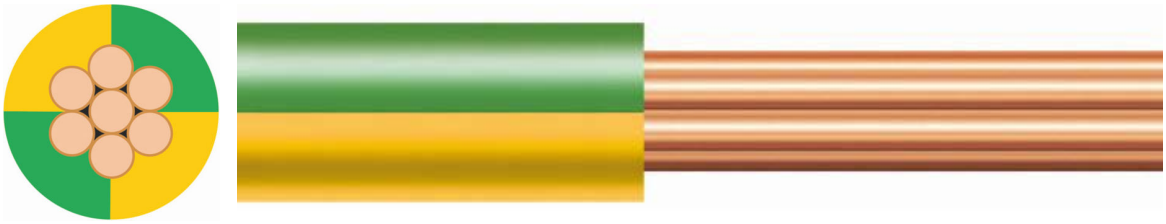
# 6491-X / H07V-R SINGLE CORE CABLE



6491X general PVC earth cable. Designed for fixed installations, it's suitable for trunking or conduit setups and can be surface mounted. With a stranded copper conductor and PVC outer sheath, it meets industry standards for reliable performance.

| | |
|---|---|
| **CONDUCTOR** | Plain Copper |
| **STRANDING** | Class 2 |
| **INSULATION** | PVC |
| **OUTERSHEATH COLOUR** | Black, White, Blue, Grey, Violet, Orange, Red, Green/Yellow, Brown, Yellow |
| **RATED VOLTAGE** | 450/750v |
| **OPERATING TEMPERATURE** | 70°C |
| **STANDARDS** | BS EN 50525-2-31, BS EN 60228 |

# SPECIFICATION DATA

| BATT Part No | Colour | Nominal cross sectional area of conductor | Radial thickness of insulation | Approx overall diameter | Weight |
|---|---|---|---|---|---|
| 16060 | Green/Yellow | 1.5 | 0.7 | 3 | 21 |
| 16078 | Green/Yellow | 2.5 | 0.8 | 3.7 | 34 |
| 16093 | Green/Yellow | 4 | 0.8 | 4.2 | 51 |
| 16109 | Green/Yellow | 6 | 0.8 | 4.8 | 71 |
| 16119 | Green/Yellow | 10 | 1 | 6.1 | 120 |
| 16128 | Green/Yellow | 16 | 1 | 7.1 | 180 |
| 16143 | Green/Yellow | 25 | 1.2 | 8.9 | 285 |
| 16152 | Green/Yellow | 35 | 1.2 | 10.1 | 380 |
| 16160 | Green/Yellow | 50 | 1.4 | 11.8 | 510 |
| 16167 | Green/Yellow | 70 | 1.4 | 13.6 | 715 |
| 16176 | Green/Yellow | 95 | 1.6 | 15.9 | 990 |
| 16182 | Green/Yellow | 120 | 1.6 | 17.5 | 1230 |
| 16188 | Green/Yellow | 150 | 1.8 | 19.4 | 1510 |
| 16194 | Green/Yellow | 185 | 2 | 21.7 | 1900 |
| 16201 | Green/Yellow | 240 | 2.2 | 24.5 | 2490 |
| 16208 | Green/Yellow | 300 | 2.4 | 27.5 | 3050 |
| 16213 | Green/Yellow | 400 | 2.6 | 30.9 | 3900 |
| 16465 | Green/Yellow | 500 | 2.8 | 34.5 | 4880 |
| 16457 | Green/Yellow | 630 | 2.8 | 38.4 | 6210 |

# RATING TABLES

**TABLE 4D1A – Single-core 70 °C thermoplastic insulated cables, non-armoured, with or without sheath (COPPER CONDUCTORS)**

CURRENT-CARRYING CAPACITY (amperes): Ambient temperature: 30 °C; Conductor operating temperature: 70 °C

| Conductor cross-sectional area | Reference Method A (enclosed in conduit in thermally insulating wall etc.) | | Reference Method B (enclosed in conduit on a wall or in trunking etc.) | | Reference Method C (clipped direct) | | Reference Method F (in free air or on a perforated cable tray horizontal or vertical) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Touching | | | Spaced by one diameter | |
| | 2 cables, single-phase AC or DC | 3 or 4 cables, three-phase AC | 2 cables, single-phase AC or DC | 3 or 4 cables, three-phase AC | 2 cables, single-phase AC or DC flat and touching | 3 or 4 cables, three-phase AC flat and touching or trefoil | 2 cables, single-phase AC or DC flat | 3 cables, three-phase AC flat | 3 cables, three-phase AC trefoil | 2 cables, single-phase AC or DC or 3 cables three-phase AC flat | |
| | | | | | | | | | | Horizontal | Vertical |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| (mm²) | (A) | (A) | (A) | (A) | (A) | (A) | (A) | (A) | (A) | (A) | (A) |
| 1 | 11 | 10.5 | 13.5 | 12 | 15.5 | 14 | - | - | - | - | - |
| 1.5 | 14.5 | 13.5 | 17.5 | 15.5 | 20 | 18 | - | - | - | - | - |
| 2.5 | 20 | 18 | 24 | 21 | 27 | 25 | - | - | - | - | - |
| 4 | 26 | 24 | 32 | 28 | 37 | 33 | - | - | - | - | - |
| 6 | 34 | 31 | 41 | 36 | 47 | 43 | - | - | - | - | - |
| 10 | 46 | 42 | 57 | 50 | 65 | 59 | - | - | - | - | - |
| 16 | 61 | 56 | 76 | 68 | 87 | 79 | - | - | - | - | - |
| 25 | 80 | 73 | 101 | 89 | 114 | 104 | 131 | 114 | 110 | 146 | 130 |
| 35 | 99 | 89 | 125 | 110 | 141 | 129 | 162 | 143 | 137 | 181 | 162 |
| 50 | 119 | 108 | 151 | 134 | 182 | 167 | 196 | 174 | 167 | 219 | 197 |
| 70 | 151 | 136 | 192 | 171 | 234 | 214 | 251 | 225 | 216 | 281 | 254 |
| 95 | 182 | 164 | 232 | 207 | 284 | 261 | 304 | 275 | 264 | 341 | 311 |
| 120 | 210 | 188 | 269 | 239 | 330 | 303 | 352 | 321 | 308 | 396 | 362 |
| 150 | 240 | 216 | 300 | 262 | 381 | 349 | 406 | 372 | 356 | 456 | 419 |
| 185 | 273 | 245 | 341 | 296 | 436 | 400 | 463 | 427 | 409 | 521 | 480 |
| 240 | 321 | 286 | 400 | 346 | 515 | 472 | 546 | 507 | 485 | 615 | 569 |
| 300 | 367 | 328 | 458 | 394 | 594 | 545 | 629 | 587 | 561 | 709 | 659 |
| 400 | - | - | 546 | 467 | 694 | 634 | 754 | 689 | 656 | 852 | 795 |
| 500 | - | - | 626 | 533 | 792 | 723 | 868 | 789 | 749 | 982 | 920 |
| 630 | - | - | 720 | 611 | 904 | 826 | 1005 | 905 | 855 | 1138 | 1070 |
| 800 | - | - | - | - | 1030 | 943 | 1086 | 1020 | 971 | 1265 | 1188 |
| 1000 | - | - | - | - | 1154 | 1058 | 1216 | 1149 | 1079 | 1420 | 1337 |


**NOTE:**

For cables having flexible conductors, see section 2.4 of this Appendix for adjustment factors for current-carrying capacity and voltage drop.

## TABLE 4D1B

VOLTAGE DROP (per ampere per metre): Conductor operating temperature: 70 °C

| Conductor cross-sectional area | 2 cables, DC | 2 cables, single-phase AC | | | | | | | | | 3 or 4 cables, three-phase AC | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reference Methods A & B (enclosed in conduit or trunking) | | | Reference Methods C & F (clipped direct, on tray or in free air) | | | | | | Reference Methods A & B (enclosed in conduit or trunking) | | | Reference Methods C & F (clipped direct, on tray or in free air) | | | | | | |
| | | | | | Cables touching | | | Cables spaced* | | | | | | Cables touching, Trefoil | | | Cables touching, Flat | | | Cables spaced*, Flat | | |
| 1 | 2 | 3 | | | 4 | | | 5 | | | 6 | | | 7 | | | 8 | | | 9 | | |
| (mm²) | (mV/A/m) | (mV/A/m) | | | (mV/A/m) | | | (mV/A/m) | | | (mV/A/m) | | | (mV/A/m) | | | (mV/A/m) | | | (mV/A/m) | | |
| 1 | 44 | 44 | | | 44 | | | 44 | | | 38 | | | 38 | | | 38 | | | 38 | | |
| 1.5 | 29 | 29 | | | 29 | | | 29 | | | 25 | | | 25 | | | 25 | | | 25 | | |
| 2.5 | 18 | 18 | | | 18 | | | 18 | | | 15 | | | 15 | | | 15 | | | 15 | | |
| 4 | 11 | 11 | | | 11 | | | 11 | | | 9.5 | | | 9.5 | | | 9.5 | | | 9.5 | | |
| 6 | 7.3 | 7.3 | | | 7.3 | | | 7.3 | | | 6.4 | | | 6.4 | | | 6.4 | | | 6.4 | | |
| 10 | 4.4 | 4.4 | | | 4.4 | | | 4.4 | | | 3.8 | | | 3.8 | | | 3.8 | | | 3.8 | | |
| 16 | 2.8 | 2.8 | | | 2.8 | | | 2.8 | | | 2.4 | | | 2.4 | | | 2.4 | | | 2.4 | | |
| | | r | x | z | r | x | z | r | x | z | r | x | z | r | x | z | r | x | z | r | x | z |
| 25 | 1.75 | 1.80 | 0.33 | 1.80 | 1.75 | 0.20 | 1.75 | 1.75 | 0.29 | 1.80 | 1.50 | 0.29 | 1.55 | 1.50 | 0.175 | 1.50 | 1.50 | 0.25 | 1.55 | 1.50 | 0.32 | 1.55 |
| 35 | 1.25 | 1.30 | 0.31 | 1.30 | 1.25 | 0.195 | 1.25 | 1.25 | 0.28 | 1.30 | 1.10 | 0.27 | 1.10 | 1.10 | 0.170 | 1.10 | 1.10 | 0.24 | 1.10 | 1.10 | 0.32 | 1.15 |
| 50 | 0.93 | 0.95 | 0.30 | 1.00 | 0.93 | 0.190 | 0.95 | 0.93 | 0.28 | 0.97 | 0.81 | 0.26 | 0.85 | 0.80 | 0.165 | 0.82 | 0.80 | 0.24 | 0.84 | 0.80 | 0.32 | 0.86 |
| 70 | 0.63 | 0.65 | 0.29 | 0.72 | 0.63 | 0.185 | 0.66 | 0.63 | 0.27 | 0.69 | 0.56 | 0.25 | 0.61 | 0.55 | 0.160 | 0.57 | 0.55 | 0.24 | 0.60 | 0.55 | 0.31 | 0.63 |
| 95 | 0.46 | 0.49 | 0.28 | 0.56 | 0.47 | 0.180 | 0.50 | 0.47 | 0.27 | 0.54 | 0.42 | 0.24 | 0.48 | 0.41 | 0.155 | 0.43 | 0.41 | 0.23 | 0.47 | 0.40 | 0.31 | 0.51 |
| 120 | 0.36 | 0.39 | 0.27 | 0.47 | 0.37 | 0.175 | 0.41 | 0.37 | 0.26 | 0.45 | 0.33 | 0.23 | 0.41 | 0.32 | 0.150 | 0.36 | 0.32 | 0.23 | 0.40 | 0.32 | 0.30 | 0.44 |
| 150 | 0.29 | 0.31 | 0.27 | 0.41 | 0.30 | 0.175 | 0.34 | 0.29 | 0.26 | 0.39 | 0.27 | 0.23 | 0.36 | 0.26 | 0.150 | 0.30 | 0.26 | 0.23 | 0.34 | 0.26 | 0.30 | 0.40 |
| 185 | 0.23 | 0.25 | 0.27 | 0.37 | 0.24 | 0.170 | 0.29 | 0.24 | 0.26 | 0.35 | 0.22 | 0.23 | 0.32 | 0.21 | 0.145 | 0.26 | 0.21 | 0.22 | 0.31 | 0.21 | 0.30 | 0.36 |
| 240 | 0.180 | 0.195 | 0.26 | 0.33 | 0.185 | 0.165 | 0.25 | 0.185 | 0.25 | 0.31 | 0.17 | 0.23 | 0.29 | 0.160 | 0.145 | 0.22 | 0.160 | 0.22 | 0.27 | 0.160 | 0.29 | 0.34 |
| 300 | 0.145 | 0.160 | 0.26 | 0.31 | 0.150 | 0.165 | 0.22 | 0.150 | 0.25 | 0.29 | 0.14 | 0.23 | 0.27 | 0.130 | 0.140 | 0.190 | 0.130 | 0.22 | 0.25 | 0.130 | 0.29 | 0.32 |
| 400 | 0.105 | 0.130 | 0.26 | 0.29 | 0.120 | 0.160 | 0.20 | 0.115 | 0.25 | 0.27 | 0.12 | 0.22 | 0.25 | 0.105 | 0.140 | 0.175 | 0.105 | 0.21 | 0.24 | 0.100 | 0.29 | 0.31 |
| 500 | 0.086 | 0.110 | 0.26 | 0.28 | 0.098 | 0.155 | 0.185 | 0.093 | 0.24 | 0.26 | 0.10 | 0.22 | 0.25 | 0.086 | 0.135 | 0.160 | 0.086 | 0.21 | 0.23 | 0.081 | 0.29 | 0.30 |
| 630 | 0.068 | 0.094 | 0.25 | 0.27 | 0.081 | 0.155 | 0.175 | 0.076 | 0.24 | 0.25 | 0.08 | 0.22 | 0.24 | 0.072 | 0.135 | 0.150 | 0.072 | 0.21 | 0.22 | 0.066 | 0.28 | 0.29 |
| 800 | 0.053 | | - | | 0.068 | 0.150 | 0.165 | 0.061 | 0.24 | 0.25 | | - | | 0.060 | 0.130 | 0.145 | 0.060 | 0.21 | 0.22 | 0.053 | 0.28 | 0.29 |
| 1000 | 0.042 | | - | | 0.059 | 0.150 | 0.160 | 0.050 | 0.24 | 0.24 | | - | | 0.052 | 0.130 | 0.140 | 0.052 | 0.20 | 0.21 | 0.044 | 0.28 | 0.28 |

**NOTE:** * Spacings larger than one cable diameter will result in a larger voltage drop.