

SPECIALTY CABLE CATALOG

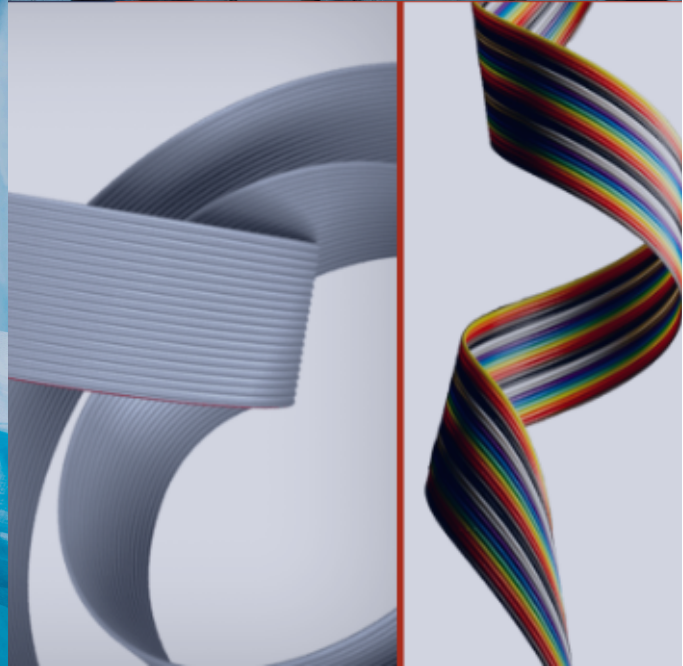
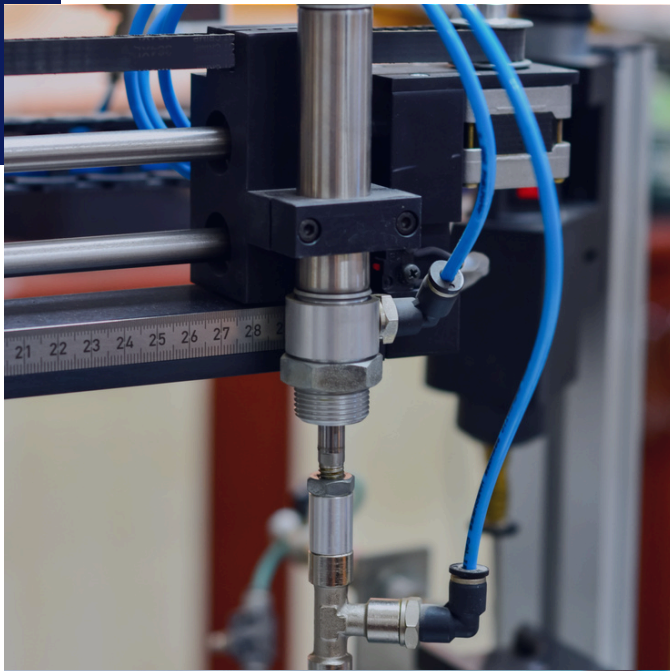
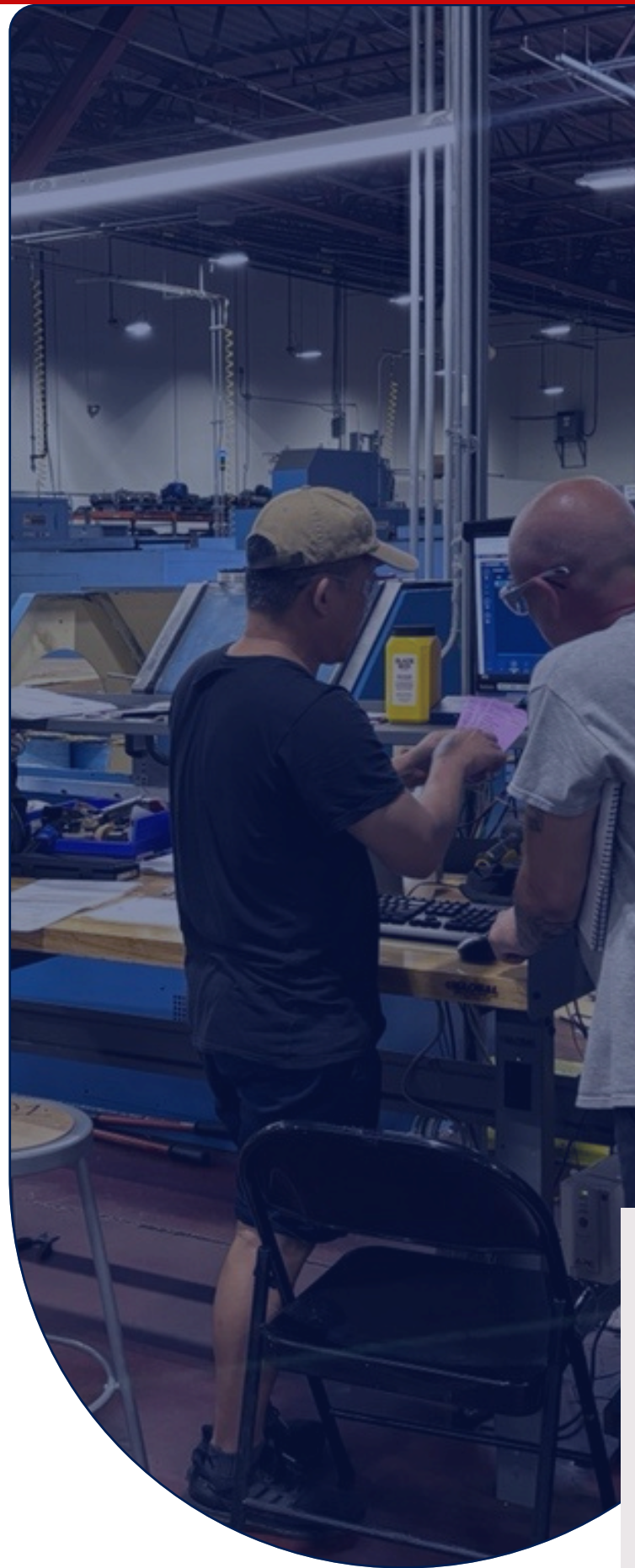


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Proterial Cable America, Inc.

Quality Products, Made in America since 1986.

Founded in 1986 in Manchester, NH, Proterial Cable America, Inc. (PCA) has grown into a leading manufacturer of copper and fiber optic communication cables, all produced under one roof. Our product range has expanded from a few specialized cables to a diverse portfolio serving a broad spectrum of applications. We meet global demands for high-performance cables across industries including:

Transit Supervisory, Signal and Control Cable and Power Cables

Industrial Ethernet PoE and industrial fieldbus systems

Medical Micro-coax, Twinax and Cable for Catheter, Vascular, Endoscopy, Surgical and Ultrasound Devices

Defense Tactical and Aerospace Cable

Our Manufacturing Advantage

We continuously innovate, whether by implementing the latest cable manufacturing technology or designing custom equipment for unique cable solutions. With our ISO 9001:2015 certification, you can trust that all processes and materials are meticulously tracked and recorded, ensuring exceptional quality and reliability.

Our Expertise

Formerly known as Hitachi Cable America, our legacy in wire and cable spans over a century. PCA is a subsidiary of Proterial, Ltd., a global leader known for engineering superior products that deliver industry-leading performance, leveraging a diverse range of high-performance materials.

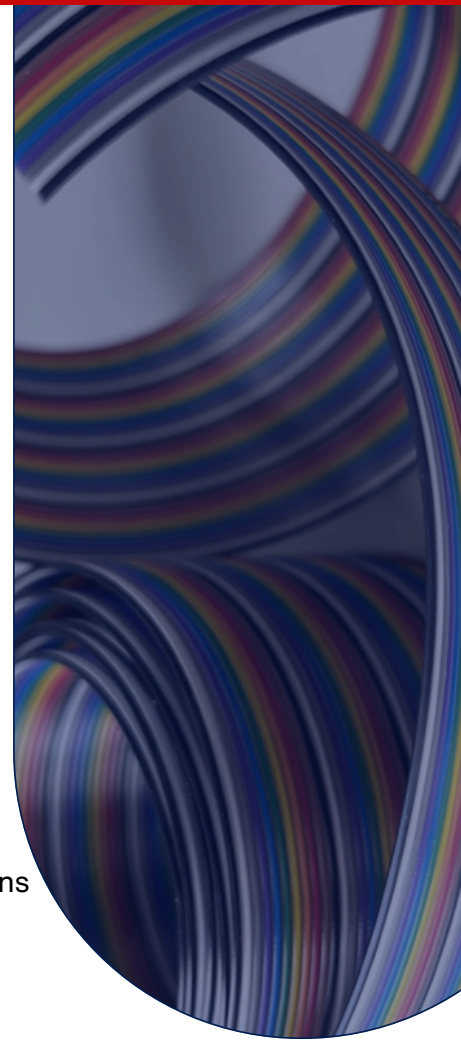


What Constructions Do We Offer?

- **Flat Ribbon Cables** offer compact, customizable, and high-density solutions with configurations from 4 to 80 conductors, advanced insulation and shielding options, and durable designs tailored for aerospace, medical, industrial, transit, and data transmission applications.
- **Transit Cables** are engineered for transit communication and supervisory control, these cables use low smoke zero halogen (LSZH) jacketing for safety, durability and compliance with stringent transit standards.
- **Industrial Ethernet Cables** are built to endure harsh industrial conditions and include options for jacketing, EMI shielding and insulation that provides resistance to chemicals, oils, and mechanical wear.
- **Medical Cables** We offer custom solutions such as fine wire configurations (micro-coaxial or twin-axial cables) are available for specialized applications like endoscopy, ultrasound, and medical instrumentation devices.
- **Other Specialty Cables:** Designs are tailored to customer specific applications to meet the demands. Ranging from low voltage signal wires to complex composite cables.

Advanced Manufacturing Options

- **Extrusion:** Our extrusion capabilities accommodate a wide range of conductor sizes and insulation compounds, providing precise and durable insulation for primary conductors.
- **Tape wrap:** We offer binder wraps, barrier wraps and jacketing tapes to enhance structure. Options include heat or sealable bonded tape layers for additional strength and stability.
- **Twisting and Cabling:** Optimized for combining conductors or pairs, our process ensures efficient cable geometry, minimizes signal interference, and enhances data transmission reliability.
- **Braiding:** Used for EMI shielding or mechanical reinforcement in applications requiring enhanced durability and performance in harsh environments.
- **Armor:** Options include interlocked aluminum armor or corrugated copper for protection against mechanical stress, abrasion and demanding environments. This option helps minimize environments, including locations with high electromagnetic electromagnetic interference (EMI), ensuring signal integrity in challenging applications.
- **Jacketing:** Durable and customizable jacketing solutions are available to protect cables against chemicals, moisture, UV exposure, and other environmental challenges.



Conductor Count



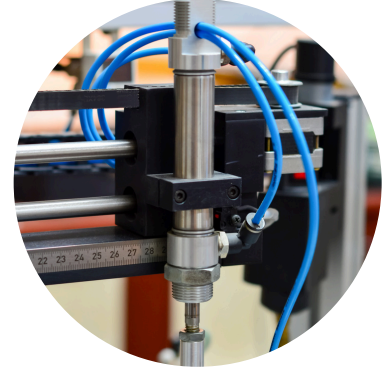
Flat Ribbon Cable

Available in 4-80 conductors, our flat cables are ideal for tight internal connections and small spaces. Available in 25, 50 and 100 mil pitch spacing for insulation displacement connectors.



Transit Cable

Transit Supervisory and Tunnel Communication configurations can range from 2 to 200 pairs while still meeting all the stringent requirements.



Industrial Ethernet Cables

Four-pair cables with 22/23 AWG copper, foil/braid shielding, and PVC/TPE jackets resist chemicals and oils.

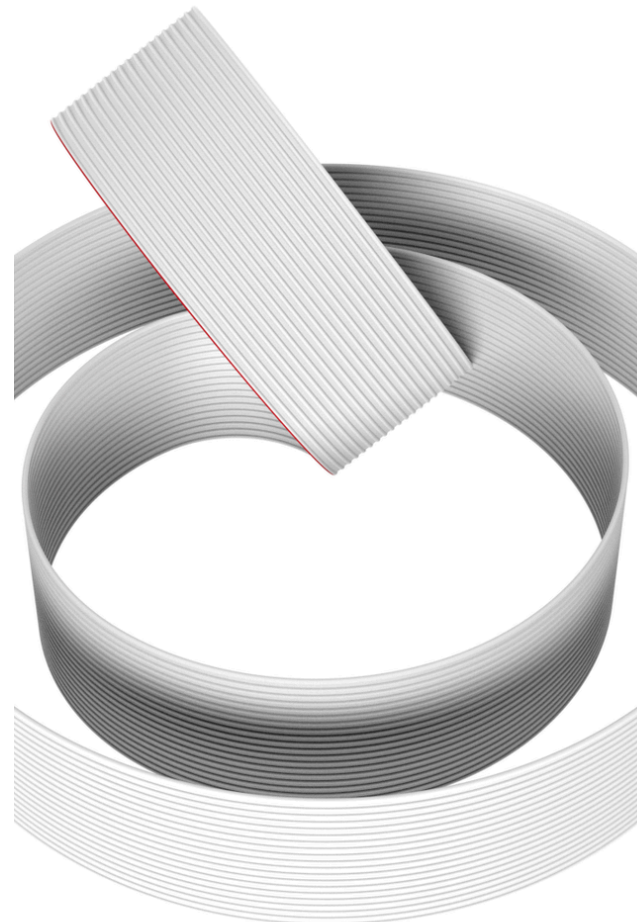
Shielded and Unshielded Cables

PCA manufactures both shielded and unshielded cable to meet diverse application needs.

Shielded Cables are engineered to protect against electromagnetic interference (EMI), which feature braided and/or foil shielding to ensure superior signal integrity in electrical-noise environments. For enhanced protection, we offer armored designs with interlocked aluminum or corrugated copper tape, making them ideal for demanding applications requiring robust EMI shielding and mechanical durability.

Unshielded Cables are best suited for environments with minimal EMI, PCA offers unshielded options such as UTP cables. These provide lightweight, flexible, and cost-effective solutions for standard installations where shielding is unnecessary.

With tailored designs and advanced manufacturing capabilities, PCA ensures reliable performance, durability, and compliance with industry standards for every cable solution.



What Industries and Applications Use Specialty Cable?

Underground Transit

PCA manufactures high-performance transit cables designed for communication, control, and power in demanding environments. Featuring NYCTA-approved designs, LSZH jacketing, and fluid-resistant materials for added protection, our cables offer custom signal and power solutions tailored for supervisory, and other communication applications, ensuring safety, reliability, and long-term performance.



Aerospace & Defense

PCA delivers advanced aerospace and defense cable solutions engineered for extreme environments, featuring lightweight designs, high-strength materials, and superior performance under mechanical stress. Our cables meet stringent standards, offering EMI shielding, flame resistance, and custom configurations serving commercial and military aircraft.

Medical

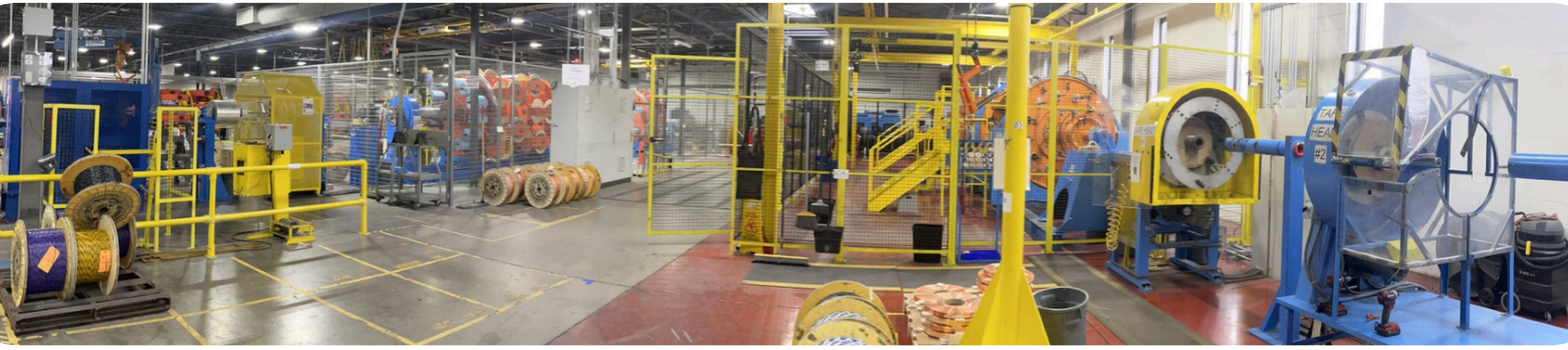
Custom medical cable solutions made at PCA are designed for precision and reliability, featuring ultra-thin material layers and advanced extrusion techniques. Our offerings include micro-coaxial and twinaxial cables for imaging and diagnostic equipment, custom designs for minimally invasive devices, and durable, flexible constructions tailored to meet rigorous demands of medical device applications.



Industrial Ethernet

PCA Industrial Ethernet cables are engineered for demanding environments, offering exceptional resistance to chemicals, oils, and mechanical wear. Optimized for PoE and industrial automation, they are the perfect solution for transport systems, automation, and machine tool manufacturing.





Conductor Capabilities - Primary Extrusion

Conductor Materials

- Bare Copper (Solid or stranded) (BC)1
- Bare Copper Alloy (BCA) 1
- Tinned Copper (TC) 1
- Tinned Overcoat (TOC) 1
- Tinned Topcoat (TTC) 1
- Silver Plated Copper (SPC) 2
- Silver Plated Copper Alloy (SPCA) 2
- Nickel Plated-Copper (SPC) 3
- Nickel Plated Copper Alloy (SPCA) 3

Temperature Ratings

1. -65°C to 150°C
2. -65°C to 200°C
3. -65°C to 450°C

Sizes

42 AWG to 4 AWG

Insulation Capabilities - Primary Extrusion

Materials

- Polyvinyl Chloride (PVC)1
- Polyethylene & foam (PE)2
- Polypropylene & foam (PP)3
- Nylon1
- Fluorinated Ethylene Propylene (FEP) 4
- Ethylene Tetrafluoroethylene (ETFE) 4
- Thermoplastic Elastomers (TPE) 5
- Perfluoroalkoxy (PFA) 6

Sizes

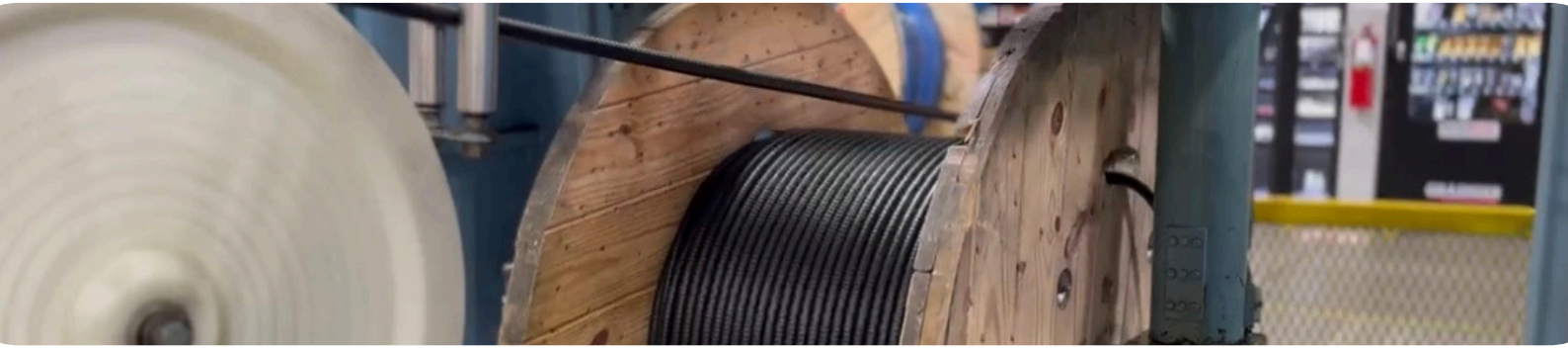
0.010" to 0.319"

Temperature Ratings

1. -40°C to 105°C
2. -65°C to 80°C
3. -20°C to 105°C
4. -65°C to 200°C
5. -40°C to 150°C
6. -200°C to 260°C

Types

Single layer, Dual layer,
Striped, Foam-Skin, FFS



Twisting Capabilities

Types

- Single Twist
- Double Twist
- Triple Twist
- Pretwist

Sizes

- 42 AWG to 12 AWG

Cabling Capabilities

Types

- Planetary
- Rigid Bay
- Single/Double Twist
- Single twist w/ neutralization
- Single twist + tapes (2)

Sizes

- 42 AWG to 4 AWG

Taping Capabilities

Materials

- Polyester (PET-Mylar)
- Heat-sealable Polyester (HS-PET)
- Paper / Tissue
- Water blocking (SAP)
- PTFE
- Polyimide (PI) [Kapton]
- Heat-sealable Polyimide (HSPI)
- Nomex
- Fiberglass

Types

- Single Twist
- Double Twist
- Triple Twist
- Pretwist

Materials Continued

- Nylon
- Copper
- Copper/Polyester (Cu/PET)
- Aluminum/Polyester (Al/PET)
- Aluminum/Polyimide (Al/PI)
- Aluminum/Nomex
- Encapsulated Aluminum (MMAM)

Sizes

- 1/8" to 2.5"

Gauge Sizes

- 42 AWG to 12 AWG

Flat Extrusion Capabilities

Materials

- Polyvinyl Chloride (PVC)

Number of Conductors

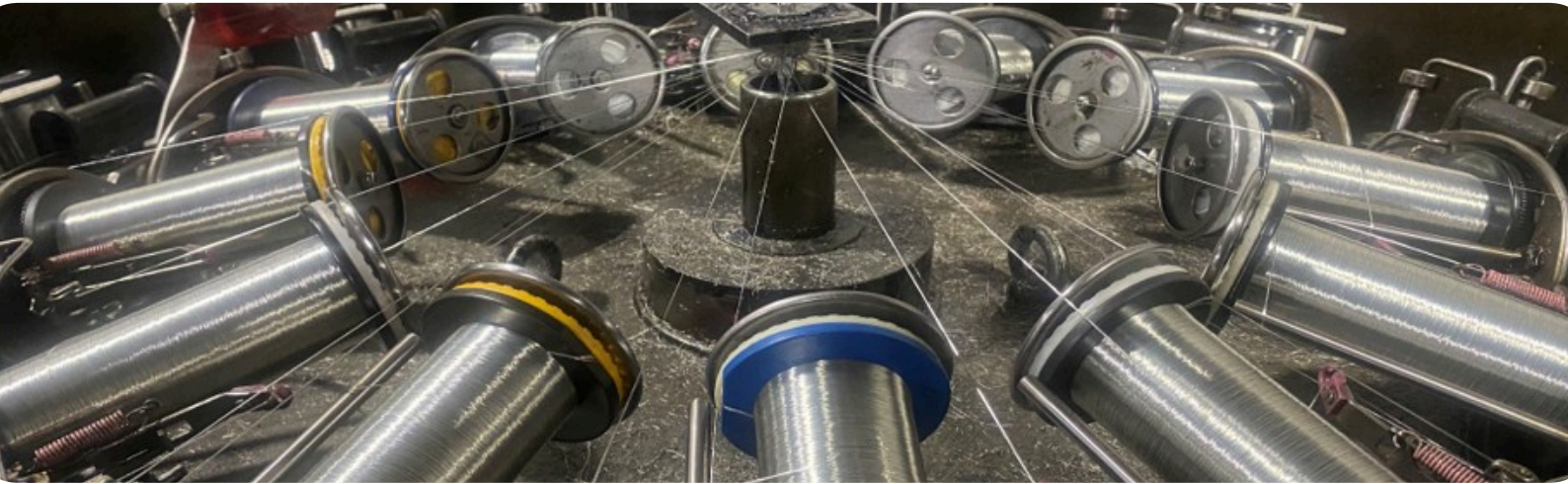
- 4 to 80

Widths

- 3/8" to 2-1/2"

Types

- Polarity coded
- Rainbow
- Shielded Flat Ribbon
- Wide Pitch Ribbon (25/50/100 mils)



Braiding Capabilities

Types

- Spiral (8c/12c)
- Braid (16c/24c)
- French Braid

Sizes (Filament)

- 50 AWG to 28 AWG

Materials

- Bare Copper
- Tinned Copper
- Silver Plated Copper
- Bronze
- Aramid yarn

Armoring Capabilities

Types

- Interlocking
- Corrugated

Sizes

- 0.19" to 1.4"

Materials

- Aluminum
- Steel
- Copper

Sintering Capabilities

Types

- PTFE
- Cast PTFE

Cable Sizes

- 1/8" to 5/16"

Temperature Ratings

- -240oC to 260oC (non-cast)

Jacketing Capabilities

Materials

- Polyvinyl Chloride (PVC)¹ (Most common)
- High/Low Density Polyethylene (HDPE/LDPE)²
- Chlorinated Polyethylene (CPE)¹
- Perfluoroalkoxy (PFA)⁵
- Fluorinated Ethylene Propylene (FEP)⁴
- Ethylene Tetrafluoroethylene (ETFE)⁴
- Thermoplastic Elastomers (TPE)³
- Polyvinylidene Fluoride (PVDF)³
- Polyurethane (TPU) ⁶

Temperature Ratings

1. -40°C to 105°C
2. -65°C to 80°C
3. -40°C to 150°C
4. -65°C to 200°C
5. -200°C to 260°C
6. -40°C to 125°C

Sizes

- 1/32" to 1.9"

Types

- Single layer
- Striped

Voltage, Temperature & Environmental Ratings



Voltage: Our low voltage signal cables are rated 30V – 100V. Other designs capable of 5,000 volts are rated as high voltage.

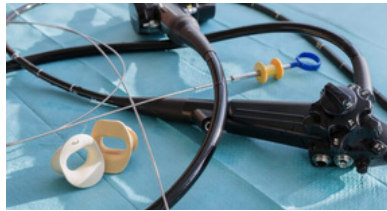
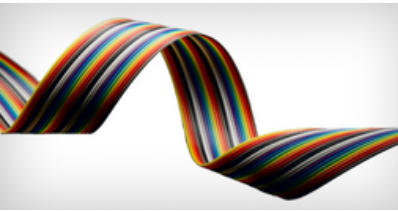


Temperature: Our PVC insulated cables will perform in temperatures as low as -20°C to heat as high as +105°C.

For specific applications such as Aerospace and Defense, we can increase the temperature requirements on cables all the way to 200°C by selecting materials with higher temperature rating.



Environmental: PCA has cables that can withstand harsh environments as well as tight data center conditions. We also offer industrial ethernet cables that resist chemicals, oils, and wear.



Industry Standards

PCA Specialty cables are all made with the highest performance and capability in mind. Part of making the best cables for our customers is maintaining high standards, and for each cable, we have different industry standards we maintain.

PCA Transit Cables meet stringent New York City Transit Authority standards, passing UL 1666 Flame Test, NES 711 Smoke and Toxicity Index, MIL 24643 Acid Gas standards, and ASTM Smoke and Fluid Immersion tests.

Our Industrial Ethernet Cables, with UL approvals for CMX, CMR, PLTC, and AWM, support PoE, industrial fieldbus systems, and automation technology.

Flat Ribbon Cables meet UL 2651 and RoHS standards.

PROTERIAL

Proterial Cable America, Inc.

PROTERIAL

Performance Cable Division

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