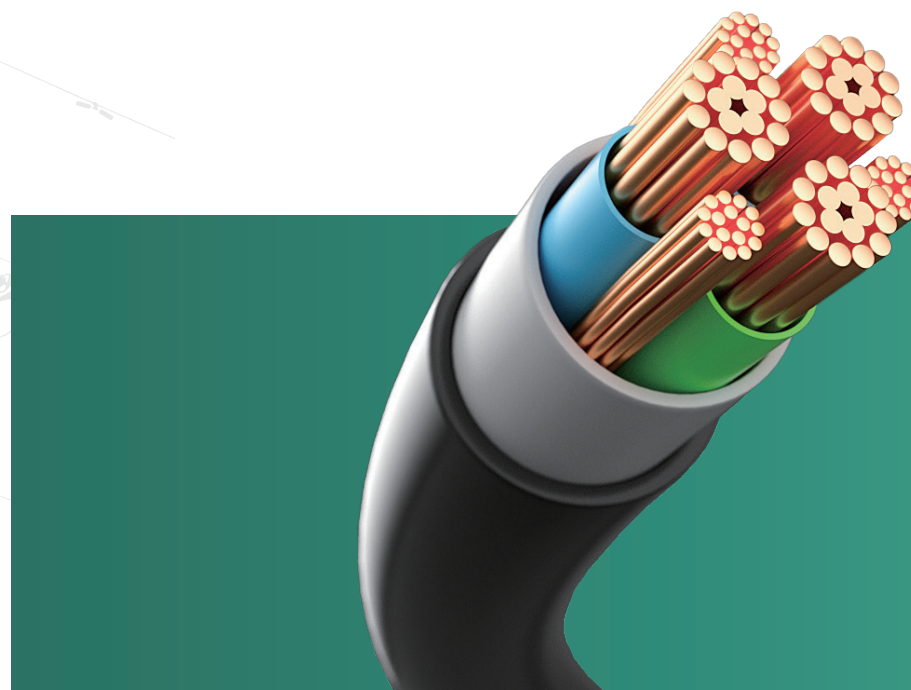
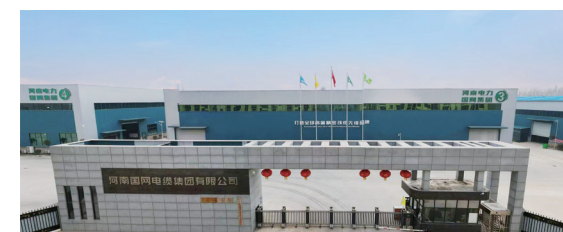




国网电缆集团
GUOWANG CABLE GROUP

专注 | 专业 | 诚信 | 共赢
Focused Professional Integrity Win-win

WIRE CABLE SELECTION GUIDE



GUOWANG CABLE GROUP

BUILD GLOBAL HIGH-END PRECISION CABLE PIONEER BRAND



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Phone:
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Address:
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Kaifeng City, Henan Province, China

GROUP PROFILE

Guowang Cable Group (private enterprise) was founded in 2008. it is a comprehensive cable -enterprise integrating scientific research, manufacturing and sales, with a registered capital of 200 million yuan. The group consists of Henan Guowang Cable Co., Ltd., Henan Guowang Precision Cable Co., Ltd., Zhengzhou Guowang Cable co. Ltd. and many other subsidiaries. Has passed ISO9001 quality management system certification, ISO14001 environmental management system certification, ISO45001 occupation health and safety management system certification, 3C certification. etc. The company is mainly engaged in the design, development, manufacture, marketing and service of four major categories of cable products: overhead conductors, power cables, wire and cable for electrical equipment, and special cables. Products are widely used in construction engineering, fire engineering, power engineering, municipal, transportation, chemical and other fields. With reliable product quality and perfect after-sales service, it is deeply trusted by users at home and abroad. The products are sold well all over the country and exported to Southeast Asia, Africa, Europe and the United States and other countries.

The group company is located in Weishi industrial Cluster, Kaifeng, covering an area of about 330,000 square meters and a construction area of 180,000 square meters. The company has more than 400 employees, includ-

ing more than 90 technicians and more than 60 engineers. It has more than 200 sets of advanced wire and cable production and testing equipment at home and abroad, with an annual output value of 2 billion yuan. The company has built an intelligent production workshop, successfully applied for "National High-tech Enterprise" and "Specialized New Enterprise", and has obtained more than 30 patents in total. Industry-academia research base. The company adheres to the business philosophy of "innovative technology +, continuous improvement +", and always practices the core values of "focus, professionalism integrity, and win-win", and builds quality and refined service with ingenuity and action, it has successively won the "China Building Materials Market Association Strategic Cooperation Supplier". "National Top Ten Suppliers for Government Procurement".

"Excellent Supplier of Construction Engineering Projects in Henan Province". "China's 315 Integrity Performance Model Enterprise", "National Consumer Reassurance and Satisfaction Brand". "Green Environmental Protection Preferred Brand" and dozens of honorary certificates.



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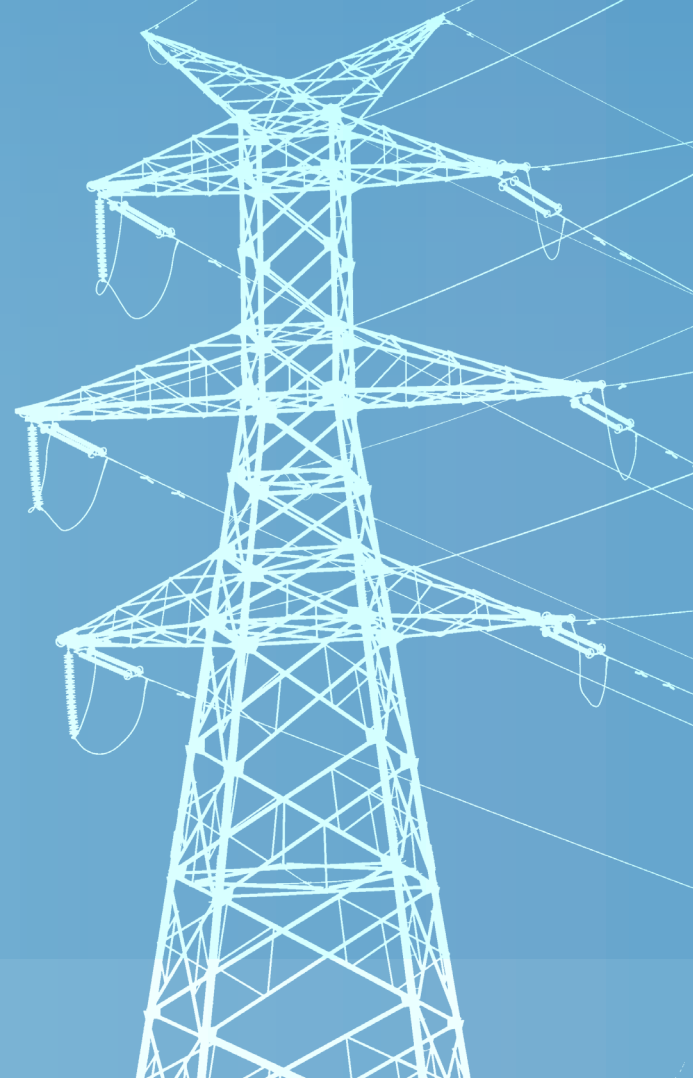
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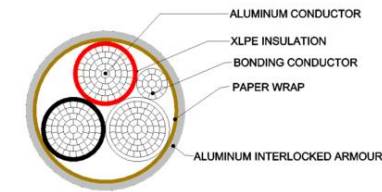
GUOWANG
CABLE

BUILDING WIRE&CABLE



GUOWANG
CABLE GROUP

AC90 – ALUMINUM CONDUCTOR



APPLICATION

AC90 armoured building wire is rated FT4-ST1 for -40°C to 90°C. Engineered specifically for demanding environments, superior flammability and smoke emission performance.

For use in ventilated, non-ventilated and ladder-type cable trays.

For dry locations, in ceiling air-handling plenums, exposed or concealed wiring and service entrance above ground.

CHARACTERISTICS

Voltage Rating Uo/U (Um)

600V

Temperature Rating

-40°C to 90°C

STANDARDS

Industry compliances: CSA Standard C22.2 No. 51, No.38 and No.2256, RoHS

Flame test compliances: CSA ST1 and FT4

CONSTRUCTION

Conductor

Stranded AA-8000 Series Aluminum Alloy (ACM)

Insulation

Cross-linked Polyethylene (XLPE)
CSA Type XL 90°C dry/wet 600V
Halogen-Free.

Bonding Conductor:

Stranded AA-8000 Series Aluminum Alloy (ACM)

Armour:

Aluminum (AIA) or Galvanized Steel (SIA)
Interlock Armour

Sheath Colour

- 3Core: Black, White, Red
- 4Core: Black, White, Red and Blue

THE CABLE TEST

We have world-class testing facility, and made rigorous testing regime, every meter of cable before leaving the factory must go through strict testing, testing qualified products will be shipped to customers, effectively ensure product quality and meet customer requirements.

SUSTAINABILITY COMMITMENT

Guowang Cable actively implements the "carbon reduction" goal, strives to promote the green's low-carbon transformation, strengthens energy-saving and emission reduction technology innovation, and promotes the company's healthy and sustainable development.

AC90 600V – 3 Aluminum Conductors

| CONDUCTOR SIZE | GROUND SIZE | INSULATION THICKNESS | CABLE DIAMETER | CABLE WEIGHT | MAX PULLING TENSION | MIN. BEND RADIUS | AMPACITY (A) |
|----------------|-------------|----------------------|----------------|--------------|---------------------|------------------|--------------|
| 6 AWG | 8 AWG | 0.045 in. | 0.800 in. | 243 lbs/Mft | 526 lbs | 11.2 in. | 55 |
| | | 1.14 mm | 20.3 mm | 361 kg/km | 239 kg | 285 mm | |
| 4 AWG | 6 AWG | 0.045 in. | 0.880 in. | 286 lbs/Mft | 832 lbs | 12.3 in. | 75 |
| | | 1.14 mm | 22.4 mm | 426 kg/km | 377 kg | 313 mm | |
| 2 AWG | 6 AWG | 0.045 in. | 1.030 in. | 392 lbs/Mft | 1322 lbs | 14.4 in. | 100 |
| | | 1.14 mm | 26.2 mm | 583 kg/km | 600 kg | 366 mm | |
| 1 AWG | 4 AWG | 0.055 in. | 1.160 in. | 477 lbs/Mft | 1653 lbs | 16.2 in. | 115 |
| | | 1.40 mm | 29.5 mm | 710 kg/km | 750 kg | 413 mm | |
| 1/0 AWG | 4 AWG | 0.055 in. | 1.250 in. | 622 lbs/Mft | 2081 lbs | 17.5 in. | 135 |
| | | 1.40 mm | 31.8 mm | 925 kg/km | 944 kg | 445 mm | |
| 2/0 AWG | 4 AWG | 0.055 in. | 1.320 in. | 738 lbs/Mft | 2696 lbs | 18.5 in. | 150 |
| | | 1.40 mm | 33.5 mm | 1099 kg/km | 1223 kg | 469 mm | |
| 3/0 AWG | 4 AWG | 0.055 in. | 1.420 in. | 843 lbs/Mft | 3375 lbs | 19.9 in. | 175 |
| | | 1.40 mm | 36.1 mm | 1254 kg/km | 1531 kg | 505 mm | |
| 4/0 AWG | 4 AWG | 0.055 in. | 1.530 in. | 994 lbs/Mft | 4199 lbs | 21.4 in. | 205 |
| | | 1.40 mm | 38.9 mm | 1479 kg/km | 1905 kg | 544 mm | |

AC90 600V – 3 Aluminum Conductors

| CONDUCTOR SIZE | GROUND SIZE | INSULATION THICKNESS | CABLE DIAMETER | CABLE WEIGHT | MAX PULLING TENSION | MIN. BEND RADIUS | AMPACITY (A) |
|----------------|-------------|----------------------|----------------|--------------|---------------------|------------------|--------------|
| 250 kcmil | 2 AWG | 0.065 in. | 1.641 in. | 1203 lbs/Mft | 5152 lbs | 23.0 in. | 230 |
| | | 1.65 mm | 41.7 mm | 1791 kg/km | 2337 kg | 584 mm | |
| 300 kcmil | 2 AWG | 0.065 in. | 1.828 in. | 1355 lbs/Mft | 5807 lbs | 25.6 in. | 260 |
| | | 1.65 mm | 46.4 mm | 2017 kg/km | 2634 kg | 650 mm | |
| 350 kcmil | 2 AWG | 0.065 in. | 1.843 in. | 1546 lbs/Mft | 7396 lbs | 25.8 in. | 280 |
| | | 1.65 mm | 46.8 mm | 2301 kg/km | 3355 kg | 655 mm | |
| 400 kcmil | 2 AWG | 0.065 in. | 1.991 in. | 1713 lbs/Mft | 7960 lbs | 27.9 in. | 305 |
| | | 1.65 mm | 50.6 mm | 2549 kg/km | 3611 kg | 708 mm | |
| 500 kcmil | 1 AWG | 0.080 in. | 2.155 in. | 2112 lbs/Mft | 9804 lbs | 30.2 in. | 350 |
| | | 2.03 mm | 54.7 mm | 3143 kg/km | 4447 kg | 766 mm | |
| 600 kcmil | 1 AWG | 0.080 in. | 2.320 in. | 2447 lbs/Mft | 12103 lbs | 32.5 in. | 385 |
| | | 2.03 mm | 59 mm | 3642 kg/km | 5490 kg | 825 mm | |
| 750 kcmil | 1/0 AWG | 0.080 in. | 2.523 in. | 2934 lbs/Mft | 15568 lbs | 35.3 in. | 435 |
| | | 2.03 mm | 64.1 m | 4367 kg/km | 7062 kg | 897 mm | |

AC90 600V – 4 Aluminum Conductors

| CONDUCTOR SIZE | GROUND SIZE | INSULATION THICKNESS | CABLE DIAMETER | CABLE WEIGHT | MAX. PULLING TENSION | MIN. BEND RADIUS | AMPACITY (A) |
|----------------|-------------|----------------------|----------------|--------------|----------------------|------------------|--------------|
| 4 AWG | 6 AWG | 0.045 in. | 0.937 in. | 405 lbs/Mft | 1109 lbs | 13.1 in. | 60 |
| | | 1.14 mm | 23.9 mm | 603 kg/km | 503 kg | 333 mm | |
| 2 AWG | 6 AWG | 0.045 in. | 1.070 in. | 472 lbs/Mft | 1763 lbs | 15.0 in. | 80 |
| | | 1.14 mm | 27.2 mm | 702 kg/km | 799 kg | 381 mm | |
| 1 AWG | 4 AWG | 0.055 in. | 1.260 in. | 591 lbs/Mft | 2203 lbs | 17.6 in. | 92 |
| | | 1.40 mm | 32.0 mm | 879 kg/km | 999 kg | 448 mm | |

Derating factor (ground): 1 (Soil thermal resistivity: 1km/W, Depth 0.8m, Flat formation - touching)
Derating factor (air): 1 (Flat formation - touching)

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AC90 – COPPER CONDUCTOR



APPLICATION

AC90 armoured building wire is rated FT4-ST1 for -40°C to 90°C. Engineered specifically for demanding environments, superior flammability and smoke emission performance.
For use in ventilated, non-ventilated and ladder-type cable trays.
For dry locations, in ceiling air-handling plenums, exposed or concealed wiring and service entrance above ground.

CHARACTERISTICS

Voltage Rating Uo/U (Um)
600V

Temperature Rating
-40°C to 90°C

STANDARDS

Industry compliances: CSA Standard C22.2 No. 51, No.38 and No.2256, RoHS
Flame test compliances: CSA ST1 and FT4

THE CABLE TEST

We have world-class testing facility, and made rigorous testing regime, every meter of cable before leaving the factory must go through strict testing, testing qualified products will be shipped to customers, effectively ensure product quality and meet customer requirements.

SUSTAINABILITY COMMITMENT

Guowang Cable actively implements the "carbon reduction" goal, strives to promote the green's low-carbon transformation, strengthens energy-saving and emission reduction technology innovation, and promotes the company's healthy and sustainable development.

CONSTRUCTION

Conductor
Solid Soft Copper, ASTM B3

Insulation
Cross-linked Polyethylene (XLPE)
CSA Type XL 90°C dry/wet 600V
Halogen-Free.

Bonding Conductor:
Solid ASTM B3 Soft Bare Copper

Armour:
Aluminum (AIA) or Galvanized Steel (SIA)
Interlock Armour

Sheath Colour

- 2Core: Black, White
- 2Core: Black, Red
- 3Core: Black, White, Red
- 4Core: Black, White, Red and Blue

AC90 600V – 2 Copper Conductors (Black/White)

| NO. OF CONDUNO. OF CONDUCTORS CTORS | CONDUCTOR SIZE | BARE BONDING CONDUCTOR SIZE | INSULATION THICKNESS | CABLE DIAMETER | CABLE WEIGHT | MAX. PULLING TENSION | MIN. BEND RADIUS | AMPACITY (A) |
|--|-------------------|--------------------------------------|-------------------------|-------------------|-----------------|-------------------------|---------------------|--------------|
| 2 | 14 AWG | 14 AWG | 0.030 in | 0.430 in | 81 lbs/Mft | 66 lbs | 6.0 in | 25 |
| | | | 0.76 mm | 10.9 mm | 120 kg/km | 30 kg | 151 mm | |
| 2 | 12 AWG | 14 AWG | 0.030 in | 0.454 in | 99 lbs/Mft | 104 lbs | 6.4 in | 30 |
| | | | 0.76 mm | 11.5 mm | 148 kg/km | 47 kg | 164 mm | |
| 2 | 10 AWG | 12 AWG | 0.030 in | 0.512 in | 138 lbs/Mft | 166 lbs | 6.9 in | 40 |
| | | | 0.76 mm | 13.0 mm | 206 kg/km | 75 kg | 174 mm | |

AC90 600V – 2 Copper Conductors (Black/Red)

| NO. OF CONDUNO. OF CONDUCTORS CTORS | CONDUCTOR SIZE | BARE BONDING CONDUCTOR SIZE | INSULATION THICKNESS | CABLE DIAMETER | CABLE WEIGHT | MAX. PULLING TENSION | MIN. BEND RADIUS | AMPACITY (A) |
|--|-------------------|--------------------------------------|-------------------------|-------------------|-----------------|-------------------------|---------------------|--------------|
| 2 | 14 AWG | 14 AWG | 0.030 in | 0.430 in | 80 lbs/Mft | 66 lbs | 6.02 in | 20 |
| | | | 0.76 mm | 10.9 mm | 120 kg/km | 30 kg | 153 mm | |
| 2 | 12 AWG | 12 AWG | 0.030 in | 0.454 in | 99 lbs/Mft | 104 lbs | 6.36 in | 24 |
| | | | 0.76 mm | 11.6 mm | 148 kg/km | 47 kg | 161 mm | |
| 2 | 10 AWG | 12 AWG | 0.030 in | 0.512 in | 138 lbs/Mft | 166 lbs | 7.17 in | 32 |
| | | | 0.76 mm | 13.0 mm | 206 kg/km | 75 kg | 182 mm | |

AC90 600V – 3 Copper Conductors

| NO. OF CONDUNO. OF CONDUCTORS CTORS | CONDUCTOR SIZE | GROUND SIZE | INSULATION THICKNESS | CABLE DIAMETER | CABLE WEIGHT | MAX PULLING TENSION | MIN. BEND RADIUS | AMPACITY (A) |
|--|-------------------|-------------|-------------------------|-------------------|--------------|------------------------|---------------------|--------------|
| 3 | 14/1 AWG | 14/1 AWG | 0.030 in. | 0.445 in. | 105 lbs/Mft | 99 lbs | 6.2 in. | 25 |
| | | | 0.76 mm | 11.3 mm | 156 kg/km | 45 kg | 158 mm | |
| 3 | 12/1 AWG | 14/1 AWG | 0.030 in. | 0.490 in. | 130 lbs/Mft | 157 lbs | 6.9 in. | 30 |
| | | | 0.76 mm | 12.4 mm | 193 kg/km | 71 kg | 174 mm | |
| 3 | 10/1 AWG | 12/1 AWG | 0.030 in. | 0.535 in. | 182 lbs/Mft | 249 lbs | 7.5 in. | 40 |
| | | | 0.76 mm | 13.6 mm | 271 kg/km | 113 kg | 190 mm | |
| 3 | 8/7 AWG | 10/7 AWG | 0.045 in. | 0.714 in. | 309 lbs/Mft | 418 lbs | 10.0 in. | 55 |
| | | | 1.14 mm | 18.1 mm | 460 kg/km | 190 kg | 254 mm | |
| 3 | 6/7 AWG | 8/7 AWG | 0.045 in. | 0.770 in. | 417 lbs/Mft | 702 lbs | 10.8 in. | 75 |
| | | | 1.14 mm | 19.6 mm | 621 kg/km | 318 kg | 274 mm | |
| 3 | 4/7 AWG | 8/7 AWG | 0.045 in. | 0.940 in. | 601 lbs/Mft | 1193 lbs | 13.2 in. | 95 |
| | | | 1.14 mm | 23.9 mm | 894 kg/km | 541 kg | 334 mm | |
| 3 | 3/7 AWG | 6/7 AWG | 0.045 in. | 0.990 in. | 721 lbs/Mft | 1622 lbs | 13.9 in. | 115 |
| | | | 1.14 mm | 25.1 mm | 1073 kg/km | 736 kg | 352 mm | |
| 3 | 2/7 AWG | 6/7 AWG | 0.045 in. | 1.040 in. | 891 lbs/Mft | 1922 lbs | 14.6 in. | 130 |
| | | | 1.14 mm | 26.4 mm | 1326 kg/km | 872 kg | 370 mm | |

AC90 600V – 4 Copper Conductors

| NO. OF CONDUNO. OF CONDUCTORS CTORS | CONDUCTOR SIZE | GROUND SIZE | INSULATION THICKNESS | CABLE DIAMETER | CABLE WEIGHT | MAX PULLING TENSION | MIN. BEND RADIUS | AMPACITY (A) |
|--|-------------------|-------------|-------------------------|-------------------|--------------|------------------------|---------------------|--------------|
| 4 | 14 AWG | 14 AWG | 0.030 in. | 0.490 in. | 130 lbs/Mft | 131 lbs | 6.9 in. | 20 |
| | | | 0.76 mm | 12.4 mm | 193 kg/km | 60 kg | 174 mm | |
| 4 | 12 AWG | 14 AWG | 0.030 in. | 0.535 in. | 166 lbs/Mft | 209 lbs | 7.5 in. | 24 |
| | | | 0.76 mm | 13.6 mm | 247 kg/km | 95 kg | 190 mm | |
| 4 | 10 AWG | 12 AWG | 0.030 in. | 0.630 in. | 232 lbs/Mft | 332 lbs | 8.8 in. | 32 |
| | | | 0.76 mm | 16.0 mm | 345 kg/km | 150 kg | 224 mm | |

ISO-AC90 600V – Copper Conductors – Isolated Circuit

| CONDUCTOR COUNT | CONDUCTOR SIZE | INS. GROUND SIZE | GROUND SIZE | INSULATION THICKNESS | ARMOUR O.D. | CABLE WEIGHT | MAX. PULLING TENSION | MIN. BEND RADIUS | AMPACITY (A) |
|--------------------|-------------------|---------------------|----------------|-------------------------|-------------|-----------------|----------------------------|---------------------|--------------|
| 2 | 14 AWG | 14 AWG | 14 AWG | 0.030 in. | 0.440 in. | 105 lbs/Mft | 66 lbs | 6.2 in. | 25 |
| | | | | 0.76 mm | 11.2 mm | 156 kg/km | 30 kg | 156 mm | |
| 2 | 12 AWG | 12 AWG | 14 AWG | 0.030 in. | 0.485 in. | 138 lbs/Mft | 104 lbs | 6.8 in. | 30 |
| | | | | 0.76 mm | 12.3 mm | 206 kg/km | 47 kg | 172 mm | |
| 2 | 10 AWG | 10 AWG | 12 AWG | 0.030 in. | 0.533 in. | 186 lbs/Mft | 166 lbs | 7.5 in. | 40 |
| | | | | 0.76 mm | 13.5 mm | 277 kg/km | 75 kg | 190 mm | |
| 3 | 12 AWG | 12 AWG | 14 AWG | 0.030 in. | 0.522 in. | 165 lbs/Mft | 157 lbs | 7.5 in. | 24 |
| | | | | 0.76 mm | 13.3 mm | 245 kg/km | 71 kg | 190 mm | |
| 3 | 10 AWG | 10 AWG | 12 AWG | 0.030 in. | 0.591 in. | 232 lbs/Mft | 249 lbs | 8.3 in. | 32 |
| | | | | 0.76 mm | 15.0 mm | 346 kg/km | 113 kg | 210 mm | |

Derating factor (ground): 1 (Soil thermal resistivity: 1km/W, Depth 0.8m, Flat formation - touching)
Derating factor (air): 1 (Flat formation - touching)

NMD90 300V – Aluminum Conductors



APPLICATION

For exposed and concealed wiring in dry or damp locations.

CHARACTERISTICS

Voltage Rating U_o/U (Um)
300V

Temperature Rating
-25°C to 90°C

STANDARDS

CSA C22.2 No. 48, Nonmetallic sheathed cable
CSA C22.2 No. 38, Thermoset-insulated wires and cables
CSA C22.2 No. 2556, FT1 Vertical Propagation Flame Test

THE CABLE TEST

We have world-class testing facility, and made rigorous testing regime, every meter of cable before leaving the factory must go through strict testing, testing qualified products will be shipped to customers, effectively ensure product quality and meet customer requirements.

SUSTAINABILITY COMMITMENT

Guowang Cable actively implements the "carbon reduction" goal, strives to promote the green's low-carbon transformation, strengthens energy-saving and emission reduction technology innovation, and promotes the company's healthy and sustainable development.

CONSTRUCTION

Conductor
Stranded AA-8000 Series Aluminum Alloy (ACM)

Insulation
Cross-linked Polyethylene (XLPE)

Bonding Conductor:
Stranded AA-8000 Series Aluminum Alloy (ACM)

Cable Assembly:
All conductors are cabled together

Jacket:
Polyvinyl Chloride (PVC)

Sheath Colour
● 3Core: Black, White, Red

GUOWANG CABLE GROUP

NMD90 Aluminum 300V CSA

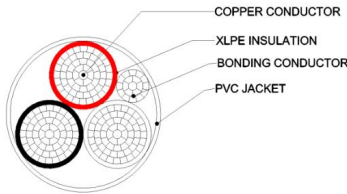
| Power Conductor | | Bonding Conductor | Insulation Thickness | | Jacket Thickness | | Cable Overall Diameter | | Cable Weight | | Ampacity |
|-----------------|-----|-------------------|----------------------|------|------------------|-----|------------------------|------|--------------|-----|----------|
| Conductor Count | AWG | AWG | in | mm | in | mm | in | mm | lbs | kg | A |
| 8 | 10 | 10/1 | 0.045 | 1.14 | 0.045 | 1.1 | 0.535 | 13.6 | 123 | 183 | 45 |
| 6 | 8 | 10/1 | 0.045 | 1.14 | 0.045 | 1.1 | 0.651 | 16.5 | 183 | 272 | 55 |
| 4 | 6 | 8/7 | 0.045 | 1.14 | 0.060 | 1.5 | 0.776 | 19.7 | 275 | 409 | 75 |
| 2 | 6 | 8/7 | 0.045 | 1.14 | 0.080 | 2.0 | 0.936 | 23.8 | 404 | 601 | 100 |

NOTE: Ampacity values based on CE Code Part I 2024, Table 4. Correction factors may apply
Dimensions and weights are nominal and subject to change without notice.

NOTE: Ampacity values based on CE Code Part I 2024, Table 4. Correction factors may apply
Dimensions and weights are nominal and subject to change without notice.

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NMD90 300V – Copper Conductors



APPLICATION

For exposed and concealed wiring in dry or damp locations.

CHARACTERISTICS

Voltage Rating U_o/U (Um)
300V

Temperature Rating
-25°C to 90°C

STANDARDS

CSA C22.2 No. 48, Nonmetallic sheathed cable
CSA C22.2 No. 38, Thermoset-insulated wires and cables
CSA C22.2 No. 2556, FT1 Vertical Propagation Flame Test

THE CABLE TEST

We have world-class testing facility, and made rigorous testing regime, every meter of cable before leaving the factory must go through strict testing, testing qualified products will be shipped to customers, effectively ensure product quality and meet customer requirements.

SUSTAINABILITY COMMITMENT

Guowang Cable actively implements the "carbon reduction" goal, strives to promote the green's low-carbon transformation, strengthens energy-saving and emission reduction technology innovation, and promotes the company's healthy and sustainable development.

CONSTRUCTION

Conductor
Stranded Bare Soft Copper, ASTM B8

Insulation
Cross-linked Polyethylene (XLPE)

Bonding Conductor:
Stranded Bare Soft Copper, ASTM B8

Cable Assembly:
All conductors are cabled together

Jacket:
Polyvinyl Chloride (PVC)

Sheath Colour
● 3Core: Black, White, Red

GUOWANG CABLE GROUP

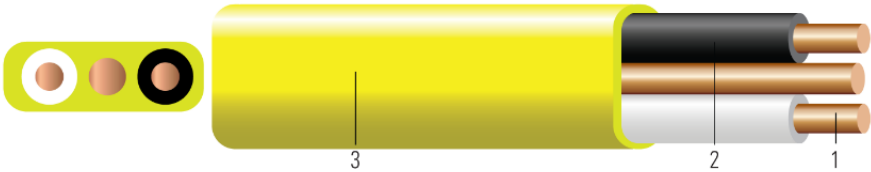
NMD90 Copper 300V CSA

| Power Conductor | | Bonding Conductor | Insulation Thickness | | Jacket Thickness | | Cable Overall Diameter | | Cable Weight | | Ampacity |
|-----------------|-----|-------------------|----------------------|------|------------------|-----|------------------------|------|--------------|------|----------|
| Conductor Count | AWG | AWG | in | mm | in | mm | in | mm | lbs | kg | A |
| 2 | 8/7 | 10/1 | 0.045 | 1.14 | 0.045 | 1.1 | 0.498 | 12.6 | 193 | 287 | 55 |
| 2 | 6/7 | 10/1 | 0.045 | 1.14 | 0.045 | 1.1 | 0.608 | 15.4 | 287 | 426 | 75 |
| 2 | 4/7 | 8/7 | 0.045 | 1.14 | 0.060 | 1.5 | 0.750 | 19.1 | 431 | 641 | 95 |
| 2 | 3/7 | 8/7 | 0.045 | 1.14 | 0.080 | 2.0 | 0.844 | 21.4 | 558 | 831 | 115 |
| 2 | 2/7 | 8/7 | 0.045 | 1.14 | 0.080 | 2.0 | 0.906 | 23.0 | 662 | 985 | 130 |
| 3 | 8/7 | 10/1 | 0.045 | 1.14 | 0.045 | 1.1 | 0.529 | 13.4 | 256 | 381 | 55 |
| 3 | 6/7 | 10/1 | 0.045 | 1.14 | 0.045 | 1.1 | 0.647 | 16.4 | 383 | 570 | 75 |
| 3 | 4/7 | 8/7 | 0.045 | 1.14 | 0.060 | 1.5 | 0.797 | 20.3 | 586 | 873 | 95 |
| 3 | 3/7 | 8/7 | 0.045 | 1.14 | 0.080 | 2.0 | 0.895 | 22.7 | 747 | 1112 | 115 |
| 3 | 2/7 | 8/7 | 0.045 | 1.14 | 0.080 | 2.0 | 0.962 | 24.4 | 899 | 1338 | 130 |

NOTE: Ampacity values based on CE Code Part I 2024, Table 4. Correction factors may apply
 Dimensions and weights are nominal and subject to change without notice.

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NMD90 300V – Copper Conductors



APPLICATION

NMD90 cables may be used for both exposed work in dry locations or concealed work in dry or damp locations. The maximum allowable conductor temperature is 90°C. The minimum recommended installation temperature is -25°C for two-conductor cables and -10°C for three-conductor cables (with suitable handling procedures). Material should be properly stored above 0°C for 24 hours prior to installation. The maximum voltage rating for all intended applications is 300 volts. Consult the Canadian Electrical Code for further information related to applications.

CHARACTERISTICS

Voltage Rating U_o/U (Um)
300V

Temperature Rating
-25°C to 90°C

STANDARDS

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
 - CSA C22.2 No. 48 non-metallic sheathed cable
 - ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy
 - FT1 Flame Test (1,706 BTU/Hr nominal - Vertical Wire Flame Test)

THE CABLE TEST

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SUSTAINABILITY COMMITMENT

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CONSTRUCTION

Conductor
Bare copper per ASTM B3. Sizes #14 AWG - #10 AWG are solid. Sizes #8 AWG - #2 AWG are Class B compressed stranded per ASTM B8

Insulation
All phases are insulated with Polyvinyl Chloride (PVC) with Nylon Sheath

Jacket:
Polyvinyl Chloride (PVC) jacket

- Sheath Colour**
- 2/C: Black, White
 - 3/C: Black, White, Red

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Weights and Measurements

| Cond. Size AWG/ Kcmil | Conductor Number | Diameter Over Conductor (inch) | Conductor Stranding | Thickness Insulation (mils) | Ground Size (No.xAWG) | Thickness Jacket (mil) | Approx. OD (inch) | Weight (lbs/1000ft) | Copper Weight Overall (lbs/1000ft) |
|--------------------------|---------------------|---|------------------------|-----------------------------------|--------------------------|---------------------------|----------------------|------------------------|---|
| 14 | 2 | 0.064 | Solid | 35 | 1x14 | 30 | 0.196x0.396 | 37 | 69 |
| 14 | 2 | 0.064 | Solid | 35 | 1x14 | 30 | 0.196x0.396 | 37 | 69 |
| 14 | 2 | 0.064 | Solid | 35 | 1x14 | 30 | 0.196x0.396 | 37 | 69 |
| 14 | 3 | 0.064 | Solid | 35 | 1x14 | 30 | 0.388 | 50 | 90 |
| 12 | 2 | 0.08 | Solid | 35 | 1x14 | 30 | 0.213x0.430 | 51 | 88 |
| 12 | 2 | 0.08 | Solid | 35 | 1x14 | 30 | 0.213x0.430 | 51 | 88 |
| 12 | 3 | 0.08 | Solid | 35 | 1x14 | 30 | 0.428 | 72 | 118 |
| 10 | 2 | 0.101 | Solid | 35 | 1x12 | 30 | 0.234x0.488 | 82 | 124 |
| 10 | 2 | 0.101 | Solid | 35 | 1x12 | 30 | 0.234x0.488 | 82 | 124 |
| 10 | 3 | 0.101 | Solid | 35 | 1x12 | 30 | 0.479 | 115 | 168 |
| 8 | 2 | 0.141 | 7 | 40 | 1x10 | 45 | 0.316x0.694 | 133 | 210 |
| 8 | 3 | 0.141 | 7 | 40 | 1x10 | 45 | 0.635 | 186 | 283 |
| 6 | 2 | 0.177 | 7 | 50 | 1x8 | 45 | 0.374x0.800 | 213 | 339 |
| 6 | 3 | 0.177 | 7 | 50 | 1x8 | 45 | 0.775 | 297 | 433 |
| 4 | 2 | 0.225 | 7 | 50 | 1x8 | 60 | 0.839 | 311 | 463 |
| 3 | 2 | 0.252 | 7 | 50 | 1x6 | 80 | 0.937 | 410 | 610 |
| 3 | 3 | 0.252 | 7 | 50 | 1x6 | 80 | 1.029 | 574 | 822 |
| 2 | 3 | 0.282 | 7 | 50 | 1x6 | 80 | 0.991 | 702 | 862 |

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Electrical and Engineering Data

| Cond. Size AWG/ Kcmil | Conductor Number | Min. Bend Radius (Inches) | DC Resistance at 25°C (Ω /1000ft) | AC Resistance at 75°C (Ω /1000ft) | Inductive Reactance @ 60Hz (Ω /1000ft) | Allowable Ampacity Raceway 75°C (Amp) | Allowable Ampacity Raceway 90°C (Amp) |
|--------------------------|---------------------|------------------------------|---|---|--|--|--|
| 14 | 2 | 1.6 | 2.631 | 3.17 | 0.058 | 20 | 25 |
| 14 | 2 | 1.6 | 2.631 | 3.17 | 0.058 | 20 | 25 |
| 14 | 2 | 1.6 | 2.631 | 3.17 | 0.058 | 20 | 25 |
| 14 | 3 | 1.5 | 2.631 | 3.17 | 0.058 | 20 | 25 |
| 12 | 2 | 1.6 | 1.662 | 2.002 | 0.054 | 25 | 30 |
| 12 | 2 | 1.6 | 1.662 | 2.002 | 0.054 | 25 | 30 |
| 12 | 3 | 1.7 | 1.662 | 2.002 | 0.054 | 25 | 30 |
| 10 | 2 | 2 | 1.04 | 1.253 | 0.05 | 35 | 40 |
| 10 | 2 | 2 | 1.04 | 1.253 | 0.05 | 35 | 40 |
| 10 | 3 | 1.9 | 1.04 | 1.253 | 0.05 | 35 | 40 |
| 8 | 2 | 2.8 | 0.653 | 0.786 | 0.052 | 50 | 55 |
| 8 | 3 | 2.5 | 0.653 | 0.786 | 0.052 | 50 | 55 |
| 6 | 2 | 3.2 | 0.411 | 0.495 | 0.051 | 65 | 75 |
| 6 | 3 | 3.1 | 0.411 | 0.495 | 0.051 | 65 | 75 |
| 4 | 2 | 3.3 | 0.258 | 0.31 | 0.048 | 85 | 95 |
| 3 | 2 | 3.7 | 0.205 | 0.246 | 0.047 | 100 | 115 |
| 3 | 3 | 5.1 | 0.205 | 0.246 | 0.047 | 100 | 115 |
| 2 | 3 | 3.9 | 0.162 | 0.195 | 0.045 | 115 | 130 |

All dimensions are nominal and subject to normal manufacturing tolerances
Cable marked with this symbol is a standard stock item.

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THHN / THWN-2 Copper Electric Wire PNS35-1



APPLICATION

General purpose building wire for services feeders and branch circuits. Also used for wiring of machine tools (stranded), appliances, and control circuits.

CHARACTERISTICS

Voltage Rating U_o/U (Um)
600V

Temperature Rating
90°C dry / 75°C wet

STANDARDS

PNS35-1

CONSTRUCTION

Conductor
Annealed copper wire: Conforming to requirements of PNS 260 for solid conductor or PNS 1207 for stranded conductors.

Insulation
PVC conforming to the requirements of PNS 661

Sheath
Tough polyamide (Nylon)

Sheath Colour
● Available colors are red, white, blue, green, black, etc.

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THHN/THWN, 90°C Dry/75°C Wet, 600V wire

| Conductor | | | | Minimum insulation thickness, mm | | Minimum nylon thickness mm | Approx. overall diameter mm |
|----------------------------|-----------------|------------------|---------------------|----------------------------------|--------------|----------------------------|-----------------------------|
| Nominal sectional area mm2 | Composition | | Outside diameter mm | | | | |
| | Number of wires | Wire diameter mm | | Average | At any point | | |
| 2 | 1 | 1.6 | 1.6 | 0.4 | 0.34 | 0.1 | 2.6 |
| | 7 | 0.6 | 1.8 | | | | 2.8 |
| 3.5 | 1 | 2 | 2 | 0.4 | 0.34 | 0.1 | 3 |
| | 7 | 0.8 | 2.4 | | | | 3.4 |
| 5.5 | 1 | 2.6 | 2.6 | 0.5 | 0.34 | 0.1 | 3.8 |
| | 7 | 1 | 3 | | | | 4.2 |
| 8 | 1 | 3.2 | 3.2 | 0.8 | 0.68 | 0.13 | 5.06 |
| | 7 | 1.2 | 3.6 | | | | 5.46 |
| 14 | 7 | 1.6 | 4.8 | 0.8 | 0.68 | 0.13 | 6.66 |
| 22 | 7 | 2 | 6 | 1 | 0.85 | 0.15 | 8.3 |
| 30 | 7 | 2.3 | 6.9 | 1 | 0.85 | 0.15 | 9.2 |
| 38 | 19 | 1.6 | 8 | 1.3 | 1.11 | 0.18 | 10.96 |
| 50 | 19 | 1.8 | 9 | 1.3 | 1.11 | 0.18 | 11.96 |
| 60 | 19 | 2 | 10 | 1.3 | 1.11 | 0.18 | 12.96 |
| 80 | 19 | 2.3 | 11.5 | 1.3 | 1.11 | 0.18 | 14.46 |
| 100 | 19 | 2.6 | 13 | 1.3 | 1.11 | 0.18 | 15.96 |
| 125 | 37 | 2.1 | 14.7 | 1.6 | 1.36 | 0.18 | 18.26 |
| 150 | 37 | 2.3 | 16.1 | 1.6 | 1.36 | 0.2 | 19.7 |
| 175 | 37 | 2.47 | 17.3 | 1.6 | 1.36 | 0.2 | 20.9 |
| 200 | 37 | 2.6 | 18.2 | 1.6 | 1.36 | 0.2 | 21.8 |
| 250 | 37 | 2.95 | 20.65 | 1.6 | 1.36 | 0.2 | 24.25 |
| 250 | 61 | 2.3 | 20.7 | | | | 24.3 |
| 300 | 61 | 2.52 | 22.7 | 1.8 | 1.53 | 0.23 | 26.76 |
| 325 | 61 | 2.6 | 23.4 | 1.8 | 1.53 | 0.23 | 27.46 |
| 375 | 61 | 2.82 | 25.3 | 1.8 | 1.53 | 0.23 | 29.36 |
| 400 | 61 | 2.9 | 26.1 | 1.8 | 1.53 | 0.23 | 30.16 |
| 500 | 61 | 3.2 | 28.8 | 1.8 | 1.53 | 0.23 | 32.86 |

Derating factor (ground): 1 (Soil thermal resistivity: 1km/W, Depth 0.8m, Flat formation - touching)
Derating factor (air): 1 (Flat formation - touching)

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THHN / THWN-2 Copper Electric Wire



APPLICATION

Low voltage electrical energy distribution; for use in electrical wiring of buildings, feeder circuits, branches and secondary industrial, commercial and residential indoor networks. Special for installations in abrasive sites or sites contaminated with oil, grease, gasoline, and other chemical substances. They are suitable for installation in ducts, pipes, boards, and cable trays according to RETIE article 20.3 literal J, from 12 AWG gauge and larger.

CHARACTERISTICS

Voltage Rating Uo/U (Um)
600V

Temperature Rating
90°C dry and wet places

STANDARDS

ASTM B 3; ASTM B 8; NTC 1332; NTC 307; NTC 359; UL 83

CONSTRUCTION

Conductor
BSoft copper conductor, concentric stranded, Class B.

Insulation
Polyvinyl chloride (PVC), flame retardant (FR), resistant to heat, abrasion and humidity, resistant to sunlight (SR) in black, free of hazardous substances (RoHS).

Sheath
External cover in polyamide (nylon), resistant to gasoline and oils (GR II).

Sheath Colour
● Red/Black/White/Blue/Green/Pink etc.

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AC90 600V – 3 Aluminum Conductors

| CONDUCTOR SIZE | GROUND SIZE | INSULATION THICKNESS | CABLE DIAMETER | CABLE WEIGHT | MAX PULLING TENSION | MIN. BEND RADIUS | AMPACITY (A) |
|----------------|-------------|----------------------|----------------|--------------|---------------------|------------------|--------------|
| 6 AWG | 8 AWG | 0.045 in. | 0.800 in. | 243 lbs/Mft | 526 lbs | 11.2 in. | 55 |
| | | 1.14 mm | 20.3 mm | 361 kg/km | 239 kg | 285 mm | |
| 4 AWG | 6 AWG | 0.045 in. | 0.880 in. | 286 lbs/Mft | 832 lbs | 12.3 in. | 75 |
| | | 1.14 mm | 22.4 mm | 426 kg/km | 377 kg | 313 mm | |
| 2 AWG | 6 AWG | 0.045 in. | 1.030 in. | 392 lbs/Mft | 1322 lbs | 14.4 in. | 100 |
| | | 1.14 mm | 26.2 mm | 583 kg/km | 600 kg | 366 mm | |
| 1 AWG | 4 AWG | 0.055 in. | 1.160 in. | 477 lbs/Mft | 1653 lbs | 16.2 in. | 115 |
| | | 1.40 mm | 29.5 mm | 710 kg/km | 750 kg | 413 mm | |
| 1/0 AWG | 4 AWG | 0.055 in. | 1.250 in. | 622 lbs/Mft | 2081 lbs | 17.5 in. | 135 |
| | | 1.40 mm | 31.8 mm | 925 kg/km | 944 kg | 445 mm | |
| 2/0 AWG | 4 AWG | 0.055 in. | 1.320 in. | 738 lbs/Mft | 2696 lbs | 18.5 in. | 150 |
| | | 1.40 mm | 33.5 mm | 1099 kg/km | 1223 kg | 469 mm | |
| 3/0 AWG | 4 AWG | 0.055 in. | 1.420 in. | 843 lbs/Mft | 3375 lbs | 19.9 in. | 175 |
| | | 1.40 mm | 36.1 mm | 1254 kg/km | 1531 kg | 505 mm | |
| 4/0 AWG | 4 AWG | 0.055 in. | 1.530 in. | 994 lbs/Mft | 4199 lbs | 21.4 in. | 205 |
| | | 1.40 mm | 38.9 mm | 1479 kg/km | 1905 kg | 544 mm | |

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