

## POWER CABLES - ALUMINIUM

POLARIS - POWER SOLID / STRANDED ALUMINIUM CONDUCTOR ARMOURED & UNARMOURED, PVC INSULATED & SHEATHED CABLES 1100 V AS PER IS-1554 (1)

| CABLE SIZE               | No of Wires | Thick of PVC Insul. (Nom.) | Thick of Inner Sheath (Min.) | Dia. of Armour Wire G.I | Thick of Outer Sheath (Min.) |        | Approx. Overall Diameter |        | Approx. Net Wt. of Cable |      |        |      | Max. D.C. resistance at 20°C |       | Approx. A.C. resistance at 70°C |       | Approx. reactance at 50 Hz |        | Approx. capacitance per phase |        | Current Rating   |       |         |     |        |     | Short Circuit rating for 1 sec. |       |
|--------------------------|-------------|----------------------------|------------------------------|-------------------------|------------------------------|--------|--------------------------|--------|--------------------------|------|--------|------|------------------------------|-------|---------------------------------|-------|----------------------------|--------|-------------------------------|--------|------------------|-------|---------|-----|--------|-----|---------------------------------|-------|
|                          |             |                            |                              |                         | Arm.                         | Unarm. | Arm.                     | Unarm. | Arm.                     |      | Unarm. |      | Ohm/Km                       |       | Ohm/Km                          |       | Arm.                       | Unarm. | Arm.                          | Unarm. | Direct in Ground |       | In Duct |     | In Air |     | Kilo Amps                       |       |
|                          |             |                            |                              |                         | Sq.mm                        | No.    | mm                       | mm     | mm                       | mm   | mm     | mm   | mm                           | mm    | Kg/Km                           | Kg/Km | Ohm/Km                     | Ohm/Km | Ohm/Km                        | Ohm/Km | mf/Km            | mf/Km | Amps    |     | Amps   |     | Amps                            |       |
| Cu/Al                    | Cu/Al       | Cu/Al                      | Cu/Al                        | Cu/Al                   | Cu/Al                        | Cu/Al  | Cu/Al                    | Cu     | Al                       | Cu   | Al     | Cu   | Al                           | Cu    | Al                              | Cu/Al | Cu/Al                      | Cu     | Al                            | Cu     | Al               | Cu    | Al      | Cu  | Al     | Cu  | Al                              |       |
| <b>SOLID</b>             |             |                            |                              |                         |                              |        |                          |        |                          |      |        |      |                              |       |                                 |       |                            |        |                               |        |                  |       |         |     |        |     |                                 |       |
| 2 X 4.00 MM <sup>2</sup> | 1           | 1.00                       | 0.30                         | 1.40                    | 1.24                         | 1.80   | 15.50                    | 13.80  | 530                      | 480  | 283    | 232  | 4.61                         | 7.41  | 5.52                            | 8.89  | 0.116                      | 0.116  | 0.16                          | 0.41   | 41               | 32    | 35      | 27  | 35     | 27  | 0.460                           | 0.304 |
| 3 X 4.00 MM <sup>2</sup> | 1           | 1.00                       | 0.30                         | 1.40                    | 1.24                         | 1.80   | 16.00                    | 14.35  | 588                      | 513  | 330    | 255  | 4.61                         | 7.41  | 5.52                            | 8.89  | 0.116                      | 0.116  | 0.41                          | 0.41   | 36               | 28    | 30      | 23  | 30     | 23  | 0.460                           | 0.304 |
| 4 X 4.00 MM <sup>2</sup> | 1           | 1.00                       | 0.30                         | 1.40                    | 1.24                         | 1.80   | 17.30                    | 15.60  | 694                      | 594  | 403    | 303  | 4.61                         | 7.41  | 5.52                            | 8.89  | 0.116                      | 0.116  | 0.41                          | 0.41   | 36               | 28    | 30      | 23  | 30     | 23  | 0.460                           | 0.304 |
| 2 X 6.00 MM <sup>2</sup> | 1           | 1.00                       | 0.30                         | 1.40                    | 1.24                         | 1.80   | 16.50                    | 14.80  | 617                      | 542  | 345    | 271  | 3.08                         | 4.61  | 3.69                            | 5.53  | 0.110                      | 0.110  | 0.19                          | 0.47   | 50               | 40    | 44      | 34  | 45     | 35  | 0.690                           | 0.456 |
| 3 X 6.00 MM <sup>2</sup> | 1           | 1.00                       | 0.30                         | 1.40                    | 1.24                         | 1.80   | 17.10                    | 15.40  | 696                      | 584  | 410    | 298  | 3.08                         | 4.61  | 3.69                            | 5.53  | 0.110                      | 0.110  | 0.47                          | 0.47   | 45               | 35    | 38      | 30  | 39     | 30  | 0.690                           | 0.456 |
| 4 X 6.00 MM <sup>2</sup> | 1           | 1.00                       | 0.30                         | 1.40                    | 1.24                         | 1.80   | 18.50                    | 16.80  | 827                      | 678  | 507    | 358  | 3.08                         | 4.61  | 3.69                            | 5.53  | 0.110                      | 0.110  | 0.47                          | 0.47   | 45               | 35    | 38      | 30  | 39     | 30  | 0.690                           | 0.456 |
| 2 X 10.0 MM <sup>2</sup> | 1           | 1.00                       | 0.30                         | 1.40                    | 1.24                         | 1.80   | 18.10                    | 16.45  | 0                        | 650  | 0      | 341  | 1.83                         | 3.08  | 2.19                            | 3.70  | 0.100                      | 0.100  | 0.22                          | 0.56   | 70               | 55    | 58      | 45  | 60     | 47  | 1.150                           | 0.760 |
| 3 X 10.0 MM <sup>2</sup> | 1           | 1.00                       | 0.30                         | 4 x 0.80                | 1.40                         | 1.80   | 17.90                    | 17.10  | 0                        | 588  | 0      | 378  | 1.83                         | 3.08  | 2.19                            | 3.70  | 0.100                      | 0.100  | 0.56                          | 0.56   | 60               | 46    | 50      | 39  | 52     | 40  | 1.150                           | 0.760 |
| 4 X 10.0 MM <sup>2</sup> | 1           | 1.00                       | 0.30                         | 4 x 0.80                | 1.40                         | 2.00   | 19.55                    | 19.15  | 0                        | 695  | 0      | 476  | 1.83                         | 3.08  | 2.19                            | 3.70  | 0.100                      | 0.100  | 0.56                          | 0.56   | 60               | 46    | 50      | 39  | 52     | 40  | 1.150                           | 0.760 |
| <b>STRANDED</b>          |             |                            |                              |                         |                              |        |                          |        |                          |      |        |      |                              |       |                                 |       |                            |        |                               |        |                  |       |         |     |        |     |                                 |       |
| 2 X 4.00 MM <sup>2</sup> | 7           | 1.00                       | 0.30                         | 1.40                    | 1.24                         | 1.80   | 16.00                    | 14.40  | 556                      | 506  | 298    | 249  | 4.61                         | 7.41  | 5.52                            | 8.89  | 0.116                      | 0.116  | 0.16                          | 0.41   | 41               | 32    | 35      | 27  | 35     | 27  | 0.460                           | 0.304 |
| 3 X 4.00 MM <sup>2</sup> | 7           | 1.00                       | 0.30                         | 1.40                    | 1.24                         | 1.80   | 16.70                    | 14.95  | 621                      | 547  | 344    | 270  | 4.61                         | 7.41  | 5.52                            | 8.89  | 0.116                      | 0.116  | 0.41                          | 0.41   | 36               | 28    | 30      | 23  | 30     | 23  | 0.460                           | 0.304 |
| 4 X 4.00 MM <sup>2</sup> | 7           | 1.00                       | 0.30                         | 1.40                    | 1.24                         | 1.80   | 17.90                    | 16.30  | 725                      | 625  | 421    | 322  | 4.61                         | 7.41  | 5.52                            | 8.89  | 0.116                      | 0.116  | 0.41                          | 0.41   | 36               | 28    | 30      | 23  | 30     | 23  | 0.460                           | 0.304 |
| 2 X 6.00 MM <sup>2</sup> | 7           | 1.00                       | 0.30                         | 1.40                    | 1.24                         | 1.80   | 17.10                    | 15.55  | 650                      | 575  | 366    | 292  | 3.08                         | 4.61  | 3.69                            | 5.53  | 0.110                      | 0.110  | 0.19                          | 0.47   | 50               | 40    | 44      | 34  | 45     | 35  | 0.690                           | 0.456 |
| 3 X 6.00 MM <sup>2</sup> | 7           | 1.00                       | 0.30                         | 1.40                    | 1.24                         | 1.80   | 17.90                    | 16.20  | 736                      | 625  | 431    | 320  | 3.08                         | 4.61  | 3.69                            | 5.53  | 0.110                      | 0.110  | 0.47                          | 0.47   | 45               | 35    | 38      | 30  | 39     | 30  | 0.690                           | 0.456 |
| 4 X 6.00 MM <sup>2</sup> | 7           | 1.00                       | 0.30                         | 1.40                    | 1.24                         | 1.80   | 19.30                    | 17.70  | 869                      | 720  | 532    | 383  | 3.08                         | 4.61  | 3.69                            | 5.53  | 0.110                      | 0.110  | 0.47                          | 0.47   | 45               | 35    | 38      | 30  | 39     | 30  | 0.690                           | 0.456 |
| 2 X 10.0 MM <sup>2</sup> | 7           | 1.00                       | 0.30                         | 1.40                    | 1.24                         | 1.80   | 19.00                    | 17.40  | 825                      | 700  | 495    | 370  | 1.83                         | 3.08  | 2.19                            | 3.70  | 0.100                      | 0.100  | 0.22                          | 0.56   | 70               | 55    | 58      | 45  | 60     | 47  | 1.150                           | 0.760 |
| 3 X 10.0 MM <sup>2</sup> | 7           | 1.00                       | 0.30                         | 4 x 0.80                | 1.40                         | 1.80   | 19.05                    | 18.15  | 827                      | 639  | 596    | 408  | 1.83                         | 3.08  | 2.19                            | 3.70  | 0.100                      | 0.100  | 0.56                          | 0.56   | 60               | 46    | 50      | 39  | 52     | 40  | 1.150                           | 0.760 |
| 4 X 10.0 MM <sup>2</sup> | 7           | 1.00                       | 0.30                         | 4 x 0.80                | 1.40                         | 2.00   | 20.70                    | 20.30  | 998                      | 748  | 762    | 512  | 1.83                         | 3.08  | 2.19                            | 3.70  | 0.100                      | 0.100  | 0.56                          | 0.56   | 60               | 46    | 50      | 39  | 52     | 40  | 1.150                           | 0.760 |
| 2 X 16.0 MM <sup>2</sup> | 7           | 1.00                       | 0.30                         | 4 x 0.80                | 1.40                         | 2.00   | 20.70                    | 20.40  | 936                      | 738  | 711    | 512  | 1.15                         | 1.91  | 1.38                            | 2.29  | 0.097                      | 0.097  | 0.29                          | 0.76   | 90               | 70    | 75      | 58  | 78     | 59  | 1.840                           | 1.220 |
| 3 X 16.0 MM <sup>2</sup> | 7           | 1.00                       | 0.30                         | 4 x 0.80                | 1.40                         | 2.00   | 21.80                    | 21.25  | 1113                     | 816  | 863    | 565  | 1.15                         | 1.91  | 1.38                            | 2.29  | 0.097                      | 0.097  | 0.76                          | 0.76   | 77               | 60    | 64      | 50  | 66     | 51  | 1.840                           | 1.220 |
| 4 X 16.0 MM <sup>2</sup> | 7           | 1.00                       | 0.30                         | 4 x 0.80                | 1.40                         | 2.00   | 23.70                    | 23.35  | 1355                     | 957  | 1084   | 686  | 1.15                         | 1.91  | 1.38                            | 2.29  | 0.097                      | 0.097  | 0.76                          | 0.76   | 77               | 60    | 64      | 50  | 66     | 51  | 1.840                           | 1.220 |
| 2 X 25.0 MM <sup>2</sup> | 7           | 1.20                       | 0.30                         | 4 x 0.80                | 1.40                         | 2.00   | 23.90                    | 23.65  | 1281                     | 967  | 1009   | 694  | 0.727                        | 1.20  | 0.87                            | 1.44  | 0.097                      | 0.097  | 0.32                          | 0.86   | 115              | 90    | 97      | 76  | 105    | 78  | 2.880                           | 1.900 |
| 3 X 25.0 MM <sup>2</sup> | 7           | 1.20                       | 0.30                         | 4 x 0.80                | 1.40                         | 2.00   | 25.40                    | 24.90  | 1558                     | 1086 | 1255   | 783  | 0.727                        | 1.20  | 0.87                            | 1.44  | 0.097                      | 0.097  | 0.86                          | 0.86   | 99               | 76    | 81      | 63  | 90     | 70  | 2.880                           | 1.900 |
| 4 X 25.0 MM <sup>2</sup> | 7           | 1.20                       | 0.30                         | 4 x 0.80                | 1.40                         | 2.00   | 27.70                    | 27.30  | 1913                     | 1284 | 1578   | 949  | 0.727                        | 1.20  | 0.87                            | 1.44  | 0.097                      | 0.097  | 0.86                          | 0.86   | 99               | 76    | 81      | 63  | 90     | 70  | 2.880                           | 1.900 |
| 2 X 35.0 MM <sup>2</sup> | 7           | 1.20                       | 0.30                         | 4 x 0.80                | 1.40                         | 2.00   | 26.30                    | 26.00  | 1591                     | 1155 | 1283   | 847  | 0.524                        | 0.868 | 0.627                           | 1.04  | 0.097                      | 0.097  | 0.37                          | 0.98   | 140              | 110   | 120     | 92  | 125    | 99  | 4.030                           | 2.660 |
| 3 X 35.0 MM <sup>2</sup> | 7           | 1.20                       | 0.30                         | 4 x 0.80                | 1.40                         | 2.00   | 27.95                    | 27.35  | 1957                     | 1302 | 1611   | 956  | 0.524                        | 0.868 | 0.627                           | 1.04  | 0.097                      | 0.097  | 0.98                          | 0.98   | 120              | 92    | 99      | 77  | 110    | 86  | 4.030                           | 2.660 |
| 4 X 35.0 MM <sup>2</sup> | 7           | 1.20                       | 0.30                         | 4 x 0.80                | 1.56                         | 2.20   | 31.00                    | 30.65  | 2452                     | 1580 | 2080   | 1207 | 0.524                        | 0.868 | 0.627                           | 1.04  | 0.097                      | 0.097  | 0.98                          | 0.98   | 120              | 92    | 99      | 77  | 110    | 86  | 4.030                           | 2.660 |
| 2 X 50.0 MM <sup>2</sup> | 7           | 1.40                       | 0.30                         | 4 x 0.80                | 1.56                         | 2.00   | 30.60                    | 29.85  | 2139                     | 1517 | 1744   | 1121 | 0.387                        | 0.641 | 0.463                           | 0.770 | 0.094                      | 0.094  | 0.37                          | 1.02   | 165              | 135   | 145     | 115 | 155    | 125 | 5.750                           | 3.800 |
| 3 X 50.0 MM <sup>2</sup> | 7           | 1.40                       | 0.30                         | 4 x 0.80                | 1.56                         | 2.20   | 32.00                    | 31.70  | 2610                     | 1676 | 2225   | 1291 | 0.387                        | 0.641 | 0.463                           | 0.770 | 0.094                      | 0.094  | 1.02                          | 1.02   | 145              | 110   | 125     | 95  | 135    | 105 | 5.750                           | 3.800 |
| 4 X 50.0 MM <sup>2</sup> | 7           | 1.40                       | 0.40                         | 4 x 0.80                | 1.56                         | 2.20   | 35.50                    | 35.15  | 3283                     | 2038 | 2844   | 1599 | 0.387                        | 0.641 | 0.463                           | 0.770 | 0.094                      | 0.094  | 1.02                          | 1.02   | 145              | 110   | 125     | 95  | 135    | 105 | 5.750                           | 3.800 |

**Notes : Colour Code**

**Two core : Red & Black**

**Three core : Red, Yellow & Blue**

**Four core : Red, Yellow, Blue & Black**