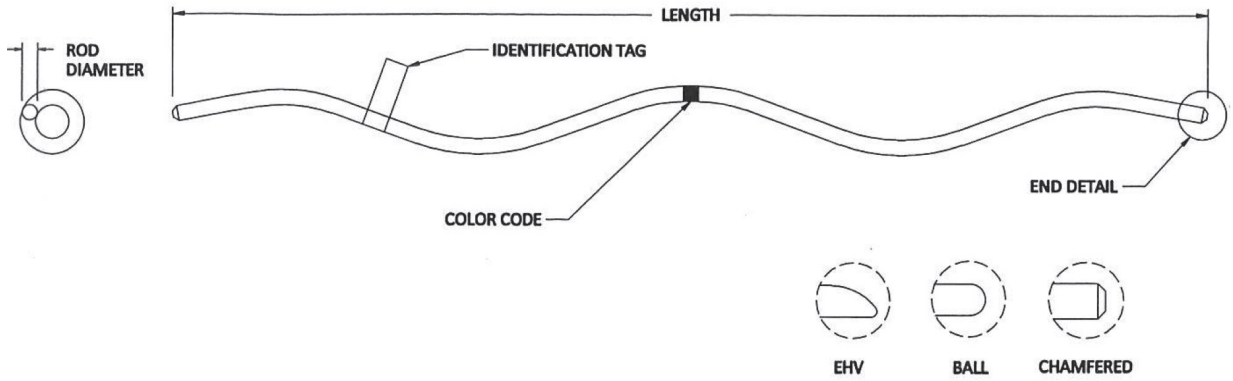
Armor Rods & Line Guards



Industry Competitive

- Price, quality & lead time
- Look, feel & function
- ACSR/ACSS; ACSR/ACSS TW; AAC, AAAC; ACAR

Production

- EHV rated, made to order
- Inventory available for popular sizes
- Sample orders welcomed

Product Specs

- Aluminum Alloy
- Right Hand Lay
- Ball Ends ≥ 0.250”
- Chamfered Ends < 0.250”
- Add “E” Suffix for EHV Rod End
- Add “D” Prefix for Double Supported Length (For rod diameters < 0.25” only)

Armor Rods & Line Guards

Materials:

Rods – manufactured from either aluminum covered steel, aluminum alloy or galvanized steel

Color code and center mark – establishes alignment of rods during application and identifies conductor size

Identification tag – identifies catalog number and conductor details

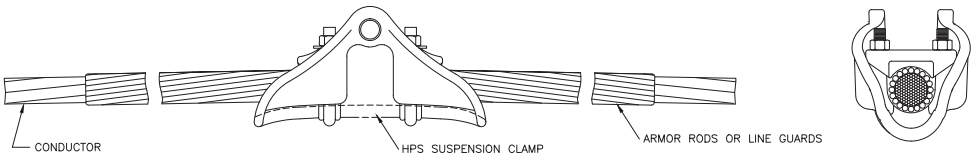
Industry Knowledge:

Armor Rods and Line Guards have overlapping purpose – to protect conductors from fatigue-damage by providing a stiffening support for suspended conductors. They also protect from abrasion-damage at attachment points by providing a buffer between the conductor and the clamping connector. They are both made up of sets of individual rods of the same diameter. When installed, the set of individual rods grip rigidly onto their respective conductors. Once each rod of the respective set has been installed, the set should evenly enclose the conductor along the length of the rods.

Physically, the line guard sets are shorter in length and the individual rods are smaller in diameter. The application for line guards is typically found on light transmission lines with shorter spans, smaller conductor sizes and lower voltages. Armor Rods are recommended for applications where the conductor is clamped or suspended with bolted type connectors.

Product Offerings:*

- Aluminum Armor Rods
- Aluminum Line Guards
- Aluminum Protector Rods
- Galvanized Steel Rods
- Alumo-Weld® Steel Rods



- **EHV @ 250° C for respective suspension clamp & conductor application***
- **Application O.D. = (Rod O.D. X 2) + Conductor O.D.**

General Recommendations

Armor Rods

1. Fargo® Armor Rods are intended to protect conductors from stress and damage which can be caused by a bend, compression, abrasion or arc over. They are also designed to repair conductors which have sustained < 50% outer strand damage.*
2. Armor Rods should be considered as minimum protection for clamp style supports or suspension hardware for spans > 300 feet.
3. Armor Rods are designed to provide an extra degree of protection to the conductor at support points, **not act as vibration dampers**. In areas where vibration is suspected or known to occur, the use of Fargo® 4-R Dampers is recommended.

Line Guards

1. Fargo® Line Guards are intended to provide an extra degree of protection for the conductor against abrasion and arc over. They are also designed to repair conductors which have sustained < 25% outer strand damage.*
2. Line Guards should be considered as minimum protection for hand-tied spans ≤ 300 feet in urban areas with no history of vibration.
3. Line Guards should be considered as a cost saving alternate to Armor Rods when applicable. Note: HPS Distribution Ties are recommended as an improvement over Line Guards and hand ties, providing a stronger and more uniform tie.

*The degree of protection required is dependent upon line design, tension, temperature, and wind conditions. Contact HPS Connectors Business Unit for specific recommendations.

Conductor Protection — *Armor Rods*

For use on stranded aluminum and aluminum composite conductors, including high-temperature conductor designs.(4)

Material: aluminum alloy

ALUMINUM
AP8

Product Data and Conductor Size

Catalog Number	Conductor Dia. Range In. (mm)		Nominal Conductor Size (AWG or KCMIL)		Applied Length (in.)	Rod Dia. (in.)	Rods Per Set	Sets Per Carton	Wt. Per Carton (lbs.)	Color Code
	Min.	Max.	ACSR/ACSS	AAC, AAAC						
AP8114 DAP8114	0.309 (7.8)	0.326 (8.3)	#2 (6/1)		44 56(D)	0.136	9	50	32 40	Red
AP8115 DAP8115	0.327 (8.3)	0.346 (8.8)		#1	46 58(D)	0.146	9	50	38 46	Blue
AP8116 DAP8116	0.347 (8.8)	0.366 (9.3)	#1 (6/1)		48 60(D)	0.146	9	50	40 49	Green
AP8117 DAP8117	0.367 (9.3)	0.389 (9.9)		1/0	50 62(D)	0.146	10	50	45 55	Black
AP8118 DAP8118	0.390 (9.9)	0.413 (10.5)	1/0 (6/1)		52 64(D)	0.167	9	50	55 67	Yellow
AP8119 DA08119	0.414 (10.5)	0.436 (11.1)		2/0	52 64(D)	0.146	10	50	48 58	Brown
AP8120 DAP8120	0.437 (11.1)	0.463 (11.8)	2/0 (6/1)		54 66(D)	0.167	10	50	64 76	Blue
AP8121 DAP8121	0.464 (11.8)	0.490 (12.4)		3/0	54 66(D)	0.167	10	50	64 76	Green
AP8122 DAP8122	0.491 (12.5)	0.521 (13.2)	3/0 (6/1)		56 68(D)	0.167	11	25	37 46	Orange
AP8123 DAP8123	0.522 (13.3)	0.551 (14.0)		4/0	58 70(D)	0.167	11	25	38 46	Black
AP8124 DAP8124	0.552 (14.0)	0.585 (14.9)	4/0 (6/1)	250	60 72(D)	0.182	11	25	46 55	Red
AP8125 DAP8125	0.586 (14.9)	0.606 (15.4)		266.8	62 74(D)	0.182	12	25	52 61	Black
AP8126 DAP8126	0.607 (15.4)	0.630 (16.0)	266.8 (18/1)		64 76(D)	0.182	12	25	54 63	Purple
AP8127 DAP8127	0.631 (16.0)	0.655 (16.6)	266.8 (26/7)		64 76(D)	0.182	12	25	54 63	Yellow
AP8128 DAP8128	0.656 (16.7)	0.679 (17.2)		336.4	66 78(D)	0.182	13	18	43 51	Brown
AP8129 DAP8129	0.680 (17.3)	0.703 (17.9)	336.4 (18/1)		68 80(D)	0.204	12	18	52 60	Blue
AP8130 DAP8130	0.704 (17.9)	0.740 (18.8)	336.4 (26/7)	397.5	72 84(D)	0.204	12	18	54 64	Green
AP8131	0.741 (18.8)	0.782 (19.9)	397.5 (18/1)		72	0.204	13	18	59	Orange
AP8132	0.783 (19.9)	0.814 (20.7)	397.5 (26/7)	477, 500	76	0.250	11	15	66	Purple
AP8133	0.815 (20.7)	0.845 (21.5)			76	0.250	11	15	66	Red
AP8134	0.846 (21.5)	0.907 (23.0)	477 (26/7)	556.5	78	0.250	12	15	74	Blue
AP8135	0.908 (23.1)	0.929 (23.6)	556.5 (26/7)	636	80	0.250	13	12	66	Green
AP8136	0.930 (23.6)	0.976 (24.8)	556.5 (30/7) 605 (26/7)	715.5	88	0.250	13	12	72	White

NOTES:

(1) Right-hand lay standard.

(2) For aluminum conductor types & sizes not listed above, select rod set based on dia. range to accomodate conductor.

(3) Applied O.D. of conductor with rods, for suspension clamp selection, equals conductor diameter plus two times rod dia.

(4) Maximum conductor temperature limits vary with suspension clamp designs. See catalog Reference Data secton for guidelines.