



Numerous Options for Maximum Performance

Electricals

- 30V, 300V, 600V, 1000V, 2000V, 35Kv rated

AWG (Gauge) Sizes/Ranges

- 32 AWG and up

Stranding

Common Copper Stranding(s)

- 20–32 AWG (7, 19 strands)
- 16–18 AWG (19 strands or higher)
- 4–14 AWG (41 strands or higher)
- Other stranding options available

Stranding Options for Conductors

- Bunched
- Unilay
- Rope lay
- True concentric/unilay

Copper Conductors' Plating or Coatings

- Tinned (TC)
- Silver
- Nickel
- High-strength alloys

Conductor	Temperature Rating
Tinned Cu	150°C
Bare Cu	200°C
Silver Cu	200°C
Alloy 135	200°C
Nickel Plate Cu	260°C

Insulation Materials for Inner Conductors

PVC

- Semi-rigid PVC
- PVC and semi-conductive PVCs, if needed

Olefins

- PE (polyethylene)
- LLDPE (linear low-density polyethylene)
- HDPE (high-density polyethylene)
- XLPE (cross-linked polyethylene)
- Foamed XLPE (cross-linked polyethylene)
- PP (polypropylene)
- PP Foam (polypropylene)
- FRPP (flame-retardant polypropylene)

TPE/TPR

(thermoplastic elastomer/thermoplastic rubber*)

Rubber/Neoprene

Hytrel® (polyester elastomer)

Fluoropolymers – High-temperature insulations

- FEP 200°C (fluorinated ethylene propylene)
- Tefzel® 150°C
- PFA 250°C (perfluoroalkoxy)
- Foamed FEP (fluorinated ethylene propylene)

Coaxial Cable

- May be added to a composite cable
- Custom options with unique electrical properties

Mechanical Strength

- Kevlar® or an aramid fiber equivalent
- Individual galvanized or stainless steel cable
- Stainless steel braiding

Water Blocking

- Water-blocking features can be provided in either tape or fillers to prevent water migration if a cable jacket is damaged
- Water-blocked conductors

Shielding – EMI/RFI Protection

- Aluminum foil tape
- Braiding with tinned copper
- Frequency spectrum:
Braid or spiral/served — 3 kHz up to 30,000 kHz
Aluminum Mylar® tape — 25,000 kHz to 300,000 kHz

Braiding Styles

- Basket
- Woven fabrics
- Spiral
- Served

Tape and Paper Separation Options

- Aluminum Mylar/polyester tape
- Foam polypropylene tape
- PTFE/Teflon® tape (polytetrafluoroethylene)

Armoring

- Interlocked aluminum or steel wire

Jacket Materials

- PVC (polyvinyl chloride)
- TPE/TPR (thermoplastic elastomer/thermoplastic rubber)
- Santoprene® (a good substitute for rubber in some applications)
- TPU/PUR (thermoplastic urethane/polyurethane)
- FEP (fluorinated ethylene propylene)
- Hytrel (polyester elastomer)
- Rubber/Neoprene

*TPR is a version of rubber. It is not neoprene based and has different properties than actual rubber. In many applications, it is a suitable alternative to rubber/neoprene materials.



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Made in the USA



About Northwire

- Established 1972 – third generation family owned
- Woman-owned, small business
- 171 employees
- 188,000 sq. ft. manufacturing
- No layoff of employees
 - Northwire invests in their employees professional development

Specialties

- Custom cable design and manufacturing with wire sizes from 32 AWG and up
 - Temperature ranges from -76°C to 275°C
 - Rapid response model
 - Custom cable designed, built and shipped in 5 days or less
 - Quick quotes
 - Technical support
 - No minimum order quantity or length requirements
 - Free prototyping

Certifications

- ISO 9001:2008
- Pending ISO 14001
- Pending medical and aerospace/defense standards of ISO 13485 and AS9100
- In-house quality control laboratory certified to CSA, International Organization for Standardization (ISO) 17025
- Testing procedures conducted to the protocols and standards set by UL, CSA and SAE

Compliance

- International Traffic of Arms Regulations (ITARs)
- Registration, Evaluation and Authorization of Chemicals (REACH)
- Restriction of Hazardous Substances (RoHS)
- International Electrotechnical Commission (IEC)
- Low smoke zero halogen (LSZH)
- Other standards for renewable and sustainable practices
- Environmentally conscious
 - Firm policy for Environmentally Preferred Purchasing (EPP)



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