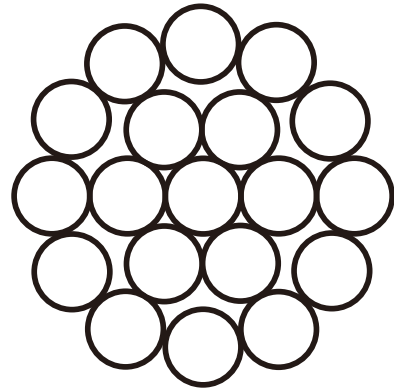


All Aluminium Conductors (AAC/1350)



Properties:

Aluminium conductors manufactured to AS 1531

This type of conductor is stranded with 1350 hard-drawn aluminium wire

Structural Parameters:

| Code name | Number and diameter of wire | Overall diameter | Calculated area | Approx. mass of conductor | Rated strength, Min | DC resistance at 20°C | AC resistance at 50Hz, 75°C | Calculated elasticity modulus | Coefficient of linear expansion |
|-----------|-----------------------------|------------------|-----------------|---------------------------|---------------------|-----------------------|-----------------------------|-------------------------------|---------------------------------|
| - | No./mm | mm | mm ² | kg/km | kN | Ω/km | Ω/km | GPa | 1/°C |
| Leo | 7/2.50 | 7.5 | 34.36 | 94.3 | 5.71 | 0.833 | 1.0176 | 65 | 23E-06 |
| Leonids | 7/2.75 | 8.25 | 41.58 | 113 | 6.72 | 0.689 | 0.8417 | 65 | 23E-06 |
| Libra | 7/3.00 | 9.0 | 49.48 | 135 | 7.98 | 0.579 | 0.7074 | 65 | 23E-06 |
| Mars | 7/3.75 | 11.3 | 77.28 | 211 | 11.8 | 0.370 | 0.4522 | 65 | 23E-06 |
| Mercury | 7/4.50 | 13.5 | 111.3 | 304 | 16.9 | 0.258 | 0.3155 | 65 | 23E-06 |
| Moon | 7/4.75 | 14.3 | 124.0 | 339 | 18.9 | 0.232 | 0.2838 | 65 | 23E-06 |
| Neptune | 19/3.25 | 16.3 | 157.6 | 433 | 24.7 | 0.183 | 0.2240 | 65 | 23E-06 |
| Orion | 19/3.50 | 17.5 | 182.8 | 503 | 28.7 | 0.157 | 0.1922 | 65 | 23E-06 |
| Pluto | 19/3.75 | 18.8 | 209.8 | 576 | 31.9 | 0.137 | 0.1679 | 65 | 23E-06 |
| Saturn | 37/3.00 | 21.0 | 261.6 | 721 | 42.2 | 0.110 | 0.1350 | 64 | 23E-06 |
| Sirius | 37/3.25 | 22.8 | 307.0 | 845 | 48.2 | 0.094 | 0.1155 | 64 | 23E-06 |
| Taurus | 19/4.75 | 23.8 | 336.7 | 924 | 51.3 | 0.0857 | 0.1055 | 65 | 23E-06 |
| Triton | 37/3.75 | 26.3 | 408.5 | 1120 | 62.2 | 0.0706 | 0.0872 | 64 | 23E-06 |
| Uranus | 61/3.25 | 29.3 | 506.1 | 1400 | 75.2 | 0.0572 | 0.0710 | 64 | 23E-06 |
| Ursula | 61/3.50 | 31.5 | 586.9 | 1620 | 87.3 | 0.0493 | 0.0616 | 64 | 23E-06 |
| Venus | 61/3.75 | 33.8 | 673.4 | 1860 | 97.2 | 0.0429 | 0.0539 | 64 | 23E-06 |

Current Ratings:

| Code name | *Current carrying capacity, A | | | | | | | |
|-----------|-------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | 35°C ambient temperature | | | | 40°C ambient temperature | | | |
| | 50°C operation temperature | 60°C operation temperature | 70°C operation temperature | 75°C operation temperature | 50°C operation temperature | 60°C operation temperature | 70°C operation temperature | 75°C operation temperature |
| Leo | 111 | 149 | 177 | 189 | 83 | 130 | 162 | 175 |
| Leonids | 125 | 168 | 200 | 213 | 92 | 146 | 182 | 197 |
| Libra | 139 | 187 | 223 | 238 | 102 | 163 | 204 | 220 |
| Mars | 182 | 248 | 296 | 316 | 132 | 215 | 270 | 292 |
| Mercury | 227 | 311 | 372 | 397 | 162 | 269 | 339 | 367 |
| Moon | 242 | 333 | 398 | 426 | 172 | 288 | 363 | 393 |
| Neptune | 280 | 387 | 465 | 497 | 196 | 334 | 423 | 459 |
| Orion | 306 | 425 | 511 | 547 | 213 | 367 | 465 | 505 |
| Pluto | 332 | 464 | 558 | 597 | 230 | 399 | 507 | 551 |
| Saturn | 379 | 532 | 641 | 686 | 258 | 457 | 583 | 633 |
| Sirius | 416 | 586 | 708 | 759 | 280 | 503 | 644 | 700 |
| Taurus | 438 | 620 | 750 | 804 | 294 | 532 | 681 | 741 |
| Triton | 491 | 700 | 848 | 909 | 324 | 598 | 769 | 838 |
| Uranus | 554 | 796 | 967 | 1039 | 359 | 679 | 877 | 957 |
| Ursula | 603 | 871 | 1060 | 1139 | 385 | 742 | 960 | 1048 |
| Venus | 651 | 946 | 1154 | 1241 | 410 | 805 | 1045 | 1142 |

*Note: Current carrying capacity is based to the following conditions

- Frequency: 50Hz
- Solar absorption coefficient: 0.5
- Emissivity: 0.5
- Wind speed: 1.0m/s
- Solar radiation: 1000W/m²
- Current carrying capacity values calculated as per IEC 61597