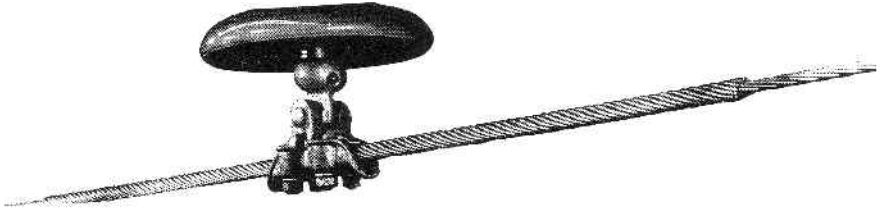


## Armor Rods



### General Recommendations

**Protection:** PREFORMED™ 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. As a general guide, the following recommendations may be adapted to the specific conditions. Armor Rods are recommended as **minimum** protection for bolted **clamp-type** supports or suspensions. Armor rods are recommended as **minimum** protection for use with hand-tied spans of **90 metres or more**. Line Guards are recommended as minimum protection for hand-tied spans of less than 90 metres in urban construction **having no experience of vibration**. The use of **supplementary damping devices** should be considered in areas experiencing a history of vibration problems. Spiral Vibration Dampers should be given serious consideration when distribution conductor spans exceed 105 metres and/or 15 percent tension at 16°C.

**Application-Inspection:** After application of the correct number of rods per set, a slight gap between rods should be present. Apply no more than one-half the number of rods per set at a time on smaller sizes. On conductor 12mm and larger, do not attempt to apply more than four rods at a time. The alignment of the ends of the rods should be maintained within 50 mm for voltages of 230 KV and lower.

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## Armor Rods

**Design Modification:** WRAPLOCK® Ties are recommended as being superior to armor-tie combinations in providing protection for abrasion, and equivalent in providing protection from vibration fatigue. ARMOR-GRIP® Suspension is recommended as being superior to armor-clamp combinations in providing protection from bending stress and abrasion.

**Armor Rods Restorative-Repair:** Armor Rods may be used to restore full conductance and strength to ACSR and aluminum conductors where damage does not exceed approximately 50 percent of the outer strand layers. Consult PLP for repair capability of specific stranding.

**Note:** All conductor, new or weathered MUST be thoroughly wire-brushed and coated with a good quality inhibitor along the area where restorative repair fittings are to be applied. Damage should be located at the “point of support” or within the “midspan area”

**Tapping:** Tapping over applied aluminum or Hard drawn copper Armor Rods is permissible. Where it is known that Tapping clamps will be installed over Armor-Rods, an inhibitor must be applied.

**Material Selection:** For copper conductor, Copperweld Armor Rods are recommended when electrical requirements such as tapping or repair are not involved. Where such requirements are involved Hard Drawn Copper Armor Rods may be used.

## Armor Rods: Parrot-Bill® Ends



To meet the corona onset and RIV requirement for most extra-high voltage application. PARROT-BILL® Ends are to be used instead of the standard ball-end rods. Consult PLP for an engineering recommendation.

### O.D. Calculations

Applied overall diameter computed as follows:

The rod diameter can be obtained from the catalogue page tables.

Conductor/strand O.D. can be found in conductor charts.

Rod Diameter:  $3\text{mm} \times 2 = 6.00\text{mm}$

Conductor Diameter:  $+ 4.78\text{mm}$

Total Applied O.D.  $\underline{\hspace{1.5cm}} 10.78\text{mm}$

## Aluminum Alloy Armor Rods

Right Hand Lay Standard. Always quote Insulator type and neck diameter.

CATALOGUE NO. AAR	CONDUCTOR DIAMETER (mm)	COLOUR CODE	RODS PER SET	SETS PER PACK	APPROX PACK MASS (kg)	LENGTH OF FITTING (mm)	ROD DIA. (mm)
704 – 740	17.87 – 18.80	White	12	15	21	1830	5.38
741 – 782	18.81 – 19.86	Black	12	15	22	1830	5.38
783 – 814	19.87 – 20.69	Green	11	10	20	1930	6.40
815 – 845	20.70 – 21.46	Brown	11	10	20	1930	6.40
846 – 907	21.47 – 23.04	Red	12	10	23	1930	6.40
908 – 929	23.05 – 23.60	Orange	12	10	25	1980	6.40
930 – 976	23.61 – 24.79	Green	11	10	28	2030	6.40
977 – 1016	24.80 – 25.81	Blue	12	10	38	2240	7.62
1017 – 1035	25.82 – 26.29	Black	12	10	42	2340	7.62
1036 – 1064	26.30 – 27.03	Blue	12	10	44	2390	7.62
1065 – 1098	27.04 – 27.89	Grey	12	10	44	2440	7.62
1099 – 1139	27.90 – 28.93	Yellow	12	10	50	2440	8.23
1140 – 1161	28.94 – 29.49	Blue	12	5	25	2540	8.23
1162 – 1208	29.50 – 30.68	Green	12	5	25	2540	8.23
1209 – 1269	30.69 – 32.23	Brown	12	5	32	2540	9.27
1270 – 1327	32.24 – 33.71	Black	12	5	32	2540	9.27
1328 – 1390	32.24 – 33.71	Grey	12	5	34	2540	9.27
1391 – 1440	35.32 – 36.58	White	12	5	42	2540	9.27
1441 – 1508	36.59 – 38.30	Red	12	5	45	2540	9.27
1509 – 1578	38.31 – 40.08	Green	12	5	45	2540	9.27

Also available for conductor diameter up to 55.17mm