# ALL ALUMINIUM CONDUCTORS (AAC)

### Application

All Aluminium Conductors (AAC) can used as a bare overhead conductor for distribution lines.

### Construction

All Aluminium Conductors (AAC) is a concentric lay stranded conductor consisting of hard drawn aluminium wires in single layer and multi-layer construction

### Standard

All Aluminium conductor (AAC) as per BS 215-1 & SANS 182-2

### Technical Data for Hard-Drawn Aluminium

**Volume Resistivity** : 0.028264 Ω.m2/m

**Density** : 2.703 g/cm³

**Coefficient of Linear Expansion** : 23 x $10^{-6}$/°C

**TABLE 1** — **BS 215-1**

| Code Name | Nominal Area | Approximate Overall Diameter | Approx. Weight | Max.DC Resistance at 20°C | Minimum Breaking Load |
|---|---|---|---|---|---|
| | **SQ.MM** | **MM** | **kg/km** | **Ω/km** | **KN** |
| MIDGE | 22 | 6.18 | 64 | 1.227 | 3.99 |
| ANT | 50 | 9.30 | 145 | 0.5419 | 8.28 |
| FLY | 60 | 10.20 | 174 | 0.4505 | 9.90 |
| WASP | 100 | 13.17 | 290 | 0.2702 | 16.0 |
| HORNET | 150 | 16.25 | 434 | 0.1825 | 25.70 |
| CHAFER | 200 | 18.90 | 587 | 0.1349 | 32.40 |
| COCKROACH | 250 | 21.10 | 731 | 0.1083 | 40.40 |
| BUTTERFLY | 300 | 23.25 | 888 | 0.08916 | 48.75 |
| CENTIPEDE | 400 | 26.46 | 1145 | 0.06944 | 63.10 |

**TABLE 2** — **SANS 182-2**

| Code Name | Nominal Area | Approximate Overall Diameter | Nominal Mass | Max.DC Resistance at 20°C | Minimum Breaking Load |
|---|---|---|---|---|---|
| | **SQ.MM** | **MM** | **kg/km** | **Ω/km** | **KN** |
| NAAC0250 | 25 | 6.42 | 68 | 1.182 | 4.12 |
| NAAC0390 | 39 | 8.03 | 106 | 0.7563 | 6.12 |
| NAAC0580 | 58 | 10.15 | 152 | 0.5029 | 8.82 |
| NAAC1000 | 100 | 12.91 | 273 | 0.2929 | 14.6 |
| NAAC1580 | 158 | 16.92 | 434 | 0.1962 | 23.40 |
| NAAC2730 | 273 | 21.52 | 745 | 0.1084 | 38.8 |
| NAAC3230 | 323 | 23.49 | 888 | 0.09096 | 46.20 |
| NAAC4150 | 415 | 26.73 | 1145 | 0.07085 | 59.90 |
| NAAC5270 | 527 | 30.12 | 1454 | 0.05580 | 75.60 |
| NAAC6850 | 685 | 34.36 | 1891 | 0.04307 | 96.60 |
| NAAC8690 | 869 | 38.73 | 2402 | 0.03392 | 122 |

**Notes:** Conductors can be supplied in multiples of 1000/500/250 mtrs or required by customer.