

TRANSMISSION ASSEMBLIES AND HARDWARE



ABOUT PLP

Founded in 1947, PLP is a global designer, manufacturer, and supplier of high-quality products and services for the electric power industry. With 25 global locations and customers in more than 140 countries, PLP is recognized around the world as a market leader in developing innovative and dependable solutions for transmission, distribution, and substation systems. This combination of local presence and global reach enables PLP to provide superior customer service, timely product delivery, and unmatched technical support to all our customers and industry partners.



STANDARD TERMS AND CONDITIONS OF BUSINESS

1. APPLICATION OF CONDITIONS

These terms and conditions shall govern, and control all offers and sales by PREFORMEDLINE PRODUCTS (SOUTH AFRICA) (PTY) LTD. (herein called "PLP"). Unless expressly accepted in writing signed at its head office in Pietermaritzburg by an authorised signatory, any qualification of these conditions in a customer's order or enquiry, or anything contrary to or conflicting with any of these conditions shall be treated as inapplicable and of no effect.

2. ACCEPTANCE

Any tender or quotation by PLP only applies for thirty days from date thereof; and no order shall bind PLP until the customer shall receive written confirmation thereof from PLP, duly signed on behalf of PLP.

3. PRICES

All prices are nett, F.O.R. Works at Pietermarit burg and subject to change without notice. Value Added Tax (VAT) is not included and will be added-on where applicable.

4. FINANCIAL RESPONSIBILITY

The customer's financial responsibility is at all times subject to approval of PLP's credit department and PLP at any time may require payment in advance for a satisfactory security or guarantee that invoices will be paid promptly when due. If the customer fails to comply with any term of payment, PLP reserves the right to withhold further deliveries or to terminate the agreement and any unpaid amount thereupon shall become due immediately.

5. TERMS OF PAYMENT

Unless otherwise specifically agreed between PLP and the customer in writing, The customer shall pay PLP immediately on presentation of an invoice before delivery, without deduction or set-off, and payments shall not be withheld or deferred on the basis of any claims as alleged by the customer against PLP.

6. DELIVERY

The PLP will use its best endeavours to deliver the products by the time fixed for delivery, but if from any cause other than the wilful default of PLP delivery is delayed, PLP will not be responsible for any loss or damage thereby caused to the customer. Failure of one delivery shall not vitiate the contract as to others. No responsibility is accepted for delays due to loss in manufacturing or for damage and/or other delays due to Act of God, War, Fire, Civil Commotion, Accidents, and for other causes beyond PLP's control. Offers of delivery from stock are subject to the fitting being unsold on receipt of order.

7. DELIVERY CHARGES

Unless otherwise agreed in writing or stated in the confirmation of the order, delivery charges are for the customer's account.

8. WARRANTY

PLP warrants that all products manufactured and /or supplied by PLP are free from defects in material and workmanship under normal and proper usage for a period of one year from the date of delivery. Products must be installed and maintained to PLP's recommended procedures, and subject to the provisions of clause 9 below that in the event of breach of this warranty, PLP's liability will be limited to the freer replacement only of the products provided such defect is proved to be directly attributable to defective materials or workmanship and subject to a claim being received by PLP in writing within 14 (Fourteen) days of of such defect. This warranty is exclusive and in lieu of all other warranties, whether express, implied or otherwise arising by operation of law, trade, or course of dealing. In addition, the remedies set forth herein are the sole and exclusive remedies. PLP shall not be liable for any consequential or incidental damages of any kind.

9. LIABILITY

The liability of PLP for any loss or damage, including special, general, direct or consequential, in respect of any claim arising out of any contract entered into with a customer in connection with the manufacture and /or the sale and/or the supply and/or the delivery of our products, whether such claim shall be for breach of any statutory duty or for any delict (including the negligence of our employees or servants) shall not exceed the sale price of the relevant products sold to the customer. In addition, under no circumstance will PLP be liable for any costs associated with fires and wildfires including costs for clean-up efforts.

10. PACKING

All goods are packed in PLP's standard corrugated cartons, wooden crates and/or suitable alternatives at PLP's discretion.

11. LOSS OR DAMAGE IN TRANSIT

PLP is not responsible for this risk. In the case where PLP has accepted transit risk in terms of clause 1 of these conditions, transit loss or damage must be reported by the customer or consignee immediately in writing to the carrier, and also to PLP. Documentary evidence, as prescribed by the CARRIERS must be given by the consignee to PLP within seven days of receipt of the consignment in question.

12. TESTING AND INSPECTION

When testing and inspection is specified by customers and agreed to by PLP, PLP shall test/inspect at its Works in a suitable area designated by PLP.

13. DEVIATION IN QUANTITIES MANUFACTURED

Products manufactured are subject to a deviation of plus minus 10% in quantity.

14. STANDARD PACKS

PLP reserves the right to supply in increments its standard packs.

15. CANCELLATION

The customer shall not be entitled to cancel or repudiate any order or refuse to accept delivery of any order and/or claim damages or set-off as a consequence of late or short delivery.

STANDARD TERMS AND CONDITIONS OF BUSINESS

16. RETURNS

No product shall be returned without PLP's prior written authorization. Only non-obsolete standard items in original cartons may be returned. Carriage must be prepaid. Requests for return must be instituted within 90 days of original delivery and returns will be subject to factory inspection before acceptance and credit authorization. PLP reserves the right to apply a minimum servicing charge of 10% of the invoice amount..

17. SPECIFICATIONS

PLP reserves the right to change specifications without prior notice.

18. OWNERSHIP AND RISK

Notwithstanding the delivery of any product to a customer, ownership of the product shall not pass to the customer until PLP has received payment in full of the contract price of the said product. Risk in the product shall pass to the customer on delivery.

19. COSTS

Should PLP incur legal costs regarding litigation with the customer or for the collection of any amount due by the customer, the customer shall pay such costs on the attorney-and-client scale as well as collection costs calculated at 10% (TEN PERCENT) of each and every payment made.

20. CONFIDENTIALITY

The customer agrees that all information furnished by or obtained from PLP in connection with the sale of goods hereunder will be confidential, and the Buyer agrees not to disclose any such information to any other person, or use such information for any purpose, other than performing this contract.

21. MISCELLANEOUS

The failure of either party to insist upon performance of any term or condition herein or to exercise any right or privilege shall not thereafter waive the future performance of such term, condition, right of privilege or of any other terms, conditions, rights or privileges, whether of the same or similar type. The rights herein and the construction of these Terms and Conditions shall be governed by the laws of the Republic of South Africa, without giving effect to principles of conflict of laws, invalid or unenforceable, the remaining provisions shall not be affected thereby, but shall remain in full force and effect. The paragraph headings herein are solely for the convenience of and reference by the parties and do not constitute any part of these Terms and Conditions. The customer may not assign its rights or delegate its obligations hereunder without PLP's prior written consent.

22. FOREIGN LAW

Save for these terms and conditions being governed by the laws of the Republic of South Africa, PLP complies with the Foreign Corrupt Practices Act (FCPA) Customer agrees that it will comply with all relevant laws, and will comply with all laws regarding bribery including, but not limited to, FCPA.

23. PATENT

PLP shall defend the customer against any claim of infringement and shall pay any resulting damages finally awarded, provided that (a) the customer promptly notifies PLP in writing of any claim, and (b) PLP has sole control of the defence and all related settlement negotiations. This obligation does not apply to claims arising out of combinations of goods with goods provided by others, or to claims resulting from compliance of goods with the customer's design or specifications, or which the customer assumes and shall hold PLP harmless for any claims thereof.



SALES CONTACTS



**ENERGY-TRANSMISSION
SALES**

CUSTOMER SUPPORT

PLP SOUTH AFRICA CUSTOMER & TECHNICAL SUPPORT

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Email: sales.sa@plp.com

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ARMOR-GRIP® Suspension Unit

ARMOR-GRIP® Suspension units are made up of an Aluminum pressed strap, aluminum alloy cast housing, neoprene inserts, and ARMOR-GRIP® Suspension rods, all of which can be seen in the photograph. The rods are manufactured from the same basic material as the conductor for which the unit is designed. Units are manufactured for all of the more commonly used aluminium based conductors from Rabbit upwards in size. As demand arises other conductor types and sizes will be added to the range.

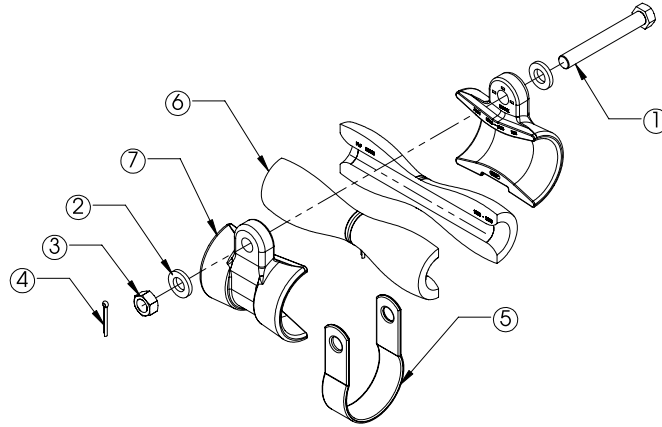
GENERAL RECOMMENDATIONS

ARMOR-GRIP® Suspension is intended for use on aluminium based conductors, aluminum covered steel conductors/strands and galvanized steel strands. It is designed to reduce the static and dynamic stresses at the support point so that the conductor/strand is protected against the effects of oscillations. It also protects the conductor in the support area against impulse and power flash-over ARMOR-GRIP® Suspension is recommended as being superior to Armour-clamp combinations, for protecting conductors from bending stress, compression stress and abrasion.

Specifications

Cat.No.	Conductor Range(mm)	Conductor Name	Rod Colour Code
AGS 304-315	7.728 - 8.00	Weasel	Brown
AGS 323-333	8.20 - 8.46	35 Fox, Ladybird	Blue
AGS 343-355	8.71 - 9.02	Fir, Ferret	Green
AGS 390-404	9.91 - 10.26	Hazel, Rabbit, Fly	Yellow
AGS 419-434	10.64 - 11.02	Pine, Bluebottle, Mink	Red
AGS 435-450	11.05 - 11.43	Earwig	Blue
AGS 475-485	12.07 - 12.32	Willow Racoon	Green
AGS 500-512	12.70 - 13.00	Skunk	Orange
AGS 549-563	13.94 - 14.30	Oak, Hare, Dog	Brown
AGS 620-645	15.75 - 16.38	Mulberry	Orange
AGS 626-650	15.90 - 16.51	Tiger, Hornet	Red
AGS 674-690	17.12 - 17.53	Ash	Yellow
AGS 711-731	18.06 - 18.57	Wolf	White
AGS 732-750	18.59 - 19.05	Chicadee, Elm	Red
AGS 751-768	19.08 - 19.51	Jaguar	Black
AGS 769-795	19.53 - 20.19	Lynx, Poplar	Green
AGS 815-826	20.70 - 20.98	Pelican, Panther	Brown
AGS 846-870	21.49 - 22.10	Flicker, Cockroach	Blue
AGS 871-893	22.12 - 22.68	Sycamore	Red
AGS 921-937	23.39 - 23.80	Bear	Orange
AGS 938-975	23.83 - 24.77	Kingbird, Upas	Green
AGS 1022-1040	25.96 - 26.42	Goat	Black
AGS 1041-1074	26.44 - 27.28	Centipede, Tern	Blue
AGS 1119-1136	28.42 - 28.85	Zebra	Yellow
AGS 1176-1208	29.87 - 30.68	Scorpion	Green
AGS 1395-1416	35.43 - 35.97	Dinosaur, Bersford	White
AGS 1478-1516	37.54 - 38.51	Bull	Red

Please add suffix D or T for split pin requirements. D is for Distribution – humpback split pin. T is for Transmission – straight split pin.



ITEM NO.	DESCRIPTION	MATERIAL	QTY.
1	M16 HDG BOLT	GRADE 8.8	1
2	M16 HDG WASHER	MILD STEEL	1
3	M16 HDG NUT	GRADE 181	1
4	SPLIT PIN	316 STAINLESS STEEL	1
5	AGS STRAP	ALUMINIUM	1
6	NEOPRENE INSERT	NEOPRENE	1
7	AGS HOUSING	ALUMINIUM	1
8	AGS RODS	ALUMINIUM	1

Assembling Guideline

1. Fit two halves neoprene insert over conductor, centering correctly, over previously plumbed centre mark on conductor, and apply tape over centre of insert halves to hold them together. Ensure that joining line of insert is in the Horizontal plane.
2. Centre the AGS rods over the inserts preferably over the centre of one half and lay sufficient pitches of the rod, both sides of the insert, to ensure it will stay on the conductor. Do not distort rods
3. The curvature of the rod should follow the contours of the insert faithfully. The rods must not be wrapped round the insert.
4. Using a similar procedure apply the second rod opposite the first rod. The third and fourth rods should be applied at the midpoint of the first two then apply all the remaining rods ensuring that non cross
5. Snap the loose ends of all rods into position on the conductor.
6. Place the two halves of the AGS Housing on either side of the centre of the rods and insert assembly and slide the strap over the housings using the heel of the hand tap it firmly into position. Do not use tools to hammer the strap.
7. Spread the ears of housing and tap the strap into place again.
8. Apply the bolt and tighten the nut just sufficiently. Do not over-tighten. The bolt is applied so that the head is always on the outside of the centre line of the overhead line

NOTES

With AGS units for larger conductors it is recommended that, because of the stiffness of the material, the rods are fully applied under operation 2.

Remember that the AGS unit is designed to be free of corona emission at operating voltage and ensure that his capability is not lost. All components and rods must at all times be properly handled and not scored or damaged in any way by rough handling or use of tools for any purpose other than to tighten nuts. In certain applications "corona bells might be necessary it is therefore essential that your requirements are discussed with PLP.

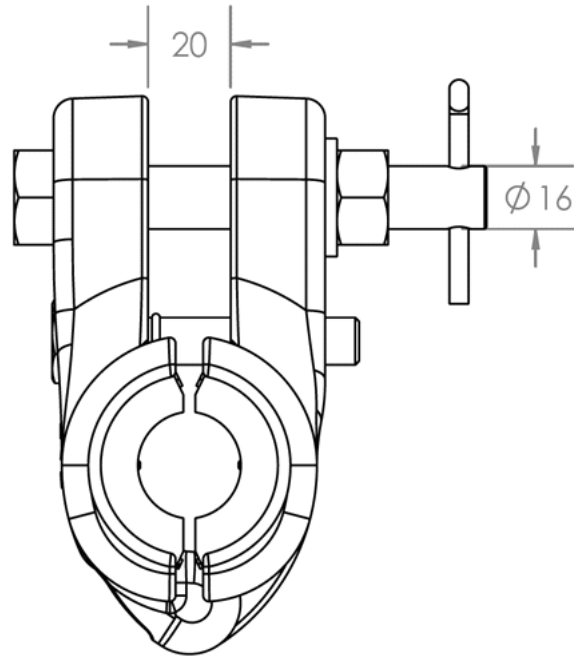


CUSHION-GRIP™ Suspension

CUSHION-GRIP™ Suspensions are intended for use on all aluminium based conductors, and are designed to reduce the static and dynamic stresses at the support point so that the conductor is protected against the effects of oscillations. The conductor is cushioned by field proven, integral elastomer inserts, which guard against abrasion, wear, and fatigue. The level of protection provided by the CUSHION-GRIP™ Suspension is comparable to a bolted clamp over armor rods. This equates to a reduction in bending strain as high as 50% as compared to bare conductor in a bolted clamp. This reduction in bending strain can be directly related to an increase in overall conductor life.

FEATURES AND BENEFITS

- The CUSHION-GRIP Suspension is packed assembled with no loose parts. All fasteners are factory installed to eliminate lost hardware in the field.
- Labour Savings: To install the CUSHION-GRIP Suspension simply spread the body halves, place over the conductor and tighten bolts.
- Integral Cushion: Minimize conductor bending stresses at critical entry locations.
- Vertical Ultimate Load: CUSHION-GRIP Suspension has an ultimate vertical load of 111kN
- Line Angle: The maximum recommended line angle for a CUSHION-GRIP Suspension is 30 as a single suspension and 60 in a double configuration utilizing a yoke plate.
- Compatible: With standard attachment hardware, designed for EHV applications- corona free in bundled 345 Kv applications.



Specifications

Catalog Numbers	Conductor Range (mm)	Mass (kg)	Vertical Breaking Load (kN)
CGS 8-10	8-10mm	1.4	120
CGS 10-12	10-12mm	1.4	120
CGS 12-14	12-14mm	1.4	120
CGS 14-16	14-16mm	1.4	120
CGS 16-18	16-18mm	1.7	120
CGS 18-20	18-20mm	1.7	120
CGS 20-22	20-22mm	1.7	120
CGS 22-24	22-24mm	1.9	120
CGS 24-26	24-26mm	1.9	120
CGS 26-28	26-28mm	1.9	120
CGS 28-30	28-30mm	1.9	120
CGS 30-32	30-32mm	2.3	120
CGS 32-34	32-34mm	2.3	120
CGS 34-36	34-36mm	2.3	120
CGS 36-38	36-38mm	2.3	120



ARMOR-GRIP® Support

ARMOR-GRIP® Support, intended for use on aluminium based conductors with a diameter range of 9.9mm to 46mm is designed to be used with clamp-top horizontal and vertical line post insulators. ARMOR-GRIP® Support is designed to reduce static and dynamic stress at the support point, so that the conductor is better able to withstand the effects of vibration than with armor-grip clamp attachments. It also helps protect the conductor in the support area against flashover.

DESIGN MODIFICATION

- ARMOR-GRIP® Support for line repair. For repair of fatigue damaged conductors, a special designed ARMOR-GRIP® Support can be applied over PREFORMED™ type armor rods to extend the life of the conductor. Wrench formed rods must be removed when conductor fatigue occurs under them. A splice is then applied to the fatigue area and the ARMOR-GRIP® Support is applied over the splice. this type of application require special consideration and PLP should be consulted for a technical evaluation.
- EHV applications. To meet the corona onset and RIV requirements for most extra high voltage applications, Parrot Bill® ends are to be used instead of standard rods. Consult PLP for EHV engineering recommendations.

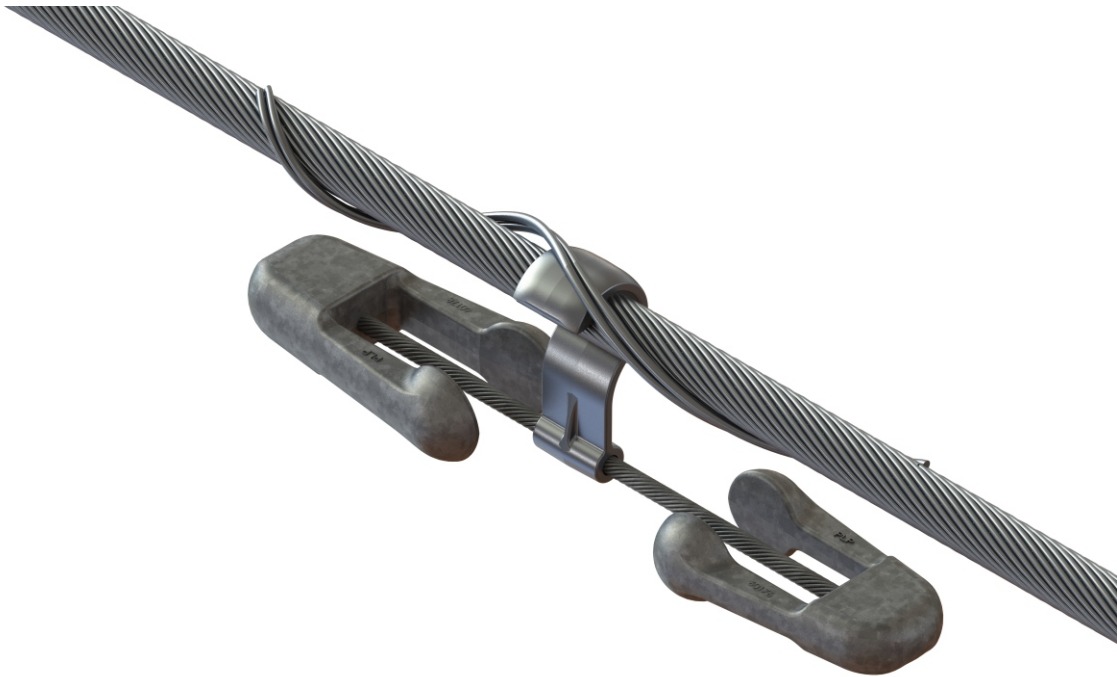


INSTALLATION GUIDELINES

1. Conductor compatibility. ARMOR-GRIP® Support should be used only on the size and type of conductor for which they are designed. ARMOR-GRIP® Support is designed for right-hand lay conductor. Consult PLP when using types and/or sizes of conductor not mentioned on the catalogue pages.
2. During installation of the ARMOR-GRIP® Support keeper to the body, the cap screw should be tightened only until the lockwasher is flat. A relatively low torque value of approximately 10 to 15 foot pounds is sufficient to flatten the washer. The inherent gripping of the rods provides the majority of the unbalanced holding strength of the unit. Further tightening may damage the keeper of the body.
3. Consult the ARMOR-GRIP® Support Application Procedure for additional information regarding the correct installation of ARMOR-GRIP Support.
4. ARMOR-GRIP Support rods are not interchangeable with either standard armor rods or ARMOR-GRIP® Suspension rods.

Specifications

Conductor Ranges (mm)	A	B	C	D	E	F	G	H	I
9.91 - 12.22	64.3	16	19.4	49.6	15.1	50.8	19.1	98.4	19.1
12.24 - 13.77	76.2	16	25.4	60.3	15.1	50.8	19.1	98.4	19.1
13.79 - 15.72	79.4	10.3	22.2	64.3	15.1	50.8	19.1	98.4	19.1
15.75 - 16.38	79.4	10.3	22.2	64.3	15.1	50.8	19.1	97.4	19.1
16.41 - 19.05	95.25	16	21.0	69.9	15.1	50.8	19.1	98.4	19.1
19.08 - 23.04	114.3	19.1	21.4	81.4	15.1	57.2	19.1	98.4	19.1
23.06 - 25.52	127	28.6	16.7	91.3	15.1	57.2	19.1	98.4	19.1
25.56 - 30.68	139.7	33.3	20.6	106.4	15.1	57.2	19.1	98.4	19.1
30.71 - 34.42	152.4	37.1	20.6	117.5	15.1	57.2	19.1	98.4	19.1
34.44 - 39.55	165.1	41.3	23.0	129.8	15.1	57.2	19.1	98.4	19.1
39.57 - 46.43	177.8	177.8	19.4	137.3	15.1	57.2	19.1	98.4	19.1



VORTX™ VIBRATION DAMPER

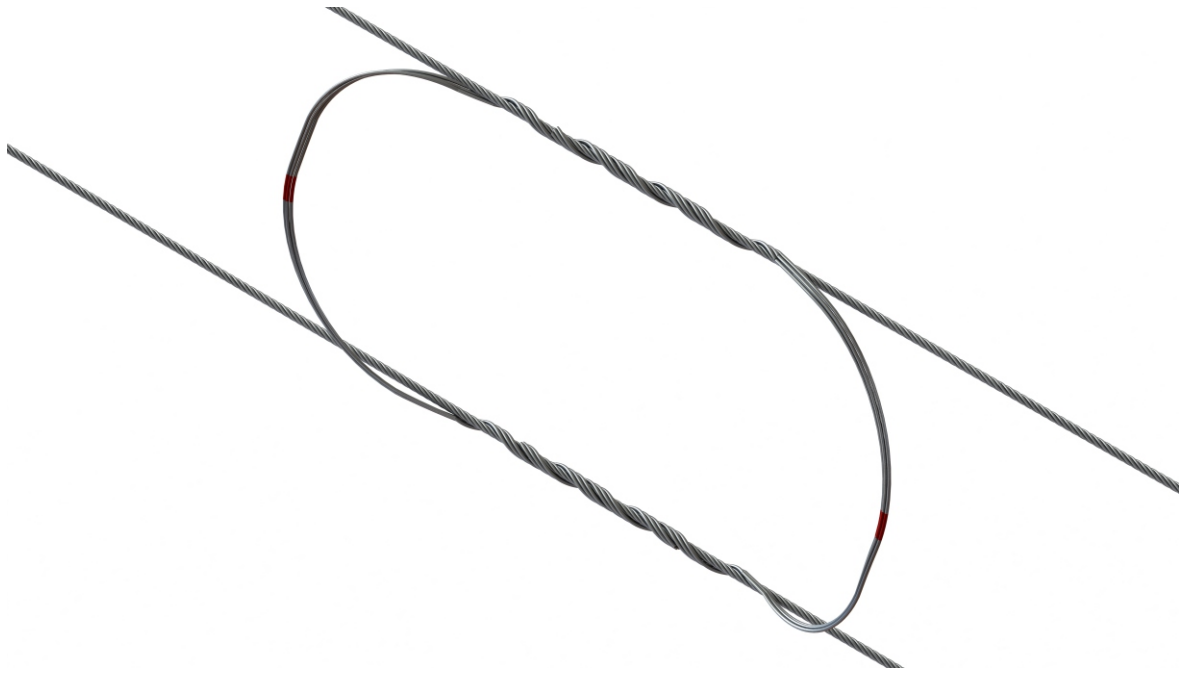
VORTX DAMPERS respond to wind induced line vibration that is characterised by high frequency, low amplitude motion known as aeolian vibration. The VORTX damper with large and small weights can achieve greater power dissipation and frequency coverage response performance than ‘symmetrical weight’ Stockbridge damper designs. Wider frequency coverage translates into better protection as energy is more effectively dissipated over the entire range of conductor/ cable frequencies.

FEATURES AND BENEFITS

- Messenger Strand: Precision manufactured galvanized steel messenger strand efficiently absorbs vibration energy.
- Weight: Open galvanized ductile iron weights do not enclose the messenger, reducing the possibility of corrosion.
- VORTX Dampers are tested in accordance with Overhead Lines Requirements and tests for Stockbridge Type Aeolian Vibration Dampers.
- PLP has developed a proprietary computer program know as the VORTX Vibration Damper Placement Software or VORTX VDP for short. This software is based upon data gathered from laboratory testing, field studies, CAD research and PLP’s 50+ year knowledge based on vibration.
- Weight Attachment: PLP’s novel weight attachment system exceeds the pull-off strength requirements of the IEC standards without changing the properties of the adjoining messenger.

Specifications

Damper Cat.No.	Attachment Rod Cat. No.	Conductor Names	Conductor Range(mm)	Attachment Rods			
				Colour Code	Shop length	Wire Diam.	Mass (kg)
VSD-128	VSDRD 315/340	-	8.00-8.64	Black	600	4.47	1.5
	VSDRD 347/389	-	9.31-9.88	Black	650	4.47	1.5
	VSDRD 390/413	Hazel, Rabbit, Fly	9.91-10.49	Yellow	700	4.47	1.5
	VSDRD 414/436	Pine, Bluebottle,Mink	10.52-11.07	Red	700	4.47	1.5
	VSDRD 437/463	Earwig	11.10-11.76	Blue	700	4.47	1.5
	VSDRD 464/490	Willow, Racoon	11.79-12.45	Green	700	4.47	1.5
	VSDRD 491/521	Skunk	12.47-13.23	Orange	750	5.18	1.5
	VSDRD 522/558	Oak, Dog, Hare	13.26-14.17	Brown	750	5.18	1.5
	VSDRD 559/585	-	14.20-14.86	White	750	6.35	1.5
	VSDRD 586/606	-	14.88-15.39	Blue	800	6.35	1.6
	VSDRD 607/630	Mulberry	15.42-16.00	Orange	800	6.35	1.6
	VSDRD 631/655	Hornet, Tiger	16.03-16.64	Red	800	6.35	1.6
	VSDRD 656/679	-	16.66-17.25	Black	845	6.35	1.6
	VSDRD 680/703	Ash	17.27-17.86	Yellow	865	6.35	1.6
	VSDRD 704/739	Wolf	17.88-18.77	White	890	6.35	1.6
VSD-177	VSDRD 740/782	Elm, Chicadee	18.80-19.86	Red	900	6.35	1.6
	VSDRD 783/814	Lark, Ibis	19.89-20.68	Green	990	6.35	2
	VSDRD 815/845	Pelican, Lemon	20.7-21.46	Brown	925	6.35	2
VSD-271	VSDRD 846/907	Flicker, Hawk, Sycamore	21.49-23.04	Yellow	1075	6.35	2
	VSDRD 908/942	Bear, Kingbird	23.06-23.93	Orange	1200	6.35	2
	VSDRD 943/983	UPAS	23.95-24.99	Green	1200	7.62	2
VSD-406	VSDRD 977/1016	-	24.82-25.81	Blue	1235	7.62	4.1
	VSDRD 1017/1035	Goat	25.83-26.29	Black	1355	7.62	4.1
	VSDRD 1036/1064	Centipede, Tern	26.31-27.03	Blue	1385	7.62	4.1
	VSDRD 1065/1098	-	27.05-27.89	Grey	1350	7.62	4.1
	VSDRD 1099/1139	Zebra	27.91-28.93	Yellow	1390	7.62	4.1
	VSDRD 1140/1161	-	28.96-29.49	Blue	1480	7.62	4.1
	VSDRD 1162/1208	Rail, Scorpion	29.51-30.68	Green	1475	7.62	4.1
	VSDRD 1209/1269	IEC 560	30.71-32.23	Brown	1635	7.62	4.1
	VSDRD 1270/1327	-	32.26-33.71	Black	1515	7.62	4.1
VSD-514	VSDRD 1328/1390	-	33.73-35.31	Grey	1745	7.62	5.2
	VSDRD 1391/1440	DINOSAUR, BERSFORD	35.33-36.58	White	1765	7.62	5.2
	VSDRD 1270/1327	BULL	36.59-38.30	Red	1830	7.62	5.2



HELICAL WIRE SPACER

The HELICAL ROD Spacer is recommended for use on horizontal, twin conductor bundles. For tri-bundle, quad-bundle and certain twin-bundle applications, ARMOR-GRIP Spacers are recommended. The functions of the HELICAL ROD Spacer are: to provide uniform spacing of the subconductors to ensure consistent electrical characteristics; to minimize wind induced motions such as subconductor oscillation and aeolian vibration so that no conductor damage results; to keep the subconductors from entangling due to galloping, ice unloading and faulty currents.

FEATURES AND BENEFITS

- Helical Spacers are designed to be corona-free at voltages 10-20% above operating up to 500kV AC and 750kV DC.
- The spacer is applied easily and uniformly without tools and can be installed with hot lines tools.
- The standard HELICAL ROD Spacer for aluminium based conductors is constructed entirely of high strength aluminium alloy wire formed into helical rods.
- To avoid galvanic corrosion spacer rod material is always designed to be compatible with the conductor.
- The HELICAL ROD Spacer is designed to meet fault current requirements developed in most EHV line design.
- For special situations the fault current capacity of the standard 4-rod helical spacer can be increased by adding additional rods and /or increasing rod diameter.

Specifications

Catalog Numbers	Conductor Diam.	Colour Code	Rods Per Set	Lay Direction
AWS 549-270	13.94	Brown	6	RH
AWS 558-150	14.16	Brown	6	RH
AWS 609-250	15.47	Orange	6	RH
AWS 714-200	18.14	White	4	RH
AWS 714-380	18.14	White	4	RH
AWS 740-260	18.8	Green	6	RH
AWS 740-330	18.8	Green	6	RH
AWS 740-380	18.8	Green	6	RH
AWS 815-150	20.7	Brown	6	RH
AWS 845-320	21.79	Red	6	RH
AWS 845-380-ES	21.79	Red	8	RH
AWS 924-200	23.45	Orange	6	RH
AWS 924-380	23.45	Orange	6	RH
AWS 941-250	23.9	Green	6	RH
AWS 941-380	23.9	Green	6	RH
AWS 1022-380	26	Black	6	RH
AWS 1043-380	26.49	Black	6	RH
AWS 1064-300	27	Blue	6	RH
AWS 1125-150	28.42	Yellow	6	RH
AWS 1125-180	28.42	Yellow	6	RH
AWS 1125-300	28.42	Yellow	6	RH
AWS 1125-380	28.42	Yellow	6	RH
AWS 1252-250	31.8	Red	6	RH
AWS 1252-450	31.8	Red	6	RH
AWS 1400-380	35.6	White	6	RH
AWS 1508-300	38.3	Red	6	RH
AWS 1524-380	38.25	Orange	6	RH

NOTE: For adverse terrain and constant high or turbulent wind conditions, the number of spacers should be increased



SPACER DAMPERS

The CUSHION-GRIP Spacer Damper for Twin, Tri, Quad, and Hex Bundles feature elastomer damping elements engineering to absorb maximum energy. This design provides the greatest possible resistance to conductor fatigue by eliminating the need for additional vibration dampers.

FEATURES AND BENEFITS

- The design employs a unique damping element which is captured in a way which assures the elastomer is always in compression, providing maximum service life.
- The arms feature a neoprene lined saddle attached to the conductor with helical rods for ease of installation and maximum conductor protection.
- PLP's extensive experience and laboratory and field testing allows us to provide you with placement recommendations that will minimize the motion of conductor bundles and maximize the longevity of the Spacer Damper.

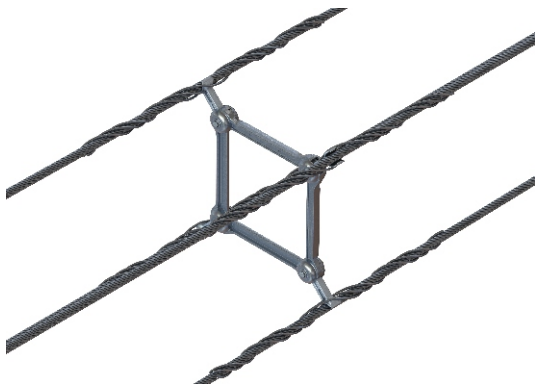
SPACER DAMPERS



TWIN SPACER



TRIPLE SPACER



QUAD SPACER



HEXAGON SPACER

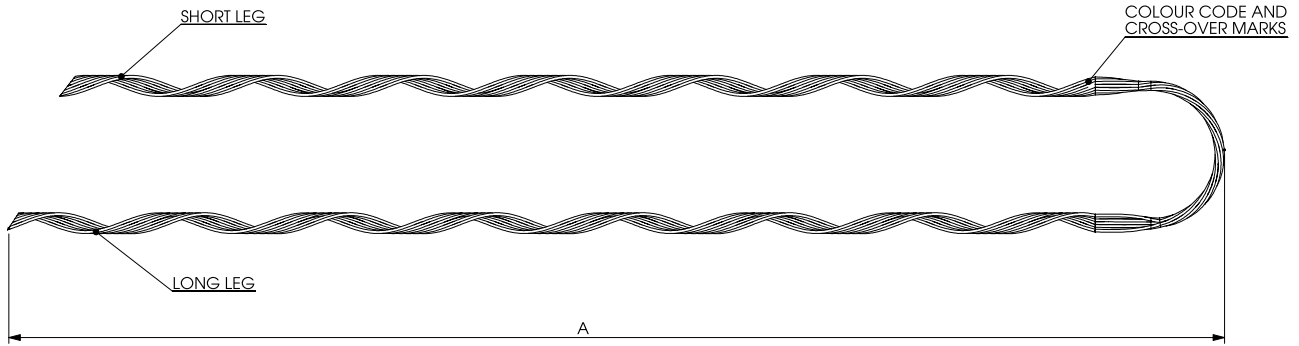


BIG-GRIP DEAD-END

Big-Grip Dead-End are designed for use on Transmission, Antenna, Communications and other types of guyed structures that require use of large guy strand. The Big-Grip Dead-Ends are made from material which is compatible with the strand or cable they are designed to be used with except where noted otherwise.

FEATURES AND BENEFITS

- Big-Grip Dead-Ends are intended for single use but may be reapplied twice for retensioning guys (without adjustable hardware).
- Big-Grip Dead-Ends are precision devices that should be handled carefully



Specifications

Catalog Numbers	Conductor Diam.	Colour Code	Approx. Length (mm)	Rated Holding Strength
GBG 14	14 (7/4.25)	PURPLE	1220	120
GBG 16	16 (19/3.15)	BROWN	1300	170
GBG 18-300	18	YELLOW	1830	300
GBG 20	20 (37/2.84 or (19/4.0)	ORANGE	1400	240
GBG 20-300	20 (37/2.84 or (19/4.0)	ORANGE	2030	300
GBG 28	28	T.B.A.	3080	240
GBG 32	30	T.B.A.	3080	240



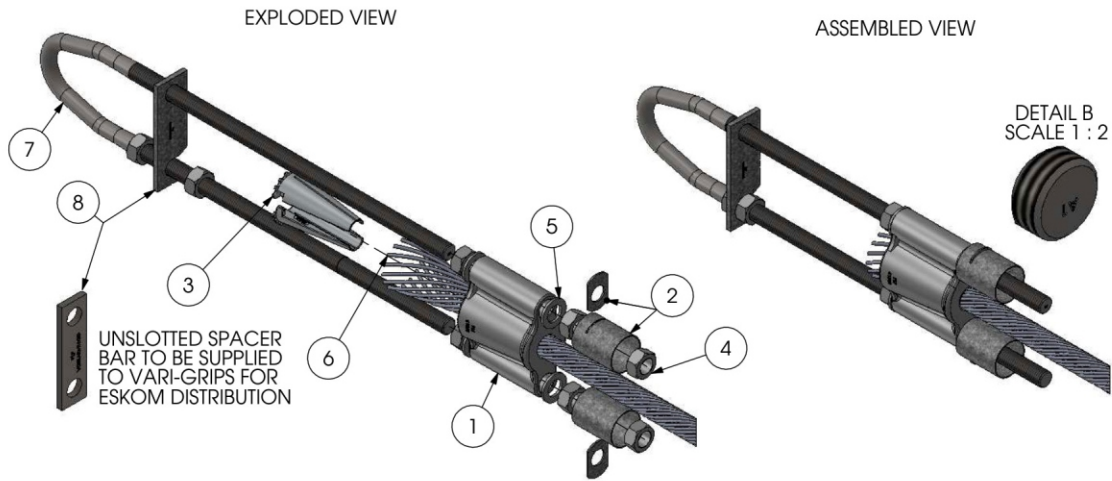
VARI-GRIP DEAD-END

The Vari-Grip Dead-Ends are designed for use on Transmission, Antenna, Communications and other types of guyed structures that require use of large guy strand. Vari-Grip components such as the housing, U-Bolt and hex nuts allow for adjustment in guy tensions. The unique housing, wedge and rod design of the VARI-GRIP Dead-end is designed to provide a holding strength U-Bolt allows for adjusting the guy strand tension without the need for a tumbuckle.

FEATURES AND BENEFITS

- Retaining rods are made from a material that is compatible with the guy strand material (e.g., aluminium-clad steel rods for aluminium-clad steel guy strand)
- Available for strand size of 7/16" to 1.78" (20,800-295,500lbs)
- PLP's extensive experience and laboratory and field testing allows us to provide you with placement recommendations

Adjustable Vari-Grip Guy Strand Grip Assembly for Ground Level



ITEM NO.	DESCRIPTION	QTY.
1	VARI-GRIP HOUSING	1
2	ANTI-TAMPER TUBE AND WASHER	2
3	VG WEDGE	2
4	NUT	8
5	FLAT WASHER	4
6	RODS	1 SET
7	ADJUSTABLE U-BOLT	1
8	VARI-GRIP SPACER BAR	1

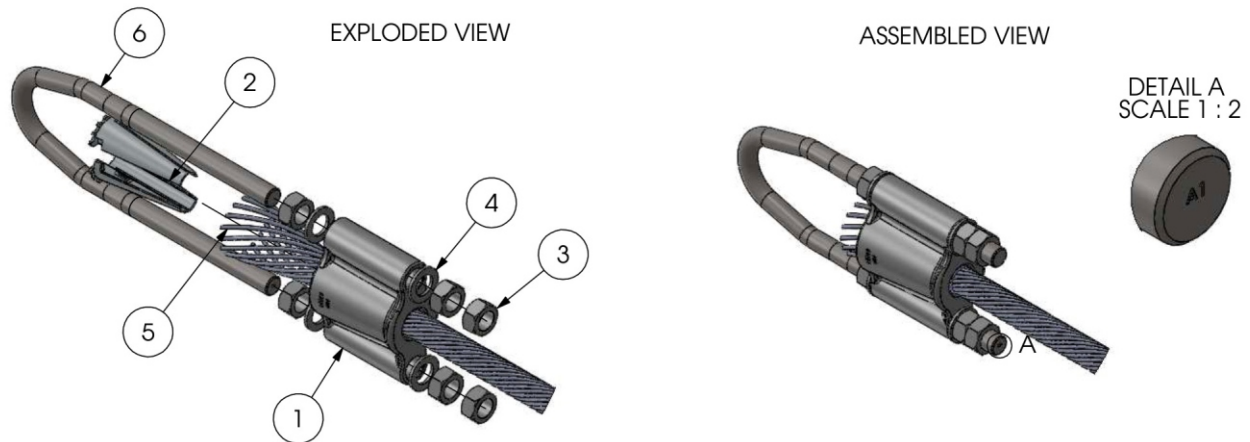
NOTES:

1. The specified UTS is for 1400MPa staywire. The vari-grip assembly may have a higher UTS. Contact PLP for info.
2. Anti-tamper cups supplied as standard. Other anti-tamper solutions available on request.
3. Please contact PLP to confirm compatibility of dimension B with attachment hardware. Other dimensions on request.
4. PLP-SA in house U-bolts batch stamped on leg ends A1:A-raw material batch ref 1 – last digit of year of manufacture

Specifications

Catalog Numbers	Guy Diam.	A	B (See note 3)	C	D	E(Minimum)	Nuts (kN)	Rod Diam.	Rods Per Set
VG 13 AC	13	0-457	16	M16	80	>13	(E) 150	3.25	12
VG 16 AC	16	0-457	16	M20	90.50	>16	189	4.47	12
VG 19 AC	19	0-457	16	M24	120	>19	300	4.47	12
VG 22 AC	22	0-457	16	M24	120	>19	355	5.2	12
VG 24 AC	24	0-457	18	M27	136	>22	427	5.2	14
VG 26 AC	26	0-457	18	M27	136	>22	484	5.2	14
VG 28 AC	28	0-457	45	M33	165	>26	596	6.4	14
VG 32 AC	32	0-457	45	M33	165	>26	775	6.4	16

Non- Adjustable Vari-Grip Guy Strand Grip Assembly for Ground Level



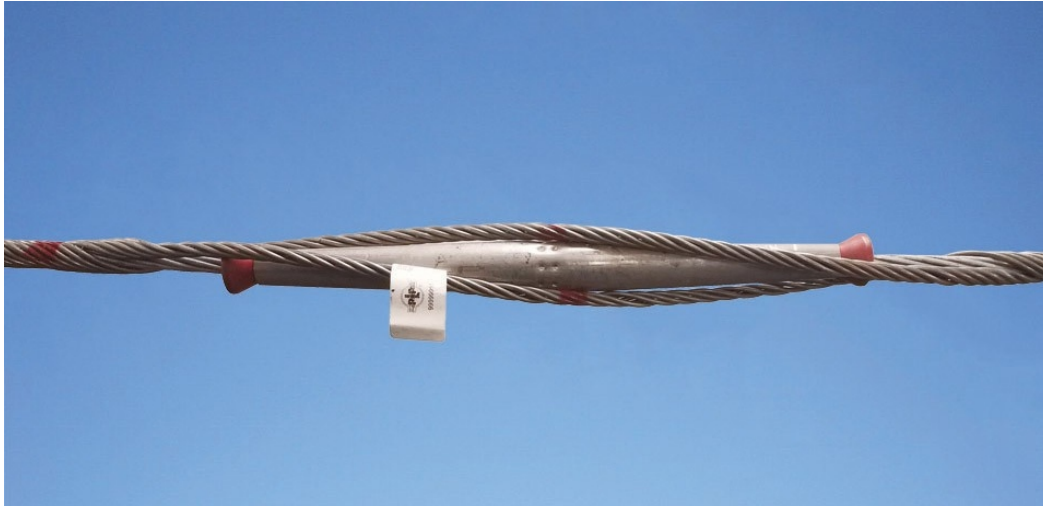
ITEM NO.	DESCRIPTION	QTY.
1	VARI-GRIP HOUSING	1
2	VARI-GRIP WEDGE	2
3	NUT	6
4	FLAT WASHER	4
5	RODS	1 Set
6	NON-ADJUSTABLE U-BOLT	1

NOTES:

1. The specified UTS is for 1400MPa staywire. The vari-grip assembly may have a higher UTS. Contact PLP for info.
2. Anti-tamper cups supplied as standard. Other anti-tamper solutions available on request.
3. Please contact PLP to confirm compatibility of dimension B with attachment hardware. Other dimensions on request.
4. PLP-SA in house U-bolts batch stamped on leg ends A1:A-Raw material batch Ref. 1-Last digit of year of manufacture.

Specifications

Catalog Numbers	Guy Diam.	B (See note 3)	C	D	E(Minimum)	Nuts (kN)	Rod Diam.	Rods Per Set
VG 13 N	13	16	M16	80	>13	(E) 150	3.25	12
VG 16 N	16	16	M20	90.50	>16	189	4.47	12
VG 19 N	19	16	M24	120	>19	300	4.47	12
VG 22 N	22	16	M24	120	>19	355	5.2	12
VG 24 N	24	18	M27	136	>22	427	5.2	14
VG 26 N	26	18	M27	136	>22	484	5.2	14
VG 28 N	28	45	M33	165	>26	596	6.4	14
VG 32 N	32	45	M33	165	>26	775	6.4	16

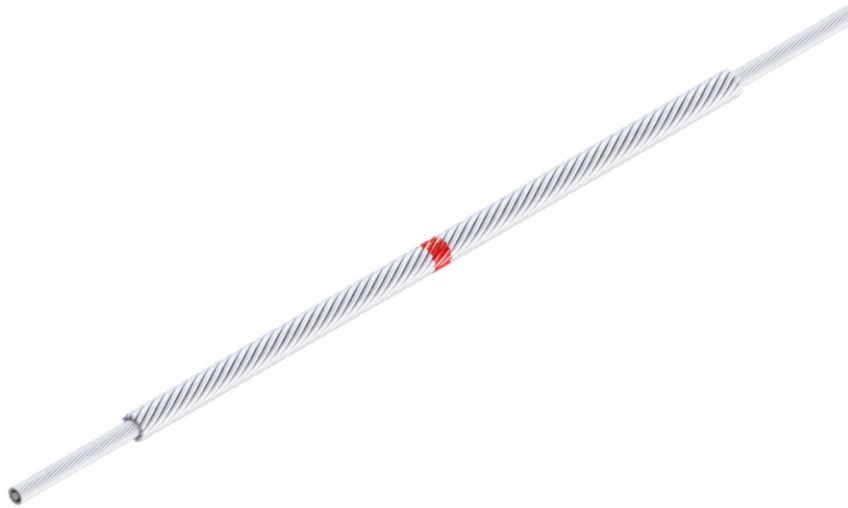


SPLICE SHUNT

The Splice Shunt is designed to restore complete electrical conductivity and a portion of the mechanical strength of a compression joint which has either developed high resistance, or is in danger of failure due to stress corrosion, or other malfunction. The rods of the Splice Shunt perform this function by shunting current around the installed joint and by providing additional heat radiation surface.

FEATURES AND BENEFITS

- Easily installs by hand or with hot sticks
- Splice Shunt is lightweight
- Installs directly over damaged or failing compression or automatic splices
- Restores original conductivity to all-aluminium, aluminium alloy and ACSR conductors



LINE SPLICE

Conductor Splices are designed as a single-component outer-layer assembly generally for Sub-EHV applications. To assure a reliable electrical connection, all conductors, new or weathered, must be thoroughly scratch brushed until bright and clean immediately prior to installation.

The application of a quality inhibitor, compatible with the conductor material, is strongly recommended to retard oxidation.

FEATURES AND BENEFITS

- On ACSR conductor the will hold a minimum tension amounting to the full strength of the aluminium strands plus 10% of the steel core strength. Conductance will be better than in an equivalent length of unspliced Conductor.
- On all-aluminium alloy and copper conductors of homogeneous stranding, The Line Splice will hold a minimum of 90% of the rated breaking strength of, and provide better conductance than an equal length of unspliced conductor.
- Other PLP products with restorative-repair capabilities are Armor Rods, Line Guards, Splice Shunt, and ARMOR-GRIP® Suspension: for Line Repair.

Aluminium Alloy Line Splices

Specifications

Cat.No.	Conductor Range(mm)	Colour Code	Rods per Set	Rod Lay Direction
ALS 249	6.18 - 6.34	Orange	9	RH
ALS 255	6.35 - 6.6	Green	9	RH
ALS 270	6.61 - 7	Black	10	RH
ALS 280	7.01 - 7.4	Yellow	10	RH
ALS 300	7.41 - 7.84	Brown	10	RH
ALS 311	7.85 - 8.26	Red	10	RH
ALS 330	8.27 - 8.64	Blue	10	RH
ALS 348	8.65 - 9.15	Green	11	RH
ALS 366	9.16 - 9.65	Black	11	RH
ALS 396	9.66 - 10.4	Yellow	11	RH
ALS 432	10.41 - 11.2	Red	11	RH
ALS 472	11.21 - 12.1	Blue	11	RH
ALS 480	12.11 - 12.99	Orange	11	RH
ALS 520	13 - 13.94	Green	12	RH
ALS 558	13.95 - 14.7	Brown	11	RH
ALS 595	14.71 - 15.7	Blue	11	RH
ALS 625	15.71 - 16.24	Orange	12	RH
ALS 650	16.25 - 17.39	Red	12	RH
ALS 700	17.4 - 18.12	Yellow	11	RH
ALS 714	18.13 - 18.7	White	10	RH
ALS 740	18.71 - 19.5	Red	11	RH
ALS 780	19.51 - 20.5	Blue	11	RH
ALS 825	20.51 - 21.49	Green	11	RH
ALS 850	21.5 - 22.69	Red	11	RH
ALS 918	22.7 - 23.61	Orange	12	RH
ALS 950	23.62 - 24.79	Green	11	RH
ALS 995	24.8 - 25.82	White	11	RH
ALS 1022	25.85 - 26.99	Black	11	RH
ALS 1064	27 - 27.89	Blue	12	RH
ALS 1099	27.9 - 29.49	Yellow	11	RH
ALS 1162	29.5 - 30.69	Green	11	RH
ALS 1209	30.7 - 32.19	Orange	11	RH
ALS 1270	31.2 - 32.8	Black	11	RH
ALS 1350	32.81 - 34.38	Red	11	RH
ALS 1400	34.39 - 35.79	White	11	RH

Galvanised Steel Line Splices

Specifications

Cat.No.	Conductor Range(mm)	Colour Code	Rods per Set	Rod Lay Direction
SLS 104	2.54 - 2.64	Brown	7	RH
SLS 108	2.65 - 2.85	Green	7	RH
SLS 125	2.86 - 3.3	Red	7	RH
SLS 144	3.31 - 3.66	Brown	7	RH
SLS 150	3.67 - 4	White	8	RH
SLS 167	4.01 - 4.41	Orange	8	RH
SLS 175	4.42 - 4.82	Blue	9	RH
SLS 192	4.83 - 5.31	Yellow	9	RH
SLS 224	5.32 - 5.75	Green	10	RH
SLS 240	5.76 - 6.2	Orange	10	RH
SLS 250	6.21 - 6.89	Green	10	RH
SLS 284	6.9 - 7.32	Black	10	RH
SLS 312	7.65 - 8.05	Brown	9	RH
SLS 338	8.06 - 8.59	Blue	10	RH
SLS 352	8.6 - 8.93	Yellow	10	RH
SLS 370	8.94 - 9.68	Orange	10	RH
SLS 384	9.68 - 10.03	Black	12	RH
SLS 396	10.04 - 10.62	Blue	11	RH
SLS 432	110.63 - 11.13	Brown	12	RH
SLS 452	11.13 - 11.83	Red	11	RH
SLS 472	11.84 - 12.17	Green	11	RH
SLS 490	12.18 - 12.94	Blue	12	RH
SLS 520	12.95 - 13.59	Orange	11	RH



FULL TENSION LINE SPLICE

ACSR Full Tension Splices are Designed as a three component assembly generally for Sub-EHV applications. This splice is recommended when damage to the core itself is suspected, or when joining ACSR.

FEATURES AND BENEFITS

- Restores original conductivity and full rated breaking strength to ACSR conductor.
- This splice will hold the full rated breaking strength of, and provide better conductivity than, an equal length of unspliced ACSR.
- All conductors, new or weathered, must be thoroughly wire brushed before the fitting is applied.

Aluminium Alloy Full Tension Splices

Specifications

Cat.No.	Conductor Code	Colour Code	Conductor Code
ALSFT-249-SQR	Squirrel	Orange	6/1/2.11
ALSFT-280-GPR	Gopher	Yellow	6/1/2.36
ALSFT-330-FOX	Fox	Blue	6/1/2.79
ALSFT-396-RBT	Rabbit	Yellow	6/1/3.35
ALSFT-432-MNK	Mink	Red	6/1/3.66
ALSFT-471-BVR	Beaver	Green	6/1/3.99
ALSFT-483-RCN	Raccoon	Green	6/1/4.04
ALSFT-510-SKU	Skunk	Orange	12/7/2.59
ALSFT-557-DOG	Dog	Brown	6/4.72 + 7/1.57
ALSFT-558-HRE	Hare	Brown	6/1/4.72
ALSFT-606-AC/120/27	AC 120/27	Orange	-
ALSFT-624-LPD	Leopard	Orange	6/5.28 + 7/1.75
ALSFT-651-TGR	Tiger	Red	30/7/2.36
ALSFT-673-AC/150/24	AC 150/24	Yellow	-
ALSFT-714-WLF	Wolf	White	30/7/2.59
ALSFT-743-CHIC	Chickadee	Red	18/1/3.77
ALSFT-770-LNX	LYNX	Black	30/7/2.79
ALSFT-815-PCN	Pelican	Brown	18/1/4.14
ALSFT-826-PNT	Panther	Brown	30/7/3.00
ALSFT-850-AC/240/32	AC 240/32	Orange	-
ALSFT-854-AFL6	AFL-6	Brown	-
ALSFT-875-LION	LION	Red	30/7/3.18
ALSFT-924-BEAR	Bear	Orange	30/7/3.35
ALSFT-1022-GOAT	Goat	Black	30/7/3.71
ALSFT-1062-BSN	Bison	Blue	54/7/3.00
ALSFT-1064-TERN	Tern	Blue	45/3.38 + 7/2.25
ALSFT-1125-ZBR	Zebra	Yellow	54/7/3.18
ALSFT-1175-DEER	Deer	Red	30/7/4.26
ALSFT-1400-DNR	Dinosaur	White	54/3.95 + 19/2.37
ALSFT-1505-LPW	Lapwing	White	38.15mm



ARMOR RODS

PLP Armor Rods are intended to protect against bending, compression, abrasion, and arc-over, and to provide repair. The degree of protection needed on specific line depends on a number of factors such as line design, temperature, tension, and exposure to wind flow, and vibration history on similar construction in the same area. Armor Rods are also used to repair damaged aluminum-based conductors and restore the conductors' mechanical strength and conductivity.

FEATURES AND BENEFITS

- Single and Double Support lengths available
- Thermal Rating (Continuous) Within a high temperature Suspension Clamp 250°C, ACSR repair 250°C, ACSR repair 125°C.
- Available PARROT-BILL ends to meet the corona onset and RIV requirements for most EHV applications.

Aluminium Alloy Armor Rods

Specifications

Cat.No.	Conductor Range(mm)	Colour Code	Conductor Code
AAR 194	4.93 - 5.26	Blue	Batman
AAR 215	5.27 - 5.7	Brown	-
AAR 230	5.71 - 6.14	White	-
AAR 249	6.15 - 6.34	Orange	Squirrel
AAR 255	6.35 - 6.6	Green	-
AAR 270	6.61 - 7	Black	-
AAR 280	7.01 - 7.4	Yellow	Gopher
AAR 300	7.41 - 7.84	Brown	-
AAR 311	7.85 - 8.26	Red	-
AAR 330	8.27 - 8.64	Blue	Fox
AAR 348	8.65 - 9.15	Green	-
AAR 366	9.16 - 9.65	Orange	-
AAR 396	9.66 - 10.4	Yellow	-
AAR 432	10.41 - 11.2	Red	Pine & Mink
AAR 472	11.21 - 12.1	Blue	-
AAR 480	12.11 - 12.99	Green	Beaver
AAR 520	13 - 13.94	Orange	-
AAR 558	13.95 - 14.7	Brown	Oak & Hare
AAR 595	14.71 - 15.7	Blue	-
AAR 625	15.71 - 16.24	Orange	-
AAR 650	16.25 - 17.39	Red	Tiger
AAR 700	17.39 - 18.12	Yellow	Ash
AAR 714	18.13 - 18.7	White	Wolf
AAR 740	18.71 - 19.5	Red	Chickadee/ELM
AAR 780	19.51 - 20.5	Black	Poplar
AAR 825	20.51 - 21.4	Green	-
AAR 850	21.5 - 22.99	Red	Sycamore
AAR 918	23 - 23.61	Orange	Bear/Dove
AAR 950	23.62 - 24.79	Green	Upas/Kingbird
AAR 995	24.8 - 25.85	White	-
AAR 1022	25.83 - 26.99	Black	-
AAR 1036	27 - 27.89	Blue	Centipede/Tern
AAR 1099	27.9 - 29.49	Yellow	Zebra
AAR 1162	29.5 - 30.69	Red	11

Specifications

Cat.No.	Conductor Range(mm)	Colour Code	Conductor Code
AAR 1209	30.7 - 32.19	Green	-
AAR 1270	32.2 - 33.7	Black	-
AAR 1350	33.71 - 35.32	Brown	-
AAR 1400	35.33 - 36.59	White	Dinosaur
AAR 1470	36.6 - 38.3	Red	-



LINE GUARDS-(PROTECTOR RODS)

PLP Line Guards are intended to protect against abrasion and arc-over, and to provide repair. The degree of protection needed on specific line depends on a number of factors such as line design, temperature, tension, and exposure to wind flow, and vibration history on similar construction in the same area. Line Guards are recommended as minimum protection for hand-tied spans.

FEATURES AND BENEFITS

- Single Support and Double Support Lengths
- Protect against chafing or wear caused by wind sway or unbalanced loading
- Stronger material and greater uniformity than had tie wire

Aluminium Alloy Line Guards

Specifications

Catalog Numbers	Cond. Diam.	Colour Code	Rods per Set	Length of Fitting(mm)
ALG 704-740	17.87-18.80	White	16	940
ALG 741-792	18.81-19.86	Black	17	990
ALG 793-840	20.13-21.34	Brown	18	990
ALG 841-890	18.81-20.12	Red	19	1040
ALG 899-954	22.83-24.23	Orange	18	1090
ALG 955-986	24.24-25.04	Blue	17	1140
ALG 989-1016	24.80-25.81	White	18	1140
ALG 1017-1064	27.04-27.89	Black	17	1190
ALG 1065-1098	27.90-29.29	Grey	16	1240
ALG 1099-1153	27.90-29.29	Blue	15	1240
ALG 1154-1208	29.30-30.68	Green	15	1300
ALG 1209-1268	30.69-32.21	Brown	16	1350
ALG 1269-1327	32.22-33.71	Black	16	1350
ALG 1328-1390	33.72-35.31	Grey	17	1400
ALG 1391-1440	35.22-36.58	White	16	1450
ALG 1441-1508	36.59-38.30	Red	16	1500
ALG 1509-1578	38.31-40.08	Green	16	1500

RIGHT HAND LAY STANDARD. ALWAYS QUOTE INSULATOR TYPE AND NECK DIAMETER.



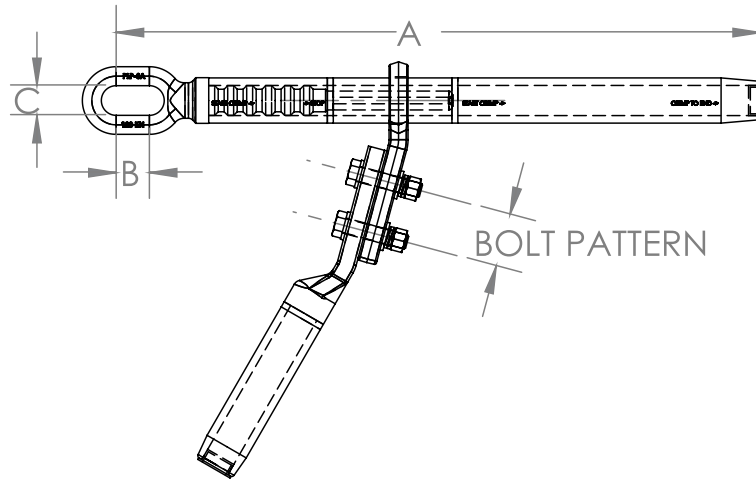
COMPRESSION DEAD-END FOR ACSR

The Compression Dead-Ends are specially designed for applications on ACSR conductor only. Designs utilize a dual compression product requiring compression of a steel component around the steel core and an aluminium component around the aluminium wire OD. Compression of products can be completed with industry standard presses and dies.

FEATURES AND BENEFITS

- Dead End Body: Aluminium component of dead end assembly that is compressed around the OD of the conductor.
- Steel Dead End Eye: Steel component of the dead end assembly that is compressed around the OD of the steel core.
- Holding Strength: 95% or more of the conductor rated breaking strength (RBS).
- Design allows for continuous conductor operating temperatures up to 125°C (150°C two hour emergency).
- Dead End pad is constructed with a 15° angle which allows for the terminal connection of jumper and dead end to be bolted together in a 0° or 30° configuration.
- Includes: Aluminium dead end body, steel dead end eye, felt washer, and filler plug.

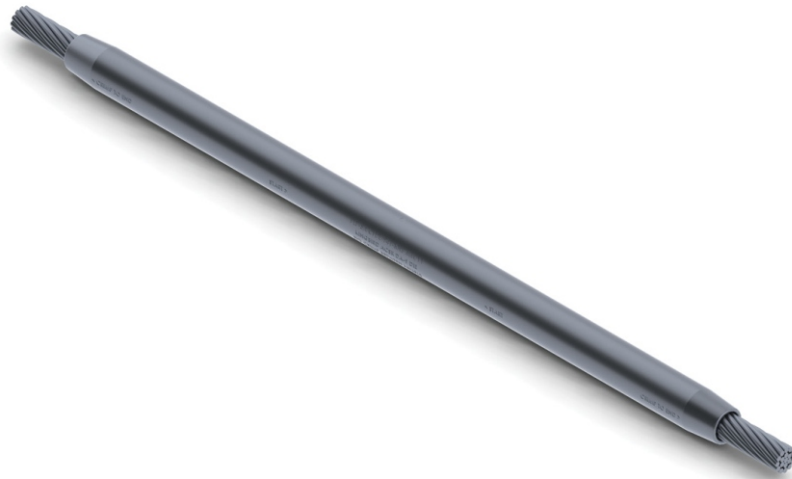
Compression Dead-End for ACSR



Specifications

Catalog Numbers	Conductor	Steel DIE	Alum. DIE	Palm Bolt Pattern
CFDE-432-MNK	MINK	-	DA-6	2 x 45
CFDE-557-HRE	HARE	DS-7	DA-7	2 x 45
CFDE-713-WLF	WOLF	DS-8	DA-8	2 x 45
CFDE-743-CKD	CHICADEE	DS-8	DA-8	2 x 45
CFDE-815-PCN	PELICAN	DS-8	DA-9	2 x 45
CFDE-923-BER	BEAR	DS-10	DA-9	2 x 45
CFDE-941-KNB	KINGBIRD	DS-8	DA-9	2 x 45
CFDE-1064-TRN	TERN	DS-8	DA-11	3 x 45
CFDE-1127-ZBR	ZEBRA	DS-10	DA-11	3 x 45
CFDE-1165-RAL	RAIL	DS-10	DA-11	3 x 45
CFDE-1400-BRT	BERSFORT	DS-10	DA-13	4 x 45

Compression Dead-End For All ACSR Conductors Is Available On Request



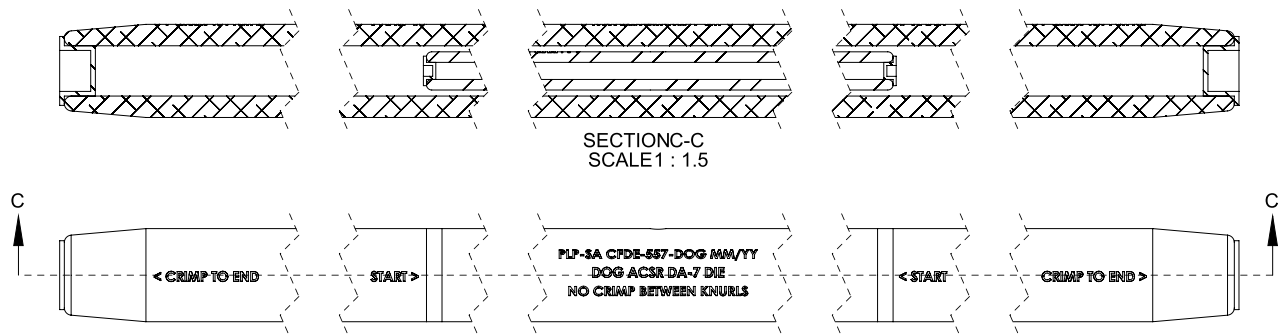
COMPRESSION MIDSPAN JOINT

The Compression Midspan Joints are specially designed for applications on ACSR , AAC and AAAC conductors. Designs utilize a dual compression product requiring compression of a steel component around the steel core and an aluminium component around the aluminium wire OD.

FEATURES AND BENEFITS

- Compression of products can be completed with industry standard presses and dies.
- The steel insert is galvanised Compression tube is extruded aluminium.
- All compression tubes are pre-greased and sealed with a plastic cap.
- All compression fittings are tested in accordance with IEC 61284: Heat cycle and tensile.
- Designs allows for continuous conductor operating temperature up to 125°C (150°C two hour emergency).
- Includes: Aluminium splice body, steel splice body, and filler plug.

Compression Midspan Joint



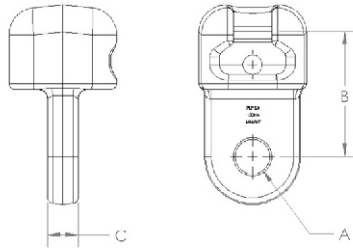
Specifications

Catalog Numbers	Conductor	Steel DIE	Alum. DIE	A (mm)	B (mm)
CFMJ-432-MNK	MINK	-	DA-6	310	-
CFMJ-557-HRE	HARE	DS-7	DA-7	530	220
CFMJ-713-WLF	WOLF	DS-8	DA-8	580	220
CFMJ-743-CKD	CHICADEE	DS-8	DA-8	670	230
CFMJ-815-PCN	PELICAN	DS-8	DA-9	700	220
CFMJ-923-BER	BEAR	DS-10	DA-9	720	240
CFMJ-941-KNB	KINGBIRD	DS-8	DA-9	760	220
CFMJ-1064-TRN	TERN	DS-8	DA-11	850	270
CFMJ-1127-ZBR	ZEBRA	DS-10	DA-11	880	280
CFMJ-1165-RAL	RAIL	DS-10	DA-11	950	270
CFMJ-1400-BRT	BERSFORT	DS-10	DA-13	1070	310

Compression Midspan Joint For All Conductors Is Available On Request

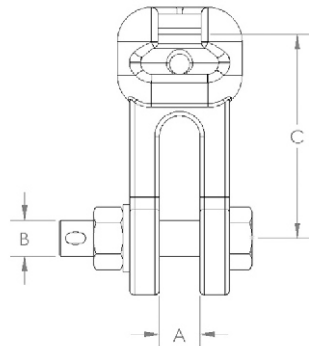
Socket Tongue

Catalog Numbers	DIM "A"	DIM "B"	DIM "C"	Breaking Load (kN)
7612000	18	65	16	120
7621000	22	70	20	210



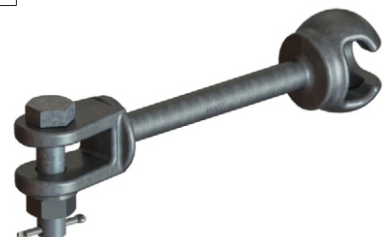
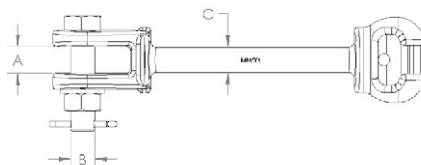
Socket Clevis

Catalog Numbers	DIM "A"	DIM "B"	DIM "C"	Breaking Load (kN)
7512001	18	16	90	120
7521001	22	20	90	210
7530001	26	24	90	300



Socket Clevis Hot-Line Maintenance

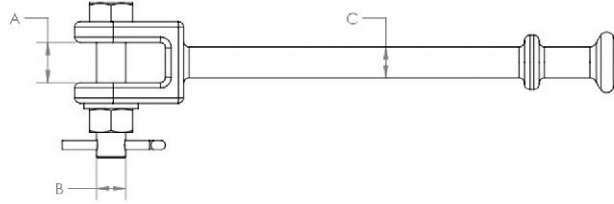
Catalog Numbers	DIM "A"	DIM "B"	DIM "C"	Breaking Load (kN)
751200501	18	16	17	120
752100501	22	20	21	210
753000501	26	24	25	300



Ball Clevis Hot-Line Maintenance



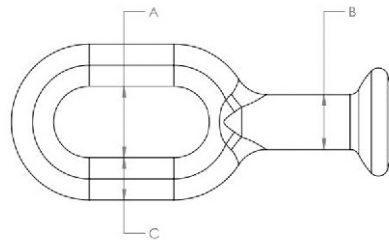
Catalog Numbers	DIM "A"	DIM "B"	DIM "C"	Breaking Load (kN)
951200501	22	16	17	120
952100501	22	20	21	210
953000501	25	26	25	300



Ball Oval Eye

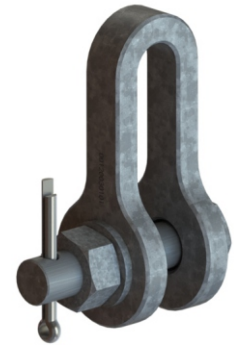
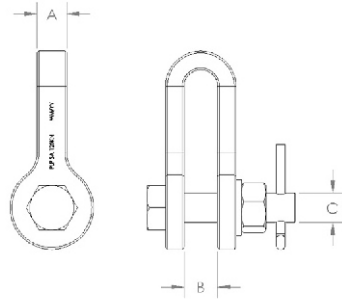


Catalog Numbers	DIM "A"	DIM "B"	DIM "C"	Breaking Load (kN)
9812011	22	17	17	120
9821011	28	21	21	210
9830011	35	25	25	300



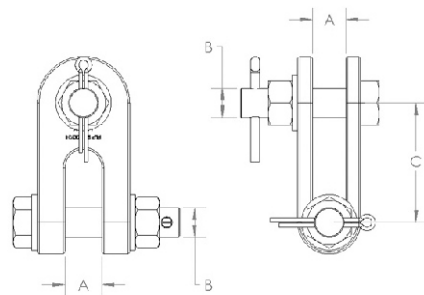
Strap Shackle

Catalog Numbers	DIM "A"	DIM "B"	DIM "C"	Breaking Load (kN)
56120021601	18	18	16	120
56210022002	20	22	20	210



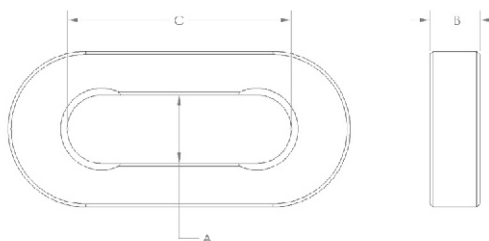
Twisted Clevis-Clevis (Plate Type)

Catalog Numbers	DIM "A"	DIM "B"	DIM "C"	Breaking Load (kN)
05120020101	18	16	65	120
05210020202	22	20	85	210
05300020303	27	24	108	300
05400020303	27	27	108	400
05600020404	34	33	111	600



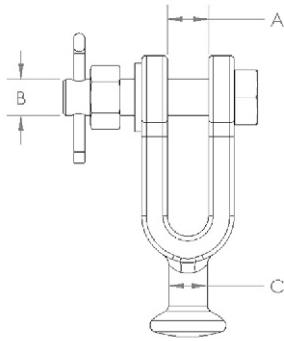
Chain Links (Plate Type)

Catalog Numbers	DIM "A"	DIM "B"	DIM "C"	Breaking Load (kN)
0112000	22	16	72	120



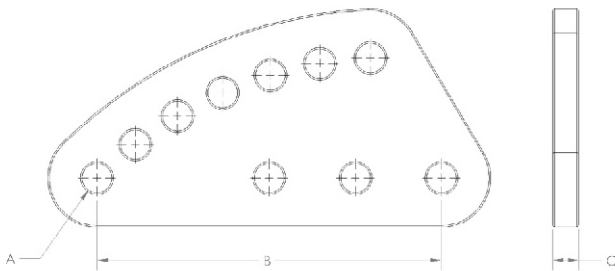
Ball Clevis

Catalog Numbers	DIM "A"	DIM "B"	DIM "C"	Breaking Load (kN)
95120000101	18	16	17	120
95210000102	22	20	21	210
95300000103	26	24	25	300

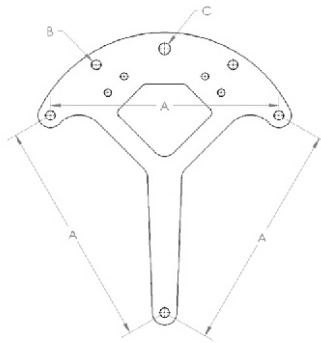


Sag Adjuster

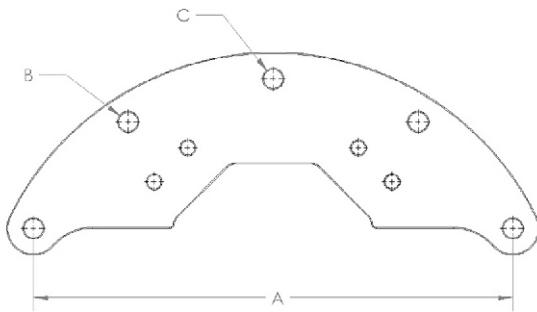
Catalog Numbers	DIM "A"	DIM "B"	DIM "C"	Breaking Load (kN)
04120060107	18	85-210	16	120
04210060307	22	85-225	20	210



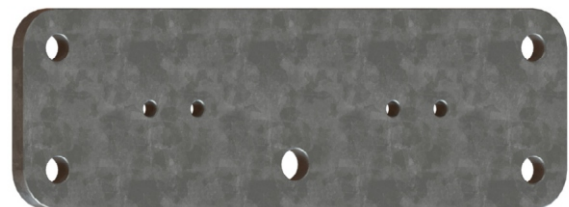
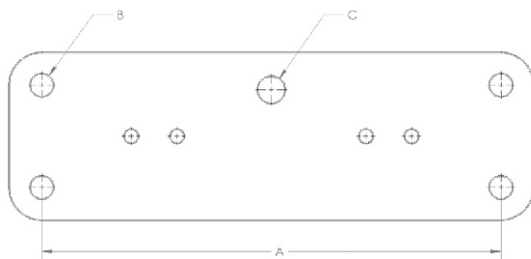
Y-Suspension Yoke Plate



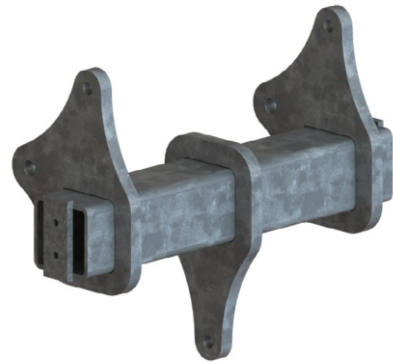
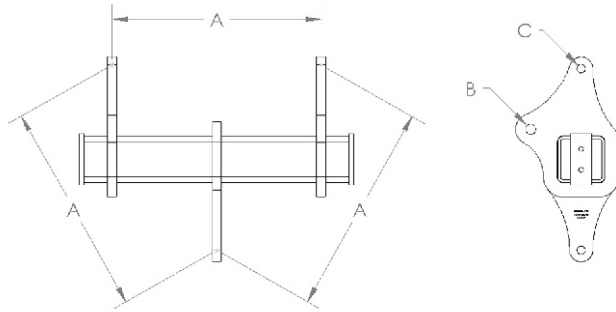
Trapezoidal Suspension Yoke Plate



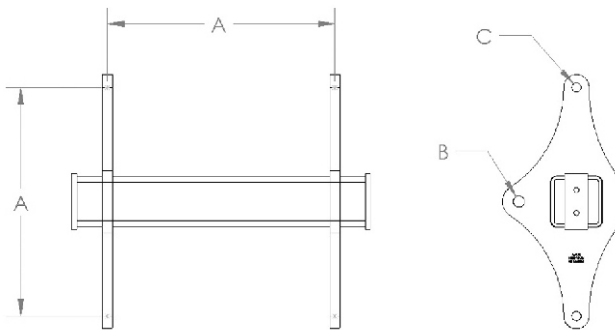
Rectangular Strain Yoke Plate



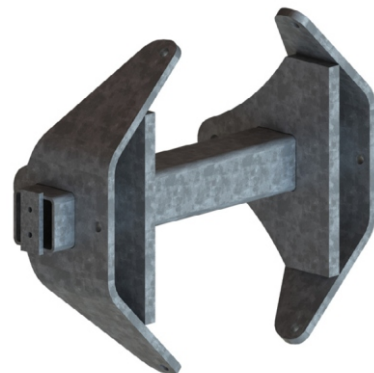
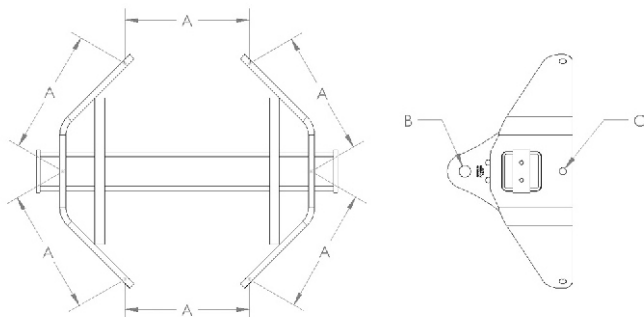
Triple Tubular Yoke



Quad Tubular Yoke



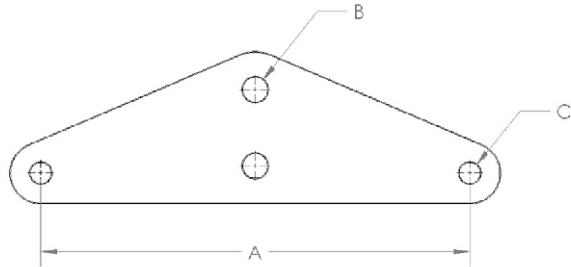
Hex Tubular Yoke



Aluminium Grading Rings



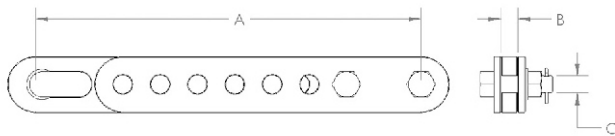
Isosceles Yoke Plate



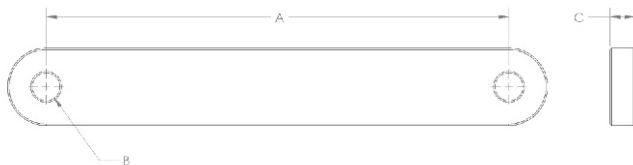
Note: Isosceles Yoke Plates can be designed to match customer specification

Adjustable Extension Link

Catalog Numbers	DIM "A"	DIM "B"	DIM "C"	Breaking Load (kN)
1012003002	340-565	18	16	120
1021003001	610-970	22	20	210
1030003001	610-970	26	24	300
1040003001	610-970	26	25	400



Extension Link



Conductor Guide

All Aluminium Alloy Conductors - AAAC (British Standard Sizes)

Conductor Name	Equivalent Copper area	Stranding & Wire dia.	Overall Diameter	Aluminium Area
ACACIA	13	7/2,08	6,24	23,79
ALMOND	16	7/2,34	7,02	30,10
CEDAR	19	7/2,54	7,59	35,47
35	22	7/2,77	8,31	42,18
FIR	25	7/2,95	8,85	47,84
HAZEL	32	7/3,30	9,90	59,87
PINE	38	7/3,61	10,83	71,65
70	45	7/3,91	11,73	84,05
WILLOW	48	7/4,04	12,12	89,73
80	51	7/4,19	12,57	96,52
90	58	7/4,45	13,35	108,9
OAK	63	7/4,65	13,95	118,9
100	63	19/2,82	14,10	118,7
MULBERRY	80	19/3,18	15,90	150,9
ASH	96	19/3,48	17,40	180,7
ELM	112	19/3,76	18,80	210,9
POPLAR	119	37/2,87	20,09	239,4
225	143	37/3,05	21,35	270,3
SYCAMORE	161	37/3,23	22,61	303,2
UPAS	192	37/3,53	24,71	362,1
350	224	37/3,81	26,67	421,8
YEW	254	37/4,06	28,42	479,0

All Aluminium Conductor - AAC (British Standard Sizes)

Conductor Name	Equivalent Copper area	Stranding & Wire dia.	Overall Diameter	Aluminium Area
MIDGE	14,19	7/2,06	6,18	23,33
APHIS	16,13	3/3,35	7,24	26,44
GNAT	16,13	7/2,21	6,63	26,85
WEEVIL	19,35	3/3,66	7,91	31,56
MOSQUITO	22,58	7/2,59	7,77	36,88
LADYBIRD	25,81	7/2,79	8,37	42,80
ANT	32,26	7/3,10	9,30	52,83
FLY	38,71	7/3,40	10,20	63,55
BLUEBOTTLE	45,16	7/3,66	10,98	73,65
EARWIG	48,39	7/3,78	11,34	78,55
GRASSHOPPER	51,61	7/3,91	11,73	84,05
CLEGG	58,06	7/4,17	12,51	95,60
WASP	64,52	7/4,39	13,17	105,95
BEETLE	64,52	19/2,67	13,35	106,38
BEE	80,64	7/4,90	14,70	132,00
CRICKET	96,77	7/5,36	16,08	157,95
HORNET	96,77	19/3,25	16,25	157,95
CATERPILLAR	112,90	19/3,53	17,65	185,95
CHAFER	129,00	19/3,78	18,90	213,22
SPIDER	145,20	19/3,99	19,95	237,57
COCKROACH	161,30	19/4,22	21,10	265,75
BUTTERFLY	193,50	19/4,65	23,25	322,66
MOTH	225,80	19/5,00	25,00	373,06
DRONE	225,80	37/3,58	25,06	372,44
LOCUST	258,10	19/5,36	26,80	428,72
CENTIPEDE	258,10	37/3,78	26,46	415,22
MAYBUG	290,30	37/4,09	28,63	486,11
SCORPION	322,60	37/4,27	29,89	529,84
CICADA	387,10	37/4,65	32,55	628,34
TARANTULA	483,90	37/5,23	36,61	794,87
BULL	527,87	61/4,25	38,25	865,36

Aluminium Conductor Steel Reinforced-ACSR (British Standard Sizes)

Conductor Name	Equivalent Copper area	Stranding & Wire dia.	Overall Diameter	Aluminium Area
MOLE	6,45	6/1/1,50	1,50	4,50
SQUIRREL	12,90	6/1/2,11	2,11	6,33
GOPHER	16,30	6/1/2,36	2,36	7,08
WEASEL	19,35	6/1/2,59	2,59	7,77
FOX	22,58	6/1/2,79	2,79	8,37
FERRET	25,81	6/1/3,00	3,00	9,00
RABBIT	32,26	6/1/3,35	3,35	10,05
MINK	38,71	6/1/3,66	3,66	10,98
SKUNK	38,71	12/7/2,59	7,77	12,95
BEAVER	45,16	6/1/3,99	3,99	11,97
HORSE	45,16	12/7/2,79	8,37	13,95
RACCOON	48,39	6/1/4,09	4,09	12,27
OTTER	51,61	6/1/4,22	4,22	12,66
CAT	58,06	6/1/4,50	4,50	13,50
HARE	64,52	6/1/4,72	4,72	14,16
DOG	64,52	6/4,72	4,71	14,15
HYENA	64,52	+7/1,57	5,79	14,57
LEOPARD	80,65	7/4,39	5,25	15,81
COYOTE	80,65	+7/1,93	5,73	15,89
TIGER	80,65	6/5,28	4,72	16,52
WOLF	96,77	+7/1,75	7,77	18,13
LYNX	112,90	26/2,54	8,37	19,53
PANTHER	129,00	+7/1,91	9,00	21,00
LION	145,20	30/7/2,36	9,54	22,26
BEAR	161,30	30/7/2,59	10,05	23,45
GOAT	193,50	30/7/2,79	11,13	25,97
SHEEP	225,80	30/7/3,00	11,97	27,93
ANTELOPE	225,80	30/7/3,18	8,91	26,73
BISON	225,80	30/7/3,35	9,00	27,00
DEER	258,10	30/7/3,71	12,81	29,89
ZEBRA	258,10	30/7/3,99	9,54	28,62
ELK	290,30	54/7/2,97	13,50	31,50
CAMEL	290,30	54/7/3,00	10,05	30,15
MOOSE	322,60	30/7/4,27	10,59	31,77
DINOSAUR	414,63	54/7/3,18	11,80	35,50
BERSFORD	430,70	30/7/4,50	9,96	35,58

Aluminium Conductor Steel Reinforced-ACSR (Canadian Standard Sizes)

Conductor Name	Equivalent Copper area	Stranding & Wire dia.	Overall Diameter	Aluminium Area
CARDINAL	305,00	54/7/3,38	10,14	30,38
ORTLAN	329,40	45/3,85 +7/2,57	7,71	30,81
CURLEW	329,40	54/7/3,52	10,56	31,65
BLUEJAY	354,70	45/4,00 +7/2,66	7,98	31,98
FINCH	354,70	54/3,65 +19/2,19	10,95	32,84
BUNTING	380,00	45/4,14 +7/2/76	8,28	33,07
GRACKLE	380,00	54/3,77 +19/2,27	11,35	33,99
BITTERN	405,40	45/4,27 +7/2,85	8,55	34,16
PHEASANT	405,40	54/3,90 +19/2,34	11,70	35,36
DIPPER	430,70	45/4,40 +7/2,92	8,76	35,18
MARTIN	430,70	54/4,02 +19/2,41	12,05	36,17
BOBLINK	456,00	45/4,53 +7/3,02	9,06	36,25
PLOVER	456,00	54/4,14 +19/2,48	12,40	37,21
NUTHATCH	481,40	45/4,65 +7/3,10	9,30	37,21
PARROT	481,40	54/4,25 +19/2,55	12,75	38,25
LAPWING	506,70	45/4,77 +7/3,18	9,54	38,15
FALCON	506,70	54/4,36 +19/2,62	13,10	39,24
CHUKAR	567,00	84/3,70 +19/2,22	11,10	40,69

Aluminium Conductor Steel Reinforced-ACSR (Canadian Standard Sizes)

Conductor Name	Equivalent Copper area	Stranding & Wire dia.	Overall Diameter	Aluminium Area
OSPREY	177,40	18/1/4,47	4,47	22,33
PARAKEET	177,40	24/3,87 +7/2,58	7,74	23,22
EAGLE	177,40	30/7/3,46	10,38	24,22
DOVE	177,40	26/3,72 +7/2,89	8,67	23,55
PEACOCK	192,80	24/4,03 +7/2,69	8,07	24,21
SQUAB	192,80	26/3,87 +7/3,01	9,03	24,54
TEAL	192,80	30/3,61 +19/2,16	10,80	25,25
DUCK	192,80	54/7/2,69	8,07	24,21
KINGBIRD	197,04	18/1/4,78	4,78	23,90
ROOK	202,70	24/4,14 +7/2,76	8,28	24,82
EGRET	202,70	30/3,70 +19/2,22	11,10	25,90
GROSBEAK	202,70	26/3,97 +7/3,09	9,27	25,15
GOOSE	202,70	54/7/2,76	8,28	24,84
FLAMINGO	212,30	24/4,20 +7/2,82	8,46	25,38
GULL	212,30	54/7/2,82	8,46	25,38
REDWING	228,00	30/3,92 +19/2,35	11,75	27,43
STARLING	228,00	26/4,21 +7/3,28	9,84	26,68
CROW	228,00	54/7/2,92	8,76	26,28
TERN	253,40	45/3,38 +7/2,25	6,75	27,00
MALLARD	253,40	30/4,14 +19/2,48	12,40	28,96
DRAKE	253,40	26/4,44 +7/3,45	10,35	28,11
CONDOR	253,40	54/7/3,08	9,24	27,76
CRANE	278,70	54/7/3,23	9,69	29,11
CANARY	286,80	54/7/3,28	9,84	29,51
RAIL	304,00	45/3,70 +7/2,47	7,41	29,59



Aluminium Conductor Steel Reinforced-ACSR (Canadian Standard Sizes)

Conductor Name	Equivalent Copper area	Stranding & Wire dia.	Overall Diameter	Aluminium Area
WREN	5,26	6/1/1,33	1,33	3,99
WARBLER	6,63	6/1/1,50	1,50	4,50
TURKEY	8,37	6/1/1,68	1,68	5,04
THRUSH	10,55	6/1/1,89	1,89	5,67
SWAN	13,30	6/1/2,12	2,12	6,36
SWALLOW	16,77	6/1/2,38	2,38	7,14
SPARROW	21,15	6/1/2,67	2,67	8,01
ROBIN	26,67	6/1/3,00	3,00	9,00
RAVEN	36,62	6/1/3,37	3,37	10,11
QUAIL	42,41	6/1/3,78	3,78	11,34
PIGEON	53,49	6/1/4,25	4,25	12,75
PENGUIN	67,43	6/1/4,77	4,77	14,31
PARTRIDGE	85,01	26/2,57 +7/2,00	6,00	16,28
OWL	85,01	6/5,36 +7/1,79	5,37	16,09
WAXWING	85,01	18/1/3,09	3,09	15,47
PIPER	95,60	30/7/2,54	7,62	17,78
OSTRICH	95,60	26/2,73 +7/2,12	6,36	17,28
ORIOLE	107,20	30/7/2,69	8,07	18,83
LINNET	107,20	26/2,89 +7/2,25	6,75	18,31
MERLIN	107,20	18/1/3,47	3,47	17,37
CHICADEE	126,70	18/1/3,77	3,77	18,87
LARK	126,70	30/7/2,92	8,76	20,44
IBIS	126,70	26/3,14 +7/2,44	7,32	19,88
PELICAN	152,00	18/1/4,14	4,14	20,70
FLICKER	152,00	24/3,58 +7/2,39	7,17	21,49
HEN	152,00	30/7/3,20	9,60	22,40
HAWK	152,00	26/3,44 +7/2,68	8,04	21,80
HERON	159,40	30/7/3,28	9,84	22,96

Aluminium Conductor Steel Reinforced-ACSR (South African Standard Sizes)

Conductor Name	Equivalent Copper area	Stranding & Wire dia.	Overall Diameter	Aluminium Area
* 21/3,5	12,8	6/1/2,11	2,11	6,33
* 26/4,4	16,0	6/1/2,36	2,36	7,16
* 37/6,1	22,4	6/1/2,79	2,79	8,45
* 42/7,1	25,8	6/1/3,00	3,00	9,09
* 53/8,8	32,3	6/1/3,35	3,35	10,15
* 63/11	38,5	6/1/3,66	3,66	11,09
105/17	64,0	6/1/4,72	4,72	14,30
105/14	64,0	6/4,75 +7/1,57	4,71	14,29
158/37	96,4	30/7/2,59	7,77	18,31
264/62	161	30/7/3,35	10,05	23,69
429/56	262	54/7/3,18 54/3,95	9,54	28,91
662/84	404	+19/2,37	11,85	35,94

All Aluminium Conductors - AAC (South African Standard Sizes)

Conductor Name	Equivalent Copper area	Stranding & Wire dia.	Overall Diameter	Aluminium Area
25	15,6	7/2,12	6,42	24,7
39	24,3	7/2,65	8,03	38,6
58	36,6	7/3,25	10,15	58,1
100	62,9	7/4,26	12,91	99,8
* 158	99,4	19/3,25	16,92	157,6
271	171,0	19/4,26	21,52	270,8
* 323	203,5	19/4,65	23,49	322,7
* 415	262,0	37/3,78	26,73	415,2
* 527	332,6	37/4,26	30,12	527,4
† 685	431,8	61/3,78	34,36	684,6
* 869	548,3	61/4,26	38,73	869,4



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