

# Low Voltage Mains 1 Core PVC Cables

## 1kV Al Unarmoured

Description 1 Core Al PVC FRPVC, 1000 V

F4CA 1nnn ZZ 001 0K0S

Description 1 Core Al PVC LHRPVC, 1000 V

F4CA 1nnn ZZ 002 0K0S

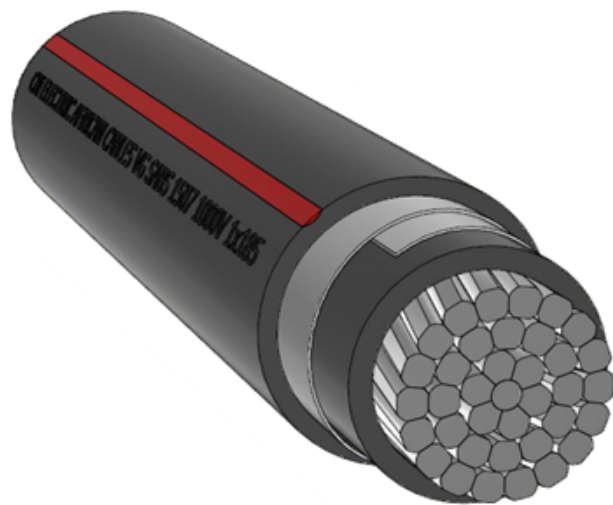
Specification SANS 1507

Last updated: December 2025

| PHYSICAL                    | ...1nnn...          | 1025  | 1035  | 1050  | 1070  | 1095  | 1120  | 1150  | 1185  | 1240  | 1300  | 1400  | 1500  | 1630  | 1800   | 1999   |
|-----------------------------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| Conductor size              | mm <sup>2</sup> nom | 25    | 35    | 50    | 70    | 95    | 120   | 150   | 185   | 240   | 300   | 400   | 500   | 630   | 800    | 1000   |
| Conductor diameter          | mm app              | 6,2   | 6,9   | 8,1   | 9,8   | 11,6  | 13,5  | 14,4  | 15,8  | 18,3  | 20,4  | 23,9  | 26,4  | 29,7  | 34,2   | 38,3   |
| Insulation diameter         | mm app              | 8,7   | 9,4   | 11,0  | 12,7  | 14,9  | 16,9  | 18,2  | 20,0  | 23,0  | 25,5  | 29,4  | 32,3  | 35,7  | 40,1   | 44,6   |
| Layup diameter              | mm app              | 8,7   | 9,4   | 11,0  | 12,7  | 14,9  | 16,9  | 18,2  | 20,0  | 23,0  | 25,5  | 29,4  | 32,3  | 35,7  | 40,1   | 44,6   |
| Armour diameter             | mm app              | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     | -      | -      |
| Cable diameter              | mm app              | 12,1  | 12,8  | 14,9  | 16,6  | 18,8  | 20,7  | 22,0  | 24,3  | 27,3  | 29,8  | 33,7  | 37,1  | 40,4  | 45,3   | 49,8   |
| Length of cable on a drum   | m                   | 500   | 500   | 500   | 500   | 500   | 500   | 500   | 500   | 500   | 500   | 500   | 500   | 500   | 500    | 500    |
| Cable mass (approximate)    | kg/m app            | 0,2   | 0,2   | 0,3   | 0,4   | 0,5   | 0,6   | 0,7   | 0,9   | 1,1   | 1,4   | 1,7   | 2,1   | 2,6   | 3,2    | 3,9    |
| Gross mass on drum          | kg app              | 128   | 162   | 202   | 248   | 330   | 409   | 463   | 550   | 707   | 823   | 1037  | 1275  | 1553  | 2003   | 2331   |
| Bending radius              | mm min              | 97    | 103   | 119   | 133   | 150   | 166   | 176   | 195   | 218   | 238   | 270   | 297   | 323   | 362    | 399    |
| <b>ELECTRICAL</b>           |                     |       |       |       |       |       |       |       |       |       |       |       |       |       |        |        |
| DC Resistance @ 20 °C       | Ω/km                | 1,200 | 0,868 | 0,641 | 0,443 | 0,320 | 0,253 | 0,206 | 0,164 | 0,125 | 0,100 | 0,078 | 0,061 | 0,047 | 0,037  | 0,029  |
| AC Resistance @ 70 °C       | Ω/km                | 1,442 | 1,043 | 0,770 | 0,533 | 0,385 | 0,305 | 0,248 | 0,198 | 0,151 | 0,122 | 0,096 | 0,075 | 0,060 | 0,049  | 0,041  |
| Reactance X+                | Ω/km                | 0,106 | 0,102 | 0,102 | 0,096 | 0,093 | 0,089 | 0,089 | 0,089 | 0,087 | 0,085 | 0,083 | 0,083 | 0,081 | 0,079  | 0,078  |
| Impedance Z+                | Ω/km                | 1,446 | 1,048 | 0,777 | 0,541 | 0,396 | 0,317 | 0,264 | 0,217 | 0,174 | 0,149 | 0,127 | 0,112 | 0,101 | 0,093  | 0,088  |
| Capacitance C+              | μF/km               | 0,515 | 0,542 | 0,547 | 0,596 | 0,625 | 0,671 | 0,672 | 0,669 | 0,700 | 0,720 | 0,759 | 0,764 | 0,808 | 0,848  | 0,879  |
| Resistance Ro               | Ω/km                | 5,77  | 4,17  | 3,081 | 2,130 | 1,540 | 1,218 | 0,993 | 0,792 | 0,606 | 0,487 | 0,382 | 0,302 | 0,240 | 0,195  | 0,162  |
| Reactance Xo                | Ω/km                | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A    | N/A    |
| <b>CURRENT RATINGS</b>      |                     |       |       |       |       |       |       |       |       |       |       |       |       |       |        |        |
| Ground                      | Amps                | 99    | 118   | 139   | 171   | 205   | 235   | 262   | 297   | 345   | 390   | 449   | 512   | 584   | 661    | 736    |
| 160mm Ducts in ground       | Amps                | 83    | 99    | 118   | 146   | 176   | 202   | 226   | 257   | 301   | 341   | 393   | 449   | 512   | 580    | 644    |
| Air in Shade                | Amps                | 88    | 107   | 131   | 166   | 206   | 243   | 275   | 319   | 382   | 442   | 526   | 613   | 717   | 835    | 952    |
| Air in sunlight             | Amps                | 53    | 64    | 77    | 96    | 117   | 137   | 153   | 175   | 207   | 236   | 275   | 316   | 364   | 416    | 466    |
| <b>SHORT CIRCUIT RATING</b> |                     |       |       |       |       |       |       |       |       |       |       |       |       |       |        |        |
| Symmetrical (160 °C)        | kA (1 sec)          | 1,9   | 2,7   | 3,8   | 5,3   | 7,2   | 9,1   | 11,4  | 14,1  | 18,2  | 22,8  | 30,4  | 38,0  | 47,9  | 60,825 | 76,031 |
| Earth fault (160 °C)        | kA (1 sec)          | 0,0   | 0,0   | 0,0   | 0,0   | 0,0   | 0,0   | 0,0   | 0,0   | 0,0   | 0,0   | 0,0   | 0,0   | 0,0   | 0,0    | 0,0    |
| Three Phase Volt Drop       | mV/A/m              | 2,50  | 1,82  | 1,35  | 0,94  | 0,69  | 0,55  | 0,46  | 0,38  | 0,30  | 0,26  | 0,22  | 0,19  | 0,17  | 0,16   | 0,15   |

The ratings above are based on standard laying conditions for a single circuit in isolation, with the following parameters:

- Conductor temperature = 70 °C
- Soil thermal resistance = 1,2 Km/W
- Soil temperature = 25 °C
- Air temperature = 30 °C
- Depth of burial = 500 mm
- Single circuit in isolation
- 5% tolerance on dimensions



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