
## Application

This cable configuration is suitable for various applications requiring reliable power distribution with balanced phases and neutral. It is commonly used in underground distribution systems, industrial facilities, substations, utility networks, residential and light commercial installations, as well as areas where cost-effective solutions are essential. The full neutral design ensures efficient grounding and balanced current distribution.

## Performance

Operating Voltage: 25kV
Temperature Rating:
Normal Operation: Up to 90°C
Emergency Overload: Up to 130°C
Short Circuit Conditions: Up to 250°C
Ambient Temperature Range: Suitable for environments ranging from -40°C to +90°C
Mechanical Performance:
Maximum Sidewall Pressure: 1000 lbs./FT
Bending Radius: 12 times the cable diameter for fixed installations, 15 times for occasional flexing

## Construction

Conductor: Moisture-blocked class B compressed stranded soft drawn bare copper per ASTM B3 and ASTM B8 (Conductor moisture block optional and tinned copper per ASTM B33 optional)
Conductor Shield: Conventional semi-conducting cross-linked copolymer
Optional: Supersmooth conductor shield
Conductor tape is used for cable size larger than or equal to 1500 kcmil
Insulation: 260 Mils Tree Retardant Cross Linked Polyethylene 100% insulation level
Insulation Shield: Strippable semi-conducting cross-linked copolymer
Concentric Neutral: Helically applied soft drawn bare copper full concentric neutral
Overall Jacket: Linear Low Density Polyethylene (LLDPE) Jacket, black with red extruded stripes

## Specification

-ASTM B3 Soft or Annealed Copper Wire
-ASTM B8 Concentric-Lay-Stranded Copper Conductors
-ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
-ICEA S-94-649 Standard for Concentric Neutral Cables Rated 5 - 46kV
-AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)
-Rural Utility Standard RUS 1728F-U1 or 1728.204 (Electric standards and specifications for materials and construction)
-UL 1072 Listed as MV 90 When Specified
-Optional CSA 68.5: -40ºC and MV 90ºC optional marking available upon request

## Eastful Cable Lab

We have CNAS Accredited Facility to assure conformity assessment services with a focus on quality, expertise, and customer satisfaction.
CNAS has international mutual recognition among IAF, ILAC, APLAC and PAC.

## Accreditation

We meet the requirements of ISO9001, ISO14001, ISO45001 and ISO50001 and our cables have certificate of CCC, RoHS, CASC, UL, cUL, TÜV Rhineland and CCS.

## National Green Factory

Our facility has been awarded of National Green Factory by Ministry of Industry and Information Technology of China.
We are committed to the development of high-end, intelligent and green manufacturing industry.

*The overall energy consumption level of green factories is better than the energy efficiency benchmark level.

## Technical Parameters

| Weights and Measurements | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Conductor Size | Conductor Overall Dia. | Insulation Overall Dia. | Insul. Thickness | Insulation Shield Overall Dia. | Concentric Neutral | Max. D.C. Resistance 25°C | Jacket Thickness | Approx. Overall Dia. | Approx. Weight | Min. Bending Radius | Max. Pull Tension |
| AWG/kcmil | inch | inch | mils | inch | No. x AWG | Ω/1000ft | mils | inch | lb/1000ft | inch | lb |
| 1 (Solid) | 0.289 | 0.847 | 260 | 0.937 | 20x14 | 0.131 | 50 | 1.165 | 960 | 9.3 | 669 |
| 1 (19) | 0.322 | 0.872 | 260 | 0.962 | 20x14 | 0.131 | 50 | 1.19 | 932 | 9.5 | 669 |
| 1/0 (Solid) | 0.324 | 0.882 | 260 | 0.972 | 25x14 | 0.105 | 50 | 1.2 | 1116 | 9.6 | 844 |
| 1/0 (19) | 0.361 | 0.912 | 260 | 1.002 | 16x12 | 0.103 | 50 | 1.263 | 1114 | 10.1 | 844 |
| 2/0 (19) | 0.405 | 0.963 | 260 | 1.053 | 32x14 | 0.082 | 50 | 1.281 | 1348 | 10.2 | 1064 |
| 2/0 (19) | 0.405 | 0.956 | 260 | 1.046 | 13x10 | 0.08 | 50 | 1.349 | 1351 | 10.8 | 1064 |
| 3/0 (19) | 0.456 | 1.014 | 260 | 1.124 | 25x12 | 0.066 | 50 | 1.386 | 1598 | 11.1 | 1342 |
| 4/0 (19) | 0.512 | 1.062 | 260 | 1.172 | 20x10 | 0.052 | 50 | 1.475 | 1897 | 11.8 | 1692 |
| 250 (37) | 0.558 | 1.124 | 260 | 1.234 | 25x10 | 0.041 | 50 | 1.538 | 2241 | 12.3 | 2000 |

All dimensions are nominal and subject to normal manufacturing tolerances
-Cable marked with this symbol is a standard stock item
-Pulling tension based on pulling eye directly connected to conductor

| Electrical and Engineering Data | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Conductor Size | D.C. Resistance @ 25°C | A.C. Resistance @ 90°C | Capacities Reactance @ 60Hz | Inductive Reactance @ 60Hz | Charging Current | Dielectric Loss | Zero Sequence Impedance | Positive Sequence Impedance | Short Circuit Current @ 30 Cycle | Allowable Ampacity in Duct 90°C | Allowable Ampacity Directly Buried 90°C |
| AWG/kcmil | Ω/1000ft | Ω/1000ft | MΩ/1000ft | Ω/1000ft | A/1000ft | W/1000ft | Ω/1000ft | Ω/1000ft | A | A | A |
| 1 (Solid) | 0.128 | 0.162 | 0.073 | 0.054 | 0.114 | 1.65 | 0.216+j0.759 | 0.162+j0.052 | 6974 | 175 | 220 |
| 1 (19) | 0.128 | 0.162 | 0.068 | 0.052 | 0.121 | 1.75 | 0.216+j0.758 | 0.162+j0.052 | 6974 | 175 | 220 |
| 1/0 (Solid) | 0.102 | 0.128 | 0.067 | 0.052 | 0.122 | 1.76 | 0.182+j0.755 | 0.128+j0.050 | 8718 | 200 | 250 |
| 1/0 (19) | 0.102 | 0.128 | 0.063 | 0.051 | 0.131 | 1.89 | 0.182+j0.753 | 0.128+j0.051 | 8865 | 200 | 250 |
| 2/0 (19) | 0.081 | 0.102 | 0.058 | 0.048 | 0.141 | 2.04 | 0.156+j0.750 | 0.102+j0.048 | 11159 | 225 | 280 |
| 2/0 (19) | 0.081 | 0.102 | 0.058 | 0.049 | 0.141 | 2.04 | 0.156+j0.747 | 0.102+j0.050 | 11450 | 225 | 280 |
| 3/0 (19) | 0.064 | 0.081 | 0.054 | 0.047 | 0.153 | 2.21 | 0.135+j0.743 | 0.081+j0.048 | 13852 | 260 | 315 |
| 4/0 (19) | 0.051 | 0.065 | 0.05 | 0.046 | 0.166 | 2.4 | 0.119+j0.738 | 0.065+j0.046 | 17615 | 295 | 355 |
| 250 (37) | 0.043 | 0.056 | 0.047 | 0.045 | 0.175 | 2.53 | 0.111+j0.734 | 0.056+j0.045 | 22019 | 318 | 360 |

-Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3
-Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.
-Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.

## Technical Parameters

| Weights and Measurements (Metric) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Conductor Size | Conductor Overall Dia. | Insulation Overall Dia. | Insul. Thickness | Insulation Shield Overall Dia. | Concentric Neutral | Max. D.C. Resistance 25°C | Jacket Thickness | Approx. Overall Dia. | Approx. Weight | Min. Bending Radius | Max. Pull Tension |
| AWG/kcmil | mm | mm | mm | mm | No. x AWG | Ω/km | mm | mm | kg/km | mm | N |
| 1 (Solid) | 7.34 | 21.51 | 6.6 | 23.8 | 20x14 | 0.43 | 1.27 | 29.59 | 1429 | 236.22 | 2977 |
| 1 (19) | 8.18 | 22.15 | 6.6 | 24.43 | 20x14 | 0.43 | 1.27 | 30.23 | 1387 | 241.3 | 2977 |
| 1/0 (Solid) | 8.23 | 22.4 | 6.6 | 24.69 | 25x14 | 0.34 | 1.27 | 30.48 | 1661 | 243.84 | 3756 |
| 1/0 (19) | 9.17 | 23.16 | 6.6 | 25.45 | 16x12 | 0.34 | 1.27 | 32.08 | 1658 | 256.54 | 3756 |
| 2/0 (19) | 10.29 | 24.46 | 6.6 | 26.75 | 32x14 | 0.27 | 1.27 | 32.54 | 2006 | 259.08 | 4735 |
| 2/0 (19) | 10.29 | 24.28 | 6.6 | 26.57 | 13x10 | 0.26 | 1.27 | 34.26 | 2011 | 274.32 | 4735 |
| 3/0 (19) | 11.58 | 25.76 | 6.6 | 28.55 | 25x12 | 0.22 | 1.27 | 35.2 | 2378 | 281.94 | 5972 |
| 4/0 (19) | 13 | 26.97 | 6.6 | 29.77 | 20x10 | 0.17 | 1.27 | 37.47 | 2823 | 299.72 | 7529 |
| 250 (37) | 14.17 | 28.55 | 6.6 | 31.34 | 25x10 | 0.13 | 1.27 | 39.07 | 3335 | 312.42 | 8900 |

All dimensions are nominal and subject to normal manufacturing tolerances
-Cable marked with this symbol is a standard stock item
-Pulling tension based on pulling eye directly connected to conductor

| Electrical and Engineering Data (Metric) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Conductor Size | D.C. Resistance @ 25°C | A.C. Resistance @ 90°C | Capacities Reactance @ 60Hz | Inductive Reactance @ 60Hz | Charging Current | Dielectric Loss | Zero Sequence Impedance | Positive Sequence Impedance | Short Circuit Current @ 30 Cycle | Allowable Ampacity in Duct 90°C | Allowable Ampacity Directly Buried 90°C |
| AWG/kcmil | Ω/km | Ω/km | MΩ/km | Ω/km | A/km | W/km | Ω/1000ft | Ω/1000ft | A | A | A |
| 1 (Solid) | 0.4199 | 0.53 | 0.0223 | 0.1772 | 0.374 | 5.4134 | 0.216+j0.759 | 0.162+j0.052 | 6974 | 175 | 220 |
| 1 (19) | 0.4199 | 0.53 | 0.0207 | 0.1706 | 0.397 | 5.7415 | 0.216+j0.758 | 0.162+j0.052 | 6974 | 175 | 220 |
| 1/0 (Solid) | 0.3346 | 0.42 | 0.0204 | 0.1706 | 0.4 | 5.7743 | 0.182+j0.755 | 0.128+j0.050 | 8718 | 200 | 250 |
| 1/0 (19) | 0.3346 | 0.42 | 0.0192 | 0.1673 | 0.43 | 6.2008 | 0.182+j0.753 | 0.128+j0.051 | 8865 | 200 | 250 |
| 2/0 (19) | 0.2657 | 0.33 | 0.0177 | 0.1575 | 0.463 | 6.6929 | 0.156+j0.750 | 0.102+j0.048 | 11159 | 225 | 280 |
| 2/0 (19) | 0.2657 | 0.33 | 0.0177 | 0.1608 | 0.463 | 6.6929 | 0.156+j0.747 | 0.102+j0.050 | 11450 | 225 | 280 |
| 3/0 (19) | 0.21 | 0.27 | 0.0165 | 0.1542 | 0.502 | 7.2507 | 0.135+j0.743 | 0.081+j0.048 | 13852 | 260 | 315 |
| 4/0 (19) | 0.1673 | 0.21 | 0.0152 | 0.1509 | 0.545 | 7.874 | 0.119+j0.738 | 0.065+j0.046 | 17615 | 295 | 355 |
| 250 (37) | 0.1411 | 0.18 | 0.0143 | 0.1476 | 0.574 | 8.3005 | 0.111+j0.734 | 0.056+j0.045 | 22019 | 318 | 360 |

-Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3
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-Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.