

6181B LSZH SINGLE CORE, NON ARMoured MAINS CABLE



APPLICATION

6181B is a Low Smoke Zero Halogen single core cable, It is double insulated with a voltage rating of 600/1000V. It is a general surface wire cable for fixed installation, domestic and light industrial use. Available in Blue and Brown core, with a black or grey sheath. Comes in sizes from 50mm²-1000mm². As this cable is used internally, it is covered by current CPR regulations.

CABLE STANDARDS

BS8573 / IEC 60502
Acid gas emission to IEC60754
Smoke emission to IEC 61034
Flame propagation to IEC 60332
Low Smoke and Zero Halogen (LSZH)

CONSTRUCTION

Conductor: Plain annealed stranded circular copper conductor, single core
Insulation: Cross Link Polyethylene (XLPE)
Sheath: Low Smoke and Zero Halogen (LSZH)
Sheath Colour: ■ Black or ■ Grey

CHARACTERISTICS

Voltage Rating: 600/1000 Volts
Temperature Limits: -25°C to +90°C
Minimum Bending Radius: As per cable manufacturer datasheet

CORE IDENTIFICATION

All sizes available in ■ Brown & ■ Blue

Should not be installed at temperatures below 0°C or above +40°C

6181B LSZH CABLE - DIMENSIONS

| CCC CODE | CONDUCTOR SIZE (MM ²) | STRANDING (MM) | NO OF CORES | WEIGHT (KG/KM) | OVERALL DIAMETER (MM) | GLAND REF | NYLON CLEAT SIZE |
|-----------|-----------------------------------|----------------|-------------|----------------|-----------------------|-----------|------------------|
| 6181B50 | 50 | 19/1.78 | 1 | 525 | 13 | 25 | 0.6 |
| 6181B70 | 70 | 19/2.14 | 1 | 730 | 15.5 | 25 | 0.7 |
| 6181B95 | 95 | 19/2.52 | 1 | 990 | 18 | 25 | 0.7 |
| 6181B120 | 120 | 37/2.30 | 1 | 1230 | 19.5 | 32 | 0.8 |
| 6181B150 | 150 | 37/2.25 | 1 | 1525 | 21.5 | 32 | 0.9 |
| 6181B185 | 185 | 37/2.52 | 1 | 1885 | 24 | 32 | 1 |
| 6181B240 | 240 | 61/2.25 | 1 | 2440 | 27 | 40 | 1.1 |
| 6181B300 | 300 | 61/2.52 | 1 | 3045 | 29.5 | 40 | 1.2 |
| 6181B400 | 400 | 61/2.52 | 1 | 3855 | 33 | 50S | 1.4 |
| 6181B500 | 500 | 61/3.20 | 1 | 4950 | 37.5 | 50S | 1.6 |
| 6181B630 | 630 | 127/2.52 | 1 | 6345 | 42 | 50 | 1.8 |
| 6181B800 | 800 | 127/2.85 | 1 | 8140 | 47.5 | 63S | 2 |
| 6181B1000 | 1000 | 127/3.20 | 1 | 9860 | 53 | 63 | TC9 |

6181B LSZH – CARRYING CAPACITY (AMPERES)

| CONDUCTOR CROSS - SECTIONAL AREA | REFERENCE METHOD A (ENCLOSED IN CONDUIT 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 ON A PERFORATED CABLE TRAY HORIZONTAL OR VERTICAL) | | | | |
|----------------------------------|--|----------------------------------|---|-------------------------------|---|--|--|---------------------------------|------------------------------------|------------------------|----------|
| | 2 CABLES, SINGLE - PHASE AC OR DC | 3 OR 4 CABLES, SINGLE - 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 | TOUCHING | | | SPACED BY ONE DIAMETER | |
| | | | | | | | 2 CABLES, SINGLE - PHASE AC OR DC FLAT | 3 CABLES, THREE - PHASE AC FLAT | 3 CABLES, THREE - PHASE AC TREFOIL | HORIZONTAL | VERTICAL |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| (MM ²) | (A) | (A) | (A) | (A) | (A) | (A) | (A) | (A) | (A) | (A) | (A) |
| 120 | 278 | 249 | 354 | 312 | 413 | 379 | 437 | 400 | 383 | 500 | 454 |
| 150 | 318 | 285 | 393 | 342 | 476 | 436 | 504 | 464 | 444 | 577 | 527 |
| 185 | 362 | 324 | 449 | 384 | 545 | 500 | 575 | 533 | 510 | 661 | 605 |
| 240 | 424 | 380 | 528 | 450 | 644 | 590 | 679 | 634 | 607 | 781 | 719 |
| 300 | 486 | 435 | 603 | 514 | 743 | 681 | 783 | 736 | 703 | 902 | 833 |
| 400 | - | - | 683 | 584 | 868 | 793 | 940 | 868 | 823 | 1,085 | 1,008 |
| 500 | - | - | 783 | 666 | 990 | 904 | 1,083 | 998 | 946 | 1,253 | 1,169 |
| 630 | - | - | 900 | 764 | 1,130 | 1,033 | 1,254 | 1,151 | 1,088 | 1,454 | 1,362 |
| 800 | - | - | - | - | 1,288 | 1,179 | 1,358 | 1,275 | 1,214 | 1,581 | 1,485 |
| 1000 | - | - | - | - | 1,443 | 1,323 | 1,520 | 1,436 | 1,349 | 1,775 | 1,671 |

THE ABOVE IS IN ACCORDANCE WITH 18TH EDITION OF IET WIRING REGULATIONS.

6181B LSZH - VOLTAGE DROP

| 1 | 2 | 2 CABLES SINGLE-PHASE AC MV/A/M | | | | | | | | | 3 OR 4 CABLES THREE-PHASE AC MV/A/M | | | | | | | | | | | | | | |
|------|-------|--|-------|-------|--|-------|-------|----------------|-------|-------|--|-------|-------|--|-------|-------|--------------------------|-------|-------|-------------------------|-------|-------|---|---|---|
| | | REFERENCE METHODS A AND B (ENCLOSED IN CONDUIT OR TRUNKING) | | | REFERENCE METHODS C, F AND G (CLIPPED DIRECT, ON TRAY OR IN FREE AIR) | | | | | | REFERENCE METHODS A AND B (ENCLOSED IN CONDUIT OR TRUNKING) | | | REFERENCE METHODS C, F AND G (CLIPPED DIRECT, ON TRAY OR IN FREE AIR) | | | | | | | | | | | |
| | | | | | CABLES TOUCHING | | | CABLES SPACED* | | | | | | CABLES TOUCHING, TREFOIL | | | CABLES TOUCHING, FLAT | | | CABLES SPACED*, FLAT | | | | | |
| 3 | | | 4 | | | | | | 5 | | | 6 | | | 7 | | | 8 | | | 9 | | | | |
| | | r | x | z | r | x | z | r | x | z | r | x | z | r | x | z | r | x | z | r | x | z | r | x | z |
| 25 | 1.750 | 1.800 | 0.330 | 1.800 | 1.750 | 0.200 | 1.750 | 1.750 | 0.290 | 1.800 | 1.500 | 0.290 | 1.550 | 1.500 | 0.180 | 1.500 | 0.150 | 0.250 | 1.550 | 1.500 | 0.320 | 1.550 | | | |
| 35 | 1.250 | 1.300 | 0.310 | 1.300 | 1.250 | 0.200 | 1.250 | 1.250 | 0.280 | 1.300 | 1.100 | 0.270 | 1.100 | 1.100 | 0.170 | 1.100 | 1.100 | 0.24 | 1.100 | 1.100 | 0.320 | 1.150 | | | |
| 50 | 0.930 | 0.950 | 0.300 | 1.000 | 0.930 | 0.190 | 0.950 | 0.930 | 0.280 | 0.970 | 0.81 | 0.260 | 0.850 | 0.800 | 0.170 | 0.820 | 0.800 | 0.24 | 0.840 | 0.800 | 0.320 | 0.860 | | | |
| 70 | 0.630 | 0.650 | 0.290 | 0.720 | 0.630 | 0.185 | 0.660 | 0.630 | 0.270 | 0.690 | 0.560 | 0.250 | 0.61 | 0.550 | 0.160 | 0.57 | 0.550 | 0.24 | 0.600 | 0.550 | 0.31 | 0.630 | | | |
| 95 | 0.460 | 0.490 | 0.280 | 0.560 | 0.47 | 0.180 | 0.500 | 0.47 | 0.270 | 0.540 | 0.420 | 0.24 | 0.480 | 0.41 | 0.160 | 0.430 | 0.41 | 0.230 | 0.47 | 0.400 | 0.31 | 0.51 | | | |
| 120 | 0.360 | 0.390 | 0.270 | 0.47 | 0.370 | 0.180 | 0.410 | 0.370 | 0.260 | 0.450 | 0.330 | 0.230 | 0.41 | 0.320 | 0.150 | 0.360 | 0.320 | 0.230 | 0.400 | 0.320 | 0.300 | 0.440 | | | |
| 150 | 0.32 | 0.33 | 0.26 | 0.43 | 0.32 | 0.165 | 0.36 | 0.32 | 0.25 | 0.41 | 0.29 | 0.23 | 0.37 | 0.28 | 0.14 | 0.31 | 0.28 | 0.165 | 0.32 | 0.28 | 0.24 | 0.37 | | | |
| 185 | 0.25 | 0.27 | 0.26 | 0.37 | 0.26 | 0.165 | 0.3 | 0.25 | 0.25 | 0.36 | 0.23 | 0.23 | 0.32 | 0.22 | 0.14 | 0.26 | 0.22 | 0.165 | 0.28 | 0.22 | 0.24 | 0.33 | | | |
| 240 | 0.19 | 0.21 | 0.26 | 0.33 | 0.2 | 0.16 | 0.25 | 0.195 | 0.25 | 0.31 | 0.185 | 0.22 | 0.29 | 0.17 | 0.14 | 0.22 | 0.17 | 0.165 | 0.24 | 0.17 | 0.24 | 0.29 | | | |
| 300 | 0.155 | 0.175 | 0.25 | 0.31 | 0.16 | 0.16 | 0.22 | 0.155 | 0.25 | 0.29 | 0.15 | 0.22 | 0.27 | 0.14 | 0.14 | 0.195 | 0.135 | 0.16 | 0.21 | 0.135 | 0.24 | 0.27 | | | |
| 400 | 0.12 | 0.14 | 0.25 | 0.29 | 0.13 | 0.155 | 0.2 | 0.125 | 0.24 | 0.27 | 0.125 | 0.22 | 0.25 | 0.11 | 0.135 | 0.175 | 0.11 | 0.16 | 0.195 | 0.11 | 0.24 | 0.26 | | | |
| 500 | 0.093 | 0.12 | 0.25 | 0.28 | 0.105 | 0.155 | 0.185 | 0.098 | 0.24 | 0.26 | 0.1 | 0.22 | 0.24 | 0.09 | 0.135 | 0.16 | 0.088 | 0.16 | 0.18 | 0.085 | 0.24 | 0.25 | | | |
| 630 | 0.072 | 0.1 | 0.25 | 0.27 | 0.086 | 0.155 | 0.175 | 0.078 | 0.24 | 0.25 | 0.088 | 0.21 | 0.23 | 0.074 | 0.135 | 0.15 | 0.071 | 0.16 | 0.17 | 0.068 | 0.23 | 0.24 | | | |
| 800 | 0.056 | - | - | - | 0.072 | 0.15 | 0.17 | 0.064 | 0.24 | 0.25 | - | - | - | 0.062 | 0.13 | 0.145 | 0.059 | 0.155 | 0.165 | 0.055 | 0.23 | 0.24 | | | |
| 1000 | 0.045 | - | - | - | 0.063 | 0.15 | 0.165 | 0.054 | 0.24 | 0.24 | - | - | - | 0.055 | 0.13 | 0.14 | 0.05 | 0.155 | 0.165 | 0.047 | 0.23 | 0.24 | | | |

THE ABOVE TABLE IS IN ACCORDANCE WITH 18TH EDITION OF IET WIRING REGULATIONS

CONDUCTOR OPERATING TEMPERATURE: 90°C

R = RESISTIVE COMPONENT

X = REACTIVE COMPONENT

Z = IMPEDANCE VALUE

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