

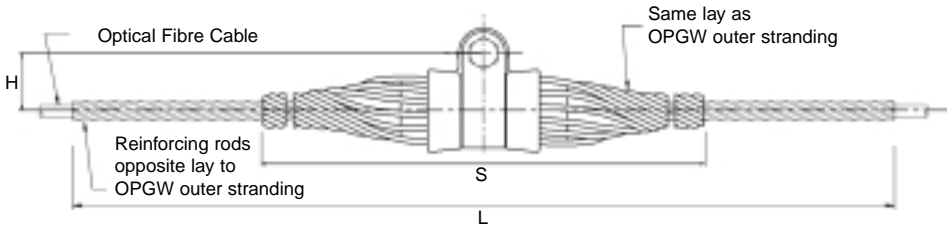


# 05

## Fibre optic

- > OPGW Suspension Assemblies
- > OPGW Tension Assemblies
- > Earth Lead Assemblies
- > Downlead Clamps
- > Single-Ended Enclosures
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## Optical Ground Wire (OPGW) cables OPGW Suspension Assemblies



### Application

Heliformed® suspension assemblies designed for use with OPGW cable. They reduce static compressive stresses at the support point and cushion the OPGW cable against the dynamic stress of aeolian vibration. The combination of elastomer inserts, HSU rods and reinforcing rods provide protection against bending stress. The cable is progressively stiffened up to the suspension point by the double rod sets and protected by the elastomer inserts.

The reinforcing rods are incorporated in this assembly to ensure the optical fibres within the

OPGW Range		Reinforcing Rod Cat No*	HSU Suspension Assembly Cat No*	Dimensions mm		
From	To			L	H	S
9.3	9.9	FORL093L -	HSU1430 -	2000	47	1118
10.0	10.4	FORL100L -	HSU1540 -	2030	47	1168
10.5	11.1	FORL105L -	HSU1625 -	2080	47	1270
11.2	11.8	FORL112L -	HSU1640 -	2140	54	1372
11.9	12.3	FORL119L -	HSU1750 -	2170	54	1372
12.4	12.7	FORL124L -	HSU1755 -	2190	54	1372
12.8	13.2	FORL128L -	HSU1875 -	2230	54	1422
13.3	13.6	FORL133L -	HSU1910 -	2260	59	1524
13.7	14.3	FORL137L -	HSU1955 -	2310	59	1524
14.4	15.0	FORL144L -	HSU2020 -	2350	59	1549
15.1	15.6	FORL151L -	HSU2150 -	2400	59	1626
15.7	16.2	FORL157L -	HSU2210 -	2440	59	1650
16.3	16.5	FORL163L -	HSU2270 -	2460	59	1650
16.6	16.9	FORL166L -	HSU2305 -	2490	64	1676
17.0	17.3	FORL170L -	HSU2375 -	2520	64	1676
17.4	17.9	FORL174L -	HSU2385 -	2560	64	1702
18.0	18.5	FORL180L -	HSU2450 -	2600	64	1727
18.6	19.0	FORL186L -	HSU2505 -	2630	64	1753
19.1	19.5	FORL191L -	HSU2555 -	2670	68	2032
19.6	20.0	FORL196L -	HSU2625 -	2700	68	2082
20.1	20.8	FORL201L -	HSU2700 -	2760	68	2082
20.9	21.2	FORL209L -	HSU2730 -	2790	68	2082
21.3	21.9	FORL213L -	HSU2770 -	2840	68	2082
22.0	22.4	FORL220L -	HSU2840 -	2870	68	2082
22.5	22.8	FORL225L -	HSU2890 -	2900	68	2082

OPGW cable are not subject to crushing forces imparted by the suspension housing unit or other bolted fittings when applied to the cable.

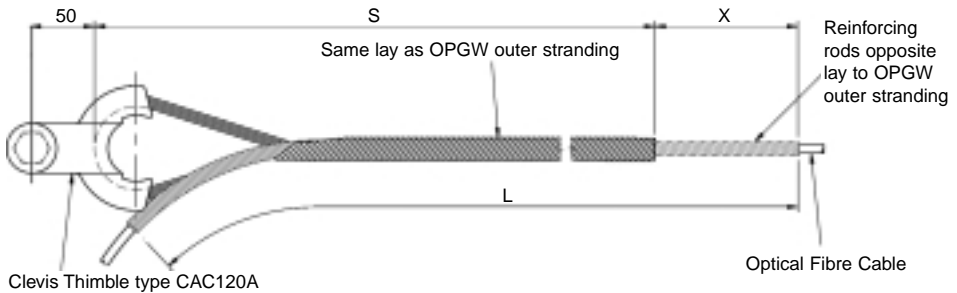
\* A parallel groove clamp and earth lead may be ordered with the suspension assembly for tower earthing. Earthing through the fitting is not recommended.

**Refer page 5-4 for earth lead assemblies.**

\*\* Standard designs are available for either Left Hand Lay or Right Hand Lay OPGW cable from 9.3mm diameter up to 22.8mm diameter.

# Optical Ground Wire (OPGW) cables

## OPGW Tension Assemblies



### Application

Helliformed® deadends designed for use with OPGW cable at termination, section, angle and joint tower positions. They will hold up to the OPGW UTS (in accordance with AS1154) and maintain optical integrity over the operating load range. The tension assembly consists of a reinforcing rod set, a helical wire deadend and a clevis thimble. The OPGW is protected by the reinforcing rods and the mechanical load is taken by the deadend and transferred to the tower hardware by the clevis thimble.

OPGW Range		Reinforcing Rod Cat No*.	Deadend Grip Cat No*.	Dimensions mm		
From	To			L	S	X
9.3	9.9	FORL093L-	FODL093L-	2000	1470	380
10.0	10.4	FORL100L-	FODL100L-	2030	1500	395
10.5	11.1	FORL105L-	FODL105L-	2080	1510	430
11.2	11.9	FORL112L-	FODL112L-	2140	1540	459
12.0	12.3	FORL120L-	FODL120L-	2170	1540	473
12.4	12.7	FORL124L-	FODL124L-	2190	1560	482
12.8	13.2	FORL128L-	FODL128L-	2230	1560	501
13.3	13.6	FORL133L-	FODL133L-	2260	1560	515
13.7	14.3	FORL137L-	FODL137L-	2310	1590	538
14.4	15.0	FORL144L-	FODL144L-	2350	1590	557
15.1	15.6	FORL151L-	FODL151L-	2400	1610	581
15.7	16.2	FORL157L-	FODL157L-	2440	1610	600
16.3	16.5	FORL163L-	FODL163L-	2460	1640	610
16.6	16.9	FORL166L-	FODL166L-	2490	1640	624
17.0	17.3	FORL170L-	FODL170L-	2520	1640	638
17.4	17.9	FORL174L-	FODL174L-	2560	1660	657
18.0	18.5	FORL180L-	FODL180L-	2600	1660	675
18.6	19.0	FORL186L-	FODL186L-	2630	1690	690
19.1	19.5	FORL191L-	FODL191L-	2670	1690	709
19.6	20.0	FORL196L-	FODL196L-	2700	1690	722
20.1	20.8	FORL201L-	FODL201L-	2760	1710	750
20.9	21.2	FORL209L-	FODL209L-	2790	1710	765
21.3	21.9	FORL213L-	FODL213L-	2840	1740	788
22.0	22.4	FORL220L-	FODL220L-	2870	1740	802
22.5	22.8	FORL225L-	FODL225L-	2900	1760	817

\* A parallel groove clamp and earth lead may be ordered with the tension assembly for tower earthing. Earthing through the ODE fitting is not recommended.

Refer page 5-4 for earth lead assemblies.

\*\* Standard designs are available for either Left Hand Lay or Right Hand Lay OPGW cable from 9.3mm diameter up to 22.8mm diameter.

## Optical Ground Wire (OPGW) cables Earth Lead Assemblies Type ELA

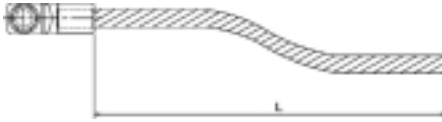


Fig. 1

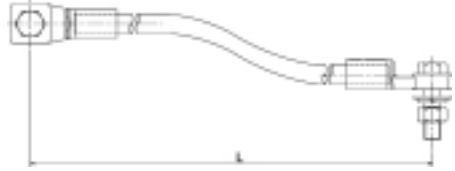


Fig. 2

Provides a direct electrical bonding connection between the OPGW cable and the attachment structure (tower or pole) for connection to the earthing system.

Cat No.	Fig No.	L mm	Structure Hardware Nut/Bolts/ Assembly	Parallel Groove Clamp		Bolted Tee Clamp	
				Up to 13.2 OPGW	Above 13.2 OPGW	Up to 19 OPGW	Above 19 OPGW
ELA37207	1	750	M12 x 55	LTD75-2	LTX126-3		
ELA37210		1000	M12 x 55	LTD75-2	LTX126-3		
ELA37215		1500	M12 x 55	LTD75-2	LTX126-3		
ELA37220		2000	M12 x 55	LTD75-2	LTX126-3		
ELA37225		2500	M12 x 55	LTD75-2	LTX126-3		
ELA11607M12D	2	750	M12 x 60			TCDA0619	TCDA1937
ELA11610M12D		1000	M12 x 60			TCDA0619	TCDA1937
ELA11615M12D		1500	M12 x 60			TCDA0619	TCDA1937
ELA11620M12D		2000	M12 x 60			TCDA0619	TCDA1937
ELA15710	1	1000	M16 x 60	LTX126-3	LTX126-3		
ELA15715		1500	M16 x 60	LTX126-3	LTX126-3		
ELA15720		2000	M16 x 60	LTX126-3	LTX126-3		
ELA15725		2500	M16 x 60	LTX126-3	LTX126-3		
ELA15730		3000	M16 x 60	LTX126-3	LTX126-3		



LTD75-2



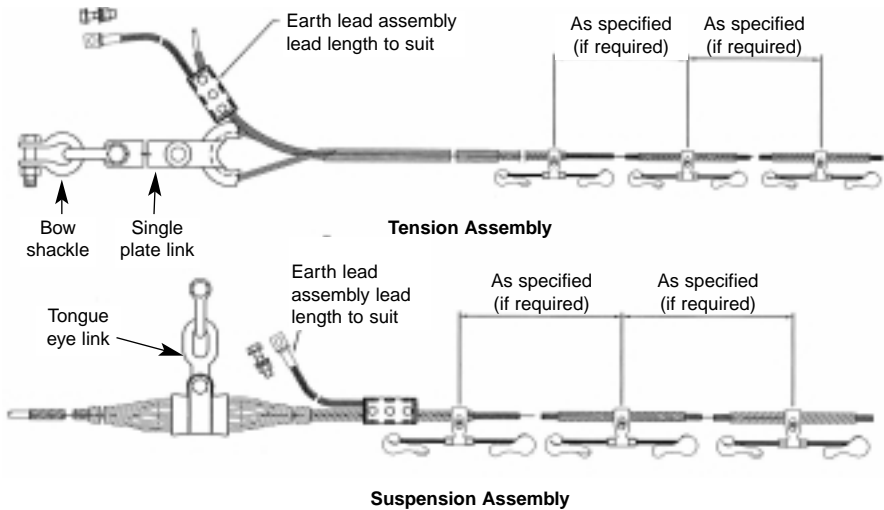
LTX126-3



TCDA1937

## Optical Ground Wire (OPGW) cables

### Typical Tension and Suspension Assemblies



Typical OPGW Suspension assembly complete with Dogbone® vibration dampers. Heliformed® Spiral Vibration Dampers are also available in lieu of Dogbone® vibration dampers. Various fittings such as those shown above can be used to attach the tension or suspension assembly to the structure.

Similar tension and suspension assemblies and accessories can be supplied for All Dielectric Self Supporting (ADSS) cable. Please consult our sales staff for further information.

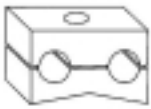
## Optical Ground Wire (OPGW) cables Fibre Optic Downlead Clamp

### General Recommendations

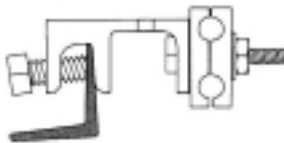
Fibre optic downlead clamps are designed to attach fibre cables to structures without causing undue stress to the optical fibres. The downlead clamp consists of two parts; the clamp base and keeper. Each clamp contains two grooves which accommodates a specific range of cable diameters. The base can be installed to either a curved pole surface or flat surfaces. Mounting hardware is only included when the Tower Attachment or Banding option is selected. Lag or machine bolts are not included.

Diameter Range mm	Cat No.	Cat No.	Cat No.	Cat No.	Cat No.
11.9 - 14.2	FODLC 1190	TFODLC 1190	FODLC X 1190	FODLC 1190 PBC	TFODLCU 1190
14.3 - 16.6	FODLC 1430	TFODLC 1430	FODLC X 1430	FODLC 1430 PBC	TFODLCU 1430
16.7 - 19.0	FODLC 1670	TFODLC 1670	FODLC X 1670	FODLC 1670 PBC	TFODLCU 1670
19.1 - 21.6	FODLC 1910	TFODLC 1910	FODLC X 1910	FODLC 1910 PBC	TFODLCU 1910
21.7 - 24.1	FODLC 2160	TFODLC 2160	FODLC X 2160	FODLC 2160 PBC	TFODLCU 2160
24.2 - 26.6	FODLC 2410	TFODLC 2410	FODLC X 2410	FODLC 2410 PBC	TFODLCU 2410

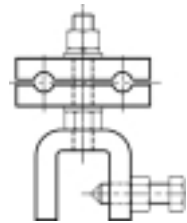
### Down Lead Clamps



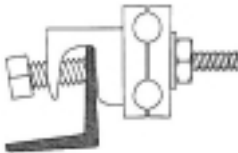
FODLC



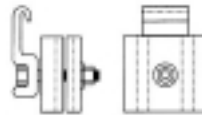
FODLCX



TFODLCU



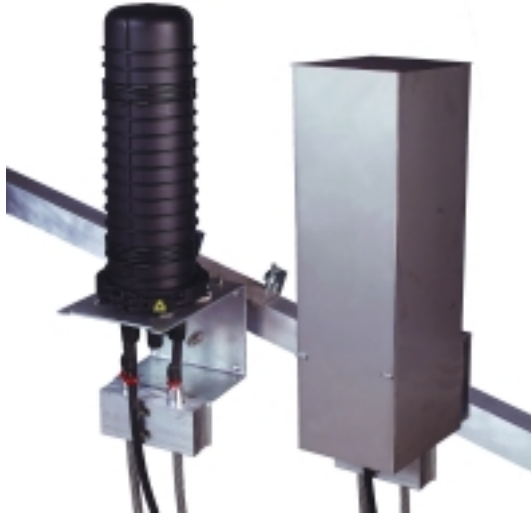
TFODLC



FODLC\_PBC

OPGW/ADSS down lead clamps for timber/concrete poles

## Optical Ground Wire (OPGW) cables Single-Ended Closure System Type FOSC-OPGW



The FOSC-OPGW is a single-ended closure system specially developed for use on the optical grounding wires of overhead electrical power lines.

The closure is suitable for use above ground; it can be attached to high voltage towers, poles, walls or other support structures. One model can be used to track and spur joint applications.

The FOSC-OPGW closure system has the following functions and features:

- Single-ended design with valve

- It permits the termination and sealing of:

  - OPGW (Optical Grounding Wire) cables

  - ADSS (All Dielectric Self Support) or conventional buried fibre optic cables

- Cable seals are manufactured from heat-shrinkable material

- Internal storage utilises FOSC splice trays which are hinged for access to any splice without disturbing other trays

- A galvanised steel mounting frame holds the thermoplastic dome and base and the OPGW cable clamps

- A pole mounting kit is included which allows the closure to be mounted on a traverse strut of a high voltage tower without the need to drill holes in the metal construction

- A stainless steel shot-gun protection enclosure is optionally available.

# Optical Ground Wire (OPGW) cables Order/Inquiry Information Sheet

All to be supplied to AS1154 standard dimensions unless specified otherwise

Conductor Stranding .....  
 Conductor Diameter ..... mm  
 Conductor UTS ..... kN  
 Conductor Lay (if known) RHL  LHL   
 Conductor Mass ..... kg  
 Conductor No of Fibres .....  
 Conductor Span Length From ..... (min) to ..... (max)

Please copy this sheet, fill in the relevant details & forward to the Dulmison sales office in your region.  
 Company:.....  
 Contact Name:.....  
 Phone No:.....  
 Fax/email:.....

**Please specify cable/conductor manufacturers technical specification if available:**

.....  
 .....  
 .....

**Please provide pole/tower details for attachment purposes:**

.....  
 .....  
 .....

**Please provide quantity requirements:**

Tension Assemblies: .....  
 Suspension Assemblies: .....  
 Vibration dampers: .....  
     Dogbone® Type .....  
     Spiral Type .....  
 Earth Lead Assemblies: .....  
 Down Lead Clamps: .....  
 Jointing Closure: .....

**Please nominate preferred attachment fittings (refer Fibre Optic chapter)**

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 .....  
 .....