

SOLUTIONS *Fiberlign*<sup>®</sup>

FOR FTTH AERIAL NETWORKS

To sustain safely power grid



**PREFORMED** LINE PRODUCTS



## PREFORMED LINE PRODUCTS

Established in 17 countries, Preformed Line Products Group (PLP) designs and manufactures high quality accessories for the installation and the security of telecommunication and energy networks (Energy Distribution and Transmission), of which it has become one of the world's leading players. PLP is also present in railway, solar and other specialized industries. PLP provides a constant added value and an incomparable

support to its customers.

The expertise of our fifteen R&D centers (including 3 in Europe and 1 in Africa) allows us to offer customized solutions to the Operators for any market and on all types of new projects. PLP plants are equipped with testing capabilities allowing to define and test the solutions depending on cables and customer specifications.

### Our service for the deployment of FTTH in France

PLP is the inventor of preformed technology (1947), which has been used for nearly 70 years worldwide by all Operators on their communication and energy networks. It is often referred to as «spiral» products in France and «helical» or “formed wire” products in other countries. Pioneer in this field, PLP has become the world leader in optical dielectric overhead cable accessories, with more than 10 million systems installed on all continents. PLP was also the designer of solutions for the protection of dielectric cables against wind phenomena. PLP continues to innovate and has developed a new optimized

range of ADSS fittings suitable for the new generation of round ADSS Fiber Optic aerial cables with micromodule technology used over short spans (typically span < 80 m) in France by the main Operators for the FTTH broadband national plan.

Our technicians are at your disposal to guide you and validate the best choice of accessories according to the cable specifications and the line parameters of your installation. We also offer our standard range of cable accessories and pole hardware for long spans applications, which can exceed 400 m.

### Why do we recommend to use fittings with the helical technology for round dielectric optical cables?

It is accepted by all industry players that sole the formed wire technology is performing on ADSS Fiber optic cable on long span applications (spans > 100 meters).

Given their success on copper networks, conical wedge clamps have begun to be used on short ranges of ADSS OF cables. Until today, there was no optimized offer of helical fittings suitable for these new generation of ADSS FO cable in France.

With its new Fiberlign® range, PLP now offers the most suitable products for spans < 80 m.

Lighter, robust, compact and aesthetically pleasing, they provide greater protection for the fiber and help to guarantee the integrity of the cable and the stability of the installation parameters (sag, tension, etc.) over time, to the constraints that the line could undergo.

They are particularly economical because :

- quick installation («all-in-one» device, without tools and secure) and easier adjustment,
- reduction of the error rate at the installation,
- reduced re-interventions in after-sales service,
- easier maintenance,
- installation quality control from ground level,
- possibility of reducing the size of supports through small congestion.





# SUMMARY

## ACCESSORIES FOR ADSS CABLES ON SHORT SPAN NETWORKS

01

|      |  |   |
|------|--|---|
| 01/1 | <b>Accessories for aerial FTTH drop cables</b> -----         | 5 |
|      | Formed wire dead-ends  |   |
|      | Helical Suspensions  |   |
| 01/2 | <b>Accessories for aerial FTTH distribution cables</b> ----- | 6 |
|      | Formed wire dead-ends  |   |
|      | Helical Suspensions  |   |

## ACCESSORIES FOR ADSS CABLES ON LONG SPAN NETWORKS

02

|      |   |   |
|------|---|---|
| 02/1 | <b>Formed wire dead-ends with reinforced rods</b> ----- | 7 |
| 02/2 | <b>Helical Suspensions with reinforced rods</b> -----   | 8 |
| 02/3 | <b>AGS Suspension Clamps</b> -----                      | 9 |

## POLE AND GUYING HARDWARE

03

|      |  |    |
|------|--|----|
| 03/1 | <b>Pole hardware (wood / steel / concrete)</b> ----- | 10 |
|      | Cross-arms and fixation brackets                     |    |
|      | Pole brackets  |    |
|      | Nuts & bolts   |    |
|      | Bands & buckles                                      |    |
| 03/2 | <b>Guying accessories</b> -----                      | 13 |

## PROTECTION ACCESSORIES AGAINST WIND PHENOMENA FOR OVERHEAD OPTICAL FIBER LINES

04

|      |  |    |
|------|--|----|
| 04/1 | <b>SVD – Spiral Vibration damper</b> ----- | 14 |
| 04/2 | <b>AFS - Air Flow Spoiler</b> -----        | 14 |

# PRODUCT SELECTION GUIDE PER NETWORK TYPE / SUPPORT

## Anchoring and suspension

| Products                                    | Reference             | Page n° | Network | Telecom supports | Low voltage supports | Others (public lighting...) | Medium voltage supports | Medium voltage supports |
|---|-----------------------|---------|---------|------------------|----------------------|-----------------------------|-------------------------|-------------------------|
|   |                       |         | Span    | Up to 80 m       |                      |                             | From 80 m to 200 m      | Up to 400 m*            |
| Formed wire dead-ends                       | A000X                 | 5 and 6 |         | ✓                | ✓                    | ✓                           |                         |                         |
| Formed wire dead-ends with reinforcing rods | AWRFO-XX<br>AXRFOC-XX | 7<br>7  |         |                  |                      |                             | ✓<br>✓                  | ✓                       |
| Helical suspensions                         | S100X                 | 5 and 6 |         | ✓                | ✓                    | ✓                           |                         |                         |
| Helical suspensions reinforcing rods        | AWFSO-XX              | 8       |         |                  |                      |                             | ✓                       |                         |
| AGS suspension clamps                       | GSAFO-XX              | 9       |         |                  |                      |                             |                         | ✓                       |

\* Beyond 400 m, please consult us.

## Pole hardware

| Products  | Reference | Page n° | Network           |   | Telecom     |            |        | Others (public lighting, ...) |               |            | Low voltage |            | Medium voltage |            |
|---|-----------|---------|-------------------|---|-------------|------------|--------|-------------------------------|---------------|------------|-------------|------------|----------------|------------|
|   |           |         | Nature of support |   | Wooden Pole | Steel Pole | Facade | Wooden Pole                   | Concrete Pole | Steel Pole | Wooden Pole | Steel Pole | Wooden Pole    | Steel Pole |
| 5-hole cross-arm                                | TV507     | 10      | ✓                 | ✓ | ✓           | ✓          | ✓      | ✓                             | ✓             | ✓          | ✓           | ✓          | ✓              |            |
| 11-hole cross-arm                               | TV514     | 10      | ✓                 | ✓ | ✓           | ✓          |        | ✓                             | ✓             | ✓          |             | ✓          | ✓              |            |
| 13-hole cross-arm                               | TV515     | 10      | ✓                 | ✓ | ✓           | ✓          | ✓      | ✓                             | ✓             | ✓          | ✓           | ✓          | ✓              |            |
| 15-hole cross-arm                               | TV519     | 10      |                   |   |             |            |        | ✓                             |               | ✓          |             |            | ✓              |            |
| Drop anchoring plate                            | FERE      | 10      | ✓                 | ✓ | ✓           | ✓          | ✓      | ✓                             | ✓             | ✓          | ✓           | ✓          | ✓              |            |
| Square base bracket                             | SMLQ539   | 10      |                   |   |             |            |        | ✓                             |               | ✓          |             |            | ✓              |            |
| Wooden pole bracket for low voltage wooden pole | SMLPB     | 10      | ✓                 |   |             | ✓          |        |                               | ✓             |            |             |            | ✓              |            |
| Wooden pole bracket for telecom wooden pole     | SML516    | 10      | ✓                 |   |             | ✓          |        |                               |               |            |             |            |                |            |
| Universal pole hardware                         | UPH       | 11      | ✓                 | ✓ |             | ✓          | ✓      | ✓                             | ✓             | ✓          | ✓           | ✓          | ✓              |            |
| Double drop bracket                             | CSL16U    | 11      | ✓                 | ✓ |             | ✓          |        | ✓                             |               |            |             |            |                |            |
| Suspension bracket                              | CS1500    | 11      | ✓                 |   |             | ✓          | ✓      |                               | ✓             | ✓          | ✓           | ✓          | ✓              |            |
| Double anchoring bracket                        | CA1500    | 11      | ✓                 |   |             | ✓          | ✓      |                               | ✓             | ✓          | ✓           | ✓          | ✓              |            |
| Pigtail bolt suspension bracket                 | CSSL-BQC  | 11      | ✓                 |   |             | ✓          | ✓      |                               | ✓             |            |             | ✓          | ✓              |            |
| Double anchoring bracket                        | CANC12    | 11      | ✓                 |   |             | ✓          | ✓      |                               | ✓             |            |             | ✓          | ✓              |            |
| Suspension hook bracket                         | CCRO12    | 11      | ✓                 |   |             | ✓          | ✓      |                               | ✓             |            |             | ✓          | ✓              |            |
| Pigtail bolt with plug                          | BQC12CH   | 12      |                   |   | ✓           |            |        |                               |               |            |             |            |                |            |
| Pigtail screw for wooden support                | CVBQC     | 12      | ✓                 |   |             | ✓          |        |                               |               |            |             |            |                |            |
| Pigtail screw for concrete support              | CVEQC     | 12      |                   |   | ✓           |            |        |                               |               |            |             |            |                |            |
| Collar bracket for wooden pole                  | CNV160    | 13      | ✓                 |   |             | ✓          |        |                               | ✓             |            |             |            |                |            |
| Pole bracket with pin                           | SEMAG12   | 13      | ✓                 | ✓ |             | ✓          |        |                               | ✓             |            |             |            |                |            |

Preformed Line Products France offers its new range of formed wire anchoring and suspension for overhead ADSS FO cables for short spans, specific to the Engineering used in FttH networks in France for the national Broadband Plan. Tested according to French and European standards, these anchoring and suspension fittings use the helical technology, the most adapted and appreciated solution in the world for round ADSS Fiber Optical cables.

**Compliant to the Orange specifications CCF / DI / BUBI (20.05.2010)**

## 01/1 - Accessories for aerial FTTH drop cables

The new preformed anchoring devices guarantee the durability of your network and the stability of the installation parameters. They reduce your installation and service costs and minimize your storage expenses.

### CHARACTERISTICS

- “All-in-one” simple and intuitive fixation, fast and secure (1 installer only)
- Direct installation on cross-arms, brackets, starter brackets and other pole hardware of the French network (UPH ...)
- Tool-less assembly / disassembly
- Stability of installation parameters (no slip)
- Designed for the life of the network
- Tested according to IEC 60794-1 (according to NF EN 60794-1-2)

### HELICAL DROP CABLE DEAD-ENDS

MAXIMUM SPAN : 80M

Assembly instructions



FTTH drop cable dead-end



| Reference | Description         | Thimble  | Ø mm      | Weight (kg) | Pack. | Colour code |
|-----------|---------------------|----------|-----------|-------------|-------|-------------|
| A0001     | Drop cable dead-end | Included | 4,0 - 4,8 | 0,03        | 120   |             |
| A0002     | Drop cable dead-end | Included | 4,8 - 6,2 | 0,03        | 120   |             |

### HELICAL DROP CABLE SUSPENSIONS

MAXIMUM SPAN : 80M

Thanks to their high slippage resistance, these very compact helical suspension fittings can replace a double anchoring dead-end for in-line installations (line angle up to 25°).

#### Product benefits :

- Suitable for line angle up to 25-degrees
- Excellent slippage resistance achieved with preformed technology
- S-link option for installation on cluttered pole hardware

S-link to connect the S100x suspension on cluttered pole bracket



FTTH subscriber cable suspension



| Reference | Description           | Thimble  | Ø mm ou LxI | Weight (kg) | Pack. | Colour code |
|-----------|-----------------------|----------|-------------|-------------|-------|-------------|
| S1000     | Drop cable suspension | Included | 4,0 - 4,8   | 0,03        | 120   |             |
| S1001     | Drop cable suspension | Included | 4,8 - 6,2   | 0,03        | 120   |             |
| 10056     | S-link                |          | 62 x 30     |             |       |             |

Compliant to the Orange  
specifications  
CCF / DI / BUBI (20.05.2010)

## 01/2 - Accessories for aerial FTTH distribution cables

Preformed Line Products offers a new range of formed wire dead-end and suspension for overhead FO cables on short spans, specific to the French market. Tested according to French and European standards, these fittings are made with the helical technology, the most adapted and appreciated solution worldwide for round ADSS Fiber Optic cables. They can be installed on each hole of the cross-arms.

### CHARACTERISTICS

- "All-in-one" simple and intuitive fixation, fast and secure (1 installer only)
- Installation directly on cross-arms, brackets, drop departure brackets and other pole hardware used in the French networks (UPH ...)
- Tool-less assembly / disassembly
- Stability of installation parameters (no slip)
- Designed for the life of the network
- Tested according to NF EN/IEC 60794-1-2 standards

### HELICAL DEAD-END

MAXIMUM SPAN : 80M

#### Product benefits :

- Stability of installation parameters of the overhead line (no cable slipping)

Distribution dead-end



Assembly instructions



| Reference | Description      | Thimble  | Ø mm        | Weight (kg) | Pack. | Colour code |
|-----------|------------------|----------|-------------|-------------|-------|-------------|
| A0002     |                  |          | 4,8 - 6,2   | 0,03        | 120   | Green       |
| A0003     |                  |          | 6,2 - 7,8   | 0,10        | 80    | Yellow      |
| A0004     | Dead-end fitting | Included | 7,8 - 9,5   | 0,13        | 80    | Purple      |
| A0005     |                  |          | 9,5 - 10,7  | 0,14        | 60    | White       |
| A0006     |                  |          | 10,7 - 12,8 | 0,15        | 50    | Orange      |
| A0007     |                  |          | 12,8 - 15,0 | 0,18        | 40    | Black       |

Note: for the use of these accessories on reinforced cables, provided for long spans, please consult us.

### HELICAL SUSPENSIONS

MAXIMUM SPAN : 80M

Thanks to their high slippage resistance, these very compact helical suspension fittings can replace a double anchoring dead-end for in-line installations (line angle up to 25°). They are very compact and can be installed on adjacent holes on the cross-arms.

#### Product benefits

- Suitable for line angle up to 25-degrees
- Excellent slippage resistance achieved with preformed technology
- S-link option for installation on cluttered pole hardware

Distribution cable suspension



| Reference | Description                | Thimble  | Ø mm        | Weight (kg) | Pack. | Colour code |
|-----------|----------------------------|----------|-------------|-------------|-------|-------------|
| S1001     |                            |          | 4,8 - 6,2   | 0,05        | 50    | Green       |
| S1002     |                            |          | 6,2 - 7,8   | 0,05        | 50    | Yellow      |
| S1003     | Helical suspension fitting | Included | 7,8 - 9,5   | 0,06        | 50    | Purple      |
| S1004     |                            |          | 9,5 - 10,7  | 0,06        | 50    | White       |
| S1005     |                            |          | 10,7 - 12,8 | 0,09        | 50    | Orange      |
| S1006     |                            |          | 12,8 - 15,0 | 0,10        | 50    | Black       |

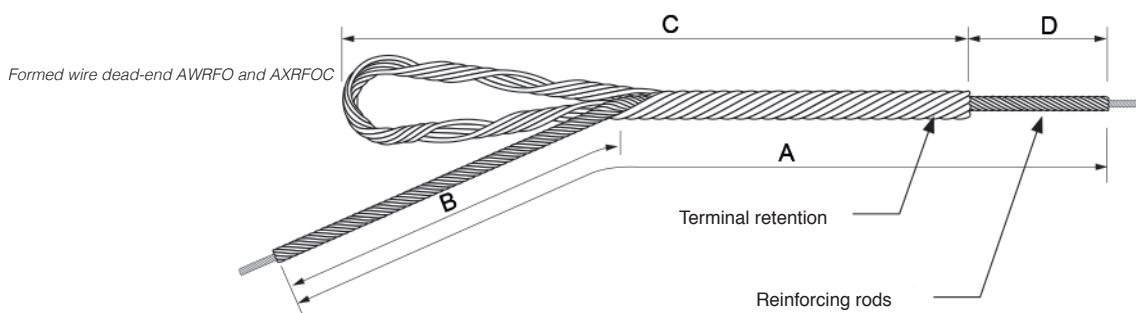
Note: for the use of these accessories on reinforced cables, provided for long spans, please consult us

## 02/1 - Formed wire dead-ends with reinforced rods

Invented by PLP, preformed anchors have enabled the first deployments of overhead FO cables in the world. They incorporate proven technology to protect ADSS cables.

### CHARACTERISTICS

- Protective underlay that distributes the traction effort along a higher cable surface
- Protection against torsion and temperature changes thanks to reinforcement rods
- Resistance to at least 90% of the cable breaking load
- Two versions AWRFO and AXRFOC respectively for span ranges  $\leq 200$  m and  $\leq 400$  m (depending on cable specifications and load conditions)
- Use on any type of support



### HELICAL DEAD END - AWRFO

MAXIMUM SPAN : 200M

| Reference | Ø mm          | Thimble  | Weight (kg) | Colour code |
|-----------|---------------|----------|-------------|-------------|
| AWRFO-01  | 9,00 - 9,99   |          | 0,90        |             |
| AWRFO-02  | 10,00 - 10,82 |          | 1,02        |             |
| AWRFO-03  | 10,83 - 11,69 |          | 1,17        |             |
| AWRFO-04  | 11,70 - 12,50 |          | 1,30        |             |
| AWRFO-05  | 12,51 - 13,26 |          | 1,40        |             |
| AWRFO-06  | 13,27 - 14,50 | Included | 1,41        |             |
| AWRFO-07  | 14,51 - 15,50 |          | 1,56        |             |
| AWRFO-08  | 15,51 - 16,80 |          | 1,63        |             |
| AWRFO-09  | 16,81 - 17,80 |          | 1,84        |             |
| AWRFO-10  | 17,81 - 18,50 |          | 1,85        |             |
| AWRFO-11  | 18,51 - 20,00 |          | 1,87        |             |
| AWRFO-12  | 20,01 - 21,45 |          | 2,30        |             |
| AWRFO-13  | 21,46 - 22,90 |          | 2,52        |             |

Contact us for product dimensions

### HELICAL DEAD END - AXRFOC

MAXIMUM SPAN : 400M

| Reference | Ø mm          | Lengths (mm) |     |      |      | Thimble  | Weight (kg) | Colour code |
|-----------|---------------|--------------|-----|------|------|----------|-------------|-------------|
|           |               | A            | B   | C    | D    |          |             |             |
| AXRFOC-01 | 8,25 - 10,69  | 1500         | 400 | 890  | 408  |          | 2,00        |             |
| AXRFOC-02 | 10,70 - 11,47 | 1900         | 450 | 980  | 760  |          | 2,46        |             |
| AXRFOC-03 | 11,48 - 12,45 | 2000         | 450 | 950  | 920  |          | 2,59        |             |
| AXRFOC-04 | 12,46 - 13,06 | 2000         | 450 | 950  | 920  |          | 2,65        |             |
| AXRFOC-05 | 13,07 - 13,77 | 2150         | 500 | 950  | 1020 | Included | 2,72        |             |
| AXRFOC-06 | 13,78 - 14,49 | 2150         | 500 | 1300 | 870  |          | 4,22        |             |
| AXRFOC-07 | 14,50 - 15,17 | 2300         | 550 | 1300 | 970  |          | 4,24        |             |
| AXRFOC-08 | 15,18 - 15,85 | 2300         | 550 | 1300 | 970  |          | 4,32        |             |
| AXRFOC-09 | 15,86 - 16,80 | 2300         | 550 | 1500 | 990  |          | 4,55        |             |
| AXRFOC-10 | 16,81 - 18,24 | 2450         | 550 | 1500 | 1095 |          | 4,69        |             |

## 02/2 - Helical Suspensions with reinforced rods

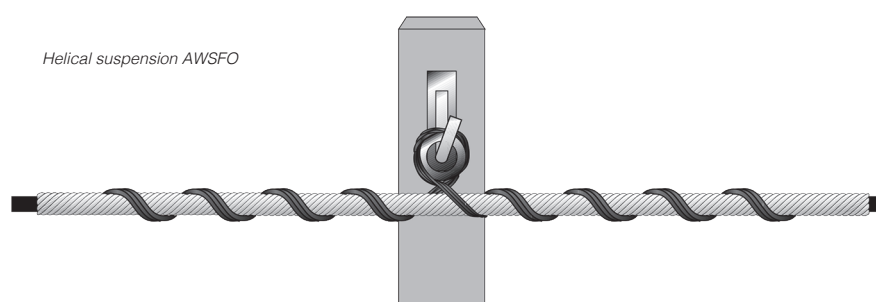
Invented by PLP, preformed suspension devices are a very reliable and economical solution for alignment when installing ADSS cables.

### CHARACTERISTICS

- Composed of aluminum alloy reinforcing rods, this solution avoids deterioration of the optical fiber inside the ADSS cable
- Excellent slippage resistance
- Steel core thimble at the suspension point
- Can be used on any type of support for spans  $\leq 200$  m (depending on cable specifications and load conditions)

### HELICAL SUSPENSIONS - AWSFO

MAXIMUM SPAN : 200M



| Reference | Ø<br>mm       | Thimble  | Weight<br>(kg) | Colour<br>code |
|-----------|---------------|----------|----------------|----------------|
| AWSFO-01  | 12,51 - 13,26 |          | 0,75           | Black          |
| AWSFO-02  | 13,27 - 14,50 |          | 0,75           | Yellow         |
| AWSFO-03  | 14,51 - 15,50 |          | 0,77           | Cyan           |
| AWSFO-04  | 15,51 - 16,80 |          | 0,85           | Green          |
| AWSFO-05  | 16,81 - 17,80 | Included | 0,94           | Orange         |
| AWSFO-06  | 17,81 - 18,50 |          | 0,96           | Red            |
| AWSFO-07  | 18,51 - 20,00 |          | 0,98           | Brown          |
| AWSFO-08  | 20,01 - 21,45 |          | 1,07           | Light Blue     |
| AWSFO-09  | 21,46 - 22,90 |          | 1,11           | Light Green    |



## 02/3 - Antivibration suspension clamps

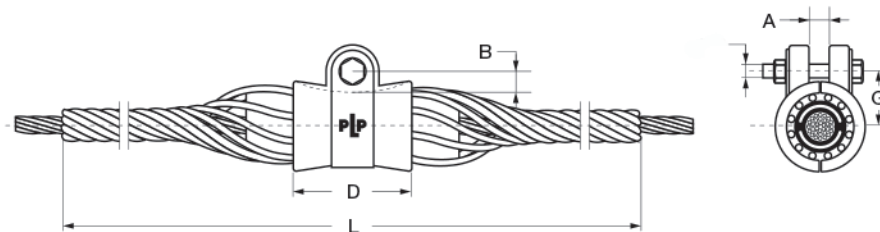
PLP was the inventor in the 1950s of this solution which remains widely used all over the world. The ADSS cable is subjected to high dynamic and static forces at the suspension point. Wind vibrations, friction, ice load, bending angles can damage the optical fiber in your cable. The AGS (ARMOR-GRIP Suspension) clamp allows a reliable suspension while ensuring the durability of your network.

### CHARACTERISTICS

- Preformed rods and aluminum alloy body
- Neoprene shell (elastomer reinforced with aluminum sheet)
- Compatible with ADSS cables on distribution networks for spans  $\leq 400$  m and above (please consult us)

### SUSPENSION CLAMPS - AGS

MAXIMUM SPAN : 400M



| Reference | Ø mm          | Dimensions (mm) |    |    |    |    | Breaking load (daN) | Weight (kg) | Colour code |
|-----------|---------------|-----------------|----|----|----|----|---------------------|-------------|-------------|
|           |               | L               | A  | B  | D  | G  |                     |             |             |
| GSAFO-01  | 8,71 - 9,03   | 1800            | 23 | 36 | 64 | 55 |                     | 0,93        | Green       |
| GSAFO-02  | 9,04 - 9,52   | 1800            | 22 | 36 | 64 | 55 |                     | 0,93        | Black       |
| GSAFO-03  | 9,53 - 9,90   | 1800            | 22 | 36 | 64 | 55 |                     | 0,94        | Purple      |
| GSAFO-04  | 9,91 - 10,28  | 1800            | 22 | 36 | 64 | 55 |                     | 0,98        | Yellow      |
| GSAFO-05  | 10,29 - 10,63 | 1800            | 22 | 36 | 64 | 55 |                     | 0,99        | Brown       |
| GSAFO-06  | 10,64 - 11,04 | 1800            | 22 | 36 | 64 | 55 | 5000                | 0,99        | Green       |
| GSAFO-07  | 11,05 - 11,45 | 1800            | 22 | 36 | 64 | 55 |                     | 1,05        | Cyan        |
| GSAFO-08  | 11,46 - 11,95 | 1800            | 22 | 36 | 64 | 55 |                     | 1,05        | Black       |
| GSAFO-09  | 11,96 - 12,23 | 1800            | 22 | 36 | 64 | 55 |                     | 1,05        | Purple      |
| GSAFO-10  | 12,24 - 12,69 | 1800            | 22 | 31 | 76 | 55 |                     | 1,54        | Red         |
| GSAFO-11  | 12,70 - 13,02 | 1800            | 22 | 31 | 76 | 55 |                     | 1,54        | Cyan        |
| GSAFO-12  | 13,03 - 13,48 | 1800            | 22 | 31 | 76 | 55 |                     | 1,62        | Green       |



## 03/1 - Pole hardware (wood / steel / concrete)

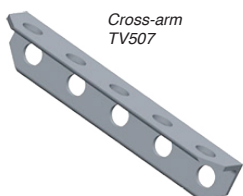
## CROSS-ARMS AND FIXATION BRACKETS

## CHARACTERISTICS

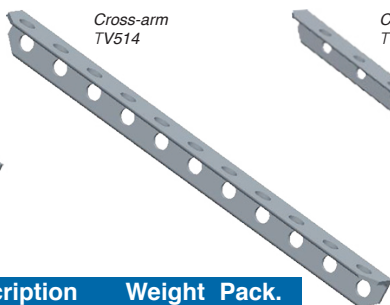
## CROSS-ARM

- L-shaped cross bar 40 x 40 mm – Hot-dip galvanized steel

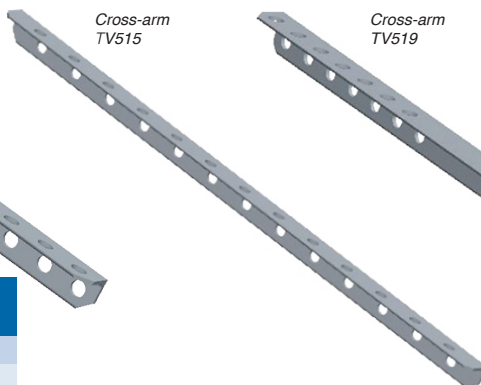
- For wooden, steel or concrete poles
- Fixation with M14 bolts (BH1425)



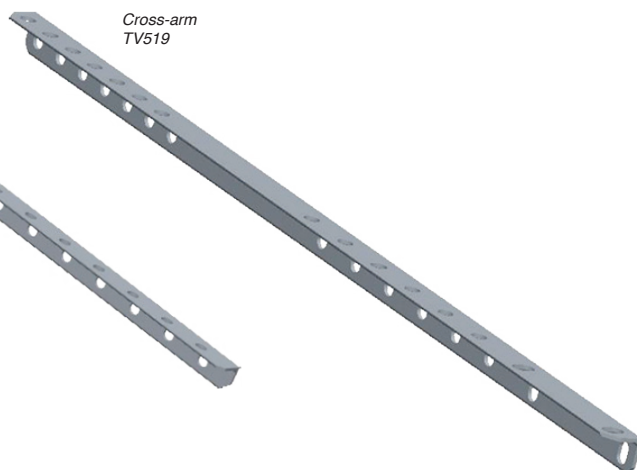
Cross-arm  
TV507



Cross-arm  
TV514



Cross-arm  
TV515

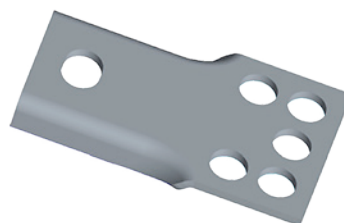


Cross-arm  
TV519

| Reference | Description       | Weight (kg) | Pack. |
|-----------|-------------------|-------------|-------|
| TV507     | 5-hole cross-arm  | 0,43        | 10    |
| TV514     | 11-hole cross-arm | 0,93        | 10    |
| TV515     | 13-hole cross-arm | 1,80        | 10    |
| TV519     | 15-hole cross-arm | 2,41        | 10    |

## DROP ANCHORING PLATE

- Fixation on the cross-arm extremity with M14 bolt (BH1425)  
Hot-dip galvanized steel
- Allows the departure of (5) subscriber cables (A000X dead-ends)



Drop anchoring plate  
FERE

| Reference | Description          | Weight (kg) | Pack. |
|-----------|----------------------|-------------|-------|
| FERE      | Drop anchoring plate | 0,26        | 50    |

## POLE BRACKETS

## SMLQ539

- Square base bracket for concrete pole – Hot-dip galvanized steel
- (2) SMLQ539 required for the fixation of a 13-hole (TV515) or 15-hole (TV519) cross-arm - assembly with (2) M14 bolts (BH1425)
- Fastening with two 20 mm steel bands (F2004C or F2007C)

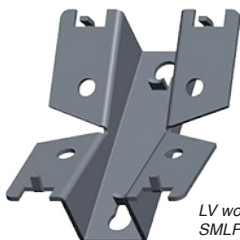
## SMLPB

- Bracket for wooden pole – Hot-dip galvanized steel
- Fixation of the cross-arm with (2) M14 connecting bolt (BH1425)
- Fastening with two 20 mm steel bands (F2004C or F2007C)

## SML516

- Fixing base plate on wooden pole for cross-arms – Hot-dip galvanized steel
- Cross-arm fixing by a M14 through bolt (BH14225) on the upper hole and with a coach screw (VQ1280) on the lower hole (for anti-rotation)

Square base bracket  
SMLQ539



LV wooden pole bracket  
SMLPB



Telecom wooden pole bracket  
SML516

| Reference | Description                       | Weight (kg) | Pack. |
|-----------|-----------------------------------|-------------|-------|
| SMLQ539   | Concrete pole square base bracket | 0,35        | 50    |
| SMLPB     | Low voltage wooden pole bracket   | 0,59        | 30    |
| SML516    | Telecom wooden pole bracket       | 0,41        | 50    |

**BRACKETS**

**CHARACTERISTICS**

**CSL16U**

- Double drop dead-end bracket
- Fixation with (1) 20 mm steel band (F2004C or F2007C) or with (1) M14 or M16 bolt (BH1425)
- Connection of up to 2 drop dead-ends

**CS1500**

- Suspension bracket for S100X fittings
- High strength aluminum alloy
- Allows the direct fixation of (1) helical suspensions (S100X)
- Mounted to the pole with (2) steel bands, or (1) band + (1) M14 or M16 bolt

**CA1500**

- Double anchoring bracket for A000X fittings
- High strength aluminum alloy
- Fastening on pole by (2) 20 mm bands or (2) M14 bolts or (1) M14 bolt + (1) M12 coach screw

**UNIVERSAL POLE HARDWARE - UPH**

- High strength aluminum alloy
- Installation on wooden, steel or concrete poles with (1) bolt M14 or M16 or (2) 20 mm steel bands
- Several uses:
  - Anchoring bracket for fixing of 3 dead-ends or up to 5 drop dead-ends
  - Anchoring bracket for guying application (See Guying section)
  - Bracket for installation of cross-arms (TV514 and TV515) with (2) M14 bolts (BH1425)

**PIGTAIL BOLTED SUSPENSION BRACKET CSLS-BQC**

- Fastening on wooden or concrete pole by two 20 mm bands
- With BQC1250 equipped with nut and lock nut
- Allows the installation of suspension devices



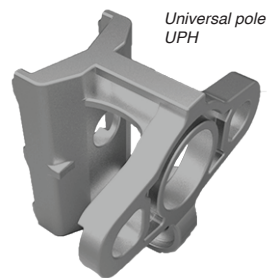
Drop dead-end bracket  
CSL16U



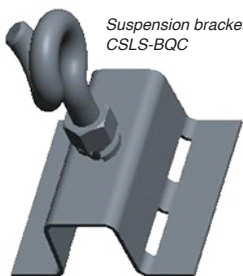
Suspension bracket  
CS1500



Double anchoring bracket  
CA1500



Universal pole hardware  
UPH



Suspension bracket  
CSLS-BQC



Double anchoring bracket  
CANC12



Hook bracket  
CCRO12

| Reference | Description                                  | Material         | Weight (kg) | Pack. |
|-----------|--|------------------|-------------|-------|
| CSL16U    | Drop dead-end bracket                        | Galvanized steel | 0,03        | 50    |
| CS1500    | Suspension bracket                           | Aluminum         | 0,18        | 50    |
| CA1500    | Double anchoring bracket                     | Aluminum         | 0,19        | 50    |
| UPH       | Universal pole hardware                      | Aluminum         | 0,23        | 50    |
| CSLS-BQC  | Suspension bracket with pigtail bolt BQC1250 | Galvanized steel | 0,17        | 50    |
| CANC12    | Double anchoring bracket                     | Galvanized steel | 1,10        | 6     |
| CCRO12    | Hook bracket                                 | Galvanized steel | 0,96        | 6     |

## NUTS &amp; BOLTS

## CHARACTERISTICS

## BQC12CH

- For the connection of a dead-end (A000X) on facade

## CVBQC

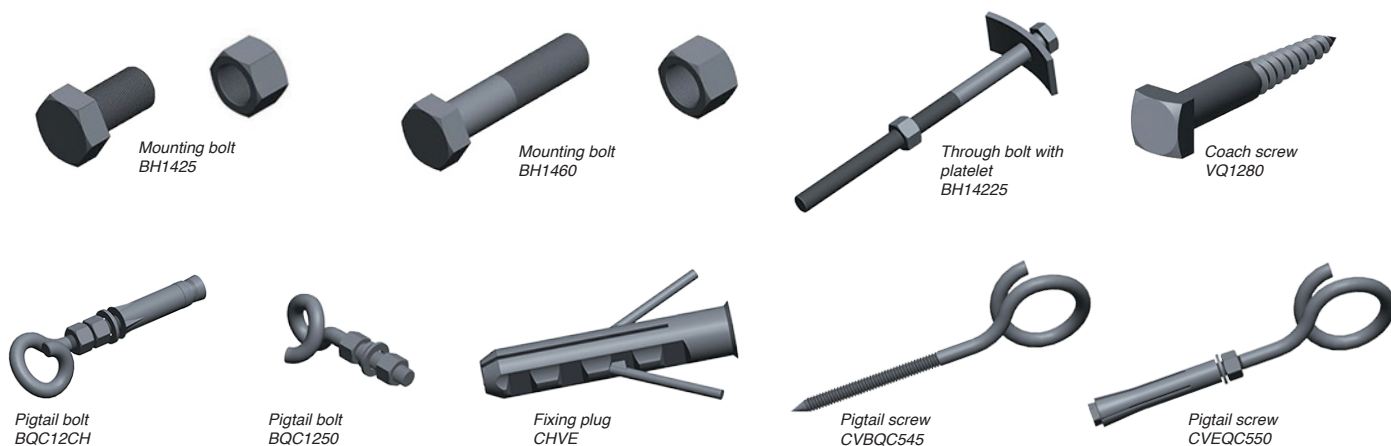
- Screw for fixing on wooden frame or concrete facade with wall plug CHVE

## CVEQC

- Screw for fixing on concrete facade with expanding wall plug

## CHVE

- Wall plug for fixing on concrete facade for pigtail screw CVBQC



| Reference | Description                                     | Material         | Dimensions (mm)  | Weight (kg) | Pack. |
|-----------|---|------------------|------------------|-------------|-------|
| BH1425    | Mounting bolt                                   | Galvanized steel | 14 x 25          | 0,07        | 100   |
| BH1460    | Mounting bolt                                   | Galvanized steel | 14 x 60          | 0,10        | 100   |
| BH14225   | 225mm Through bolt with platelet                | Galvanized steel | Threading 145 mm | 0,36        | 25    |
| VQ1280    | M12 Coach screw                                 | Galvanized steel | 12 x 80          | 0,08        | 100   |
| BQC12CH   | 12 mm Pigtail bolt with plug                    | Galvanized steel | 12 x 50          | 0,21        | 50    |
| BQC1250   | 12 mm Pigtail bolt + 2 nuts                     | Galvanized steel | 12 x 50          | 0,31        | 30    |
| CHVE85    | Fixing plug on concrete facade for CVBQC screws | Plastic          | Ø 8 mm drilling  | -           | 50    |
| CHVE128   | Fixing plug on concrete facade for CVBQC screws | Plastic          | Ø 12 mm drilling | -           | 50    |
| CVBQC545  | Pigtail screw for wooden pole                   | Stainless steel  | 5 x 45           | 0,02        | 50    |
| CVBQC850  | Pigtail screw for wooden pole                   | Stainless steel  | 8 x 50           | 0,07        | 50    |
| CVEQC550  | Pigtail screw for concrete with expandable plug | Stainless steel  | 5 x 50           | 0,03        | 50    |
| CVEQC850  | Pigtail screw for concrete with expandable plug | Stainless steel  | 8 x 50           | 0,09        | 50    |

## BANDS &amp; BUCKLES

| Reference-Band* | L x l (mm) | Weight (kg)     | Roll (m) | Pack. |
|-----------------|------------|-----------------|----------|-------|
| F2007C F2007P   | 20 x 0,7   | C 5,60 / P 5,80 |          |       |
| F2004C F2004P   | 20 x 0,4   | C 3,25 / P 3,45 | 50       | 5     |
| F1007C F1007P   | 10 x 0,7   | C 2,75 / P 2,95 |          |       |
| F1004C F1004P   | 10 x 0,4   | C 1,65 / P 1,85 |          |       |

FxxxX : carton box reel band / FxxxP : Plastic box reel band

| Reference* | Description       | Dimensions (mm) | Weight (kg) | Pack. |
|------------|-------------------|-----------------|-------------|-------|
| BCL10MM    | Buckle            | 10              | 0,35        | 40    |
| BCL20MM    | Buckle            | 20              | 0,75        | 20    |
| BCL10MMR   | Reinforced buckle | 10              | 0,32        | 40    |
| BCL20MMR   | Reinforced buckle | 20              | 0,90        | 15    |

\*For AISI 304 or AISI 316 band and buckle references, add suffix -304 or -316 at the end of the reference (example: F2007C-304)

Contact us for all our other references or other stainless steel grades



20mm Buckle  
BCL20MM

03/2 - Guying accessories

**CHARACTERISTICS**

**UNIVERSAL POLE HARDWARE UPH**

- Anchoring bracket for fixing a TL12-OO turnbuckle with an MD10 shackle
- High strength aluminum alloy
- Installation on wooden, steel or concrete pole with (1) bolt M14 or M16 or (2) 20mm steel bands (F2004C or F2007C)

**FIXING RING FOR WOODEN POLE**

- Attachment of a turnbuckle eye-eye to pole head
- Hot-dip galvanized steel

**TURNBUCKLE**

- Allows cable tension adjustment
- Hot-dip galvanized steel

**POLE BRACKET WITH ROD**

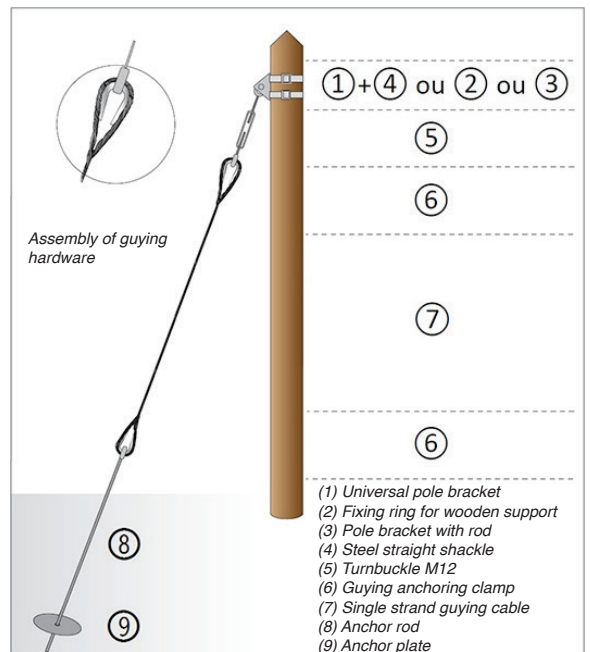
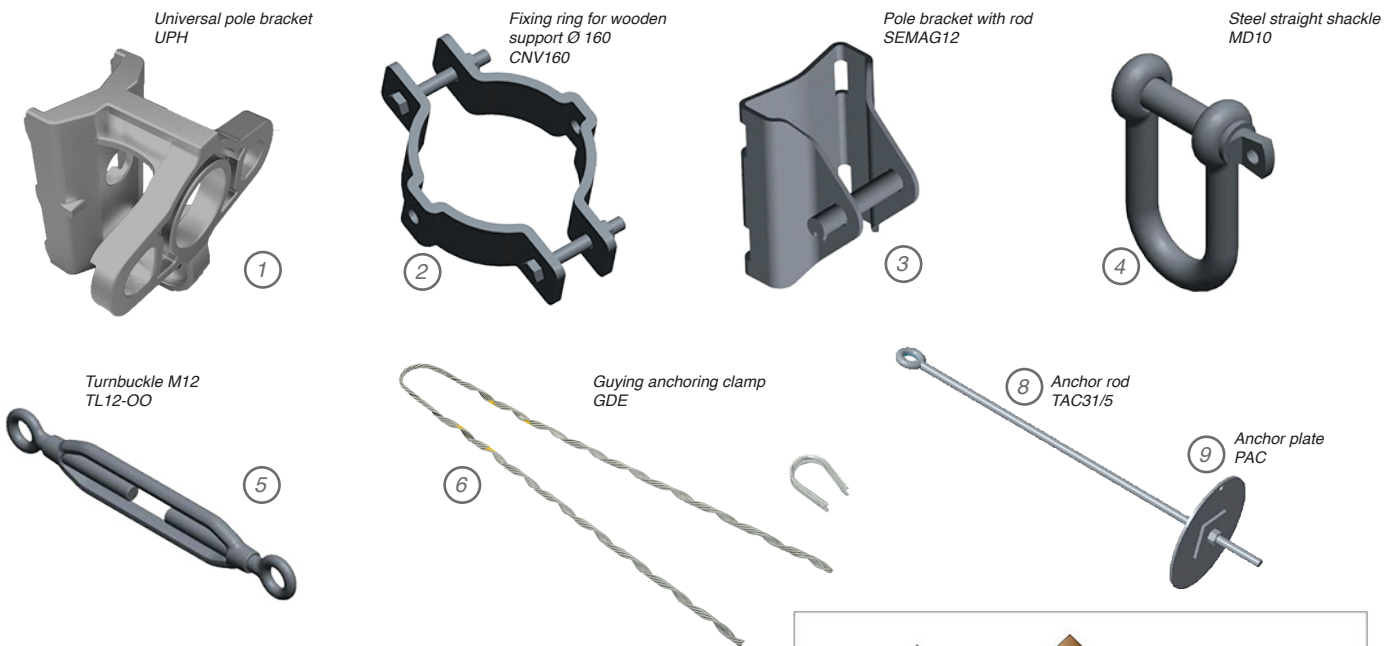
- Assembly with (2) 20mm steel bands (F2004C or F2007C)

**STRAIGHT SHACKLE - MD10**

- Fixation point between turnbuckle eye-eye (TL12-OO) and universal pole hardware (UPH)
- Fixation of the Guy Grip Dead-end (GDE) with the turnbuckle eye-eye (TL12-OO)

**GUY GRIP DEAD-END - GDE**

- The world's most used system for guying applications
- Fast and reliable installation without any tool
- No risk of installation error due to improper clamping
- Ensures a greater resistance than the breaking value of the cable and very stable parameters over time
- Thimble included



| Reference | Description                             | Weight (kg) | Pack. |
|-----------|---|-------------|-------|
| UPH       | Universal pole bracket                  | 0,23        | 50    |
| CNV160    | Fixing ring for wooden support Ø 160 mm | 3,66        | 3     |
| SEMAG12   | Pole bracket with rod                   | 0,54        | 30    |
| MD10      | 10 mm steel straight shackle            | 0,21        | 30    |
| TL12-OO   | Turnbuckle M12                          | 0,48        | 80    |
| GDE       | Guying anchoring clamp                  | 0,28        | 60    |
| HAB       | Single strand guying cable 7 x 2,1 mm   | 0,21/m      | 100 m |
| TAC31/5   | Anchor rod + nut + platelet             | 2,33        | 25    |
| PAC       | Anchor plate Ø 200 mm                   | 1,22        | 20    |

In the vibratory field too, PLP is the pioneer and the inventor of cable protection systems against wind phenomena, which can be critical especially on medium and long spans (typically on spans > 100 meters). Our technicians are at your disposal to advise you on their use.

## 04/1 - SVD - Vibration damper

*Invented by PLP to dampen the high-frequency vibrations occurring on overhead ADSS cables, the SVDs testify to our expertise and the quality of our engineering.*

### CHARACTERISTICS

- Lightness and protection against corrosion guaranteed by a PVC made structure
- Spiral shape to distribute the load, avoiding cable compression

| Reference | Ø Range (mm)  | Length (m) | Weight (kg) |
|-----------|---------------|------------|-------------|
| SVD-01    | 6,35 - 8,30   | 1,24       | 0,22        |
| SVD-02    | 8,31 - 11,72  | 1,30       | 0,23        |
| SVD-03    | 11,73 - 14,32 | 1,35       | 0,25        |
| SVD-04    | 14,33 - 19,57 | 1,65       | 0,38        |
| SVD-05    | 19,58 - 22,27 | 1,80       | 0,51        |
| SVD-06    | 22,28 - 25,42 | 1,90       | 0,60        |
| SVD-07    | 25,43 - 30,50 | 2,28       | 0,68        |

Contact us for the number of SVDs to be used and their positioning for a given span



## 04/2 - Air Flow Spoiler - Protection against galloping

*To limit the effect of the galloping phenomenon characterized by low frequency oscillations and high amplitude, PLP invented an efficient solution : the AFS (Air Flow Spoiler).*

### CHARACTERISTICS

- Rigid and anti-corrosion structure in thermo-plastic material
- Wind and frost effect reduction due to its irregular shape
- Cable life increase
- Can be used on all spans



| Reference | Ø Range (mm)  | Length (m) | Weight (kg) | Pack. | Colour code |
|-----------|---------------|------------|-------------|-------|-------------|
| AFS-100   | 6,35 - 8,28   | 4,11       | 0,45        |       | Red         |
| AFS-101   | 8,31 - 11,70  | 4,11       | 0,45        |       | White       |
| AFS-102   | 11,73 - 14,30 | 4,27       | 1,02        |       | Orange      |
| AFS-103   | 14,33 - 19,30 | 4,42       | 1,09        |       | Yellow      |
| AFS-104   | 19,33 - 23,52 | 4,57       | 1,93        | 1     | Blue        |
| AFS-105   | 23,55 - 25,88 | 4,65       | 2,04        |       | Black       |
| AFS-106   | 25,91 - 29,59 | 4,80       | 2,49        |       | Purple      |
| AFS-107   | 29,62 - 37,31 | 4,88       | 2,61        |       | Brown       |
| AFS-108   | 37,34 - 40,69 | 5,18       | 4,31        |       | Green       |
| AFS-109   | 40,72 - 44,75 | 5,33       | 4,42        |       | Pink        |



# **PREFORMED** LINE PRODUCTS

## **TRAINING**

### **ALL ALONG THE LINE**

**INSTALLATION TIPS**

**FIELD REALITY**

**ADAPTABILITY**

**QUALIFYING**

**MODULAR**

**QUALITY**

## **PLP TEAM**

**TRAIN INSTALLERS**

# **from A to Z**

The PLP France team offer training as part of a first implementation of their products. To benefit, you just need to contact us :

**E-mail : [plp-france@preformed.com](mailto:plp-france@preformed.com)**  
**Tel. : +33 (0)1 34 78 82 65**

This documentation is not contractual. Items listed are offered within the limit of available stocks.  
PLP reserves the right to discontinue or modify its specifications without prior notice.  
All reproduction, adaptation and translation rights reserved for all countries.  
Conception and realization LP VISIONS - 2017 - Photo credits: © PLP France



**Preformed Line Products - France**  
1401 Avenue de la Grande Halle  
78 200 Buchelay

Tel. : +33 (0)1 34 78 82 65 / Fax : +33 (0)1 34 78 82 68  
E-mail : [plp-france@preformed.com](mailto:plp-france@preformed.com)  
[www.preformed.com](http://www.preformed.com)

