt	In-line, Butt
Cable Sizes (O.D.)	4 @ 0.3-0.82" Up to 8 with Dual Grommet Kits 4 @ 0.27-0.53" 4 @ 0.38-0.70"	4 @ 0.3-0.82" Up to 6 with Dual Grommet Kits 2 @ 0.27-0.53" 2 @ 0.38-0.70"	4 @ 0.3-0.82" Up to 8 with Dual Grommet Kits 4 @ 0.27-0.53" 4 @ 0.38-0.70"	6 @ 0.44 - 1.0" Up to 12 with Dual Grommet Kits 6 @ 0.4-0.6" 6 @ 0.7-0.9"
CLOSURE TEST [1, 2]				
- Cable Retention (100 lbs.)	Passed	Passed	Passed	Passed
- Impact Resistance (0-40 °C)	Passed	Passed	Passed	Passed
- Chemical Resistance	Passed	Passed	Passed	Passed
- Cable Flexing	Passed	Passed	Passed	Passed
- Dust (Weather Tightness)	Passed	Passed	Passed	Passed
- Driving Rain	Passed	Passed	Passed	Passed
- Rodent Test	Passed	Passed	Passed	Passed
Dimensions (L x W x D) in. (cm)	36.00 x 8.00 x 4.00 (91.44 x 20.32 x 10.16)	36.00 x 8.00 x 4.00 (91.44 x 20.32 x 10.16)	27.00 x 8.25 x 4.00 (68.58 x 20.96 x 10.16)	27.00 x 11.25 x 7.50 (68.58 x 28.58 x 19.05)
Weight lbs. (kg)	8.5 (3.86)	8.5 (3.86)	6.4 (2.90)	18 (8.16)

NOTES: 1. Tested to Telcordia GR-771-Core and Aerial Strand requirements
2. Not all Telcordia tests are listed due to space constraints; All closures are designed and tested to appropriate aerial test requirements

Qualifications

GOVERNING BODY	STANDARD CODE
Telcordia	GR-771
Rural Utilities Service (RUS)	Listed

Contact AFL for further details.



LightGuard® 410 Aerial Weathertight Fiber Optic Splice Closure

The LightGuard (LG) 410 Aerial Weathertight Fiber Optic Splice Closure is designed for medium count fiber splicing (up to 144 single or 432 mass) in a butt or in-line configuration. Utilized in aerial applications, the LG-410 provides additional fiber bundle storage with its extended length design and requires only a common can wrench for installation.

Features

- Four individual, self-sizing grommeted cable ports (expandable to eight cable entrances)
- Patented tongue-in-groove cover seal system
- Installation and re-entry only require a common can wrench
- Cable retention clamps provide pullout
- UV-resistant engineered thermoplastic

Specifications

PARAMETER	VALUE
Splice Capacity (Max.) – Single, Mass, Mechanical	144/432/36
Number of Splice Trays (Max.) – Single, Mass, Mechanical*	4, 3, 4
Cable Entrance Configuration	Butt or in-line
Cables	4 to 8
Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets Single in. (mm) **Additional Grommets** Dual Grommet in. (mm) 6-port Multi-Drop Grommet in. (mm)	**(4) Cable Ports** 4 @ 0.38" - 0.82" (7.6 - 20.8) Sm: 0.27" - 0.53" (6.9 - 13.5) Lg: 0.38" - 0.70" (9.5 - 17.8) 0.20" - 0.37" (5.1 - 9.4)
Dimensions – (L x D) in. (mm)	36.00" x 8.0" x 4.0" (914.0 x 203.0 x 102.0)
Weight – lbs. (kg)	8.5 (3.81)

continued

LightGuard® 410 Aerial Weathertight Fiber Optic Splice Closure

Ordering Information

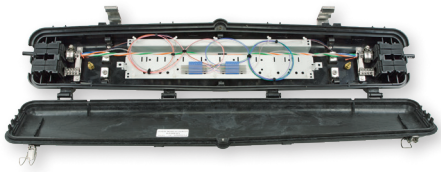
DESCRIPTION	MODEL NO.	AFL NO.
LG-410 Aerial Weathertight Fiber Optic Splice Closure – Stores 144 single fusion or 432 mass fusion, includes (4) cable kits for sealing/retention and (2) ground terminals with removable bond, and hanger brackets. Not included: Splice Trays or Cable Grounding Kits	LG-410-U-0	FC000022
LL-2400 Single Splice Tray – Stores (24) single fusion splices. Maximum of 4 trays in the LG-410.	LL-2400	91710-06
LL-2448 Universal Splice Tray – Stores (24) single fusion or (4) mass fusion splices (48 F). Maximum of 3 trays in the LG-410.	LL-2448	911289-00-02
LL-4848 Mass Splice Tray – Stores (12) mass fusion splices (144 F). Maximum of 3 trays in the LG-410.	LL-4848	911437-00-02
LL-2448-48S Single Splice Tray – Stores (48) single fusion splices. Maximum of 3 trays in the LG-410.	LL-2448-48S	FA000045
Small Single Grommet Kit (10 pc grommet only) – (Min 0.38"- Max 0.82")	Small Single Grommet Kit (10)	911496-00-00
Small Dual Grommet Kit – Includes: (2) small dual grommets and hardware (Min 0.27"- Max 0.53" and Min 0.38" - Max 0.70")	Small Dual Grommet Kit	911386-00-01
Small Dual Grommet Kit (10 pc grommet only) – (Min 0.27"- Max 0.53" and Min 0.38" - Max 0.70")	Small Dual Grommet Kit (10)	911495-00-00
Small 6-Port Drop Cable Kit – 2 grommets with tie wrap and foam Allows six cable entries (Min 0.20"- Max 0.365" and flat drop)	Small 6 Port Drop Kit	FC000573
Large Single Grommet Kit with retention hardware (Min 0.44"- Max 1.04")	Large Single Grommet Kit	FC000623
Small 6-Port Drop Cable Kit (10 pc grommet only) (Min 0.20"- Max 0.365" and flat drop)	Small Drop Grommet Kit (10)	FC000644
Large Single Grommet Kit (10 pc grommet only) (Min 0.44" - Max 1.04")	Large Single Grommet Kit (10)	91918-00
Large Dual Grommet Expansion Kit—Includes: (2) Dual grommets and hardware (Min .40"-Max .70" and Min 0.60"- Max 0.90")	Large Dual Grommet Kit	911406-00-00
Large 6 Port Drop Cable Kit—2 Grommets with retention bracket. Allows six cable entries (Min 0.23"- Max 0.48" and flat drop)	Large 6 Port Drop Kit	FC000352
Adjustable Aerial Hanger Kit Bracket Kit (included with closure)	Adjustable Hanger LG-400/500/600	911497-00-00
Extended Offset Aerial Hanger Kit LG-400/500/600	Offset Hanger LG-400/500/600	91990-00
Retention hardware for additional cables or replacement hardware—LG-400/500/600 (no grommets)	Cable Retention Kit LG-400\500\600	FC000356
Closure Extension Kit - Used to join multiple closures for extended sheath openings required to repair cable sheath and damaged fibers	Closure Extension Kit LG-400/500/600	911499-00-00
1x6 Fiber Router Kit with furcation tubes.	1x6 Fiber Router	FC000070
Cable Grounding Kit (pack of 5)—Clamp-On Ground Cable Only	CGK-5	FC001091
*Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices.	VHB Tape	FA000089

* See Accessory Specifications. See Splice Tray Specifications.

Qualifications

GOVERNING BODY	STANDARD CODE
Telcordia	GR-771
Rural Utilities Service (RUS)	Listed

Contact AFL for further details.



LightGuard® 420 Aerial Weathertight Fiber Optic Splice Closure

The LightGuard (LG) 420 Aerial Weathertight Fiber Optic Splice Closure is designed for taut sheath (no slack) splicing (up to 24 single or 48 mass) in an in-line configuration. Utilized in aerial applications, the LG-420 is ideal for repairing cable sheath or fibers, providing mid-span access and requires only a common can wrench for installation.

Features

- Four individual, self-sizing grommeted cable ports (expandable to eight cable entrances)
- Taut Sheath splice module accommodates up to 12 fusion splices
- Protective channel allowing taut fibers or bundles to pass through the closure
- Patented tongue-in-groove cover seal system
- Installation and re-entry only require a common can wrench
- Cable retention clamps provide pullout
- UV-resistant engineered thermoplastic

Specifications

PARAMETER	VALUE
Splice Capacity (Max.) – Single, Mass, Mechanical	24, 48, 12
Number of Splice Trays (Max.) – Single, Mass, Mechanical*	Splice chips for 24F single fusion splice (incl.)
Cable Entrance Configuration	In-line (taut sheath)
Cables	4 to 8
Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets Single in. (mm) **Additional Grommets** Dual Grommet in. (mm) 6-port Multi-Drop Grommet in. (mm)	**(4) Cable Ports** 4 @ 0.38" - 0.82" (7.6 - 20.8) Sm: 0.27" - 0.53" (6.9 - 13.5) Lg: 0.38" - 0.70" (9.5 - 17.8) 0.20" - 0.37" (5.1 - 9.4)
Dimensions – (L x D) in. (mm)	36.0" x 8.0" x 4.0" (914.0 x 203.0 x 102.0)
Weight – lbs. (kg)	8.5 (3.81)

continued →

LightGuard® 420 Aerial Weathertight Fiber Optic Splice Closure

Ordering Information

DESCRIPTION	MODEL NO.	AFL NO.
LG-420 Aerial Weathertight Fiber Optic Splice Closure – Stores 12 single fusion or 48 mass fusion, includes (4) cable kits for sealing/retention and (2) ground terminals with removable bond, splice chips and hanger brackets. Not included: Cable Grounding Kits	LG-420-U-0	FC000023
Small Single Grommet Kit (10 pc grommet only) (Min 0.38"- Max 0.82")	Small Single Grommet Kit (10)	911496-00-00
Small Dual Grommet Kit – Includes: (2) small dual grommets and hardware (Min 0.27"- Max 0.53" and Min 0.38 - Max 0.70")	Small Dual Grommet Kit	911386-00-01
Small Dual Grommet Kit (10 pc grommet only) (Min 0.27"- Max 0.53" and Min 0.38 - Max 0.70")	Small Dual Grommet Kit (10)	911495-00-00
Small 6-Port Drop Cable Kit – 2 grommets with tie wrap and foam. Allows six cable entries (Min 0.20"- Max 0.365" and flat drop)	Small 6 Port Drop Kit	FC000644
Adjustable Aerial Hanger Kit Bracket Kit (included with closure)	Adjustable Hanger LG-400/500/600	911497-00-00
Extended Offset Aerial Hanger Kit LG-400/500/600	Offset Hanger LG-400/500/600	91990-00
Retention hardware for additional cables or replacement hardware – LG-400/500/600 (no grommets)	Cable Retention Kit LG-400/500/600	FC000356
Closure Extension Kit – Used to join multiple closures for extended sheath openings required to repair cable sheath and damaged fibers	Closure Extension Kit LG-400/500/600	911499-00-00
1x6 Fiber Router Kit with furcation tubes	1x6 Fiber Router	FC000070
Cable Grounding Kit (pack of 5) – Clamp-On Ground Cable Only	CGK-5	FC001091
*Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices.	VHB Tape	FA000089

* See Accessory Specifications. See Splice Tray Specifications.

Qualifications

GOVERNING BODY	STANDARD CODE
Telcordia	GR-771
Rural Utilities Service (RUS)	Listed

Contact AFL for further details.

LightGuard® 420 FTTx Aerial Weathertight Fiber Optic Splice Closure

The LightGuard (LG) 420 FTTx Aerial Weathertight Fiber Optic Splice Closure is designed for taut sheath (no slack) splicing (up to 32 single) in an in-line configuration. Utilized in aerial applications, the LG-420-FTTx is ideal for FTTx access networks by providing access for up to 12 drop cables and 16 connections, requiring only a common can wrench for installation.

Features

- Four individual, self-sizing grommeted cable ports:
  - 2 express ports
  - 2 multi-drop ports
- 12 drop cables and 16 connections
- Special multi-drop grommet and cable retention
- Special lock-out interior enclosure
- Patented tongue-in-groove cover seal system
- Installation and re-entry only require a common can wrench
- Cable retention clamps provide pullout
- UV resistant engineered thermoplastic

Specifications

PARAMETER	VALUE
Splice Capacity (Max.) – Single, Mass, Mechanical	32, n/a, 12
Number of Splice Trays (Max.) – Single, Mass, Mechanical*	1, n/a, 1
Cable Entrance Configuration	In-line (taut sheath)
Cables	2 to 4 Express with up to 12 Drop
Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets Single in. (mm) 6-port Multi-Drop Grommet in. (mm) **Additional Grommets** Dual Grommet in. (mm) 6-port Multi-Drop Grommet in. (mm)	**(4) Cable Ports** 2 @ 0.38" - 0.82" (7.6 - 20.8) 2 (6 port) @ 0.20" - 0.37" (5.1 - 9.4) Sm: 0.27" - 0.53" (6.9 - 13.5) Lg: 0.38" - 0.70" (9.5 - 17.8) 0.20" - 0.37" (5.1 - 9.4)
Dimensions – (L x D) in. (mm)	36.0" x 8.0" x 4.0" (914.0 x 203.0 x 102.0)
Weight – lbs. (kg)	8.5 (3.81)

continued

LightGuard® 420 FTTx Aerial Weathertight Fiber Optic Splice Closure

Ordering Information

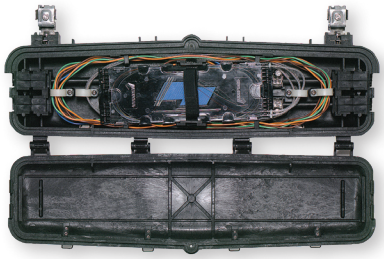
DESCRIPTION	MODEL NO.	AFL NO.
The AFL LightGuard (LG) 420 FTTx Aerial Weathertight Fiber Optic Splice Closures are designed to allow taut sheath (no slack) or conventional splicing in aerial applications such as FTTx access networks. The LG-420 FTTx provides access for 1 to 16 connections and up to 12 subscriber drops and requires only a common can wrench for installation. Includes: Hanger Brackets and Splice Tray. Not included: Cable Grounding Kits.	LG-420-U-FTTx	FC000099
LL-2425 Single Splice Tray – Stores (32) single fusion splices. Maximum of 1 tray in the LG-420-FTTx.	LL-2425	FC000053
Small Single Grommet Kit of (10 pc grommet only) – (Min .38"- Max .82")	Small Single Grommet Kit (10)	911496-00-00
Small Dual Grommet Kit – Includes: (2) small dual grommets and hardware (Min .27"- Max .53" and Min .38" - Max .70")	Small Dual Grommet Kit	911386-00-01
Small Dual Grommet Kit (10 pc grommet only) – (Min .27"- Max .53" and Min .38" - Max .70")	Small Dual Grommet Kit (10)	911495-00-00
Small 6-Port Drop Cable Kit – 2 grommets with tie wrap and foam. Allows six cable entries (Min 0.20"- Max 0.365" and flat drop)	Small 6 Port Drop Kit	FC000644
Adjustable Aerial Hanger Kit Bracket Kit (included with closure)	Adjustable Hanger LG-400/500/600	911497-00-00
Extended Offset Aerial Hanger Kit LG-400/500/600	Offset Hanger LG-400/500/600	91990-00
Retention hardware for additional cables or replacement hardware – LG-400/500/600 (no grommets)	Cable Retention Kit LG-400/500/600	FC000356
Closure Extension Kit – Used to join multiple closures for extended sheath openings required to repair cable sheath and damaged fibers	Closure Extension Kit LG-400/500/600	911499-00-00
1x6 Fiber Router Kit with furcation tubes.	1x6 Fiber Router	FC000070
Cable Grounding Kit (pack of 5) – Clamp-On Ground Cable Only	CGK-5	FC001091
*Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices.	VHB Tape	FA000089

* See Accessory Specifications. See Splice Tray Specifications.

Qualifications

GOVERNING BODY	STANDARD CODE
Telcordia	GR-771
Rural Utilities Service (RUS)	Listed

Contact AFL for further details.



LightGuard® 500 Aerial Weathertight Fiber Optic Splice Closure

The LightGuard (LG) 500 Aerial Weathertight Fiber Optic Splice Closure is designed for medium count fiber splicing (up to 144 single or 432 mass) in a butt or in-line configuration. Utilized in aerial applications, the LG-500 is ideal for congested aerial construction due to its compact design and requires only a common can wrench for installation.

Features

- Four individual, self-sizing grommeted cable ports (expandable up to eight cable entrances)
- Patented tongue-in-groove cover seal system
- Installation and re-entry only require a common can wrench
- Cable retention clamps provide pullout
- UV resistant engineered thermoplastic

Specifications

PARAMETER	VALUE
Splice Capacity (Max.) – Single, Mass, Mechanical	144, 432, 36
Number of Splice Trays (Max.) – Single, Mass, Mechanical*	4, 3, 4
Cable Entrance Configuration	Butt or in-line
Cables	4 to 8
Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets Single in. (mm) **Additional Grommets** Dual Grommet in. (mm) 6-port Multi-Drop Grommet in. (mm)	**(4) Cable Ports** 4 @ 0.38" - 0.82" (7.6 - 20.8) Sm: 0.27" - 0.53" (6.9 - 13.5) Lg: 0.38" - 0.70" (9.5 - 17.8) 0.20" - 0.37" (5.1 - 9.4)
Dimensions – (L x D) in. (mm)	27.0" x 8.3" x 4.0" (686.0 x 210.0 x 102.0)
Weight – lbs. (kg)	6.4 (2.90)

continued

LightGuard® 500 Aerial Weathertight Fiber Optic Splice Closure

Ordering Information

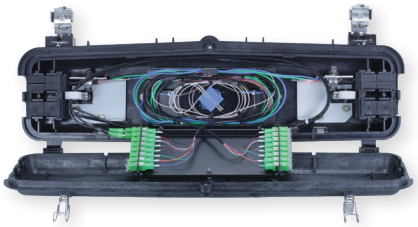
DESCRIPTION	MODEL NO.	AFL NO.
LG-500 Aerial Weathertight Fiber Optic Splice Closure – Stores 144 single fusion or 432 mass fusion, includes (4) cable kits for sealing/retention and (2) ground terminals with removable bond, and hanger brackets. Not included: Splice Trays or Cable Grounding Kits	LG-500-U-0	FC000026
LL-2400 Single Splice Tray – Stores (24) single fusion splices. Maximum of 4 trays in the LG-500.	LL-2400	91710-06
LL-2448 Universal Splice Tray – Stores (24) single fusion or (4) mass fusion splices (48 F) , *Mechanical. Maximum of 3 trays in the LG-500.	LL-2448	911289-00-02
LL-4848 Mass Splice Tray – Stores (12) mass fusion splices (144 F). Maximum of 3 trays in the LG-500.	LL-4848	911437-00-02
LL-2448-48S Single Splice Tray – Stores (48) single fusion splices. Maximum of 3 trays in the LG-500.	LL-2448-48S	FA000045
Small Single Grommet Kit (10 pc grommet only) – (Min 0.38"- Max 0.82")	Small Single Grommet Kit (10)	911496-00-00
Small Dual Grommet Kit – Includes: (2) small dual grommets and hardware (Min 0.27"- Max 0.53" and Min 0.38" - Max 0.70")	Small Dual Grommet Kit	911386-00-01
Small 6-Port Drop Cable Kit – 2 grommets with tie wrap and foam. Allows six cable entries. (Min 0.20"- Max 0.365" and flat drop)	Small 6 Port Drop Kit	FC000573
Adjustable Aerial Hanger Kit Bracket Kit (included with closure)	Adjustable Hanger LG-400/500/600	911497-00-00
Extended Offset Aerial Hanger Kit for LG-400/500/600	Offset Hanger LG-400/500/600	91990-00
Retention hardware for additional cables or replacement hardware – LG-400/500/600 (no grommets)	Cable Retention Kit LG 400/500/600	FC000356
Closure Extension Kit – Used to join multiple closures for extended sheath openings required to repair cable sheath and damaged fibers	Closure Extension Kit LG-400/500/600	911499-00-00
1x6 Fiber Router Kit with furcation tubes.	1x6 Fiber Router	FC000070
Cable Grounding Kit (pack of 5) – Clamp -On Ground Cable Only	CGK-5	FC001091
*Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices.	VHB Tape	FA000089

* See Accessory Specifications. See Splice Tray Specifications.

Qualifications

GOVERNING BODY	STANDARD CODE
Telcordia	GR-771
Rural Utilities Service (RUS)	Listed

Contact AFL for further details.



LightGuard® 500 FTTx Aerial Weathertight Fiber Optic Splice Closures

The LightGuard (LG) 500 FTTx Aerial Weathertight Fiber Optic Splice Closure is designed for small count fiber splicing (up to 32 single or 48 mass) in a butt or in-line configuration. Utilized in aerial applications, the LG-500-FTTx is ideal for FTTx access networks by providing cable entry and connectivity for up to 12 drop cables and 16 connections, requiring only a common can wrench for installation.

Features

- Four individual, self-sizing grommeted cable ports:
  - 2 express ports
  - 2 multi-drop ports
- 12 drop cables and 16 connections
- Special multi-drop grommet and cable retention
- Special lock-out interior enclosure
- Patented tongue-in-groove cover seal system
- Installation and re-entry only require a common can wrench
- Cable retention clamps provide pullout
- UV resistant engineered thermoplastic

Specifications

PARAMETER	VALUE
Splice Capacity (Max.) – Single, Mass, Mechanical	32, 48, 12
Number of Splice Trays (Max.) – Single, Mass, Mechanical*	1, 1, 1
Cable Entrance Configuration	Butt or in-line
Cables	2 to 4 Express with up to 12 Drop
Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets Single in. (mm) 6-port Multi-Drop Grommet in. (mm) **Additional Grommets** Dual Grommet in. (mm) 6-port Multi-Drop Grommet in. (mm)	**(4) Cable Ports** 4 @ 0.38" - 0.82" (7.6 - 20.8) 2 (6 port) @ 0.20" - 0.37" (5.1 - 9.4) Sm: 0.27" - 0.53" (6.9 - 13.5) Lg: 0.38" - 0.70" (9.5 - 17.8) 0.20" - 0.37" (5.1 - 9.4)
Dimensions – (L x D) in. (mm)	27.0" x 8.3" x 4.0" (686.0 x 210.0 x 100.0)
Weight – lbs. (kg)	10.1 (4.58)

continued

LightGuard® 500 FTTx Aerial Weathertight Fiber Optic Splice Closure

Ordering Information

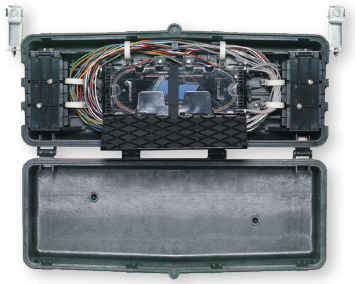
DESCRIPTION	MODEL NO.	AFL NO.
LG-500-FTTx Aerial Weathertight Fiber Optic Splice Closure – Stores 32 single fusion or 48 mass fusion, includes (4) cable kits for sealing/retention and (2) ground terminals with removable bond, (1) splice tray, and hanger brackets. Not included: Cable Grounding Kits, SCAPC Adapters	LG-500-FTTx	FC000899
LL-2425 Single Splice Tray – Stores (32) single fusion splices. Maximum of 1 tray in the LG-500-FTTx.	LL-2425	FC000053
Small Single Grommet Kit of (10 pc grommet only) – (Min 0.38"- Max 0.82")	Small Single Grommet Kit (10)	911496-00-00
Small Dual Grommet Kit – Includes: (2) small dual grommets and hardware (Min 0.27"- Max 0.53" and Min 0.38" - Max 0.70")	Small Dual Grommet Kit	911386-00-01
Small Dual Grommet Kit (10 pc grommet only) – (Min 0.27"- Max 0.53" and Min 0.38" - Max 0.70")	Small Dual Grommet Kit (10)	911495-00-00
Small 6-Port Drop Cable Kit – 2 grommets with tie wrap and foam tape. Allows six cable entries. (Min 0.20"- Max 0.37" and flat drop)	Small 6 Port Drop Kit	FC000573
Adjustable Aerial Hanger Kit Bracket Kit (included with closure)	Adjustable Hanger LG-400/500/600	911497-00-00
Extended Offset Aerial Hanger Kit LG-400/500/600	Offset Hanger LG-400/500/600	91990-00
Retention hardware for additional cables or replacement hardware – LG-400/500/600 (no grommets)	Cable Retention Kit LG-400/500/600	FC000356
Closure Extension Kit – Used to join multiple closures for extended sheath openings required to repair cable sheath and damaged fibers	Closure Extension Kit LG-400/500/600	911499-00-00
1x6 Fiber Router Kit with furcation tubes	1x6 Fiber Router	FC000070
Cable Grounding Kit (pack of 5) – Clamp -On Ground Cable Only	CGK-5	FC001091
Mechanical Splice Kit*. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices.	VHB Tape	FA000089
Single-mode SC Simplex Adapter, Flangeless, Green	SC/APC Adapter	CS009394
SC/APC 900 µm Pigtail, 1.5 Meter Length	ASC, XXX, JH, 001, Q, 001.5, White	CS012973C-001.5

* See Accessory Specifications. See Splice Tray Specifications.

Qualifications

GOVERNING BODY	STANDARD CODE
Telcordia	GR-771
Rural Utilities Service (RUS)	Listed

Contact AFL for further details.



LightGuard® 600 Aerial Weathertight Fiber Optic Splice Closure

The LightGuard (LG) 600 Aerial Weathertight Fiber Optic Splice Closure is designed for high count fiber splicing (up to 384 single or 1152 mass) in a butt or in-line configuration. Utilized in aerial applications, the LG-600 is an ideal cost-effective solution for high fiber count splicing and requires only a common can wrench for installation.

Features

- Six individual, self-sizing grommeted cable ports (expandable to 12 cable entrances)
- Patented tongue-in-groove cover seal system
- Installation and re-entry only require a common can wrench
- Integrated grounding clamp through aerial hangers
- Cable retention clamps provide pullout
- UV resistant engineered thermoplastic

Specifications

PARAMETER	VALUE
Splice Capacity (Max.) – Single, Mass, Mechanical	384, 1152, 36
Number of Splice Trays (Max.) – Single, Mass, Mechanical*	12, 8, 8
Cable Entrance Configuration	Butt or in-line
Cables	6 to 24
Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets Single in. (mm) **Additional Grommets** Dual Grommet in. (mm) 6-port Multi-Drop Grommet in. (mm)	**(6) Cable Ports** 0.44" - 1.00" (11.2 - 25.4) Sm: 0.40" - 0.70" (10.0 - 17.8) Lg: 0.60" - 0.90" (15.3 - 22.9) 0.30" - 0.48" (7.6 - 17.8)
Dimensions – (L x D) in. (mm)	27.0" x 11.3" x 7.5" (690.0 x 286.0 x 190.5)
Weight – lbs. (kg)	18.0 (8.16)

continued

LightGuard® 600 Aerial Weathertight Fiber Optic Splice Closure

Ordering Information

DESCRIPTION	MODEL NO.	AFL NO.
LG-600 Aerial Weathertight Fiber Optic Splice Closure – Stores 384 single fusion or 1152 mass fusion, includes (4) cable kits for sealing/retention and (2) ground terminals with removable bond and hanger brackets. Not included: Splice Trays or Cable Grounding Kits	LG-600-U-0	FC000029
LL-2400 Single Splice Tray – Stores (24) single fusion splices. Maximum of 12 trays in the LG-600.	LL-2400	91710-06
LL-2448 Universal Splice Tray – Stores (24) single fusion or (4) mass fusion splices (48 F). Maximum of 8 trays in the LG-600, *Mechanical	LL-2448	911289-00-02
LL-4848 Mass Splice Tray – Stores (12) mass fusion splices (144 F). Maximum of 8 trays in the LG-600.	LL-4848	911437-00-02
LL-2448-48S Single Splice Tray – Stores (48) single fusion splices. Maximum of 8 trays in the LG-600.	LL-2448-48S	FA000045
Large Single Grommet Kit with retention hardware (Min 0.44"- Max 1.00")	Large Single Grommet Kit	FC000623
Large Single Grommet Kit (10 pc grommet only) – (Min 0.44"- Max 1.00")	Large Single Grommet Kit (10)	91918-00
Large Dual Grommet Expansion Kit – Includes: (2) Dual grommets and hardware (Min 0.40"- Max 0.70" and Min 0.60"- Max 0.90")	Large Dual Grommet Kit	911406-00-00
Large 6 Port Drop Cable Kit – 2 Grommets with retention bracket. Allows six cable entries. (Min 0.23"- Max 0.48" and flat drop)	Large 6 Port Drop Kit	FC000352
Adjustable Aerial Hanger Kit Bracket Kit (included with closure)	Adjustable Hanger LG-400/500/600	911497-00-00
Extended Offset Aerial Hanger Kit LG-400/500/600	Offset Hanger LG-400/500/600	91990-00
SC 6-pack bracket kit for LG-600	Bracket Kit (6-pack SC) LG-600	FM001294
Retention hardware for additional cables or replacement hardware – LG-400/500/600 (no grommets)	Cable Retention Kit LG-400/500/600	FC000356
Closure Extension Kit – Used to join multiple closures for extended sheath openings required to repair cable sheath and damaged fibers	Closure Extension Kit LG-400/500/600	911499-00-00
1x6 Fiber Router Kit with furcation tubes	1x6 Fiber Router	FC000070
Cable Grounding Kit (pack of 5) – Clamp -On Ground Cable Only	CGK-5	FC001091
*Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices.	VHB Tape	FA000089

* See Accessory Specifications. See Splice Tray Specifications.

Qualifications

GOVERNING BODY	STANDARD CODE
Telcordia	GR-771
Rural Utilities Service (RUS)	Listed

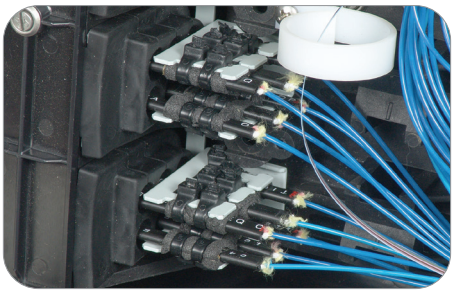
Contact AFL for further details.

LightGuard® 600 FTTx Aerial Weathertight Fiber Optic Splice Closure

The LightGuard (LG) 600 FTTx Aerial Weathertight Fiber Optic Splice Closure is designed for small count fiber splicing (up to 48 single or 48 mass) in a butt or in-line configuration. Utilized in aerial applications, the LG-600-FTTx is ideal for express slack look fiber access splicing by providing cable entry and connectivity for up to 24 subscriber drops and requires only a common can wrench for installation.

Features

- Six individual, self-sizing grommeted cable ports:
  - 2 express ports
  - 4 multi-drop ports
- Up to 12 adapters using the LG-600 expansion kit and SC 6-pack adapter brackets
- Special multi-drop grommets and cable retention
- Integrated aerial splicing work tray
- Patented tongue-in-groove cover seal system
- Installation and re-entry only require a common can wrench
- Integrated grounding clamp through aerial hangers
- Cable retention clamps provide pullout
- UV resistant engineered thermoplastic



Cable entrance

Grommet bracket

Specifications

PARAMETER	VALUE
Splice Capacity (Max.) – Single, Mass, Mechanical	24, 48, 24
Number of Splice Trays (Max.) – Single, Mass, Mechanical*	2, 2, 2
Cable Entrance Configuration	Butt or in-line
Cables	2 to 4 Express with up to 24 Drops
Cable Sizes (Min. O.D. - Max. O.D.) Included Grommets Single in. (mm) 6-port Multi-Drop Grommet in. (mm) **Additional Grommets** Dual Grommet in. (mm)	**(6) Cable Ports** 2 @ 0.44" - 1.00" (11.2 - 25.4) 4 @ 0.30" - 0.48" (76 - 17.8) Sm: 0.40" - 0.70" (10.0 - 17.8) Lg: 0.60" - 0.90" (15.3 - 22.9)
Dimensions – (L x D) in. (mm)	27.00" x 11.25" x 7.50" (690.0 x 286.0 x 190.5)
Weight – lbs. (kg)	18.0 (8.16)

continued

LightGuard® 600 FTTx Aerial Weathertight Fiber Optic Splice Closure

Ordering Information

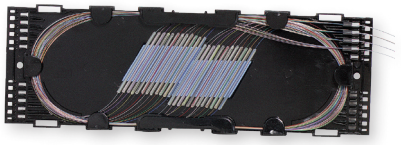
DESCRIPTION	MODEL NO.	AFL NO.
LG-600-FTTx Aerial Weathertight Fiber Optic Splice Closure – Stores 24 single fusion or 48 mass fusion, includes (6) cable kits for sealing/retention and (2) ground terminals with removable bond, (2) splice tray, and hanger brackets. Not included: Cable Grounding Kits	LG600-FTTx	FC000291
LL-2450 Single Splice Tray – Stores (12) single fusion splices. Maximum of (2) trays in the LG-600-FTTx.	LL-2450	91957-00
LL-4850 Mass Splice Tray – Stores (8) mass fusion splices (96F). Maximum of (2) trays in the LG-600-FTTx.	LL-4850	91958-00
LL-1248 Universal Splice Tray – Stores (12) single fusion splices or (8) mass fusion splices (96F), *Mechanical. Maximum of 2 trays in the LG-600FTTx.	LL-1248	911221-00-00
Large Single Grommet Kit with retention hardware (Min 0.44"- Max 1.00")	Large Single Grommet Kit	FC000623
Large Single Grommet Kit (10 pc grommet only) – (Min 0.44"- Max 1.00")	Large Single Grommet Kit (10)	91918-00
Adjustable Aerial Hanger Kit Bracket Kit (included with closure)	Adjustable Hanger LG-400/500/600	911497-00-00
Extended Offset Aerial Hanger Kit – LG-400/500/600	Offset Hanger LG-400/500/600	91990-00
Retention hardware for additional cables or replacement hardware – LG/400/500/600 (no grommets)	Cable Retention Kit LG-400/500/600	FC000356
Closure Extension Kit – Used to join multiple closures for extended sheath openings required to repair cable sheath and damaged fibers	Closure Extension Kit LG-400/500/600	911499-00-00
1x6 Fiber Router Kit with furcation tubes	1x6 Fiber Router	FC000070
Cable Grounding Kit (pack of 5) – Clamp-On Ground Cable Only	CGK-5	FC001091
*Mechanical Splice Kit. Includes 10 pieces of VHB tape. Used in all splice trays. Each piece holds 12 splices.	VHB Tape	FA000089
LG-600 FTTx Expansion Kit – Includes (1) Stacker Module, (1) SC-6-Pack Bracket. Allows use of standard splice trays.	LG-600 FTTx Expansion Kit	FC000620

* See Accessory Specifications. See Splice Tray Specifications.

Qualifications

GOVERNING BODY	STANDARD CODE
Telcordia	GR-771
Rural Utilities Service (RUS)	Listed

Contact AFL for further details.



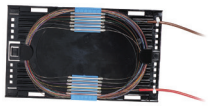
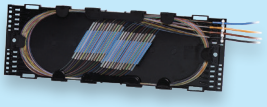
LightLink Fiber Optic Splice Trays

AFL's LightLink series of Fiber Optic Splice Trays offers a variety of unique and flexible splice and storage possibilities. They are available in industry standard configurations (single, mass).

Features

- In-line or butt splice capability (see model descriptions)
- Pre-formed radiuses maintain bend requirements
- Interlocking base and cover provides tray stability without the use of a bolt
- Extended finger guides easily store and route loose fiber or ribbon

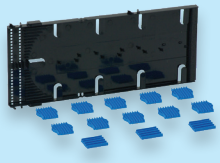
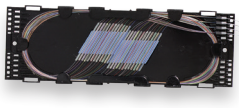
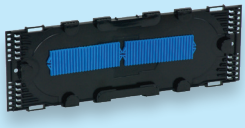
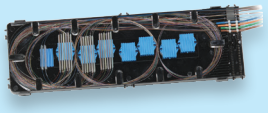
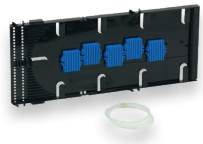
Ordering Information—Splice Trays for Sealed Fiber Optic Splice Closures

DESCRIPTION	MODEL NO.	AFL NO.	LG-55-U	LG-150-U	LG-250-U	LG-350-U	LG-350-20-WTC	LG-350-27-WTC
Single Fuse: 32 Mass Fuse: N/A 6.300" (L) x 2.730" (W) x 0.829" (H) 	LL-2425	FC000053	**Max trays: 1** Single: 32 Mass: N/A	N/A	N/A	N/A	N/A	N/A
Single Fuse: 12 Mass Fuse: N/A 7.139" (L) x 4.294" (W) x 0.370" (H) 	LL-2450	91957-00	N/A	**Max Trays: 4** Single: 48 Mass: N/A	N/A	N/A	N/A	N/A
Single Fuse: N/A Mass Fuse: 8 (96 fiber) 7.139" (L) x 4.294" (W) x 0.370" (H) 	LL-4850	91958-00	N/A	**Max Trays: 4** Single: N/A Mass: 32 (384 fiber)	N/A	N/A	N/A	N/A
Single Fuse: 12 Mass Fuse: 8 (96 fiber) 7.139" (L) x 4.294" (W) x 0.370" (H) 	LL-1248	911221-00-00	N/A	**Max Trays: 4** Single: 48 Mass: 48 (384 fiber)	N/A	N/A	N/A	N/A
Single Fuse: 24 Mass Fuse: N/A 12.542" (L) x 4.042" (W) x 0.390" (H) 	LL-2400	91710-06	N/A	N/A	**Max Trays: 5** Single: 120 Mass: N/A	**Max Trays: 13** Single: 312 Mass: N/A	N/A	N/A

continued

LightLink Fiber Optic Splice Trays (cont.)

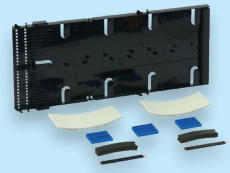
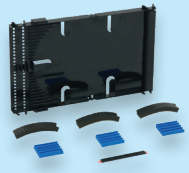
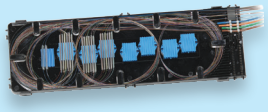
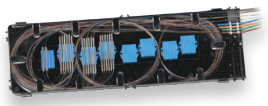
Ordering Information—Splice Trays for Sealed Fiber Optic Splice Closures

DESCRIPTION	MODEL NO.	AFL NO.	LG-250-U	LG-350-U	LG-350-AC	LG-350XL-U	LG-350-20-WTC	LG-350-27-WTC
Single Fuse: 60 Mass Fuse: 12 (144 fiber) 12.000" (L) x 5.125" (W) x 0.485" (H)  *Note: Contains enough splice holders for 24 mass splices (288 fibers) when using AFL Wrapping Tube Cable.	LL-7644	FA000044	N/A	**Max Trays: 6** Single: 360 Mass: 72 (864 fiber)	**N/A**	N/A	N/A	**Max Trays: 3** Single: 180 Mass: 72 (864 fiber)
Single Fuse: 24 Mass Fuse: 4 (48 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H) 	LL-2448	911289-00-02	**Max Trays: 3** Single: 72 Mass: 12 (144 fiber) Mechanical: 36	**Max Trays: 8** Single: 192 Mass: 32 (384 fiber) Mechanical: 96	N/A	N/A	N/A	N/A
Single Fuse: 48 Mass Fuse: N/A 12.542" (L) x 4.270" (W) x 0.531" (H) 	LL-2448-48S	FA000045	**Max Trays: 3** Single: 144 Mass: N/A	**Max Trays: 8** Single: 384 Mass: N/A	N/A	N/A	N/A	N/A
Single Fuse: N/A Mass Fuse: 12 (144 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H) 	LL-4848	911437-00-02	**Max Trays: 3** Single: N/A Mass: 36 (432 fiber)	**Max Trays: 8** Single: N/A Mass: 96 (1152 fiber)	N/A	N/A	N/A	N/A
Single Fuse: 96 Mass Fuse: 24 (288 fiber) 15.950" (L) x 4.875" (W) x 0.485" (H) 	LL-4896	911676-00-02	N/A	**Max Trays: 5** Single: 480 Mass: 120 (1440 fiber)	N/A	**Max Trays: 9** Single: 864 Mass: 216 (2592 fiber)	N/A	N/A
Single Fuse: 60 Mass Fuse: N/A 12.000" (L) x 5.125" (W) x 0.485" (H) 	LL-7060	FA000042	N/A	**Max Trays: 6** Single: 360 Mass: N/A	N/A	N/A	N/A	**Max Trays: 3** Single: 180 Mass: N/A

continued

LightLink Fiber Optic Splice Trays (cont.)

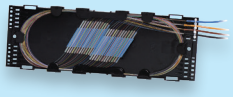
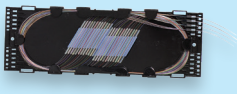
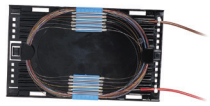
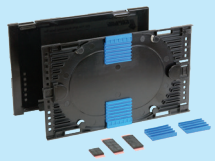
Ordering Information – Splice Trays for LG-350 and LG-350XL-U Sealed Fiber Optic Splice Closures

DESCRIPTION	MODEL NO.	AFL NO.	LG-350-U	LG-350-AC	LG-350XL-U	LG-350-20-WTC	LG-350-27-WTC
Single Fuse: N/A Mass Fuse: 12 (144 fiber) 12.000" (L) x 5.125" (W) x 0.485" (H) 	LL-7144	FA000043	**Max Trays: 6** Single: 360 Mass: 72 (864 fiber)	N/A	N/A	N/A	**Max Trays: 3** Single: 180 Mass: 72 (864 fiber)
Single Fuse: 36 Mass Fuse: 12 (144 fiber) 8.125" (L) x 4.875" (W) x 0.485" (H) 	LL-4808L-R	FA000037	**N/A**	**Max Trays: 4** Single: 144 Mass: 48 (576 fiber)	N/A	**Max Trays: 4** Single: 144 Mass: 48 (576 fiber)	N/A
Single Fuse: N/A Mass Fuse: 12 (144 fiber) 8.125" (L) x 4.875" (W) x 0.485" (H) 	LL-4808 R	FA000020	N/A	**Max Trays: 4** Single: N/A Mass: 48 (576 fiber)	N/A	**Max Trays: 4** Single: N/A Mass: 48 (576 fiber)	N/A
Single Fuse: 36 Mass Fuse: N/A 8.125" (L) x 4.875" (W) x 0.485" (H) 	LL-4808 L	FA000021	N/A	**Max Trays: 4** Single: 144 Mass: N/A	N/A	**Max Trays: 4** Single: 144 Mass: N/A	N/A
Single Fuse: N/A Mass Fuse: 24 (288 fiber) 15.950" (L) x 4.875" (W) x 0.485" (H) 	LL-4896 R	FA000022	**Max Trays: 5** Single: N/A Mass: 120 (1440 fiber)	N/A	**Max Trays: 9** Single: N/A Mass: 216 (2592 fiber)	N/A	N/A
Single Fuse: 96 Mass Fuse: N/A 15.950" (L) x 4.875" (W) x 0.485" (H) 	LL-4896 L	FA000023	**Max Trays: 5** Single: 480 Mass: N/A	N/A	**Max Trays: 9** Single: 864 Mass: N/A	N/A	**Max Trays: 3** Single: 180 Mass: N/A

continued →

LightLink Fiber Optic Splice Trays (cont.)

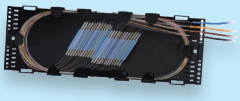
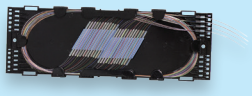
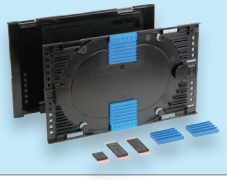
Ordering Information – Splice Trays for Aerial Weathertight Fiber Optic Splice Closures

DESCRIPTION	MODEL NO.	AFL NO.	LG-410-U	LG-420-U FTTx	LG-500-U	LG-500-U FTTx
Single Fuse: 24 Mass Fuse: N/A 12.542" (L) x 4.042" (W) x 0.390" (H) 	LL-2400	91710-06	**Max Trays: 4** Single: 96 Mass: N/A	N/A	**Max Trays: 4** Single: 96 Mass: N/A	N/A
Single Fuse: 32 Mass Fuse: N/A 6.300" (L) x 2.730" (W) x 0.829" (H) 	LL-2425	FC000053	N/A	**Max Trays: 1** Single: 32 Mass: N/A	N/A	**Max Trays: 1** Single: 32 Mass: N/A
Single Fuse: 24 Mass Fuse: 4 (48 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H) 	LL-2448	911289-00-02	**Max Trays: 3** Single: 72 Mass: 12 (144 fiber) Mechanical: 36	N/A	**Max Trays: 3** Single: 72 Mass: 12 (144 fiber) Mechanical: 36	N/A
Single Fuse: 12 Mass Fuse: N/A 7.139" (L) x 4.294" (W) x 0.370" (H) 	LL-2450	91957-00	N/A	N/A	N/A	N/A
Single Fuse: N/A Mass Fuse: 12 (144 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H) 	LL-4848	911437-00-02	**Max Trays: 3** Single: N/A Mass: 36 (432 fiber)	N/A	**Max Trays: 3** Single: N/A Mass: 36 (432 fiber)	N/A
Single Fuse: N/A Mass Fuse: 8 (96 fiber) 7.139" (L) x 4.294" (W) x 0.370" (H) 	LL-4850	91958-00	N/A	N/A	N/A	N/A
Single Fuse: 12 Mass Fuse: 8 (96 fiber) 7.139" (L) x 4.294" (W) x 0.370" (H) 	LL-1248	911221-00-00	N/A	N/A	N/A	N/A

continued

LightLink Fiber Optic Splice Trays (cont.)

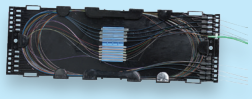
Ordering Information – Splice Trays for Aerial Weathertight Fiber Optic Splice Closures

DESCRIPTION	MODEL NO.	AFL NO.	LG-500-U-FTTx-ISO	LG-600-U	LG-600-FTTx	LG-600-U-FTTx-ISO
Single Fuse: 24 Mass Fuse: N/A 12.542" (L) x 4.042" (W) x 0.390" (H) 	LL-2400	91710-06	N/A	**Max Trays: 12** Single: 288 Mass: N/A	**Max Trays: 2** Single: 48 Mass: N/A	N/A
Single Fuse: 32 Mass Fuse: N/A 6.300" (L) x 2.730" (W) x 0.829" (H) 	LL-2425	FC000053	N/A	N/A	N/A	N/A
Single Fuse: 24 Mass Fuse: 4 (48 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H) 	LL-2448	911289-00-02	N/A	**Max Trays: 8** Single: 192 Mass: 32 (384 fiber) Mechanical: 12	N/A	N/A
Single Fuse: 12 Mass Fuse: N/A 7.139" (L) x 4.294" (W) x 0.370" (H) 	LL-2450	91957-00	**Max Trays: 1** Single: 12 Mass: N/A	N/A	N/A	**Max Trays: 2** Single: 24 Mass: N/A
Single Fuse: N/A Mass Fuse: 12 (144 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H) 	LL-4848	911437-00-02	N/A	**Max Trays: 8** Single: N/A Mass: 96 (1152 fiber)	N/A	N/A
Single Fuse: N/A Mass Fuse: 8 (96 fiber) 7.139" (L) x 4.294" (W) x 0.370" (H) 	LL-4850	91958-00	**Max Trays: 1** Single: N/A Mass: 8 (96 fiber)	N/A	N/A	**Max Trays: 2** Single: N/A Mass: 16 (192 fiber)
Single Fuse: 12 Mass Fuse: 8 (96) 7.139" (L) x 4.294" (W) x 0.370" (H) 	LL-1248	911221-00-00	**Max Trays: 1** Single: 12 Mass: 8 (96 fiber)	N/A	N/A	**Max Trays: 2** Single: 24 Mass: 16 (192 fiber)

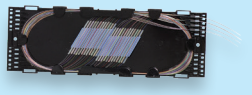
continued

LightLink Fiber Optic Splice Trays (cont.)

Ordering information – Splice Trays for Aerial Weathertight Fiber Optic Splice Closures

DESCRIPTION	MODEL NO.	AFL NO.	LG-410-U	LG-500-U	LG-600-U
Single Fuse: N/A Mass Fuse: 4 (48 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H) 	LL-4800	91711-07	**Max Trays: 3** Single: N/A Mass: 12 (144 fiber)	**Max Trays: 3** Single: N/A Mass: 12 (144 fiber)	**Max Trays: 8** Single: N/A Mass: 32 (384 fiber)

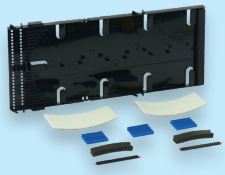
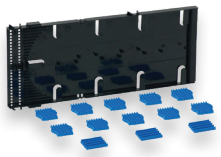
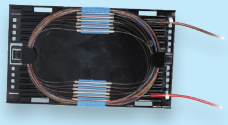
Ordering Information—Splice Trays for Fiber Optic Enclosures

DESCRIPTION	MODEL NO.	AFL NO.	LL-400B WITH INTERCONNECT	LL-400B WITHOUT INTERCONNECT	LL-400SX WITH 2 LGX® PLATES	LL-400SX WITHOUT LGX PLATES
Single Fuse: 24 Mass Fuse: 4 (48 fiber) Mechanical : 12 12.542" (L) x 4.270" (W) x 0.531" (H) 	LL-2448	911289-00-02	**Max Trays: 4** Single: 96 Mass: 16 (192 fiber) Mechanical: 48	**Max Trays: 6** Single: 144 Mass: 24 (288 fiber) Mechanical: 72	**Max Trays: 3** Single: 72 Mass: 12 (144 fiber) Mechanical: 36	**Max Trays: 9** Single: 216 Mass: 36 (432 fiber) Mechanical: 108
Single Fuse: 48 Mass Fuse: N/A 12.542" (L) x 4.270" (W) x 0.531" (H) 	LL-2448-48S	FA000045	**Max Trays: 4** Single: 192 Mass: N/A	**Max Trays: 6** Single: 288 Mass: N/A	**Max Trays: 3** Single: 144 Mass: N/A	**Max Trays: 9** Single: 432 Mass: N/A
Single Fuse: N/A Mass Fuse: 12 (144 fiber) 12.542" (L) x 4.270" (W) x 0.531" (H) 	LL-4848	911437-00-02	**Max Trays: 4** Single: N/A Mass: 48 (576 fiber)	**Max Trays: 6** Single: N/A Mass: 72 (864 fiber)	**Max Trays: 3** Single: N/A Mass: 36 (432 fiber)	**Max Trays: 9** Single: N/A Mass: 108 (1296 fiber)
Single Fuse: N/A Mass Fuse: 4 (48 fiber) 12.542" (L) x 4.270" (W) x 0.531 (H) 	LL-4800	91711-07	**Max Trays: 4** Single: N/A Mass: 16 (192 fiber)	**Max Trays: 6** Single: N/A Mass: 24 (288 fiber)	**Max Trays: 3** Single: N/A Mass: 12 (144 fiber)	**Max Trays: 9** Single: N/A Mass: 108 (1296 fiber)

continued

LightLink Fiber Optic Splice Trays (cont.)

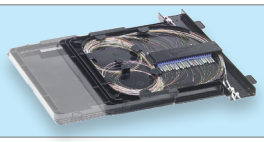
Ordering Information—Splice Trays for Fiber Optic Enclosures

DESCRIPTION	MODEL NO.	AFL NO.	LL-500	LL-580
Single Fuse: N/A Mass Fuse: 12 (144 fiber) 12.000" (L) x 5.125" (W) 0.485" (H) 	LL-7144	FA000043	N/A	**Max Trays: 2** Single: N/A Mass: 24 (288 fiber)
Single Fuse: 60 Mass Fuse: 12 (144) 12.000" (L) x 5.125" (W) 0.485" (H) 	LL-7644	FA000044	N/A	**Max Trays: 2** Single: 120 Mass: 24 (288 fiber)
Single Fuse: 12 Mass Fuse: N/A 7.139" (L) x 4.294" (W) x 0.370" (H) 	LL-2450	91957-00	**Max Trays: 5** Single: 60 Mass: N/A	N/A
Single Fuse: N/A Mass Fuse: 8 (96 fiber) 7.139" (L) x 4.294" (W) x 0.370" (H) 	LL-4850	91958-00	**Max Trays: 3** Single: N/A Mass: 24 (288 fiber)	N/A
Single Fuse: 36 Mass Fuse: 12 (144 fiber) 8.125" (L) x 4.875" (W) x 0.485" (H) 	LL-4808L-R	FA000037	N/A	**Max Trays: 2** Single: 72 Mass: 24 (288 fiber)

continued

LightLink Fiber Optic Splice Trays (cont.)

Ordering Information – Splice Tray for Splicing Cabinets and Shelves

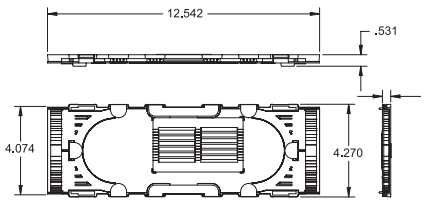
DESCRIPTION	MODEL NO.	AFL NO.
Telescoping Splice Tray - Stores up to 48 single fusion sleeves or 12 mass fusion sleeves (144 fibers). For use in the following products: LL-300, LL-288/576, LL-720/1440, OTSS-SYS1, OSS-SYS2 and OSS-SYS1 	STF-48	911442-00-00
FTTx Splice Tray - Stores up to 2 single fusion sleeves. For use in the following products: ONT-760XL, ONT-3000 and CG-1500 	—	DM000445
Bare Fiber Splice Tray - Stores up 24 single fusion fibers without sleeves. For use in the following products: Any product that accepts the LL-2400 splice tray 	—	C184190

Ordering Information—Splice Tray Accessories

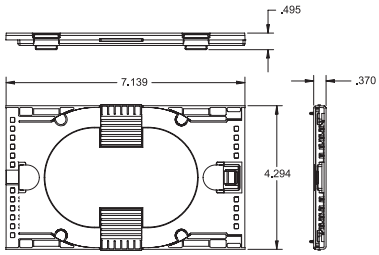
DESCRIPTION	AFL NO.
FP-40 Splice Protection Sleeves, 40 mm length (1000 box/100 pack)	S015916
FP-60 Splice Protection Sleeves, 60 mm length (1000 box/100 pack)	S015915
Single Fusion Splice Chip - 6 splices per chip. (10 pcs. per kit)	FA000034
Single Fusion Splice Chip - 12 splices per chip. (10 pcs. per kit)	FC000657
Single Fusion Splice Chip - 24 splices per chip. (10 pcs. per kit)	91745-02
Mass Fusion Splice Chip - 4 splices per chip. (10 pcs. per kit)	FA000088
Mechanical Fusion Splice Tape (10 pcs. per kit)	FA000089
Core Tube Cable Fiber Router for routing fiber up to 8 directions. For all central core tube sizes.	FC000008
Loose Tube or Ribbon Router for routing fiber up to 6 directions. For all Loose Tube and up to 12 fiber Ribbon.	FC000070

Dimensions

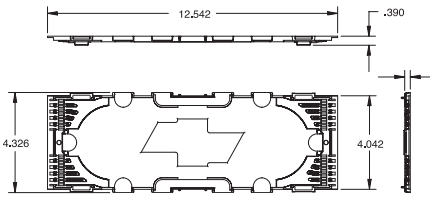
LL-2448 and LL-4848 Splice Trays



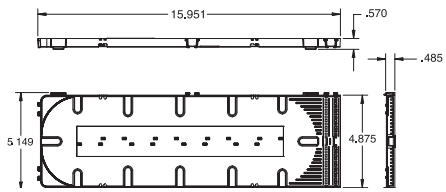
LL-1248, LL-2450 and LL-4850 Splice Trays



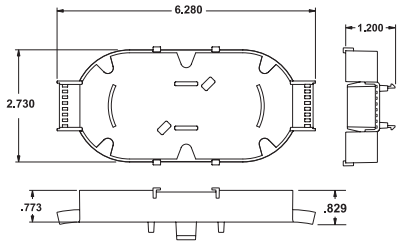
LL-2400 Splice Tray



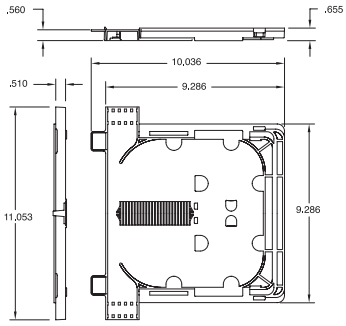
LL-4896 Splice Tray



LL-2425 Splice Tray



OEE Splice Tray



Fiber Storage Units

AFL Fiber Storage Units (FSU) are used to conveniently and safely store an extra length of cable along the support strand for later use. Furnished as pairs (kit contains two Fiber Storage Units and two sets of hanger brackets), these FSU's are constructed from either aluminum with a baked acrylic enamel finish or dielectric polypropylene with a UV inhibitor. All basic hardware for attachment to the support strand is provided. Strand mount support brackets meet Telcordia® specifications. Galvanized strand clamping devices accommodate 1/4" to 7/16" strand and meet ASTM specifications A153 and B695.

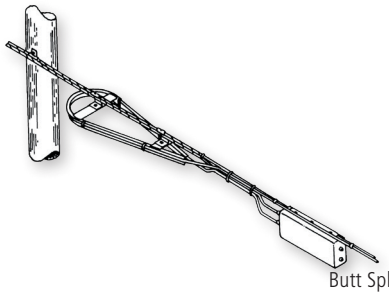
Features

- Small profile and side facing channel minimizes ice and leaf loading
- Metal versions feature an all aluminum construction with welded cross members and baked acrylic enamel paint finish with chromate pre-finish per MIL-6-5541-B
- Plastic versions feature thermoplastic polypropylene resin with carbon black UV inhibitor
- Basic hanging hardware (bolts, nuts, washers) and strand clamps all included
- Tie-wrap slots for securing cable from sliding
- Galvanized strand clamps accommodate 1/4" to 7/16" strand

Reserve Cable Storage

Specifications

Parameter	Metal (Aluminum)			Dielectric (Plastic)	
	FSU-12	FSU-16	FSU-18	FOSP-12-TMK	FOSP-17-TMK
Nom. Channel Width in. (cm)	0.92 (2.34)	1.12 (2.84)	1.75 (4.45)	0.63 (1.59)	0.95 (2.41)
Min. Bend Diameter in. (cm)	12 (30.48)	16 (40.64)	18 (45.72)	12.13 (30.80)	17.5 (44.45)



Butt Splice

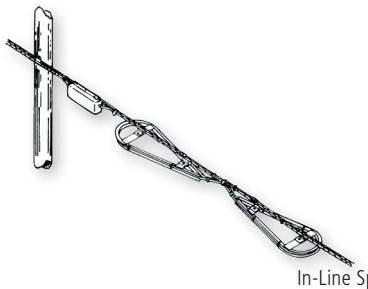
Ordering Information

Description	Metal (Aluminum)			Dielectric (Plastic)	
	FSU-12	FSU-16	FSU-18	FOSP-12-TMK	FOSP-17-TMK
FSU Kit	911108-00	911109-00	911110-00	FA000004	FA000002

Kits contain one pair of either FSU or FOSP and four mount brackets.

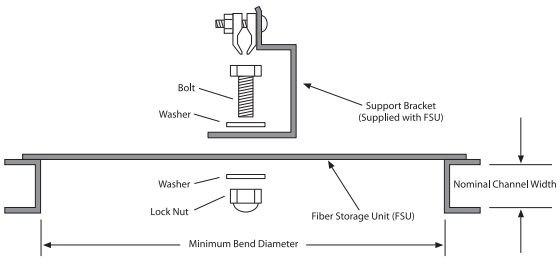
Qualifications

Governing Body	Standard Code
ASTM	ASTM A153, ASTM B695
Telcordia	MIL-6-5541-B



In-Line Splice

Hardware Diagram



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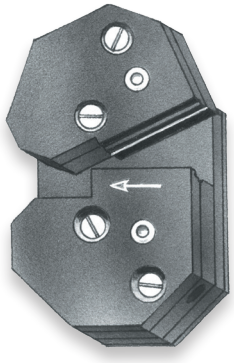


Sheath Stripper

The Fiber Optic Sheath Stripper is designed to longitudinally score the tight structure fiber units within certain AFL OPGW designs. A simple pull of the Sheath Stripper along the fiber unit ensures correct score depth allowing for easy removal of the overall unit sheath and access to the enclosed fibers. The reusable unit is easy to maintain and adjust. The kit includes the sheath stripper, replacement blades, adjustment tool, instructions and fiber unit samples for practice and blade adjustments.

Ordering Information

SHEATH SIZE (mm)	UNIT FIBER COUNT	AFL NO.
2.0	6 - 8	SSA2.0
2.5	10 - 12	SSA2.5

Note: For AlumaCore OPGW with a 12 fiber optical unit, order AFL number SSA2.5.

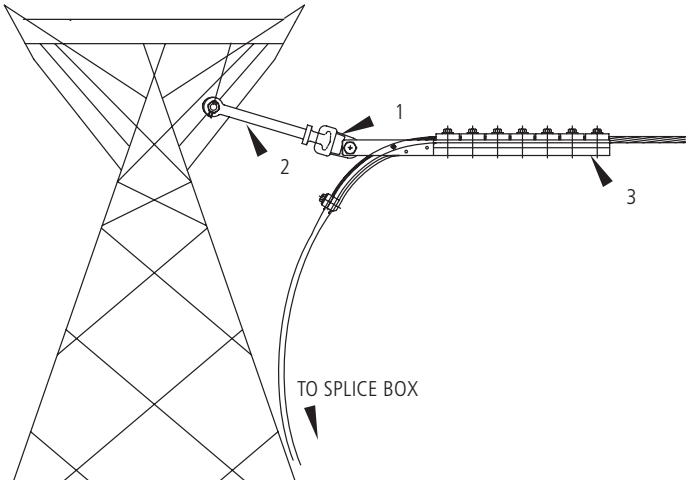
Stainless Steel Tube Cutter

AFL offers a Stainless Steel Tube cutter that is used to access the fiber in our stainless steel tubes. The compact design and hardened steel blades make this a durable, easy to use tool. The tool cuts 1/8" through 5/8" O.D. stainless steel tubes.

Ordering Information

DESCRIPTION	AFL NO.
Stainless Steel Tube Cutter	SSCUTTER

OPGW Single Dead End Lattice Tower Configuration Assemblies



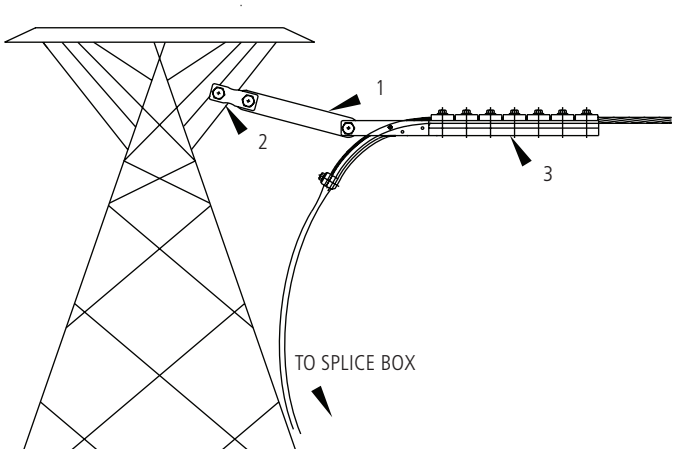
AFL NO.

OLTDE1 – **DNOXXXX**

Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Socket Eye	Galvanized Steel	SE-BDE	1	
2	Y-Clevis Ball Hot Link	Galvanized Steel	YCBHL	1	Pin Dia. = 0.75" (19 mm)
3	Bolted Dead End (Included)	Aluminum	Determined by AFL	1	



AFL NO.

OLTDE2 – **DNOXXXX**

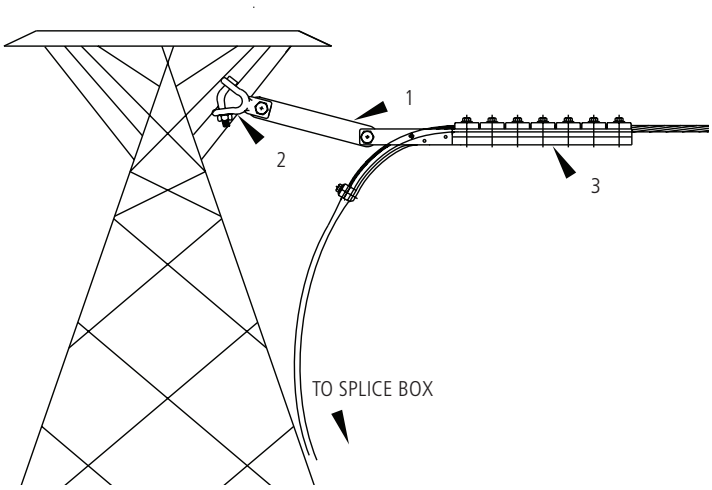
Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Link Plate	Aluminum	ODELP10	1	
2	Y-Clevis Clevis	Galvanized Steel	YCC	1	Pin Dia. = 0.75" (19 mm)
3	Bolted Dead End (Included)	Aluminum	Determined by AFL	1	

continued

OPGW Single Dead End Lattice Tower Configuration Assemblies (cont.)



AFL NO.

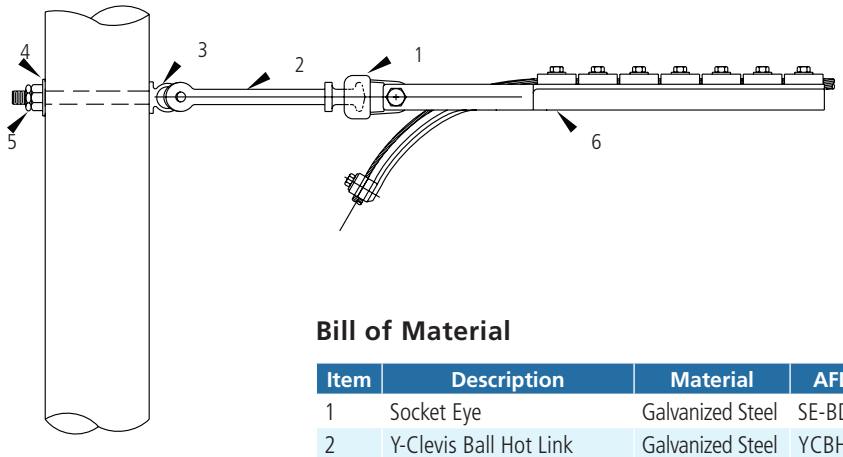
OLTDE3 – **DNOXXXX**

Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Link Plate	Aluminum	ODELP10	1	
2	Y-Clevis Clevis 90	Galvanized Steel	YCC-90	1	Pin Dia. = 0.75" (19 mm)
3	Bolted Dead End (Included)	Aluminum	Determined by AFL	1	

OPGW Single Dead End Wood Pole/H-Frame Configuration Assemblies

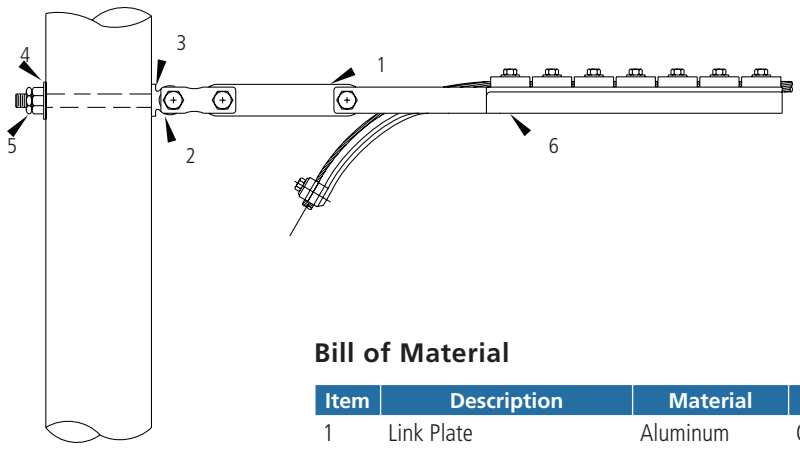


AFL NO.

OWPDE1	-	DNOXXXX
Assembly Code		Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Socket Eye	Galvanized Steel	SE-BDE	1	
2	Y-Clevis Ball Hot Link	Galvanized Steel	YCBHL	1	Pin Dia. = 0.75" (19 mm)
3	3/4" Shoulder Eye Bolt	Galvanized Steel	SEB-3/4-14	1	Length = 14"
4	3/4" Washer Nut	Galvanized Steel	WN-3/4	1	
5	3/4" MF Lock Nut	Galvanized Steel	LN-3/4	1	
6	Bolted Deadend (Included)	Aluminum	Determined by AFL	1	



AFL NO.

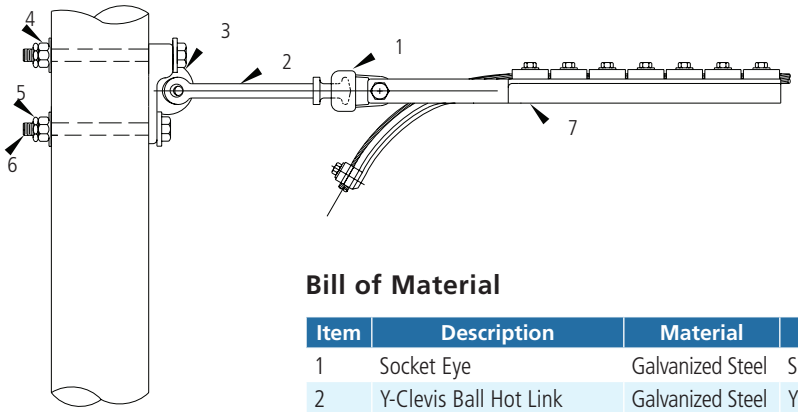
OWPDE2	-	DNOXXXX
Assembly Code		Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Link Plate	Aluminum	ODELP10	1	
2	Y-Clevis Clevis	Galvanized Steel	YCC	1	Pin Dia. = 0.75" (19 mm)
3	3/4" Shoulder Eye Bolt	Galvanized Steel	SEB-3/4-14	1	Length = 14"
4	3/4" Washer Nut	Galvanized Steel	WN-3/4	1	
5	3/4" MF Lock Nut	Galvanized Steel	LN-3/4	1	
6	Bolted Deadend (Included)	Aluminum	Determined by AFL	1	

continued

OPGW Single Dead End Wood Pole/H-Frame Configuration Assemblies (cont.)



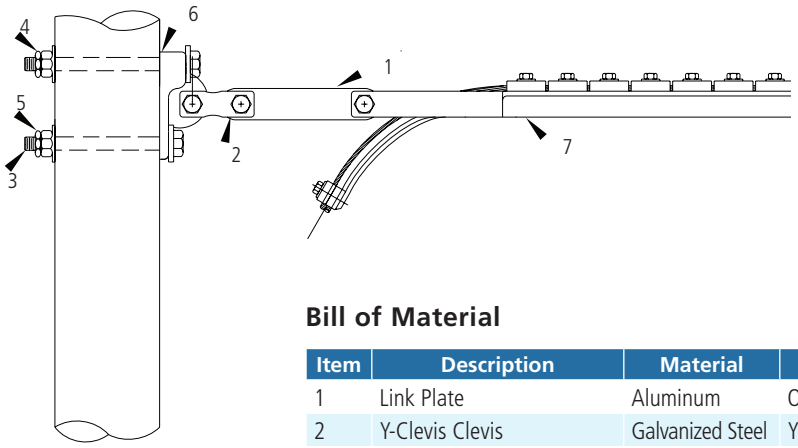
AFL NO.

OWPDE3 - **DNOXXXX**

Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Socket Eye	Galvanized Steel	SE-BDE	1	
2	Y-Clevis Ball Hot Link	Galvanized Steel	YCBHL	1	Pin Dia. = 0.75" (19 mm)
3	Eye Plate	Galvanized Steel	EP1	1	
4	3/4" Washer Nut	Galvanized Steel	WN-3/4	2	
5	3/4" MF Lock Nut	Galvanized Steel	LN-3/4	2	
6	3/4" MF Through Bolt	Galvanized Steel	TB-3/4-14	2	Length = 14"
7	Bolted Deadend (Included)	Aluminum	Determined by AFL	1	



AFL NO.

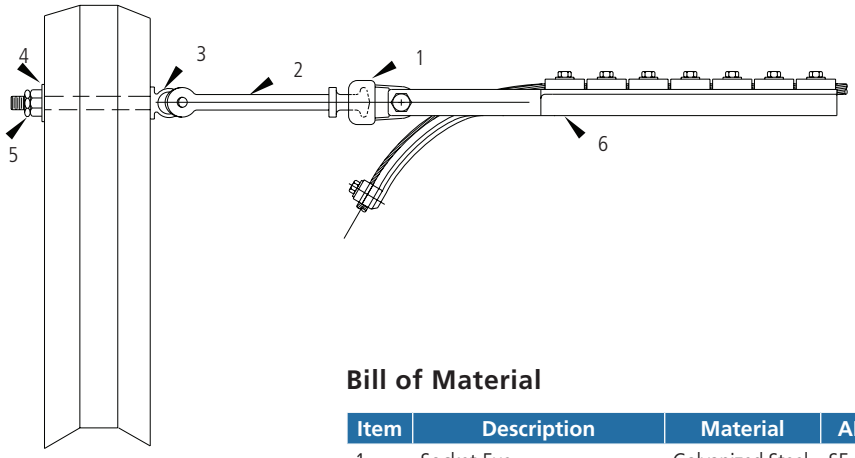
OWPDE4 - **DNOXXXX**

Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Link Plate	Aluminum	ODELP10	1	
2	Y-Clevis Clevis	Galvanized Steel	YCC	1	Pin Dia. = 0.75" (19 mm)
3	3/4" MF Through Bolt	Galvanized Steel	TB-3/4-14	2	Length = 14"
4	3/4" Washer Nut	Galvanized Steel	WN-3/4	2	
5	3/4" MF Lock Nut	Galvanized Steel	LN-3/4	2	
6	Eye Plate	Galvanized Steel	EP1	1	
7	Bolted Deadend (Included)	Aluminum	Determined by AFL	1	

OPGW Single Dead End Steel Pole/Drilled Configuration Assemblies

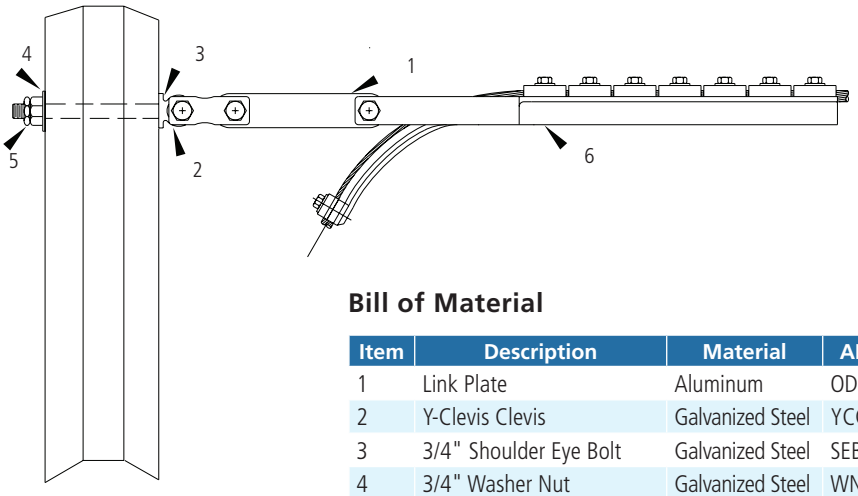


AFL NO.

OSPDE1	-	DNOXXXX
Assembly Code		Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Socket Eye	Galvanized Steel	SE-BDE	1	
2	Y-Clevis Ball Hot Link	Galvanized Steel	YCBHL	1	Pin Dia. = 0.75" (19 mm)
3	3/4" Shoulder Eye Bolt	Galvanized Steel	SEB-3/4-14	1	Length = 14"
4	3/4" Washer Nut	Galvanized Steel	WN-3/4	1	
5	3/4" MF Lock Nut	Galvanized Steel	LN-3/4	1	
6	Bolted Deadend (Included)	Aluminum	Determined by AFL	1	



AFL NO.

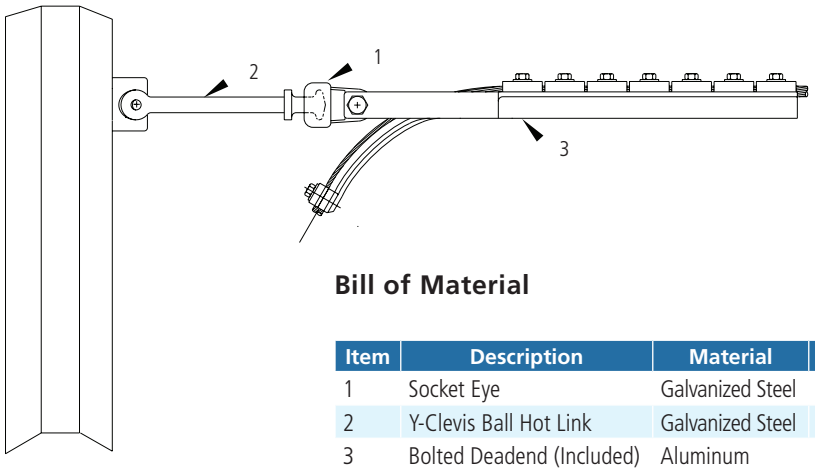
OSPDE2	-	DNOXXXX
Assembly Code		Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Link Plate	Aluminum	ODELP10	1	
2	Y-Clevis Clevis	Galvanized Steel	YCC	1	Pin Dia. = 0.75" (19 mm)
3	3/4" Shoulder Eye Bolt	Galvanized Steel	SEB-3/4-14	1	Length = 14"
4	3/4" Washer Nut	Galvanized Steel	WN-3/4	1	
5	3/4" MF Lock Nut	Galvanized Steel	LN-3/4	1	
6	Bolted Deadend (Included)	Aluminum	Determined by AFL	1	

continued

OPGW Single Dead End Steel Pole/Vang Configuration Assemblies



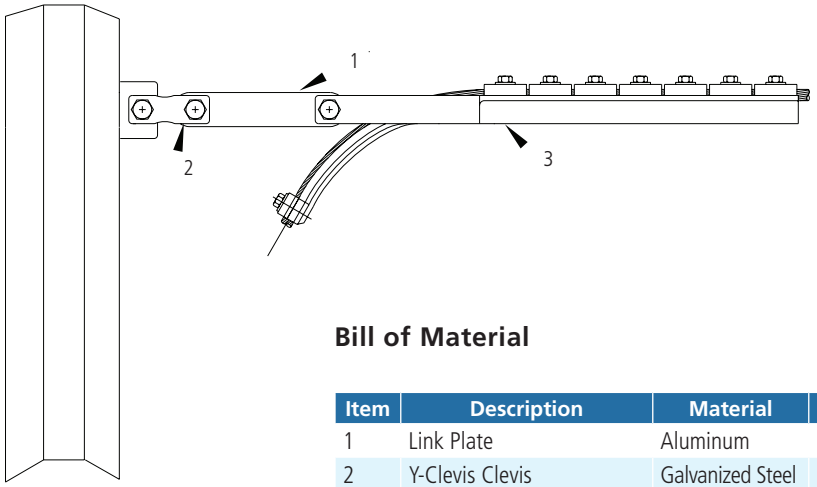
AFL NO.

OSPDE3 - **DNOXXXX**

Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Socket Eye	Galvanized Steel	SE-BDE	1	
2	Y-Clevis Ball Hot Link	Galvanized Steel	YCBHL	1	Pin Dia. = 0.75" (19 mm)
3	Bolted Deadend (Included)	Aluminum	Determined by AFL	1	



AFL NO.

OSPDE4 - **DNOXXXX**

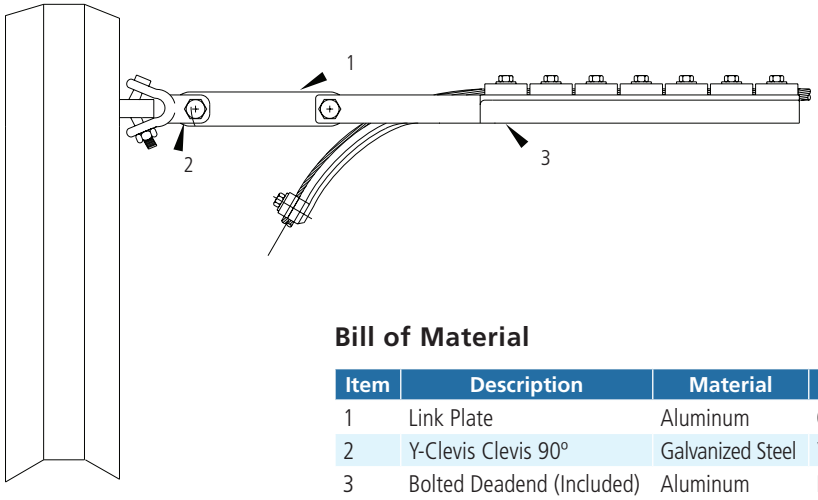
Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Link Plate	Aluminum	ODELP10	1	
2	Y-Clevis Clevis	Galvanized Steel	YCC	1	Pin Dia. = 0.75" (19 mm)
3	Bolted Deadend (Included)	Aluminum	Determined by AFL	1	

continued

OPGW Single Dead End Steel Pole/Vang Configuration Assemblies (cont.)



AFL NO.

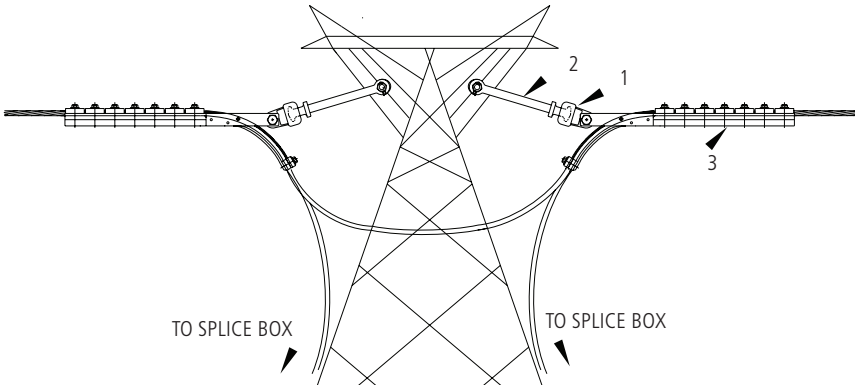
OSPDE5 - **DNOXXXX**

Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Link Plate	Aluminum	ODELP10	1	
2	Y-Clevis Clevis 90°	Galvanized Steel	YCC-90	1	Pin Dia. = 0.75" (19 mm)
3	Bolted Deadend (Included)	Aluminum	Determined by AFL	1	

OPGW Double Dead End Lattice Tower Configuration Assemblies



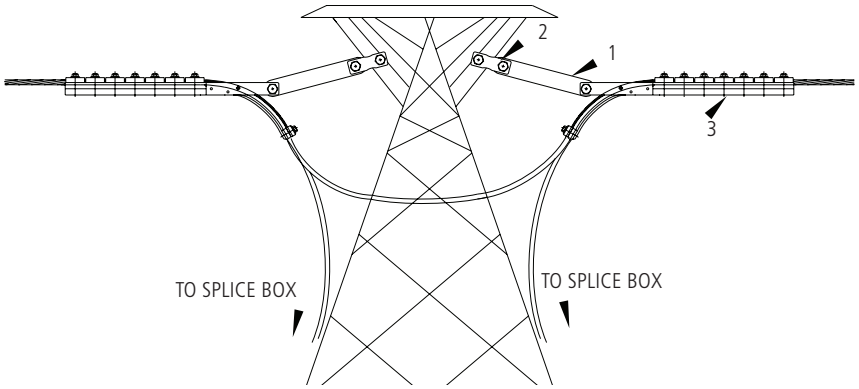
AFL NO.

OLTDD1 – **DNOXXXX**

Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Socket Eye	Galvanized Steel	SE-BDE	2	
2	Y-Clevis Ball Hot Link	Galvanized Steel	YCBHL	2	Pin Dia. = 0.75" (19 mm)
3	Bolted Dead End (Included)	Aluminum	Determined by AFL	2	



AFL NO.

OLTDD2 – **DNOXXXX**

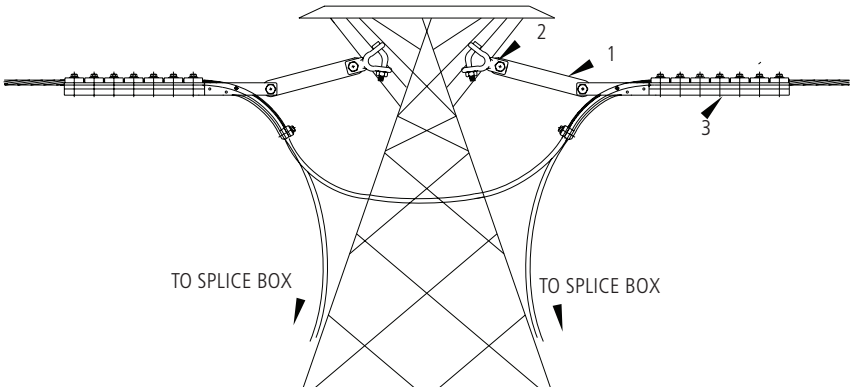
Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Link Plate	Aluminum	ODELP10	2	
2	Y-Clevis Clevis	Galvanized Steel	YCC	2	Pin Dia. = 0.75" (19 mm)
3	Bolted Dead End (Included)	Aluminum	Determined by AFL	2	

continued

OPGW Double Dead End Lattice Tower Configuration Assemblies (cont.)



AFL NO.

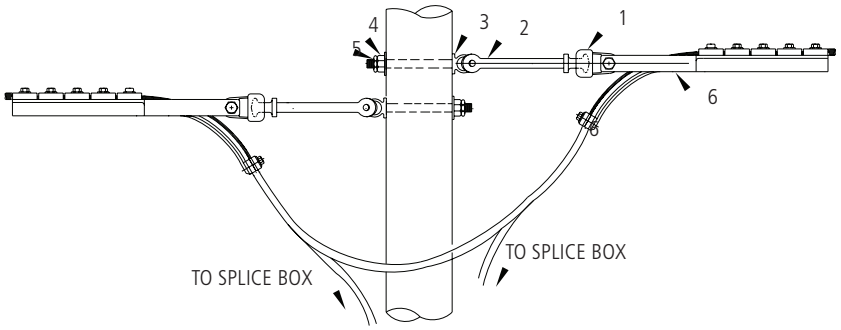
OLTDD3 – **DNOXXXX**

Assembly Code | **Cable Spec. Number**

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Link Plate	Aluminum	ODELP10	2	
2	Y-Clevis Clevis 90	Galvanized Steel	YCC-90	2	Pin Dia. = 0.75" (19 mm)
3	Bolted Dead End (Included)	Aluminum	Determined by AFL	2	

OPGW Double Dead End Wood Pole/H-Frame Configuration Assemblies



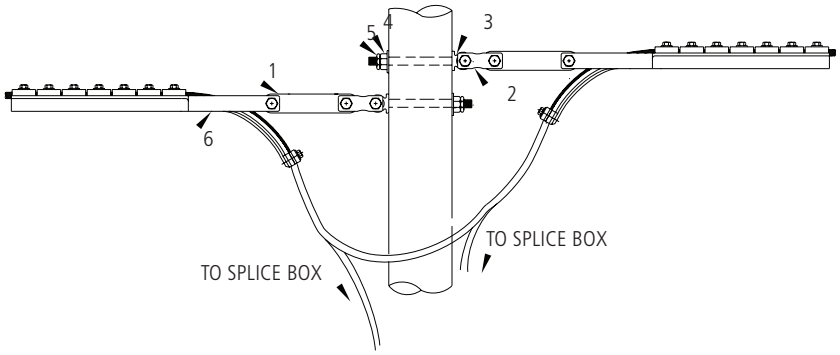
AFL NO.

OWPDD1 - **DNOXXXX**

Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Socket Eye	Galvanized Steel	SE-BDE	2	
2	Y-Clevis Ball Hot Link	Galvanized Steel	YCBHL	2	Pin Dia. = 0.75" (19 mm)
3	3/4" Shoulder Eye Bolt	Galvanized Steel	SEB-3/4-14	2	Length = 14"
4	3/4" Washer Nut	Galvanized Steel	WN-3/4	2	
5	3/4" MF Lock Nut	Galvanized Steel	LN-3/4	2	
6	Bolted Deadend (Included)	Aluminum	Determined by AFL	2	



AFL NO.

OWPDD2 - **DNOXXXX**

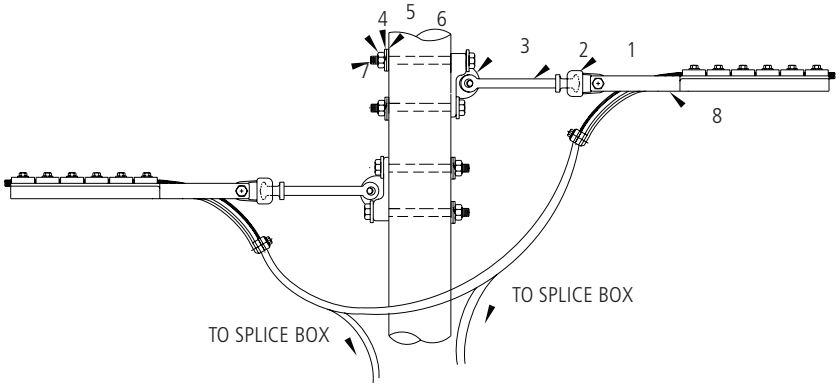
Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Link Plate	Aluminum	ODELP10	2	
2	Y-Clevis Clevis	Galvanized Steel	YCC	2	Pin Dia. = 0.75" (19 mm)
3	3/4" Shoulder Eye Bolt	Galvanized Steel	SEB-3/4-14	2	
4	3/4" Washer Nut	Galvanized Steel	WN-3/4	2	
5	3/4" MF Lock Nut	Galvanized Steel	LN-3/4	2	
6	Bolted Deadend (Included)	Aluminum	Determined by AFL	2	

continued

OPGW Double Dead End Wood Pole/H-Frame Configuration Assemblies (cont.)



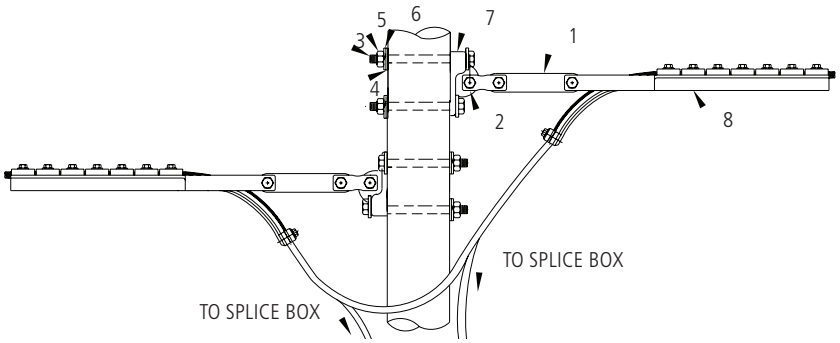
AFL NO.

OWPDD3 - **DNOXXXX**

Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Socket Eye	Galvanized Steel	SE-BDE	2	
2	Y-Clevis Ball Hot Link	Galvanized Steel	YCBHL	2	Pin Dia. = 0.75" (19 mm)
3	Eye Plate	Galvanized Steel	EP1	2	
4	3/4" Lock Washer Nut	Galvanized Steel	LW-3/4	4	
5	3/4" Nut	Galvanized Steel	HN-3/4	4	
6	3/4" Flat Washer	Galvanized Steel	FW -3/4	4	
7	3/4" Through Bolt	Galvanized Steel	TB-3/4-14	4	Length = 14"
8	Bolted Deadend (Included)	Aluminum	Determined by AFL	2	



AFL NO.

OWPDD4 - **DNOXXXX**

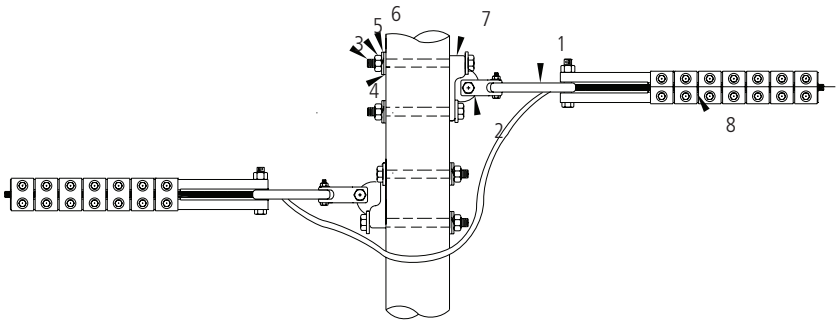
Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Link Plate	Aluminum	ODELP10	2	
2	Y-Clevis Clevis	Galvanized Steel	YCC	2	Pin Dia. = 0.75" (19 mm)
3	3/4" Through Bolt	Galvanized Steel	TB-3/4-14	4	Length = 14"
4	3/4" Flat Washer	Galvanized Steel	FN-3/4	4	
5	3/4" Nut	Galvanized Steel	HN-3/4	4	
6	3/4" Lock Washer	Galvanized Steel	LW-3/4	4	
7	Eye Plate	Galvanized Steel	EP1	2	
8	Bolted Deadend (Included)	Aluminum	Determined by AFL	2	

continued

OPGW Double Dead End Wood Pole/H-Frame Configuration Assemblies (cont.)



AFL NO.

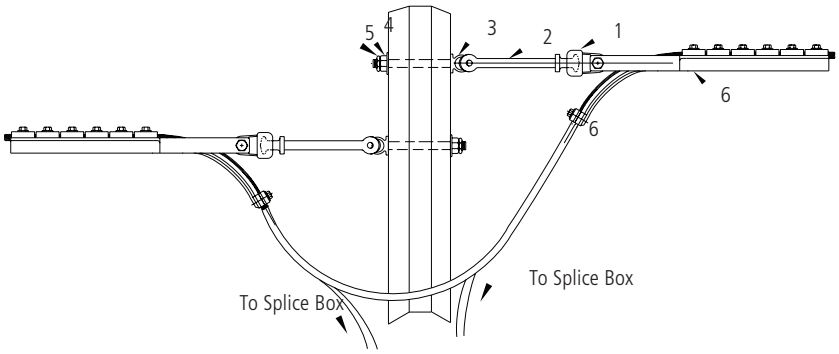
OWPDD5 - **DNOXXXX**

Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Link Plate	Aluminum	ODELP10	2	
2	Y-Clevis Clevis 90°	Galvanized Steel	YCC-90	2	Pin Dia. = 0.75" (19 mm)
3	3/4" Through Bolt	Galvanized Steel	TB-3/4-14	4	Length = 14"
4	3/4" Flat Washer	Galvanized Steel	FN-3/4	4	
5	3/4" Nut	Galvanized Steel	HN-3/4	4	
6	3/4" Lock Washer	Galvanized Steel	LW-3/4	4	
7	Eye Plate	Galvanized Steel	EP1	2	
8	Bolted Deadend (Included)	Aluminum	Determined by AFL	2	

OPGW Double Dead End Steel Pole/Drilled Configuration Assemblies



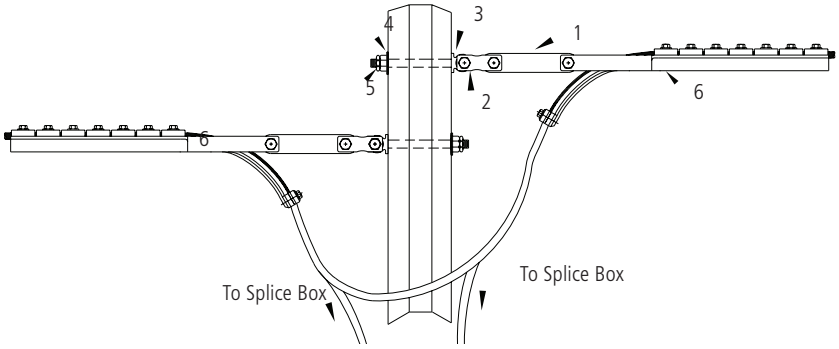
AFL NO.

OSPDD1 - **DNOXXXX**

Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Socket Eye	Galvanized Steel	SE-BDE	2	
2	Y-Clevis Ball Hot Link	Galvanized Steel	YCBHL	2	Pin Dia. = 0.75" (19 mm)
3	3/4" Shoulder Eye Bolt	Galvanized Steel	SEB-3/4-14	2	
4	3/4" Washer Nut	Galvanized Steel	WN-3/4	2	
5	3/4" MF Lock Nut	Galvanized Steel	LN-3/4	2	
6	Bolted Deadend (Included)	Aluminum	Determined by AFL	2	



AFL NO.

OSPDD2 - **DNOXXXX**

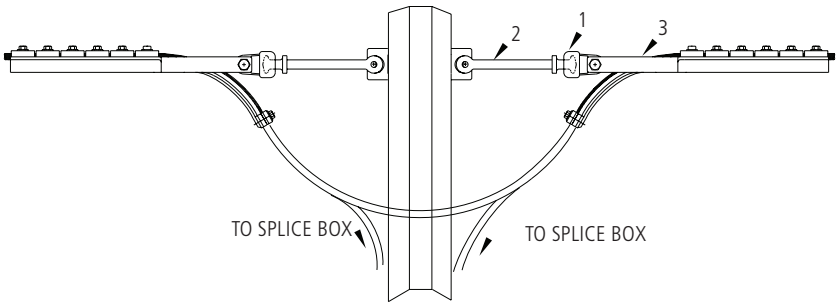
Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Link Plate	Aluminum	ODELP10	2	
2	Y-Clevis Clevis	Galvanized Steel	YCC	2	Pin Dia. = 0.75" (19 mm)
3	3/4" Shoulder Eye Bolt	Galvanized Steel	SEB-3/4-14	2	
4	3/4" Washer Nut	Galvanized Steel	WN-3/4	2	
5	3/4" MF Lock Nut	Galvanized Steel	LN-3/4	2	
6	Bolted Deadend (Included)	Aluminum	Determined by AFL	2	

continued

OPGW Double Dead End Steel Pole/Vang Configuration Assemblies



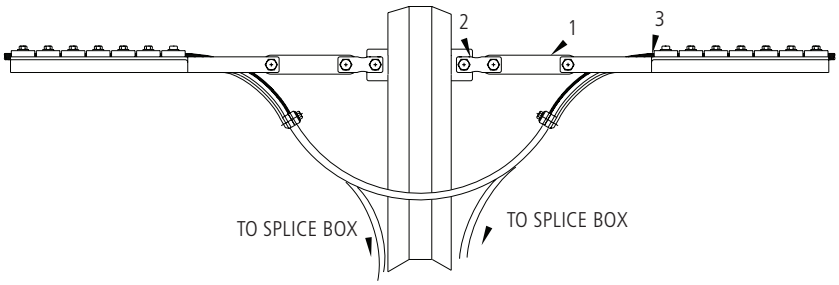
AFL NO.

OSPDD3 - **DNOXXXX**

Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Socket Eye	Galvanized Steel	SE-BDE	2	
2	Y-Clevis Ball Hot Link	Galvanized Steel	YCBHL	2	Pin Dia. = 0.75" (19 mm)
3	Bolted Deadend (Included)	Aluminum	Determined by AFL	2	



AFL NO.

OSPDD4 - **DNOXXXX**

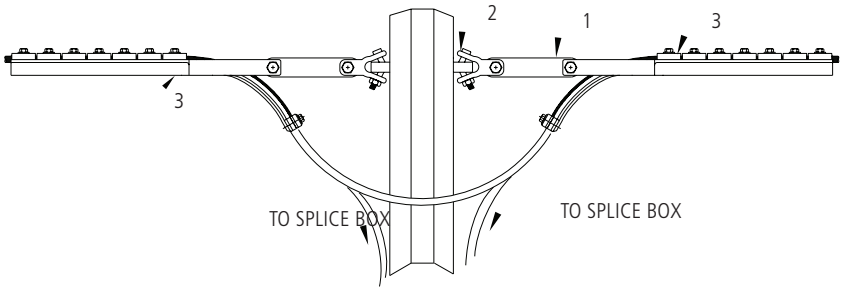
Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Link Plate	Aluminum	ODELP10	2	
2	Y-Clevis Clevis	Galvanized Steel	YCC	2	Pin Dia. = 0.75" (19 mm)
3	Bolted Deadend (Included)	Aluminum	Determined by AFL	2	

continued

OPGW Double Dead End Steel Pole/Vang Configuration Assemblies (cont.)



AFL NO.

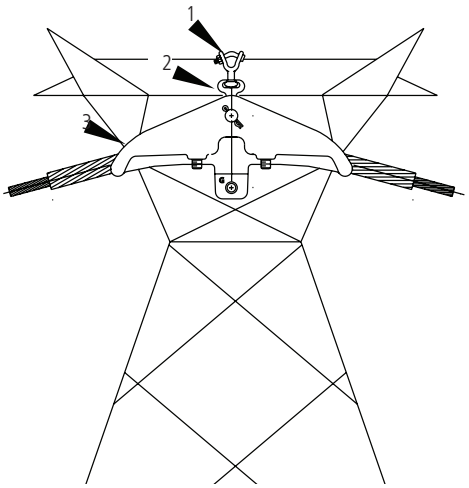
OSPDD5 - **DNOXXXX**

Assembly Code | Cable Spec. Number

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Link Plate	Aluminum	ODELP10	2	
2	Y-Clevis Clevis 90°	Galvanized Steel	YCC-90	2	Pin Dia. = 0.75" (19 mm)
3	Bolted Deadend (Included)	Aluminum	Determined by AFL	2	

OPGW Single Suspension Lattice Tower Configuration Assemblies



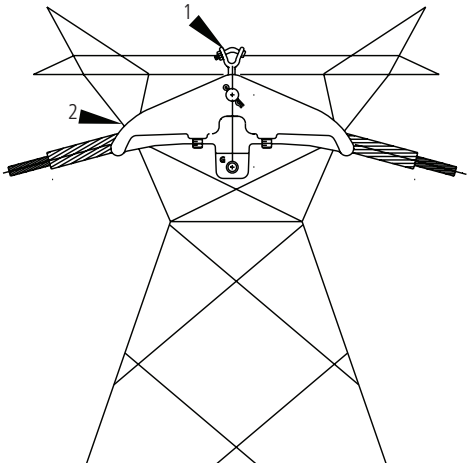
AFL NO.

OLTSP1 – **XXX/XXX**

Assembly Code — SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Y-Clevis Ball	Galvanized Steel	YCBS	1	Pin Dia. = 0.75" (19 mm)
2	Socket Eye	Galvanized Steel	SE-SC	1	
3	Suspension Clamp Assembly (Included)	Aluminum	SUME XXX/XXX	1	



AFL NO.

OLTSP2 – **XXX/XXX**

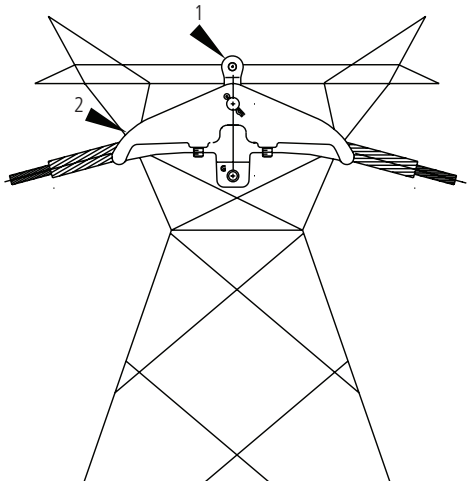
Assembly Code — SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Y-Clevis Eye 90°	Galvanized Steel	YC90E-750-1750	1	Pin Dia. = 0.75" (19 mm)
2	Suspension Clamp Assembly (Included)	Aluminum	SUME XXX/XXX	1	

continued

OPGW Single Suspension Lattice Tower Configuration Assemblies (cont.)



AFL NO.

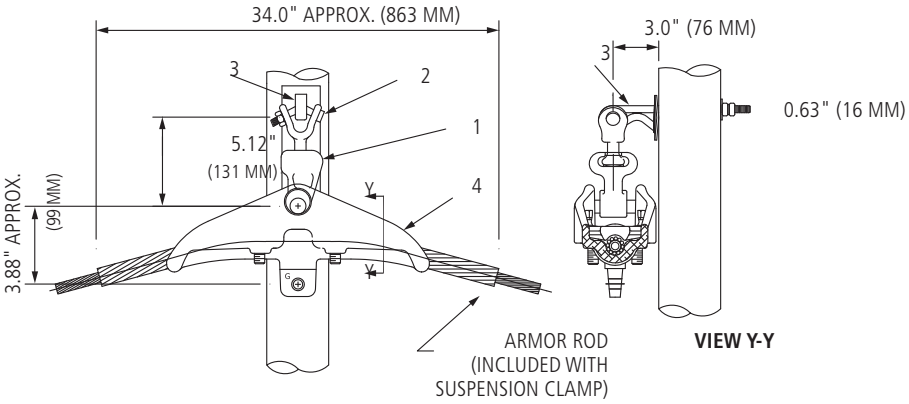
OLTSP3 – **XXX/XXX**

Assembly Code | SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Y-Clevis Eye	Galvanized Steel	YCE-690-1125	1	Pin Dia. = 0.75" (19 mm)
2	Suspension Clamp Assembly (Included)	Aluminum	SUME XXX/XXX	1	

OPGW Single Suspension Wood Pole/H-Frame Configuration Assemblies

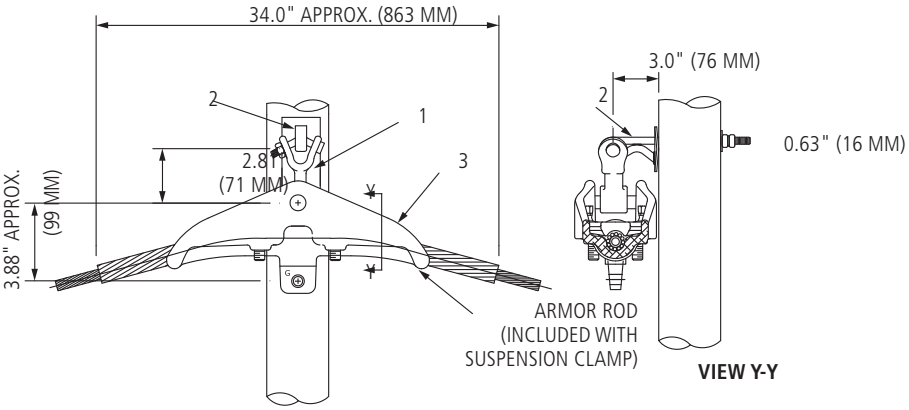


AFL NO.

OWPSP1	-	XXX/XXX
Assembly Code		SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Socket Eye	Galvanized Steel	SE-SC	1	
2	Y-Clevis Ball	Galvanized Steel	YCBS	1	Pin Dia. = 0.75" (19 mm)
3	Shield Wire Support Bracket	Galvanized Steel	SFOSB-WP-14	1	14" Bolt, 0.63" (16 mm) Dia.
4	Suspension Clamp Assembly (included)	Aluminum	SUME XXX/XXX	1	



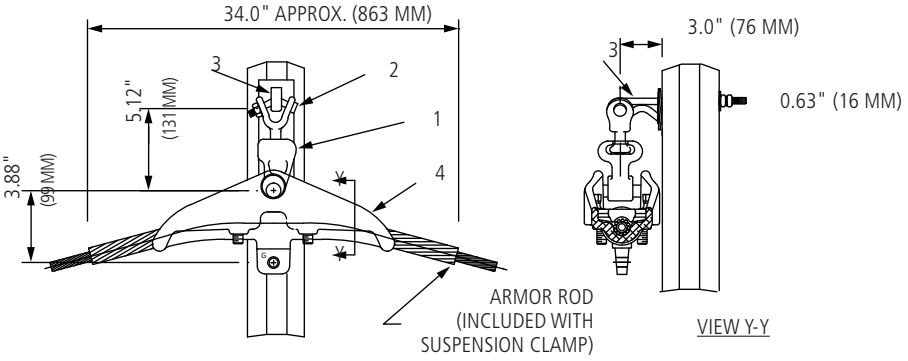
AFL NO.

OWPSP2	-	XXX/XXX
Assembly Code		SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Y-Clevis Eye 90°	Galvanized Steel	YC90E-750-1750	1	Pin Dia. = 0.75" (19 mm)
2	Shield Wire Support Bracket	Galvanized Steel	SFOSB-WP-14	1	14" Bolt, 0.63" (16 mm) Dia.
3	Susp. Damp Assembley (included)	Aluminum	SUME XXX/XXX	1	

OPGW Single Suspension Steel Pole/Drilled Configuration Assembly

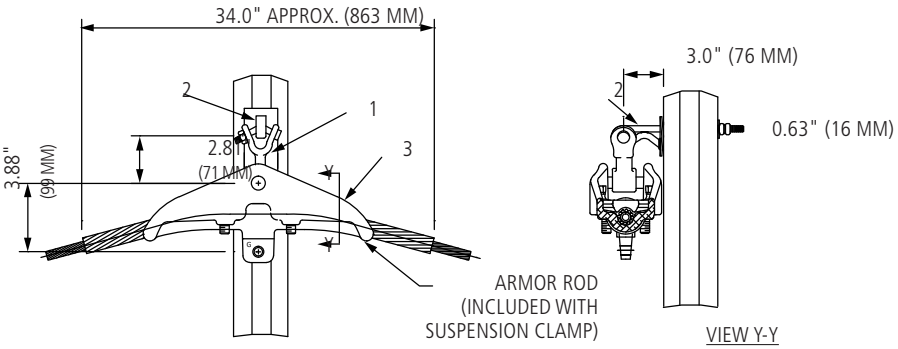


AFL NO.

OSPSP1	-	XXX/XXX
Assembly Code		SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Socket Eye	Galvanized Steel	SE-SC	1	
2	Y-Clevis Ball	Galvanized Steel	YCBS	1	Pin Dia. = 0.75" (19 mm)
3	Shield Wire Support Bracket	Galvanized Steel	SFOSB-WP-14	1	14" Bolt, 0.63" (16 mm) Dia.
4	Suspension Clamp Assembly (Included)	Aluminum	SUME XXX/XXX	1	



AFL NO.

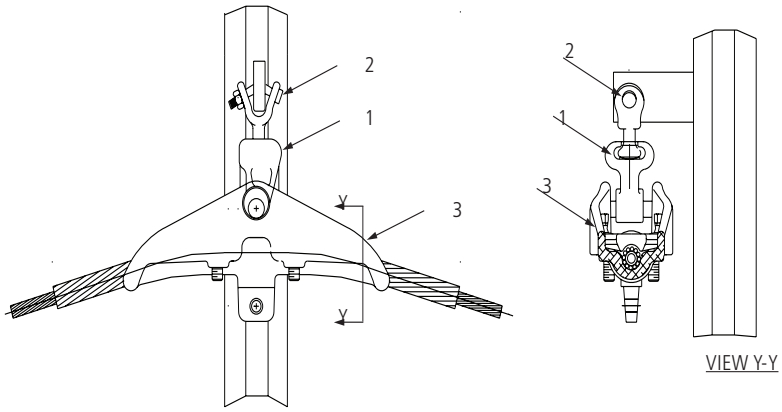
OSPSP2	-	XXX/XXX
Assembly Code		SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Y-Clevis Eye 90°	Galvanized Steel	YC90E-750-1750	1	Pin Dia. = 0.75" (19 mm)
2	Shield Wire Support Bracket	Galvanized Steel	SFOSB-WP-14	1	14" Bolt, 0.63" (16 mm) Dia.
3	Suspension Clamp Assembly (Included)	Aluminum	SUME XXX/XXX	1	

continued

OPGW Single Suspension Steel Pole/Vang Configuration Assemblies

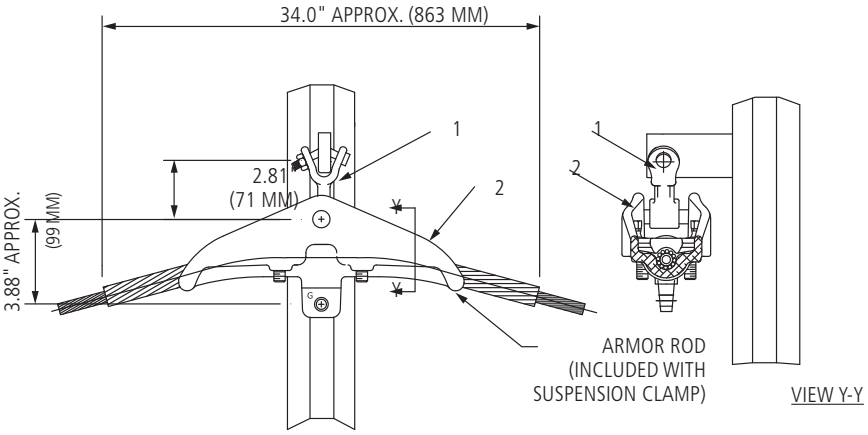


AFL NO.

OSPSP3	-	XXX/XXX
Assembly Code		SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Socket Eye	Galvanized Steel	SE-SC	1	
2	Y-Clevis Ball	Galvanized Steel	YCBS	1	Pin Dia. = 0.75" (19 mm)
3	Suspension Clamp Assembly (Included)	Aluminum	SUME XXX/XXX	1	



AFL NO.

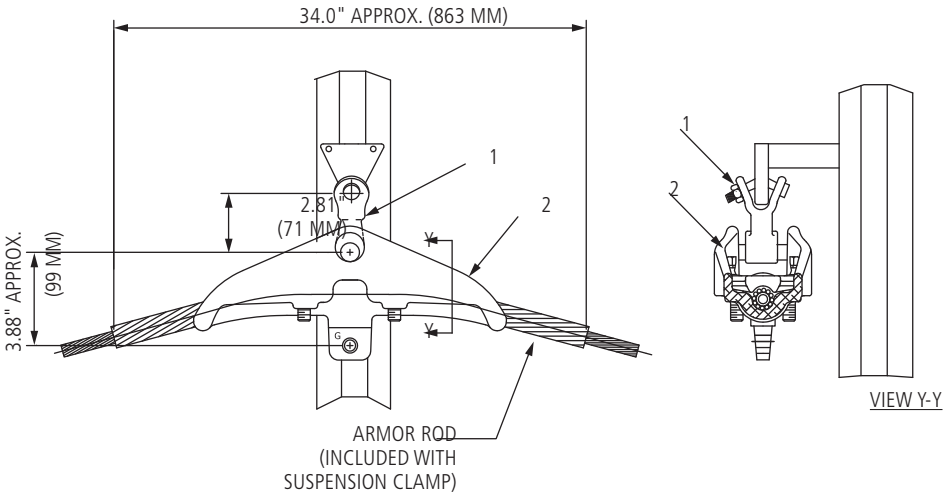
OSPSP4	-	XXX/XXX
Assembly Code		SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Y-Clevis Eye 90°	Galvanized Steel	YC90E-750-1750	1	Pin Dia. = 0.75" (19 mm)
2	Suspension Clamp Assembly (Included)	Aluminum	SUME XXX/XXX	1	

continued

OPGW Single Suspension Steel Pole/Vang Configuration Assemblies (cont.)

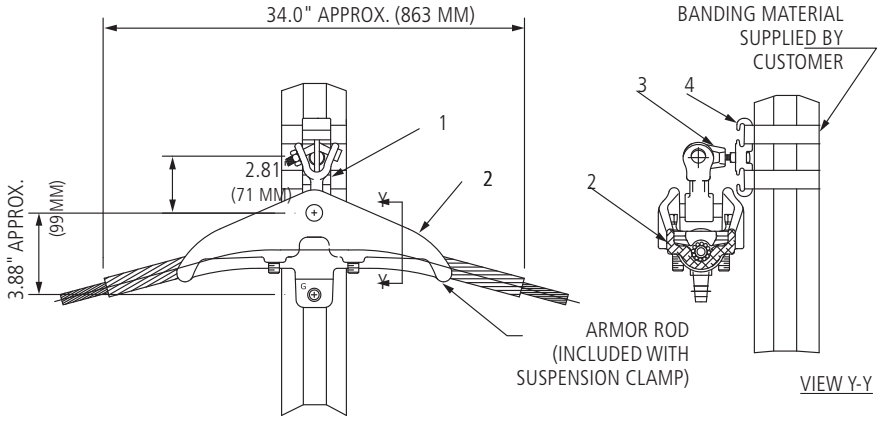


AFL NO.

OSPSP5	-	XXX/XXX
Assembly Code		SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Y-Clevis Eye	Galvanized Steel	YCE-690-1125	1	Pin Dia. = 0.75" (19 mm)
2	Suspension Clamp Assembly (Included)	Aluminum	SUME XXX/XXX	1	



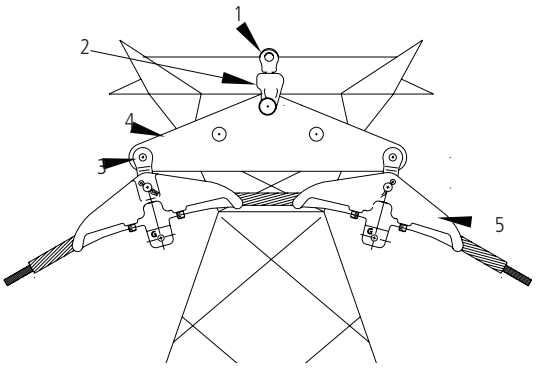
AFL NO.

OSPSP6	-	XXX/XXX
Assembly Code		SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Y-Clevis Eye 90°	Galvanized Steel	YC90E-750-1750	1	Pin Dia. = 0.75" (19mm)
2	Suspension Clamp Assembly (Included)	Aluminum	SUME XXX/XXX	1	
3	Eye Bolt	Galvanized Steel			
4	Banding Adaptor	Aluminum			

OPGW Double Suspension Lattice Tower Configuration Assemblies

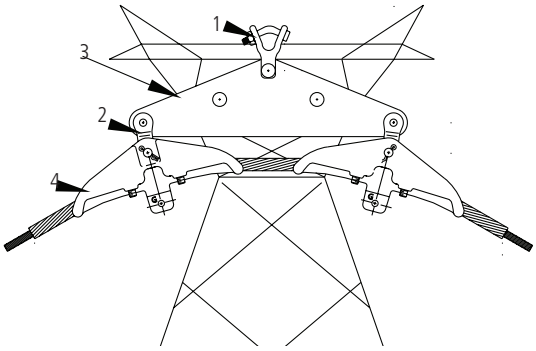


AFL NO.

OLTSS1	–	XXX/XXX
Assembly Code		SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Y-Clevis Ball	Galvanized Steel	YCBS	1	Pin Dia. = 0.75" (19 mm)
2	Socket Clevis	Galvanized Steel	SC-YP	1	
3	Clevis Eye	Galvanized Steel	CE-SC	2	
4	Yoke Plate	Galvanized Steel	SUMEYP	1	
5	Double Suspension (included)	Aluminum	ODSME XXX/XXX	1	



AFL NO.

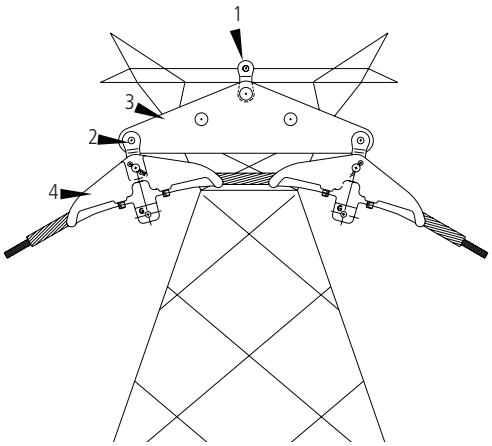
OLTSS2	–	XXX/XXX
Assembly Code		SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Y-Clevis Clevis 90°	Galvanized Steel	YCC-90	1	Pin Dia. = 0.75" (19 mm)
2	Clevis Eye	Alum./Gal. Steel	CE-SC	2	
3	Yoke Plate	Alum./Gal. Steel	SUMEYP	1	
4	Double Suspension (included)	Alum./Gal. Steel	ODSME XXX/XXX	1	

continued

OPGW Double Suspension Lattice Tower Configuration Assemblies (cont.)



AFL NO.

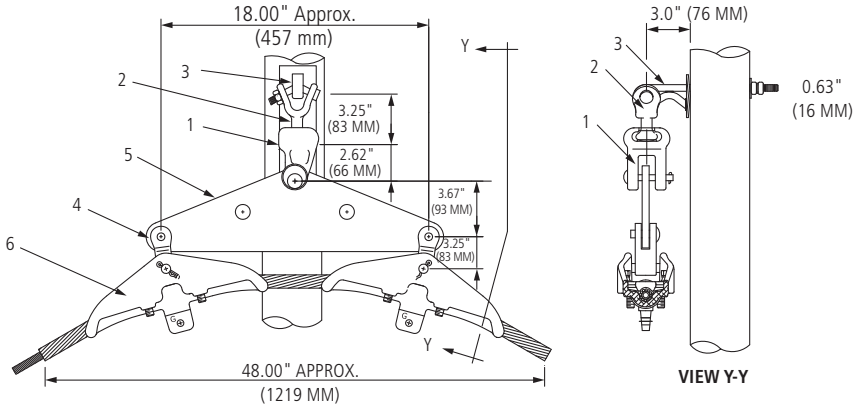
OLTSS3 – **XXX/XXX**

Assembly Code — SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Y-Clevis Clevis	Galvanized Steel	YCC	1	Pin Dia. = 0.75" (19 mm)
2	Clevis Eye	Galvanized Steel	CE-SC	2	
3	Yoke Plate	Galvanized Steel	SUMEYP	1	
4	Double Suspension (included)	Aluminum	ODSME XXX/XXX	1	

OPGW Double Suspension Wood Pole/H-Frame Configuration Assemblies

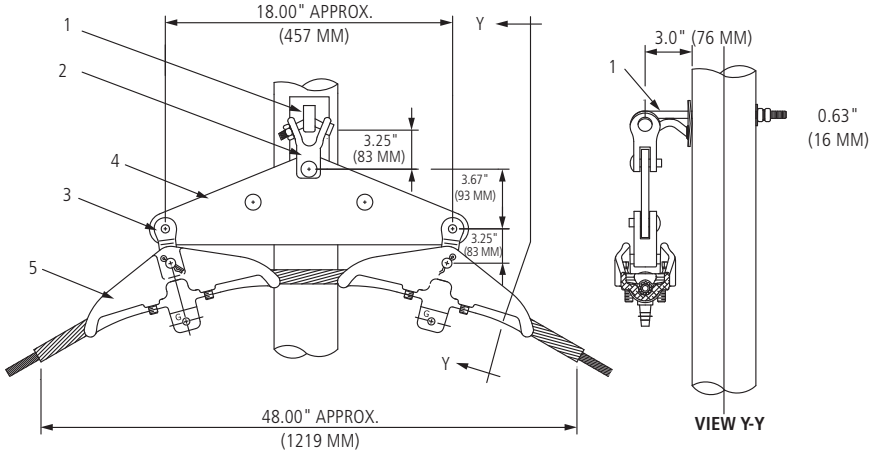


AFL NO.

OWPSS1	-	XXX/XXX
Assembly Code		SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Socket Clevis	Galvanized Steel	SC-YP	1	
2	Y-Clevis Ball	Galvanized Steel	YCBS	1	Pin Dia. = 0.75" (19 mm)
3	Shield Wire Support Bracket	Galvanized Steel	SFOSB-WP-14	1	14" Bolt, 0.63" (16 mm) Dia.
4	Clevis Eye	Galvanized Steel	CE-SC	2	
5	Yoke Plate	Galvanized Steel	SUMEYP	1	
6	Double Suspension (incl.)	Aluminum	ODSME XXX/XXX	1	



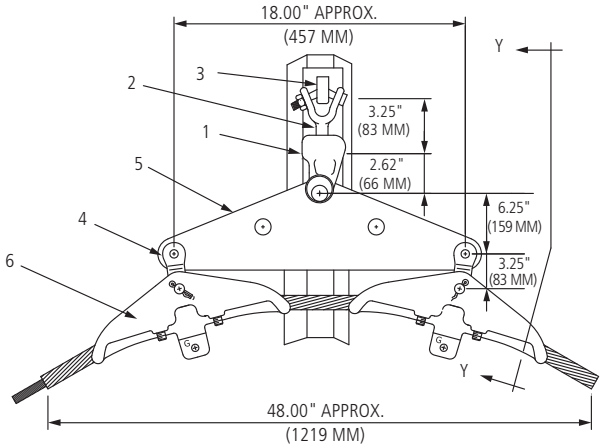
AFL NO.

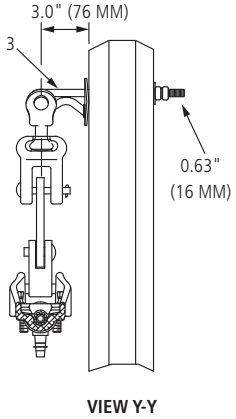
OWPSS2	-	XXX/XXX
Assembly Code		SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Shield Wire Support Bracket	Galvanized Steel	SFOSB-WP-14	1	14" Bolt, 0.63" (16 mm) Dia.
2	Y-Clevis Clevis 90°	Galvanized Steel	YCC-90	1	Pin Dia. = 0.75" (19 mm)
3	Clevis Eye	Galvanized Steel	CE-SC	2	
4	Yoke Plate	Galvanized Steel	SUMEYP	1	
5	Double Suspension (Included)	Aluminum	ODSME XXX/XXX	1	

OPGW Double Suspension Steel Pole/Drilled Configuration Assembly





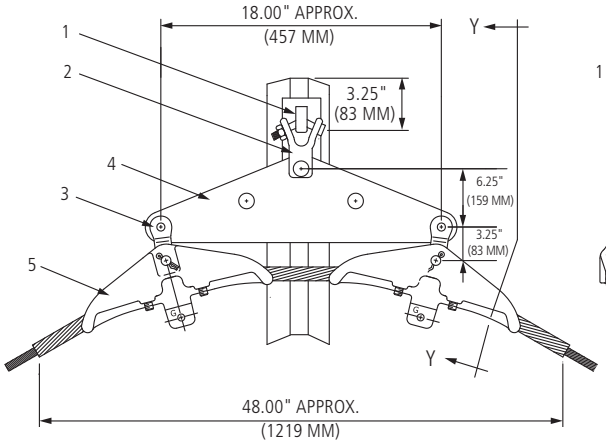
VIEW Y-Y

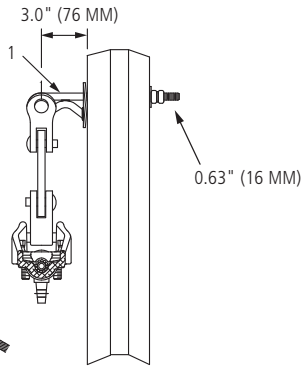
AFL NO.

OSPSS1	-	XXX/XXX
Assembly Code		SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Socket Clevis	Galvanized Steel	SC-YP	1	
2	Y-Clevis Ball	Galvanized Steel	YCBS	1	Pin Dia. = 0.75" (19 mm)
3	Shield Wire Support Bracket	Galvanized Steel	SFOSB-WP-14	1	14" Bolt, 0.63" (16 mm) Dia.
4	Clevis Eye	Galvanized Steel	CE-SC	2	
5	Yoke Plate	Galvanized Steel	SUMEYP	1	
6	Double Suspension (incl.)	Aluminum	ODSME XXX/XXX	1	





VIEW Y-Y

AFL NO.

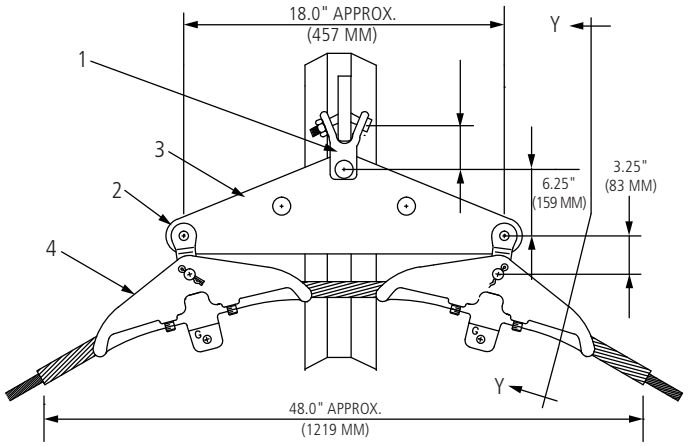
OSPSS2	-	XXX/XXX
Assembly Code		SUME Range Code

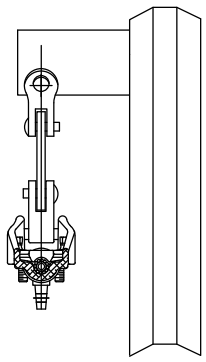
Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Shield Wire Support Bracket	Galvanized Steel	SFOSB-WP-14	1	14" Bolt, 0.63" (16 mm) Dia.
2	Y-Clevis Clevis 90°	Galvanized Steel	YCC-90	1	Pin Dia. = 0.75" (19 mm)
3	Clevis Eye	Galvanized Steel	CE-SC	2	
4	Yoke Plate	Galvanized Steel	SUMEYP	1	
5	Double Suspension (incl.)	Aluminum	ODSME XXX/XXX	1	

continued

OPGW Double Suspension Steel Pole/Vang Configuration Assembly





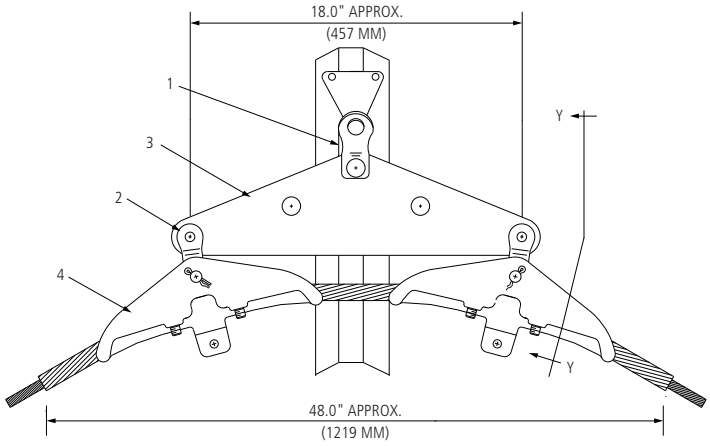
VIEW Y-Y

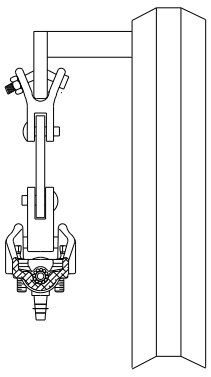
AFL NO.

OSPSS4	-	XXX/XXX
Assembly Code		SUME Range Code

Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Y-Clevis Clevis 90°	Galvanized Steel	YCC-90	1	Pin Dia. = 0.75" (19 mm)
2	Clevis Eye	Galvanized Steel	CE-SC	2	
3	Yoke Plate	Galvanized Steel	SUMEYP	1	
4	Double Suspension (incl.)	Aluminum	ODSME XXX/XXX	1	





VIEW Y-Y

AFL NO.

OSPSS5	-	XXX/XXX
Assembly Code		SUME Range Code

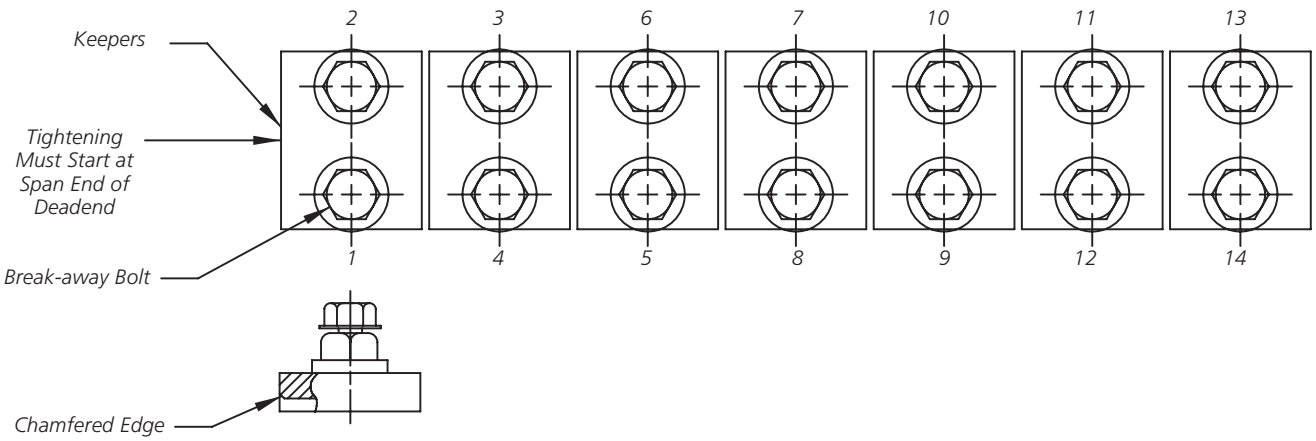
Bill of Material

Item	Description	Material	AFL or Dwg. No.	Req'd	Remarks
1	Y-Clevis Clevis	Galvanized Steel	YCC	1	Pin Dia. = 0.75" (19 mm)
2	Clevis Eye	Galvanized Steel	CE-SC	2	
3	Yoke Plate	Galvanized Steel	SUMEYP	1	
4	Double Suspension (incl.)	Aluminum	ODSME XXX/XXX	1	

Installation Instructions for OPGW Bolted Dead End

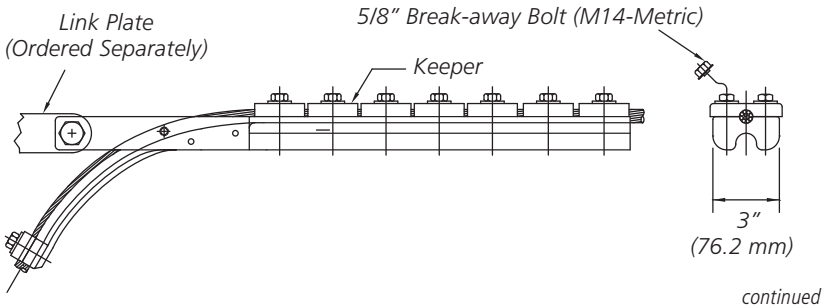
Procedure

1. Disassemble dead end. Remove one bolt from the same side of each keeper. Loosen other bolts to permit conductor to be placed in the conductor groove. If keepers and bolts are removed completely, care must be taken to return the keeper closest to the span end of the dead end to its original position (chamfered edge towards span). Remove clevis hardware.
2. Straighten conductor removing set caused by reel.
3. Place conductor into groove and install dead end keepers with washers break-away bolts.
4. Care should be taken during installation to maintain the keepers squarely on the conductor with equal clearance on both sides of conductor.
5. Starting at the span end of the dead end, follow the tightening sequence shown below, tighten all bolts to approximately 5 ft.-lbs. (7 Nm for metric). Repeat to approximately 25 ft.-lbs. (33 Nm for metric). Then final pass until break-away head breaks off. The sequential pattern is set up to equalize the load in each bolt and to prevent the deadend keepers from cocking to one side during installation.



6. If cable guide is not supplied, proceed to step 8. Cable guide, if used, is provided to insure that minimum bending radius of OPGW is not violated. Care should be exercised to avoid undue stress on cable guide. Note: cable guide is not a structural member and adds nothing to the holding strength of the clamp. Train conductor to make it bottom along the cable guide groove. This is important to assure clearance for the link plate/connecting hardware.
7. After placing OPGW into cable guide groove, install cable guide keeper with lockwashers and green break-away bolts alternately tightening bolts by 2 ft.-lbs. Repeat until break-away head breaks off. Care should be taken during installation to maintain the keeper squarely on the conductor with equal clearance on both sides of conductor.
8. Install connecting hardware with dead end clevis bolt. Check for clearance with OPGW.
9. If re-installation is necessary, bolts should be torqued according to the chart below. Installation with a torque wrench must be performed when break-away bolt is not present.

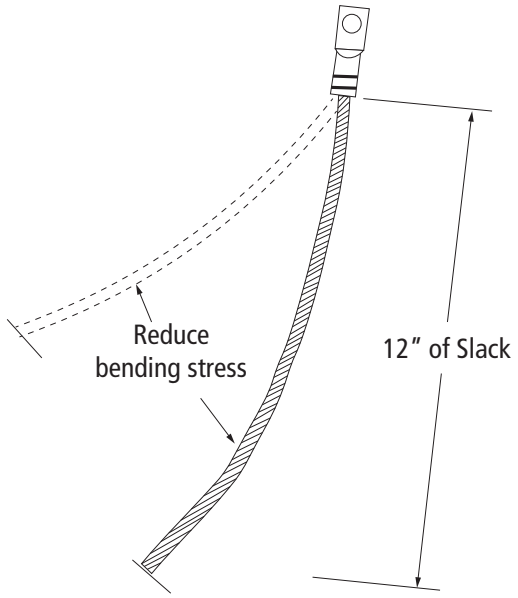
BOLT SIZE (IN.)	BOLT COLOR	BREAK-AWAY TORQUE (FT-LBS.)
1/2	Black	27-32
5/8	Red	35-40
5/8	Blue	40-45



continued

Installation Instructions for OPGW Bolted Dead End

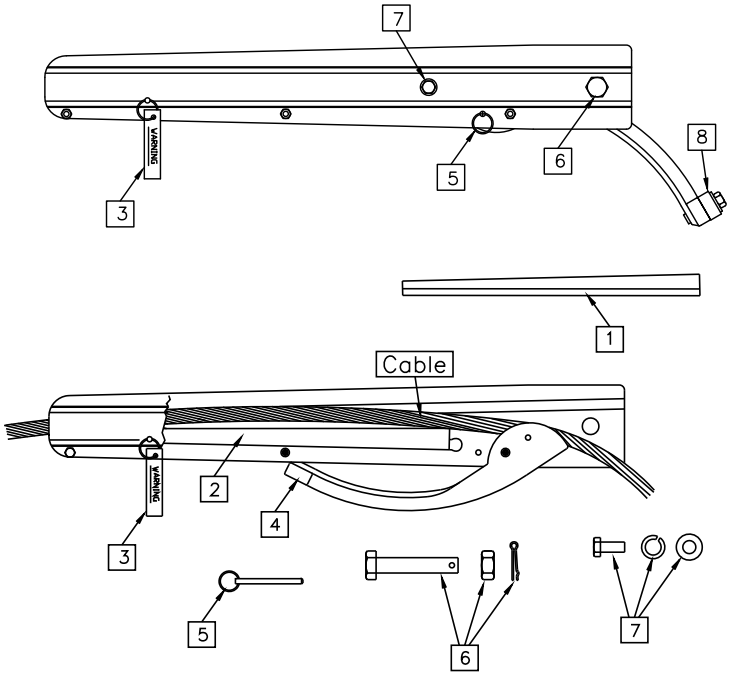
10. Attach grounding lug to grounding pad on side of dead end body (using 1/2″-13) if grounding is required. Ground wire assembly must be long enough such that 12″ of free slack wire extends directly down from the suspension grounding pad before looping back up to the adjacent structure attachment point.



Installation Instructions for OPGW Wedge Dead End

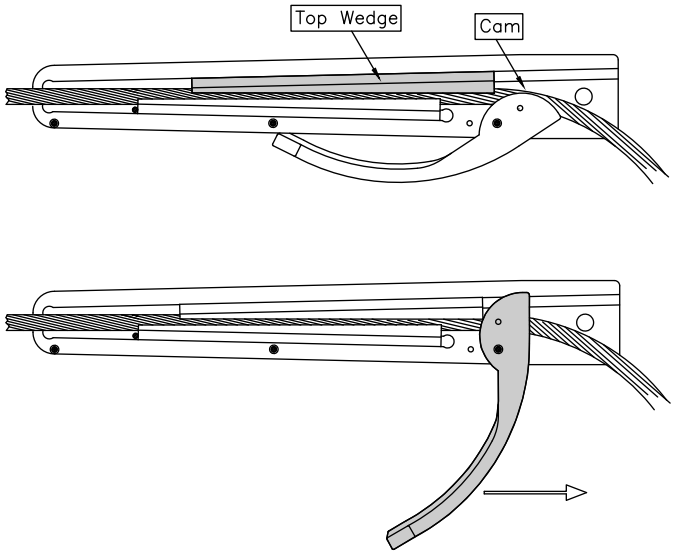
Parts of the Assembly

1. Top Wedge
2. Bottom Wedge
3. Wedge Retaining Pin (with Warning Label)
4. Cam/Cable Guide
5. Cable Guide Retaining Pin
6. Attachment Hardware
7. Grounding Hardware
8. Keeper



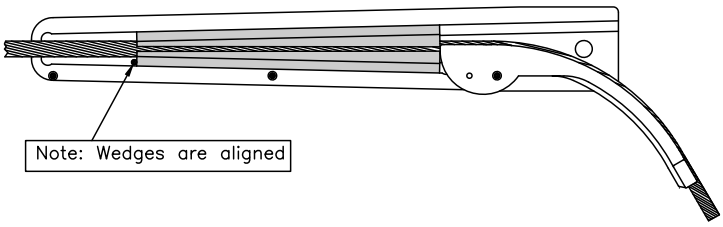
Installation Instructions

1. Hardware items (Items 6 & 7) are removed.
2. Top Wedge (Item 1) is removed.
3. Cable Guide Retaining Pin (Item 5) is removed.
4. Cam/Cable Guide (Item 4) is advanced as shown.
5. Cable is installed through the open top of the assembly and seated in Bottom Wedge.
6. Top wedge is installed and pushed beyond the "Cam" of the Cam/Cable Guide (Item 4).
7. The Cam/Cable Guide is pulled back to advance the top wedge.



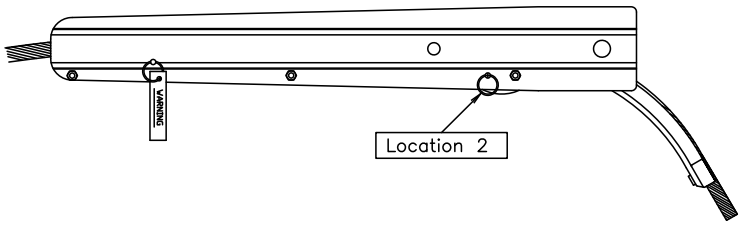
Installation Instructions for OPGW Wedge Dead End (cont.)

8. When Cam/Cable Guide is pulled back to position as shown, the Top Wedge will be inline with the Bottom Wedge.



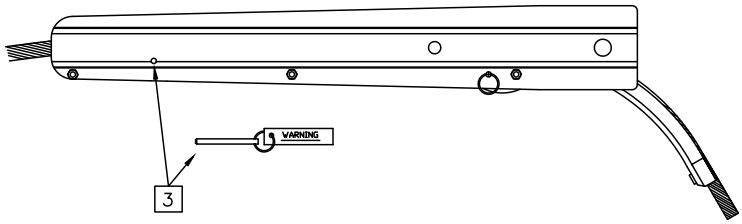
9. Replace Cable Guide Retaining Pin (Item 5) in "Location 2".

NOTE: Retaining Pin is installed through both side plates and holes shown at Location 2.



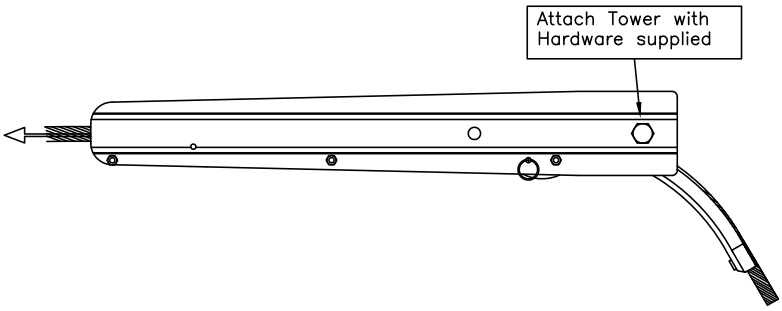
10. Remove Wedge Retaining Pin (Item 3).

NOTE: If Wedge Retaining Pin (Item 3) is not removed the dead end will not hold tension.



11. Attach OPGW Wedge Dead End to the tower with bolt, nut, and cotter pin supplied. Release tension on comealong. The wedges (Items 1 & 2) will advance, gripping the cable securely.

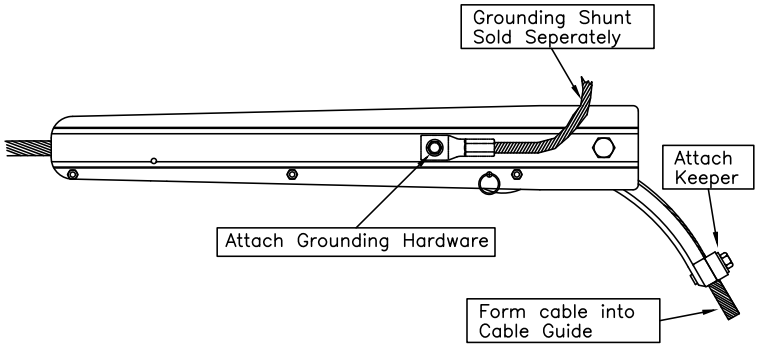
NOTE: A comealong is a temporary device which holds the cable during tensioning. The comealong is attached to a tensioning device, which is then attached to the tower. The comealong is located a distance from the end of the cable, leaving the end of the cable free to attaching the dead end.



12. Form cable into the groove of the Cam/Cable Guide, then attach keeper (Item 8) with lockwashers and green break-away bolts alternately tightening bolts by 2 ft.-lbs. Repeat until break-away head breaks off. Care should be taken during installation to maintain the keeper squarely on the conductor with equal clearance on both sides of conductor.

13. Attach grounding shunt with hardware provided. Torque bolts to 25 lbf.-ft. (34 N.m)

NOTE: Grounding Shunt sold separately. Contact customer service for ordering information.



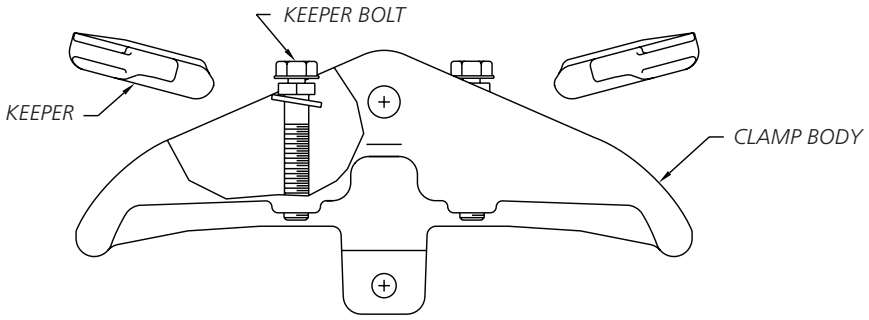
14. Assembly is complete.

Ref L8880

Installation Instructions for OPGW Double Suspension Unit

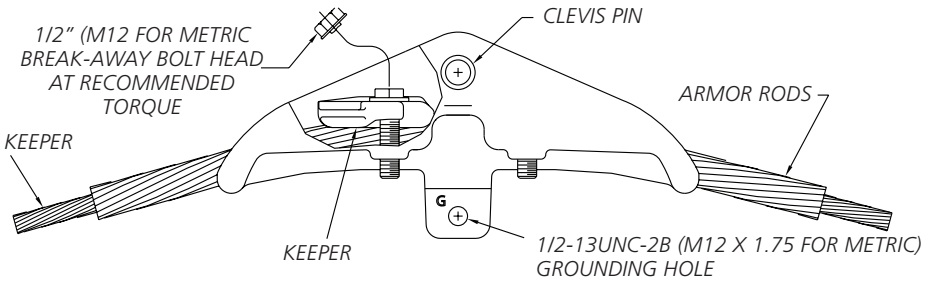
1. Mark center of clamp location on cable with ink (not tape).
2. Install the armor rods on cable aligning center mark of armor rods with center mark on OPGW (per Step 1).
3. Mark centers of clamp locations on armor rods with ink (not tape). This distance is equal to 1/2 the dimension between attachment holes on the yoke plate.
4. Remove clamp clevis pin. Loosen, but do not remove clamp keeper bolts. Remove the clamp keepers (see Figure 1).

FIGURE 1



5. Place clamp body on OPGW and center clamp on one of the center marks (per Step 3).
6. Place keepers in clamp and slide keepers under keeper bolts.
7. Tighten keeper bolts finger tight and insure that keepers are not cocked on OPGW.
8. Tighten keeper bolts on each keeper in 5 ft-lb increments, alternating tightening to insure keepers are not cocked in clamp. Tighten until break-away bolt head shears off (see Figure 2).

FIGURE 2



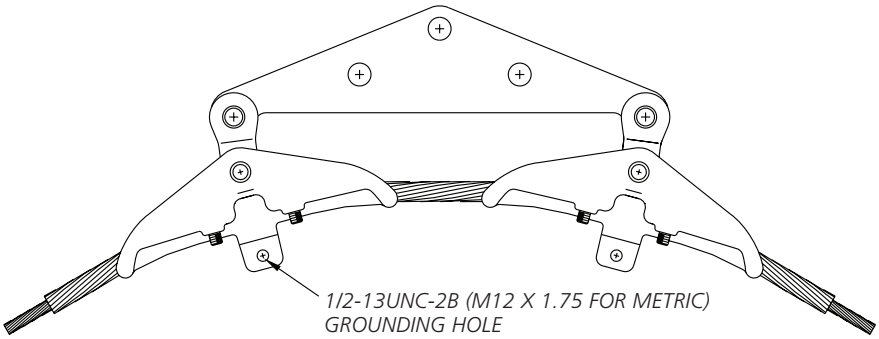
Installation Instructions for OPGW Double Suspension Unit (cont.)

9. Repeat steps 4 through 8 for the other clamp.

10. Attach clevis eye to clamp bodies with clevis pins and install cotter pins in clevis pins.

11. Attach clevis eyes to yoke plate.

FIGURE 3 - COMPLETED ASSEMBLY



12. Attach completeed assembly to tower attachment (see Figure 3).

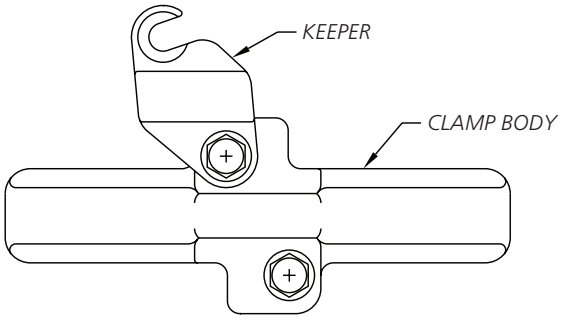
13. Attach grounding lug to grounding pad (side marked "G") on bottom of suspension clamp (using 1/2"-13 thread tapped hole) if grounding is required.

Ref L8881

Installation Instructions for OPGW Trunnion

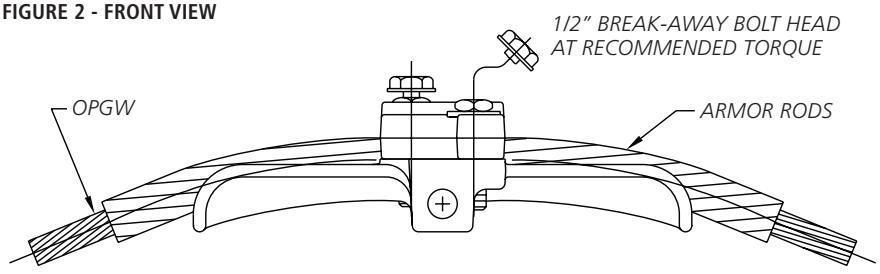
1. Mark center of clamp location on OPGW with ink (not tape).
2. Install armor rods on OPGW aligning center mark of armor rods with center mark on OPGW (per Step 1).
3. Loosen, but do not remove clamp keeper bolts. Rotate clamp keeper 180° from original position (see Figure 1).

FIGURE 1 - TOP VIEW



4. Place OPGW in clamp body and center clamp on armor rod center mark.
5. Return keeper to it's original position.
6. Tighten keeper bolts finger tight and insure that keeper is not cocked on OPGW.
7. Tighten keeper bolts on keeper in 5 ft-lb increments, alternating tightening to insure keepers are not cocked in clamp. Tighten until break-away bolt head shears off (see Figure 2).

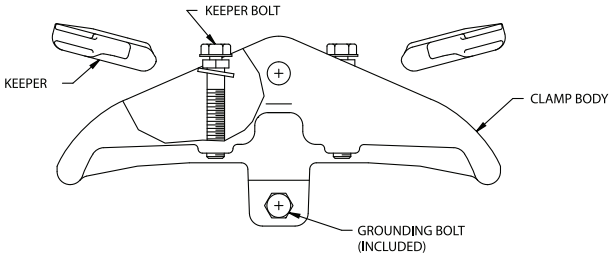
FIGURE 2 - FRONT VIEW



Installation Instructions for OPGW Suspension Unit

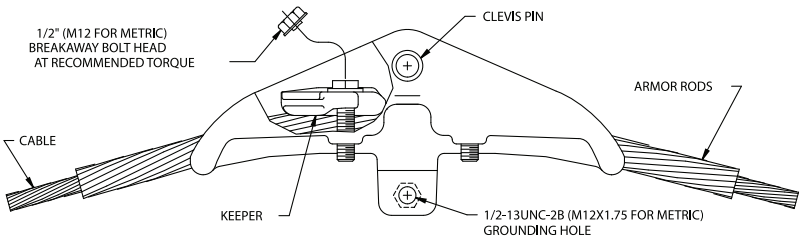
1. Mark center of clamp location on OPGW cable with ink (not tape).
2. Install armor rods on cable alligning center mark of armor rods with center mark on OPGW cable (per **Step 1**).
3. Remove clamp clevis pin. Loosen, but do not remove clamp keeper bolts. Remove clamp keepers. See **Figure 1**.

FIGURE 1:

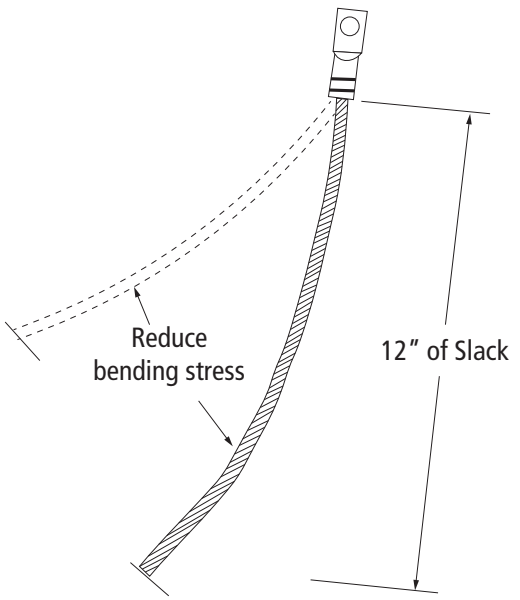


4. Place clamp body on OPGW cable and center clamp on armor rod center mark.
5. Attach clamp to tower attachment with clevis pin and install cotter pin in clevis pin.
6. Place keepers in clamp and slide keepers under keeper bolts (if double sided keeper, diameter range faces cable and armor rods).
7. Tighten keeper bolts finger tight and insure that keepers are not cocked on OPGW cable.
8. Tighten keeper bolts on each keeper in 5 ft-lb (7 nm for metric) increments, alternating tightening to insure keepers are not cocked in clamp. Tighten until break-away bolt head shears off (20-25 ft-lb or 28-35 nm for metric). See **Figure 2**.

FIGURE 2:



9. Attach grounding lug to grounding pad on bottom of suspension clamp (using 1/2″-13 or m12x1.75 Thread tapped hole) if grounding is required. Ground wire assembly must be long enough such that 12″ of free slack wire extends directly down from the suspension grounding pad before looping back up to the adjacent structure attachment point.



Instructions for Preparing

AFL Optical Ground Wire (OPGW)

in the AX Series Connector Kit

Covers AlumaCore, CentraCore, PentaCore,

HexaCore, TriCore & MiniCore Designs of OPGW

NOTE:

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TABLE OF CONTENTS

LIST OF MATERIALS

Included in the AX Series Connector Kit

- Connector Kit Body
- Wire Retaining Ring
- Retaining Ring Set Screws
- Bushing
- Retaining Nut
- Filler Sleeve (only for stranded stainless cables)
- Strength Member Eyebolt
- Bolt, Washer, & Nut for Eyebolt

Suggested Tools

- 3/8" Socket Driver
- 5/32" Hex Driver
- Tape Measure
- Cable Cutter
- Pipe Ring Cutter (for aluminum pipe)
- Stainless Steel Pipe Ring Cutter (for stainless steel pipes)

Additional Consumables

- Furcation Kit - AFL Part Number: AXOFK01
- RTV Silicone Sealant - AFL Part Number: 0070050

1.0 Purpose of Installation

The purpose of installing an Optical Ground Wire (OPGW) into a splice box is to connect one OPGW to another and protect the connection in a sealed enclosure. To install OPGW into the Apex series of splice enclosures, use of the AX Series Connector Kit is required.

2.0 Scope

This document describes and illustrates the installation of Optical Ground Wire into the AX Series Connector Kit. This connector kit has the following advantages:

1. Utilization of the same core hardware design which allows for use with AlumaCore, CentraCore, MiniCore, TriCore, HexaCore and PentaCore designs of OPGW with minor hardware changes.
2. The ability to be used inside of the Apex X-2 and Apex X-2S sealed splice closures without modification of the body design because they utilize the same base design.
3. Ability to use standard Apex hardware without the need for specialized tools.

3.0 Precautions

3.1 Health

Optical fibers are very thin, fragile, and sharp. Therefore, careful handling is required to avoid either damage to the delicate glass fibers or, more importantly, injury to the technician or bystander. Small fiber scraps should be deposited on strips of adhesive tape, placed in a bottle or vinyl bag, properly disposed. Do not eat or drink when working with optical fibers as small pieces of glass may inadvertently be ingested. Never look directly at the end of a fiber unless you are certain that no laser light is being transmitted through the fiber.

3.2 Work Environment

Handle optical fiber and fiber cable carefully, taking care to impose no damage by physical shock or sharp bends. During the actual splicing, care must be taken to keep hands and work area clean in order that the fibers may be kept clean. Dirty fibers mean poor splices! Keep all tools and equipment in their proper cases or storage pouches when not in use. Consideration should be given to the work area in which the splice box will be organized. A clean, snag-free horizontal surface (protected from wind) is necessary.

4.0 Precautions

Prepare the connector body for installation into the Apex unit, by installing the cable attachment unit (CAU) onto the connector kit body. The connector kit body is the large aluminum section that makes up much of the assembly. Remove any of the additional items (retaining ring, bushing, retaining nut, & filler sleeve) from the connector kit body. The Cable Attachment Unit (***Figure 1***) should be used with all installations. For all OPGW cables the bottom of the CAU should be detached so that the CAU looks like ***Figure 2***.

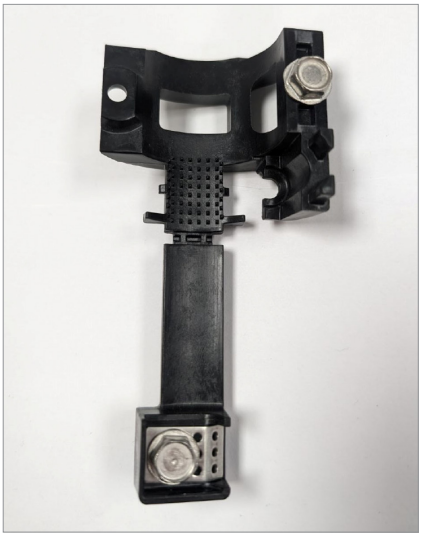


Figure 1

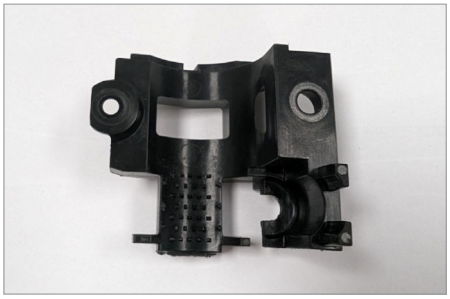


Figure 2

Start by unscrewing the hose clamp completely so that it can be opened into a “U” Shape. Then place the connector kit body Into the CAU and tighten down the hose clamp to 40 in-lbs. The hose clamp should be positioned on the knurled section of the connector kit body about 7/16" from the triangular flange on the connector kit body. The set screws should be facing upwards. The result should look like ***Figure 3***.

Figure 3

5.0 Cable Preparation

5.1 Initial Preparation

Slack cable lengths should be identified based on the cable and coil bracket used. For installation into the AX Series Connector Kit, a section of cable 10 feet in length should be utilized. This provides enough length to route the cable through the connector kit and the fiber trays.

1. Mark the cable 10 feet from the ends of the fibers to be spliced. The cable should be through cut on the right end of the cable.
2. Slide the retaining ring onto the cable past the 10 ft marking (***Figure 4***).
3. Unlay the outer wire layers and cut them at the 10 ft marking. Unlaying the wires past the 10 ft marking allows the wires to be cut without bending them. Extra care should be taken with stranded stainless cable designs to avoid cutting, nicking, or prying against the stainless tubes when unlaying and cutting the outer strands. Ensure that all the wires are cut evenly as offset wires can leave a gap for moisture.

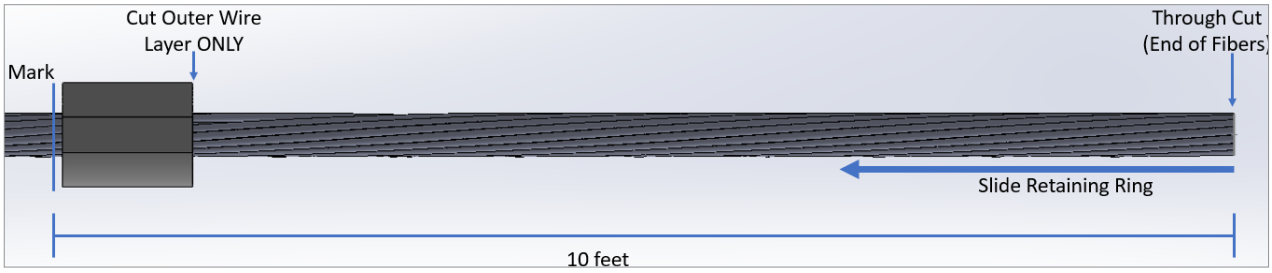


Figure 4

4. Return the outer strands to their original lay around the inner layer. Slide the retaining ring back down the cable flush with the cut strands (***Figure 5***).

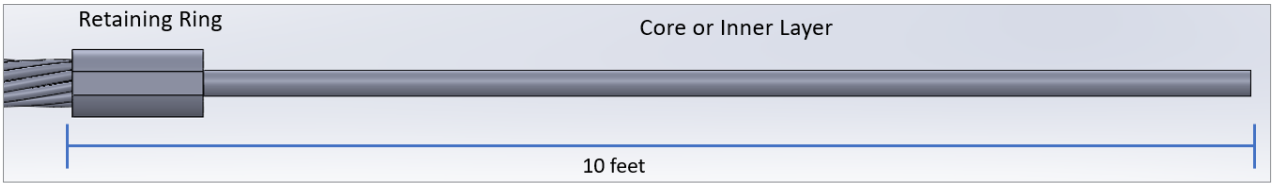


Figure 5

Different types of OPGW cores have different instructions for completing preparation into the AX series Connector Kit. Each type will be discussed below.

5.2 Preparation for AlumaCore and CentraCore

For AlumaCore and CentraCore designs, measure from the retaining ring up to 6.75" and use a pipe ring cutter to gently score the aluminum pipe at this location. At this point the installer should add a ring of RTV around the cable wire ends (***Figure 6***).

Figure 6

Thread a section of pipe through the connector kit for easier retrieval of the fibers, then gently bend the pipe back and forth no more than 10 degrees at a time to break the pipe free (***Figure 7***).

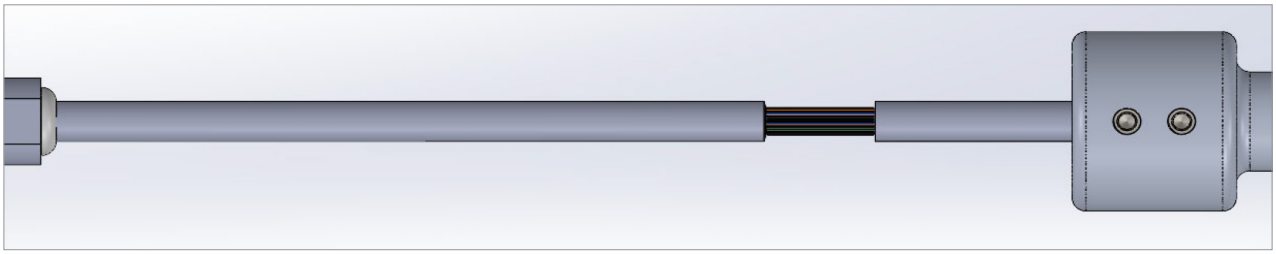


Figure 7

Remove the pipe from the fiber. This may be done in sections to make removal easier and protect the fibers. Take great care not to damage the fibers during this process.

For CentraCore designs, care should be taken to not kink of damage the inner stainless steel tube when removing the aluminum pipe. After the aluminum pipe is removed, follow the instructions in Section 5.3 for the handling and removal of the central stainless steel tube.

Apply a bead of RTV inside the connector kit near the base (***Figure 8***).

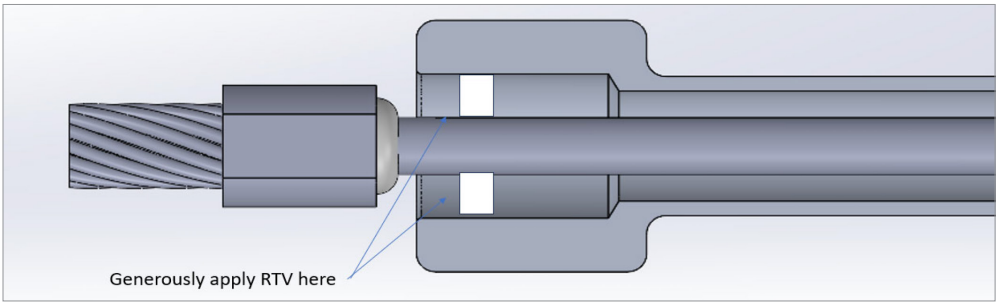


Figure 8

Seat the retaining ring in the connector kit (***Figure 9***). The flat side of the retaining ring should face the set screw holes.

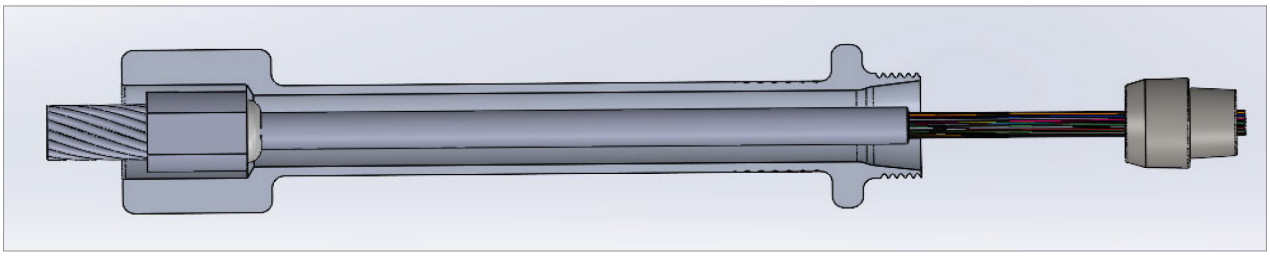


Figure 9

Install the set screws to a torque value of 100 in-lb. Apply RTV around the inside of the connector kit by the pipe opening. Apply RTV around the grommet and then seat the grommet on the pipe. Finally, apply RTV to the outside opening (***Figure 10***).

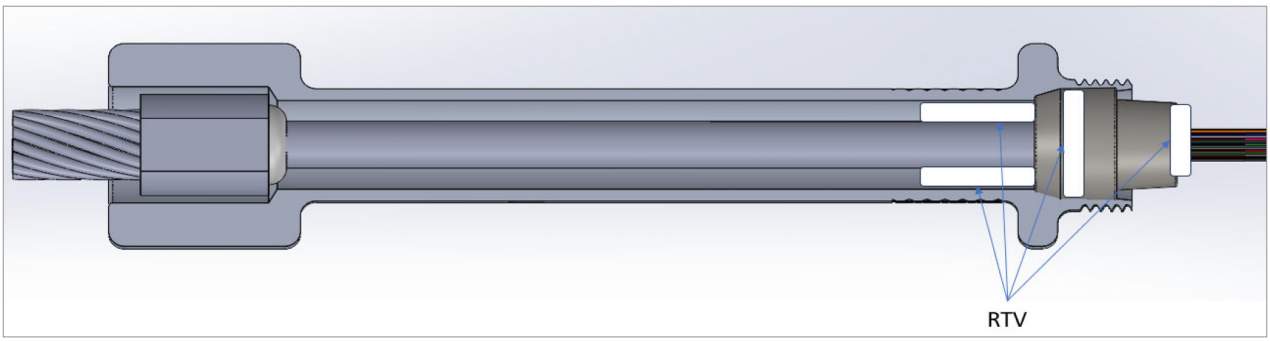


Figure 10

Thread the retaining nut over the fibers and install it on the connector kit body, ensuring it seats and compresses the grommet (***Figure 11***).

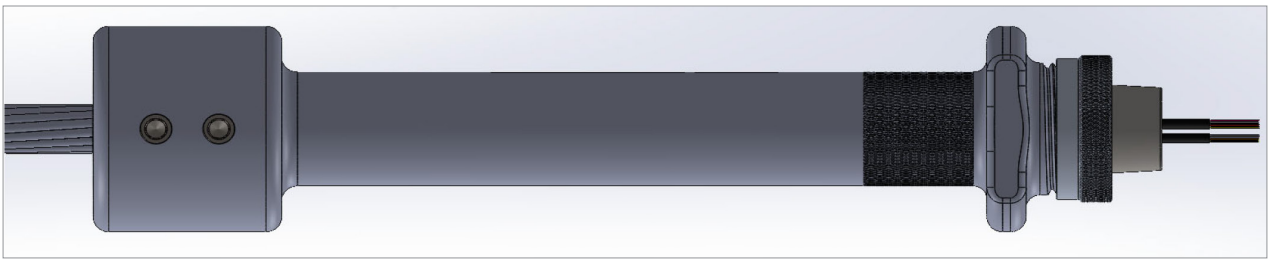


Figure 11

5.3 Preparation for Stainless Steel Designs

For HexaCore, PentaCore, and MiniCore designs, after the outer wire strands are removed, the inner wires should be marked and cut 5.75" from the retaining ring. Remove the cut inner wires so that the cable looks like the figure below (***Figure 12***).

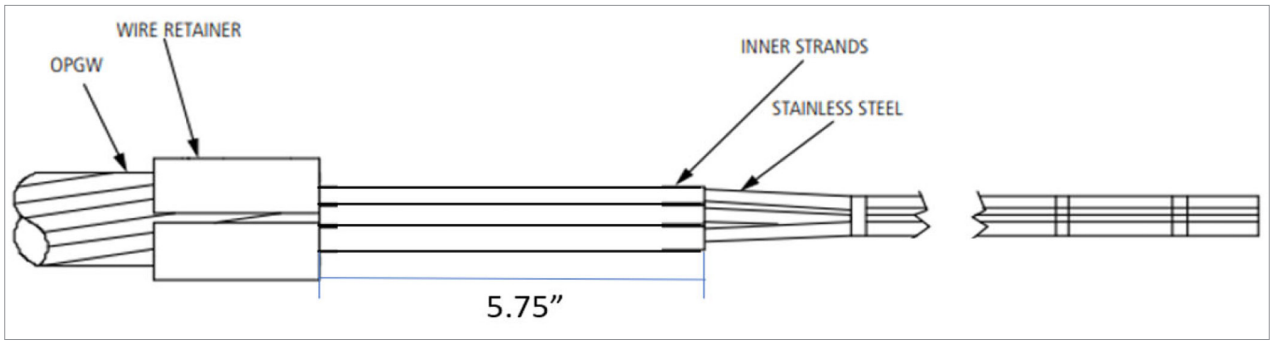


Figure 12

Run a two-inch piece of heat shrink down to each stainless-steel tube at this point. The heat shrink inner diameter is much larger than the stainless-steel tube outer diameter so this should be a relatively quick process.

Add a ring of RTV around the cable wire ends (***Figure 13***). Thread the stranded stainless-steel tubes first through the filler sleeve and then the connector kit body for easier retrieval of the fibers (***Figure 13***), then mark the stainless-steel tube(s) 8" to 10" from the end of the retaining ring. From the marked location, make addition markings in 4-foot increments until the free end of the cable is reached. One tube at a time, carefully score the marking closest to the free end using a stainless-steel pipe ring cutter. Flex the tube at the scored location to break and separate the tube. Continue to score and remove each 4-foot section of tube until you all the tubing is removed up to the 8"-10" marking as shown in ***Figure 13***. Special care should be taken to ensure that the fibers do not scrape against the ends of the tubes during the removal.

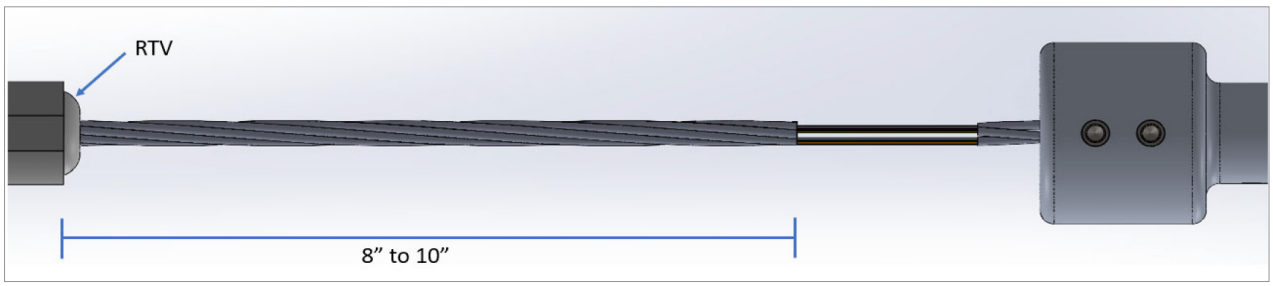


Figure 13

Slide the heat shrink tubing so that it covers one inch of the fibers and one inch of the stainless-steel tubes as shown (***Figure 14***). Using a heat gun on a low setting, shrink the tubing around the stainless-steel tube and fibers. Ensure that the heat is applied evenly to the heat shrink tubing so that the result is straight and even. The heat shrink tube will not shrink completely onto the fibers. Particular care should be taken to ensure that the hot air blast does not remain on the optical fibers for an extended period. Never use a torch to shrink the tubing. Allow the tubing to cool for approximately 10 minutes.

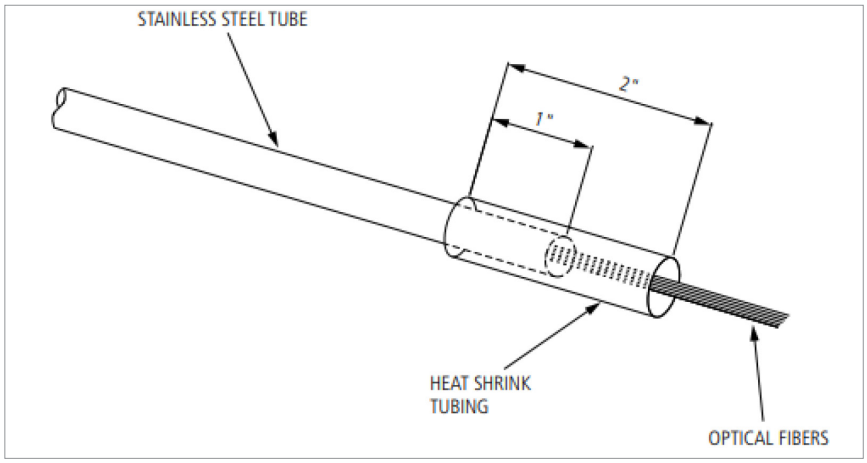


Figure 14

Slide the filler sleeve over the fibers until it butts up against the retaining ring. Situate the filler sleeve as shown, then fill the sleeve generously with RTV using the 2 ports in the filler sleeve (***Figure 15***) by filling the sleeve as it sits, then rotating the sleeve 180 degrees and filling the other side. It is alright if some RTV leaks out of the filler sleeve as this will show that it has been filled correctly. Apply electrical tape on the filler sleeve at the indicated locations in ***Figure 15*** to increase friction and keep the filler sleeve aligned as the connector kit body is added.

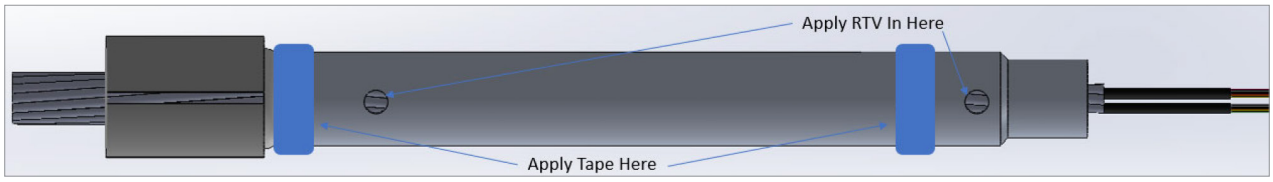


Figure 15

Place a layer of RTV inside the connector kit at the base (***Figure 16***).

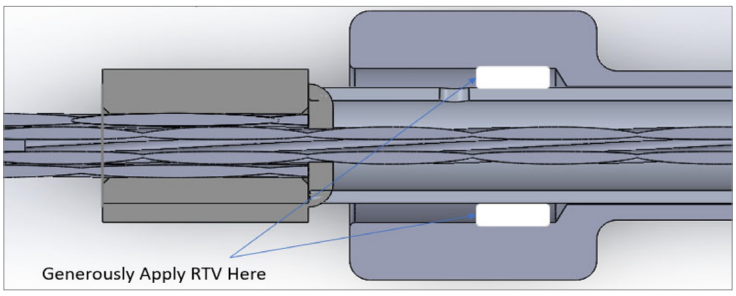


Figure 16

Seat the retaining ring in the connector kit (***Figure 17***), and install the set screws to a torque value of 100 in-lbs.

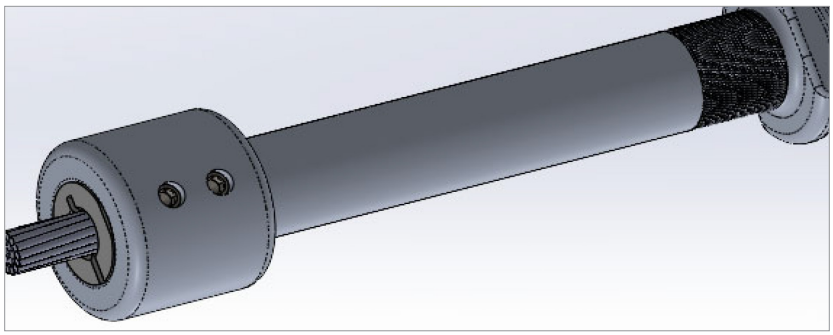


Figure 17

Apply RTV to the inside edge of the grommet and seat the grommet on the filler sleeve edge. Then apply RTV to the outside opening (***Figure 18***).

Figure 18

Thread the retaining nut over the fibers and install it on the connector kit, ensuring it seats and compresses the grommet (***Figure 19***). The connector kit is now installed properly. Furcation tubing must be applied prior to installing and routing the fibers into the Apex closure.

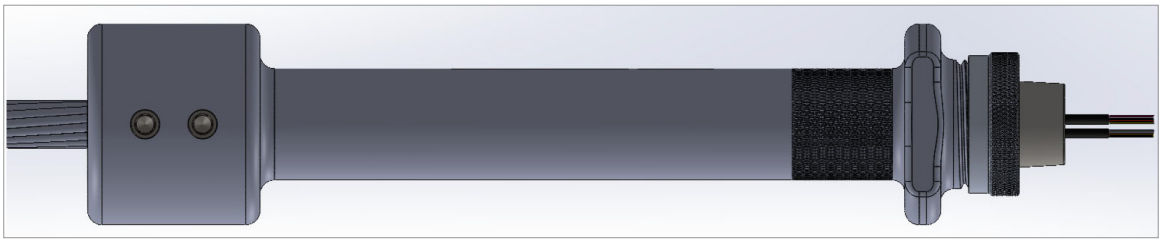


Figure 19

6.0 Connector Body Installation

Now that the cable is installed in the connector kit, the cable can be installed into the Apex unit. Remove locking ring from the Apex to allow the base of the Apex to be removed from the housing. Remove the sealing wedge from one of the cable entry locations. It is recommended to start with the cable entry location marked with a 1 and proceed with the next available number for each subsequent cable, as this will allow for the easiest cable routing into the splice trays. Place the connector kit body inside the Apex base so that the CAU can be bolted into the base. Each installation should look like ***Figure 20***. After all needed connector kit bodies are installed, install the Apex gel wedges (***Figure 21***) per Apex installation instructions.

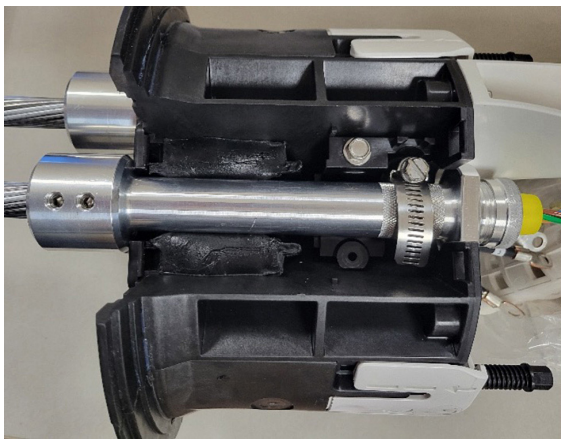


Figure 20

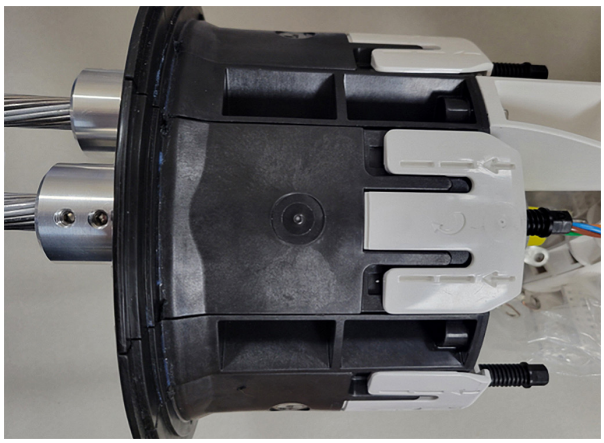


Figure 21

If two cables are installed the base of the connector kit should look like ***Figure 22*** with the cables in positions 1 and 2 adjacent to each other.

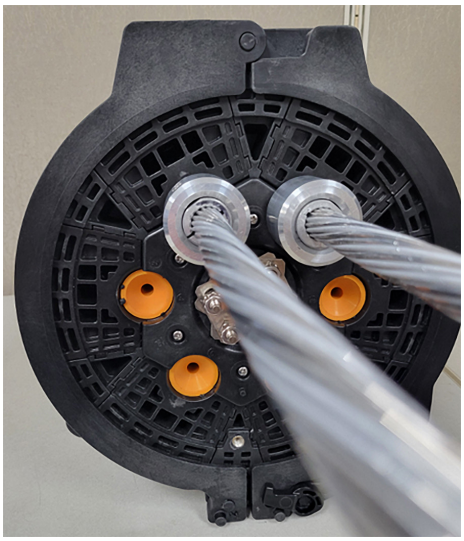


Figure 22

For AlumaCore designs with an aramid strength member the eyebolt supplied with the connector kit assembly is used. The aramid should be tied to the eyebolt to prevent the fibers from retracting into the cable. Cut off any excess aramid after tying it to the eyebolt. As shown in ***Figure 23***. For AlumaCore designs with a Fiberglass Reinforced Plastic (FRP) strength member the bolt, nut, and washer combo supplied with the eyebolt is used. Push the FRP through the eyebolt and tighten the nut to clamp the FRP to the eyebolt. Apply RTV to the top of the grommet if a strength member is used.

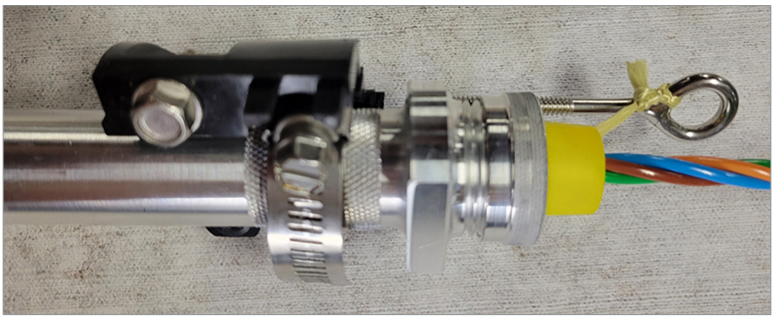


Figure 23

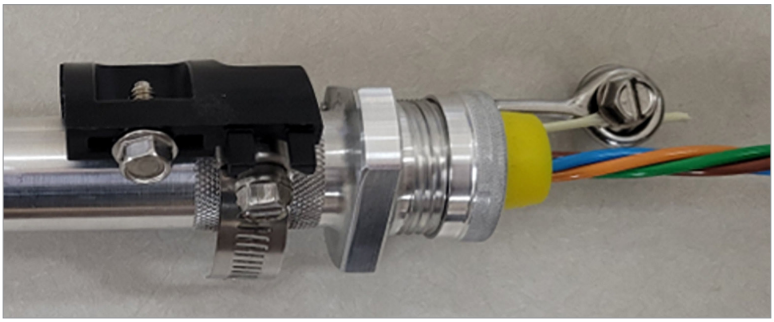


Figure 24

Finally, place one last bead of RTV over the outside of the retaining sleeve (***Figure 25***).

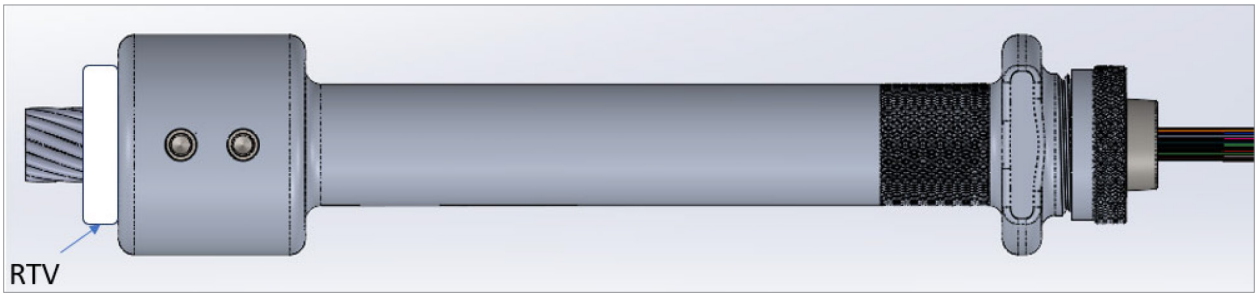


Figure 25

The connector kit is now installed properly, and the fibers may be routed according to Apex specifications.

7.0 Torsional Resistance

If torsional forces are expected to be placed on the cables, then an FDOA downlead clamp should be installed to tie two cables together and prevent damage from torsional forces. If more than two cables are installed in the Apex enclosure, then additional FDOA clamps can be used to secure the additional cables. The FDOA clamps should be placed approximately two feet from the bottom of the Apex enclosure (***Figure 26***). Please follow the FDOA specific installation instructions when installing.

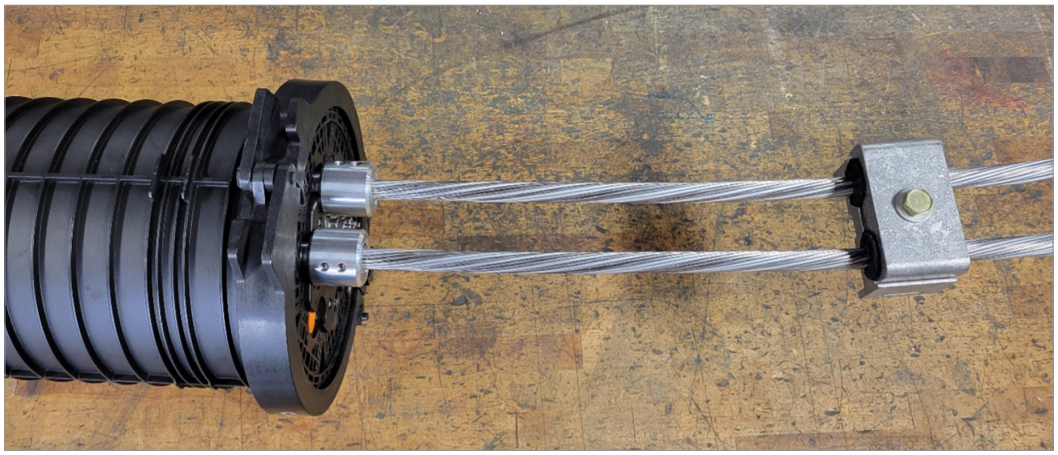
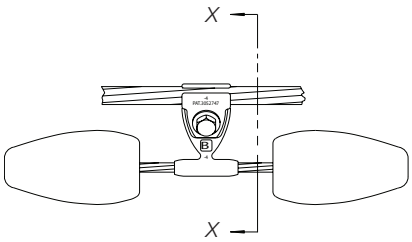


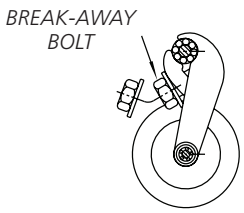
Figure 26

Ref L8882

Installation Instructions for OPGW Vibration Damper

CABLE DIAMETER	BOLT SIZE	BREAK-AWAY TORQUE ft. lbs. (Nm)	
		MIN.	MAX.
.360 - .770	7/16 (M12)	18 (24)	23 (31)
.771 - .970	1/2 (M4)	20 (41)	25 (47)





General information and spacing recommendations:

AFL vibration dampers are produced with carefully designed and controlled dimensions. The dampers should be protected, preferably in their shipping containers, from dirt and foreign material prior to installation. Handling in the field should be with care to avoid mechanical damage.

AFL vibration dampers may be installed without disassembly of the clamp parts.

Obtain the required damper spacing from AFL.

Mechanical Suspension (See page 15)

"One end" applications require a damper installed a distance "B" from the center of the suspension clamp at one end of the span. "Both ends" applications require a damper installed a distance "B" from the center of the suspension clamp at each end of the span.

Armor Grip Type Suspension

"One end" applications require two dampers installed at one end of the span. Install the first damper at the end of the rods and the second damper a distance "D" from the first damper. "Both ends" applications require two dampers installed at each end of the span with the first damper installed at the end of the rods and the second damper installed at the specified "D" spacing.

AFL Bolted Deadend (See page 3)

"One end" applications require two dampers at one end of the span with the first damper spaced a distance "D" from the end or mouth of the deadend and the second damper spaced a distance "D" from the first damper attachment point. "Both ends" applications require two dampers at each end of the span with the first damper spaced a distance "D" from the end or mouth of the deadend and the second damper spaced "D" distance from the first damper attachment point.

Formed Wire Deadend (See page 46)

"One end" applications require two dampers at one end of the span with the first damper placed at the end of the armor rods and the second damper spaced a distance "D" from the first damper attachment point. "Both ends" applications require two dampers at each end of the span with the first damper placed at the end of the armor rods and the second damper spaced a distance "D" from the first damper attachment point.

NOTE: For those spans with a deadend at one end and a suspension unit at the other, a damper application required at one end should be applied to the suspension side of the span. Depending on the type of suspension unit, refer to the appropriate damper placement instructions listed previously.

1. Loosen the bolt so that the clamp may be opened sufficiently to permit cable entry into the clamp groove.

NOTE: The bolt need not be removed.

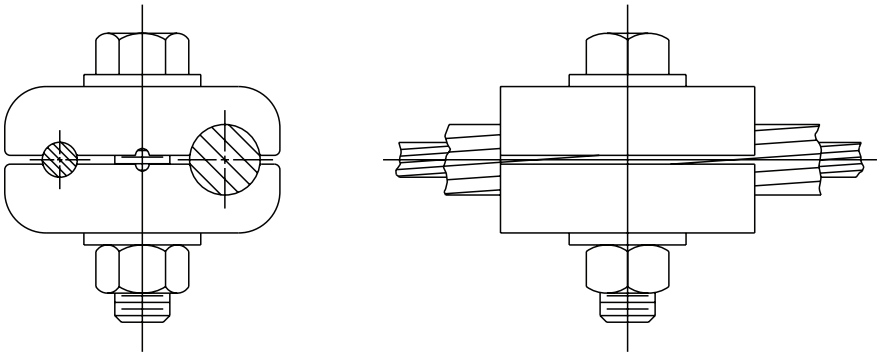
2. Hang the damper on the OPGW at the proper spacing specified and tighten the bolt finger tight.

3. Tighten the bolt with a suitable wrench until the break-away head shears off.

NOTE: The table to the right provides the typical clamp, bolt diameters, and break-away torque range for the OPGW dampers.

Ref L8883

Installation Instructions for OPGW Ground Clamp



1. Clean both run and tap conductors over the length to be clamped with a wire brush to remove oxides.

2. Place connector halves on the conductor, being careful to place the recommended run and tap conductor in the proper clamp groove and to distribute the alnox evenly over the conductor.

3. Bolt bonding P.G. clamp on conductors. Use a backup wrench to restrain the head of the bolt while tightening hardware to avoid bending the fiber optic composite cables. Tighten bolts to the recommended installation torque.
   (1/2" Bolt: 20-25 lbf-ft, M14 bolt: 27-34 Nm)

4. Do not remove alnox that squeezes out when clamp is tightened.

CAUTION: In order to avoid damage to the fiber optic composite cables, it is essential that they be clamped only in the recommended grooves and that the bolts be tightened only to the recommended installation torque.

Installation Instructions for OCA Series Comealongs for Optical Ground Wire (OPGW)

General

OPGW Comealongs are stringing tools designed for pulling optical ground wire up to initial sag tensions. If the required tension is greater than the rated tension of a single comealong, two or more comealongs should be used (refer to Installation Instructions). When desired sag tension is reached, the cable should be dead ended promptly and the comealong removed.

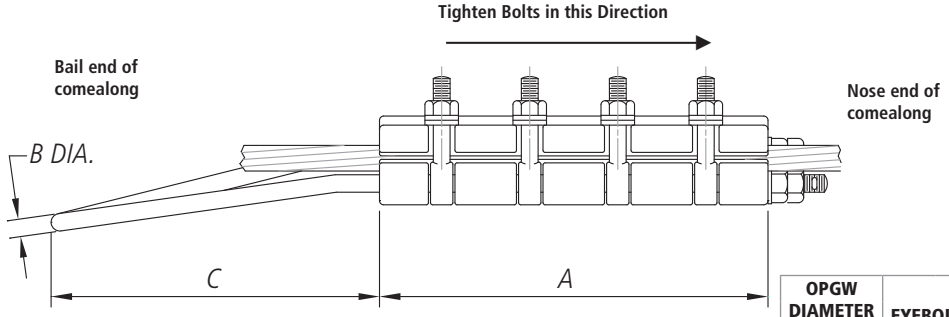
Comealongs must receive periodic maintenance. This practice should consist of a thorough cleaning with close inspection for nicked or rough cable grooves, cracked body, bent eye bolts, or damaged bail. The eyebolts should be kept clean and oiled. The cable groove should be kept clean and dry. After each six months use and at the beginning of each job, all comealongs should be subjected to a pull test equal to its rated strength. If any damage is found, the comealong should be disposed of properly.

Unused Comealongs

1. Loosen bolts so that the comealong may be opened sufficiently. Check for cleanliness of bore and permit conductor entry into the conductor groove.
2. Position the comealong a minimum of 10 feet from the dead end or joint being installed. This will assist in reducing the potential for birdcaging of the conductor during compression.
3. Place the conductor into the conductor groove of the comealong, then close the comealong and finger tighten the bolts.
4. Using a torque wrench, tighten bolts in sequence from bail end to nose of the comealong (see diagram below). It will take a minimum of 6 passes to achieve the correct torque on each bolt. On the first pass, tighten the bolts to 80% of the target torque (1/2" bolt - 32 lb ft, 5/8" bolt - 48 lb ft). On each subsequent pass, tighten the bolts to the target torque (1/2" bolt - 40 lb ft, 5/8" bolt - 60 lb ft), ensuring proper clamping force is achieved.

Used Comealongs

1. Before each job, thoroughly clean the comelaong and closely inspect for nicked or rough conductor grooves, cracked body, bent eye bolts, or damaged bail. If any damage is found, the comealong should be disposed of properly.
2. After cleaning, each comealong should be subjected to a pull test equal to the rated strength stamped on the comealong.
3. Follow sequence 1 through 4 for Unused Comealongs above.



OPGW DIAMETER RANGE (IN.)	EYEBOLTS		DIMENSIONS						WEIGHT	
			A		B		C			
	DIA.	NO.	IN.	MM	IN.	MM	IN.	MM	LB.	KG
0 -.820	1/2"	4	11	279	.5	13	8	203	9	4.08
.821-1.000	5/8"	4	12.5	318	.62	16	8	203	16	7.26

LOAD RATING: **Maximum tension limit is 50% of the rated strength of the OPGW or 5,000 pounds, whichever value is smaller.**

WARNING: **Comealongs are not intended for use as dead ends and are not recommended to hold conductors at sag tension limits for longer than 6 hours.**

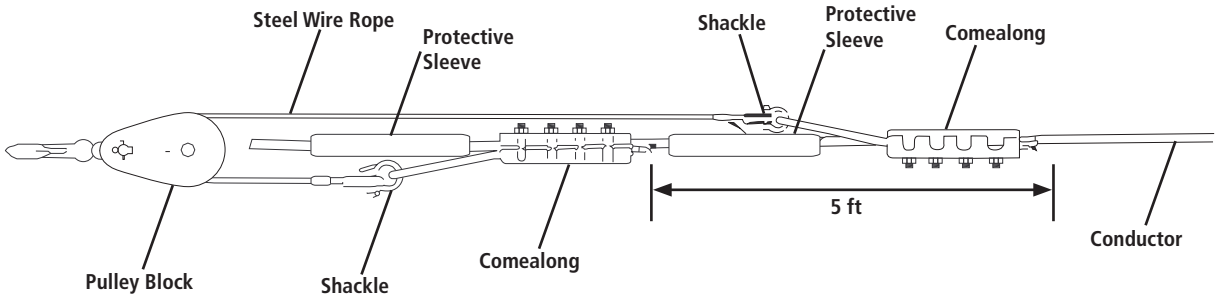
Installation Instructions for OCA Series Comealongs for Optical Ground Wire (OPGW)

Using Comealongs in Tandem

If the installation tension is greater than the rated strength of one comealong, then comealongs must be used in tandem. The comealong bails should be bridled with a sling (consisting of shackles and wire rope) and pulley block to insure equal distribution of the load. To prevent damage to the conductor by the shackles, place protective sleeves over the conductor (per drawing below).

The rated strength of this tandem configuration is 150% of the lowest rated comealong. For example, if one comelaong is rated for 8,000 lbs and the other rated for 10,000 lbs, then these two comealongs in tandem will have a rated strength of 12,000 lbs (150% of 8,000 lbs).

For more information on using comealongs in tandem, contact the ACA Technical Support Team at 1.800.866.7385.



LOAD RATING: Maximum tension limit is 50% of the rated strength of the OPGW or 5,000 pounds, whichever value is smaller.

WARNING: Comealongs are not intended for use as dead ends and are not recommended to hold conductors at sag tension limits for longer than 6 hours.

Request for Vibration Information

Submit via email to:
spbacatechnical@AFLglobal.com

Submit via fax to:
864-433-5434

Originator _____ Date _____

Utility _____ Tel/Fax _____

Project Name _____

For each ruling or deadend span, provide the following information:

1. OPGW Designation _____

2. Average Annual Minimum Temperature (AAMT) for Line (see www.vibrec.com) _____

3. Average Annual Temperature (AAT) for Line (usually 60°F) _____

4. Terrain or Wind Speed:
- ☐ Normal: 15 MPH
- ☐ Flat: 20 MPH
- ☐ Water Crossing: 25 MPH

River/Water Crossing:
- ☐ Yes
- ☐ No

Marker balls used:
- ☐ Yes
- ☐ No

5. Loading Zone:

CHECK ONE	ZONE	ICE (in)	WIND (#/ft²)	K (#/ft²)	TEMPERATURE (°F)
☐	NESC Heavy	0.50	4.00	0.30	0
☐	NESC Medium	0.25	4.00	0.20	15
☐	NESC Light	0.00	9.00	0.05	30
☐	Calif. Heavy	0.50	6.00	0.00	0
☐	Calif. Light	0.00	8.00	0.00	25
☐	Other				

6. Guards:

☐ No Guards (None) ☐ Line Guards (LG) ☐ Armor Rods (AR) ☐ Suspension (AGS) Guard length _____

(if not standard in inches)

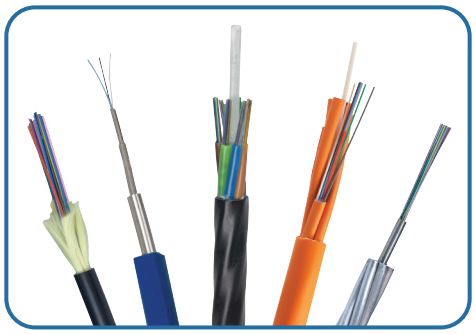
7. Spans*:

RULING SPAN (ft)	SINGLE SPAN?	MAX SPAN (ft)	INITIAL TENSION @ AAMT BARE (lbs)	FINAL TENSION @ AAT (lbs)	SPAN LIST (optional) *EXAMPLE: 700, 750, 450, 950, ...*
	☐ Yes ☐ No				
	☐ Yes ☐ No				
	☐ Yes ☐ No				
	☐ Yes ☐ No				
	☐ Yes ☐ No				
	☐ Yes ☐ No				

*If more spans are needed please attach a spreadsheet with the above information to get damper quantities with the recommendation.

Please contact your AFL Sales Representative for information about our other products or services.

FIBER OPTIC CABLE (OPGW, ADSS, Loose Tube)



FIBER OUTSIDE PLANT EQUIPMENT

TRANSMISSION AND DISTRIBUTION

SUBSTATION AND NETWORK UNDERGROUND

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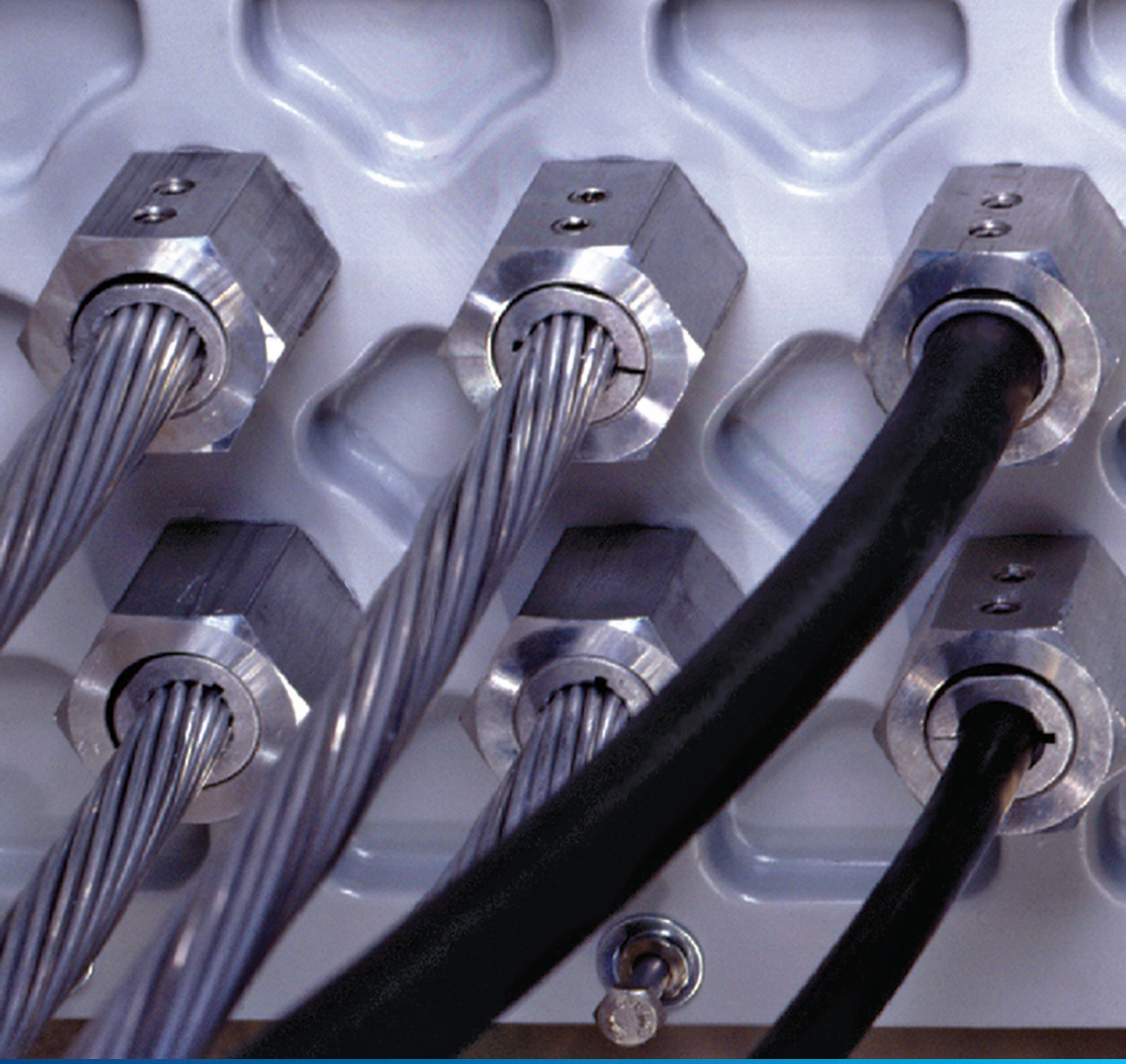

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