

POWER, CONTROL & COMMUNICATION CABLES

A comprehensive portfolio of insulated cables and overhead conductors for building services, infrastructure, utility and industrial applications.



One technical route from specification to cable supply.

NK Cable Systems is CCT's specialist portfolio for power, infrastructure, industrial and communications projects across Africa.

Sourced from qualified international manufacturing partners, the range combines established production capability with CCT's technical coordination. Each solution is selected around voltage, load, fault duty, installation method, environmental exposure and applicable standards.

From internal wiring and LV/MV distribution to overhead conductors, fire-performance, control, instrumentation and data cables, NK gives project teams a coordinated route from initial requirement to approved supply.

Our manufacturing partners capabilities:

99.995%

Pure copper from LME-registered mines

500+

Dealers across the regional supply network

2,000+

Retail partners supporting product availability

Certified performance. Documented compliance.

Each NK cable proposal is supported by the applicable certificates of conformity, manufacturer test reports, technical datasheets and IEC, BS, BS EN or SANS references. CCT coordinates the documentation required for technical review, approval and product traceability before supply.

One partnership. Complete support.

From technical selection and specification alignment to procurement, delivery and after-sales assistance, CCT helps connect every project with the right solution.

Range Navigator

8 Engineered cable families
42 Product solutions
300/500 V–18/30 kV - A complete voltage range

NK Cable Systems brings together a focused portfolio for power distribution, control, communications and specialist infrastructure.

The value is not simply in supplying cable. CCT helps establish the electrical duty, installation conditions, applicable standard and required construction—then coordinates the right NK solution from technical selection through delivery.

- 01 Low-Voltage Building and Flexible Cables**
PVC and LSZH wiring solutions for buildings, conduits, switchboards, appliances and flexible equipment connections.
- 02 Low-Voltage Power Cables**
Copper and aluminium power cables for dependable distribution at 600/1000 V, with armoured, unarmoured, PVC and LSZH constructions.
- 03 Control & Instrumentation Cables**
Engineered multicore and multipair cables for control, automation and low-energy signal transmission in electrically demanding environments.
- 04 Fire-Performance Cables**
LSZH, fire-resistant and circuit-integrity cable systems for life-safety, emergency power and critical building services.
- 05 Medium-Voltage Cables**
Screened XLPE-insulated cable systems for utility, infrastructure and industrial networks from 3.6/6 kV to 18/30 kV.
- 06 Overhead Conductors**
Insulated and bare conductor solutions for LV distribution, overhead transmission, traction and earthing applications.
- 07 Special-Application Cables**
Purpose engineered constructions for solar generation, submerged equipment, covered overhead networks and demanding environments.
- 08 Networking Cables**
Copper data-cabling solutions with multiple screening architectures for reliable network performance and signal integrity.

NK Cable Systems brings together a focused portfolio for power distribution, control, communications and specialist infrastructure.

The value is not simply in supplying cable. CCT helps establish the electrical duty, installation conditions, applicable standard and required construction—then coordinates the right NK solution from technical selection through delivery.

Applications

- Residential and commercial building wiring
- Lighting and socket-outlet circuits
- Conduit, trunking, protected fixed installations
- Switchboards and distribution panels
- Internal wiring of electrical equipment
- Appliances and flexible equipment connections
- Control panels and machinery
- Public buildings requiring LSZH wiring



PVC single-core building wire — Class 1

Solid annealed-copper, PVC-insulated, unsheathed installation wire rated 300/500 V or 450/750 V, with 70°C and 90°C insulation options. Intended for fixed wiring in conduit, switchgear, lighting and protected installations.



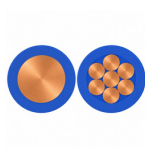
PVC single-core building wire — Class 2

Stranded annealed-copper, PVC-insulated, unsheathed cable rated 300/500 V or 450/750 V. Compared with Class 1, the stranded conductor provides improved installation flexibility while retaining fixed-wiring current-carrying performance.



PVC flexible single-core wire

Fine-stranded flexible copper conductor with PVC insulation, available at 300/500 V and 450/750 V with 70°C or 90°C insulation systems. Designed for equipment, panels and wiring requiring repeated bending during installation.



LSZH single-core building wire — 1 & 2

Solid or stranded copper conductor insulated with low-smoke, zero-halogen compound. Offered in 300/500 V and 450/750 V configurations for occupied or confined environments where smoke opacity, corrosive gases and halogen emissions must be minimised.



LSZH flexible single-core wire

Fine-stranded copper conductor with LSZH insulation, rated 300/500 V or 450/750 V. Combines installation flexibility with low smoke and low toxicity performance for public infrastructure and enclosed buildings.



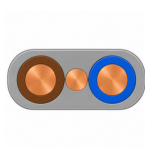
THHN/THWN building wire — 600 V

Copper building wire using thermoplastic PVC insulation and an extruded nylon protective layer. The nylon sheath improves abrasion, oil, moisture and chemical resistance for raceway, panelboard and industrial branch-circuit installation.



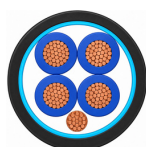
Multicore PVC flexible cables

Multiple flexible copper cores with PVC insulation and an overall PVC sheath. Available in 300/300 V, 300/500 V and 450/750 V constructions with 70°C or 90°C compound options for appliances, controls and movable electrical equipment.



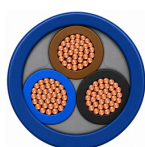
Twin-flat cable with ECC — 300/500 V

Flat domestic wiring cable incorporating two insulated current-carrying copper conductors and a dedicated earth-continuity conductor. Intended for fixed residential and commercial final-circuit wiring.



Surfex cable — 300/500 Vv

PVC-insulated and PVC-sheathed fixed-installation cable providing an additional mechanical and environmental barrier compared with unsheathed building wire. Intended for building services and surface or protected installations.



Submersible-pump cable — 600/1000 V

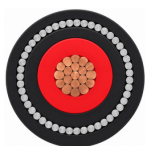
Circular or flat cable using Class 5 plain or tinned flexible copper conductors, PVC insulation and a water-resistant PVC sheath. Manufactured to SANS 1574-3 for submersible motors, with 70°C normal and 160°C short-circuit conductor limits.

Engineered for power distribution at 600/1000 V, NK low-voltage power cables are available with copper or aluminium conductors, XLPE insulation and a choice of armoured, unarmoured, PVC and LSZH constructions.

The correct cable is determined by more than load current alone. CCT considers voltage drop, short-circuit withstand, installation depth, ambient temperature, grouping, mechanical exposure and fire-performance requirements when coordinating the cable specification.

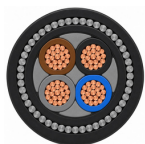
Applications

- Main and submain power distribution
- Commercial and high-rise buildings
- Industrial plants and manufacturing facilities
- Utility and infrastructure projects
- Distribution boards, motor-control centres
- Underground and direct-buried feeders
- Cable-tray, duct and service-tunnel installations
- External plant, mechanically exposed routes



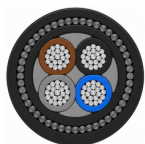
Copper XLPE/AWA/PVC power cable — 600/1000 V

Single-core copper power cable with XLPE dielectric, aluminium-wire armour and PVC outer sheath. The non-magnetic armour is suitable for single-core AC circuits while providing mechanical protection.



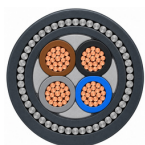
Copper XLPE/SWA/PVC power cables — 600/1000 V

Two-, three-, four- and five-core copper cables with XLPE insulation, steel-wire armour and PVC oversheath. Available to IEC 60502-1 and BS 5467 for feeders, distribution circuits, direct burial and industrial installations.



Aluminium XLPE/SWA/PVC power cables — 600/1000 V

Two- to five-core aluminium-conductor power cables with XLPE insulation, steel-wire armour and PVC sheath to IEC 60502-1. Provides lower conductor mass and material cost for larger distribution feeders.



Copper XLPE/armoured/LSZH power cables — 600/1000 V

One- to five-core copper cables with XLPE insulation, metallic armour and LSZH oversheath to BS 6724. Intended for buildings, tunnels and transport infrastructure where flame propagation, smoke and acid-gas emissions must be controlled.

Control and instrumentation cables carry the commands, measurements and low-energy signals that allow electrical and process systems to operate accurately.

The range includes multicore control cables and screened multipair instrumentation cables with construction options for electromagnetic protection, mechanical protection and fire performance. CCT considers signal type, conductor resistance, capacitance, screening, segregation and earthing architecture to protect signal integrity throughout the installation.

Applications

- PLC and distributed-control systems
- Process instrumentation and measurement loops
- Motor-control and interlocking circuits
- Industrial automation systems
- SCADA and remote-monitoring networks
- Petrochemical and process plants
- Manufacturing & material-handling systems
- Building-management systems
- Railway and mass-transit control systems
- Equipment requiring screened analogue or digital signals



XLPE/SWA/PVC control cable — 600/1000 V

Multicore copper control cable with XLPE-insulated numbered or colour-coded cores, steel-wire armour and PVC outer sheath. Offered to IEC 60502-1 and BS 5467 for hard-wired control, interlocking and auxiliary circuits.



XLPE/SWA/LSZH control cable — 600/1000 V

Copper multicore control cable with XLPE insulation, steel-wire armour and LSZH outer sheath. Provides mechanical protection and reduced fire effluent for critical control circuits in occupied infrastructure.



PVC/SWA/PVC control cable — 600/1000 V

Copper multicore control cable with PVC insulation, steel-wire armour and PVC sheath to BS 6346. Suitable for conventional industrial control and signalling circuits where enhanced fire-survival performance is not required.



PE or XLPE instrumentation cable — 500 V

Class 2 or Class 5 copper multipair cable with PE or XLPE pair insulation, individual aluminium/Mylar pair screens, overall foil screen, tinned-copper drain wires, PVC inner sheath, GSWA and PVC oversheath. Manufactured to BS EN 50288-7 for low-energy analogue, digital and process-control signals.



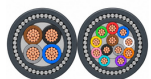
PVC instrumentation cable — 500 V

Copper multipair instrumentation cable with PVC insulation, individual and collective screening, PVC bedding, galvanised-steel-wire armour and PVC outer sheath. Designed to suppress electromagnetic coupling while providing mechanical protection in industrial environments.

Fire-performance cables are engineered for systems where smoke, corrosive gases or loss of circuit operation may create a direct risk to people, property or critical equipment. The portfolio includes LSZH cables designed to reduce hazardous fire emissions and fire-resistant constructions engineered to maintain circuit integrity during fire exposure. CCT distinguishes between flame propagation, smoke performance and circuit survival so that the selected cable matches the actual life-safety requirement.

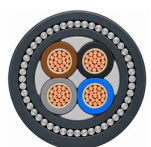
Applications

- Fire-detection and alarm systems
- Emergency lighting and exit signage
- Firefighting and sprinkler systems
- Smoke-extraction and ventilation systems
- Emergency shutdown and control circuits
- Hospitals and healthcare facilities
- Airports, stations and transport infrastructure
- Tunnels & underground passenger systems
- Hotels, schools and high-rise buildings
- Critical power and evacuation systems



LSZH armoured power and control cable — BS 6724

XLPE-insulated copper power or control cable with metallic armour and LSZH sheath. Engineered to limit flame propagation, smoke density, corrosive gases and halogen release; it is a fire-reaction cable rather than a circuit-integrity cable.



MGT fire-resistant power cable — BS 7846

Copper conductor protected by mica-glass tape, XLPE insulation, LSZH bedding, steel-wire armour and LSZH outer sheath. The mica fire barrier maintains conductor insulation and circuit integrity during fire exposure. Available in two- to five-core power configurations.



MGT fire-resistant control cable — BS 7846

Multicore copper control cable incorporating mica-glass fire barrier tape, XLPE core insulation, SWA and LSZH sheath. Intended for emergency control, life-safety and shutdown systems requiring continued operation under fire conditions.

In this construction, MGT means mica-glass tape; it is the fire barrier surrounding the conductor



Fire-alarm cable — BS 7629-1

300/500 V copper cable using mica fire barrier, EI-5 cross-linked LSZH insulation, aluminium/Mylar overall screen, circuit-protective conductor and red LSZH sheath. Rated to BS 6387 CWZ and BS EN 50200 PH120 for fire-survival alarm and emergency circuits.

NK medium-voltage cables provide screened XLPE-insulated solutions for power-distribution networks from 3.6/6 kV to 18/30 kV.

Available in copper or aluminium, single-core or three-core and armoured or unarmoured constructions, the range supports protected and mechanically exposed installation environments. CCT evaluates load current, fault level, insulation coordination, metallic-screen duty, earthing, sheath bonding & installation geometry before aligning cable with the network.

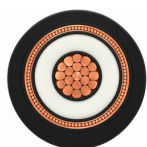
Applications

- Utility distribution networks
- Primary and secondary substations
- Industrial power-distribution systems
- Renewable-energy generation plants
- Solar and wind-farm collector networks
- Mining and mineral-processing facilities
- Water and wastewater infrastructure
- Airports, ports and railway systems
- Large commercial, mixed-use developments
- Underground, ducted, cable-tray installations



MV armoured XLPE cables — 3.6/6 to 18/30 kV

Copper- or aluminium-conductor cable with extruded XLPE insulation, metallic screening, aluminium-wire armour and PVC oversheath. Intended for buried, outdoor and industrial MV distribution where mechanical protection is required.



MV unarmoured XLPE cables — 3.6/6 to 18/30 kV

Copper- or aluminium-conductor cable with screened XLPE insulation and PVC outer sheath, without metallic armour. Intended for ducts, trays and protected installations where external mechanical protection is provided by the installation system.

NK overhead conductors are engineered to balance conductivity, tensile strength, conductor mass, sag behaviour and environmental exposure.

The range supports insulated low-voltage distribution, bare overhead networks, transmission routes, traction systems and earthing duties. CCT approaches conductor selection as both an electrical and mechanical exercise, considering ampacity, span length, sag and tension, wind loading, corrosion conditions and support-system compatibility.

Applications

- Urban and rural overhead distribution
- Low-voltage aerial bundled networks
- Primary and secondary distribution lines
- Medium- and high-voltage overhead networks
- Long-span transmission routes
- Electrified railway and traction systems
- Transformer and substation earthing
- Electrical bonding and grounding systems
- Dense residential distribution corridors
- Environmentally exposed overhead installations



Aerial Bundled Conductor—LV XLPE insulated

600/1000 V compact overhead bundle with insulated aluminium phase and auxiliary conductors. The XLPE system operates from approximately -10°C to $+90^{\circ}\text{C}$, with a 250°C short-circuit limit, and is specified to SANS 1418 Parts 1 and 2.



Soft-Drawn Bare Copper Conductor—SDBC

Annealed, high-conductivity stranded copper conductor to IEC 60228. Its low hardness and improved flexibility suit electrical earthing, bonding and installations requiring low DC resistance with easier forming.



Hard-Drawn Bare Copper Conductor—HDBC

Stranded hard-drawn copper conductor to BS 7884. Cold-worked copper provides higher tensile strength than annealed SDBC for overhead distribution, traction conductors and transformer-earthing duties.



All-Aluminium Conductor—AAC

Concentric-lay stranded hard-drawn aluminium conductor to BS 215-1 and SANS 182-2. Provides high conductivity-to-weight ratio and corrosion resistance for short- to medium-span overhead distribution.



Aluminium Conductor Steel-Reinforced—ACSR

Galvanised-steel central core with helically stranded hard-drawn aluminium layers, manufactured to BS 215-2 and SANS 182-3. The steel core carries tensile loading and controls sag, while the aluminium layers provide the principal current path.

Special-application cables are developed for duties where standard power-cable constructions cannot provide the required environmental, mechanical or electrical performance.

The range addresses exposure to ultraviolet radiation, water, elevated temperature, mechanical movement, electrical tracking and severe outdoor conditions. CCT defines the operating environment first, then coordinates the conductor, insulation, sheath and protective construction required for reliable long-term service.

Applications

- Photovoltaic module and string connections
- Solar-array to combiner-box wiring
- Combiner-box to inverter connections
- Submersible pumps and borehole systems
- Water-treatment and pumping installations
- Forested overhead-distribution routes
- Densely populated overhead networks
- UV-exposed external installations
- Wet, submerged, water-blocked applications
- High-temperature and environmentally demanding locations



Photovoltaic cable—BS EN 50618, H1Z2Z2-K

Single-core Class 5 tinned-copper PV cable with cross-linked halogen-free insulation and sheath. Rated 1,500 V DC/1.0 kV AC, -40°C to $+90^{\circ}\text{C}$ continuous and 250°C short circuit, for module, string-box and inverter interconnections.



Photovoltaic cable—IEC 62930

Flexible Class 5 tinned-copper solar cable with cross-linked halogen-free insulation and oversheath. Rated 1,500 V DC/1.0 kV AC and engineered for UV, weathering and high-temperature exposure in fixed indoor or outdoor PV installations.



Medium-Voltage Covered Conductor—MVCC

AAAC or ACSR conductor with longitudinal water-blocking layer, semiconductive screen, XLPE inner insulation and UV-resistant, anti-tracking XLPE outer covering. Designed to BS EN 50397-1, BS EN 50182 and IEC 61089 for overhead networks in forested or densely populated areas.

NK networking cables provide structured copper-cabling solutions for reliable high-speed data transmission across commercial, industrial and infrastructure environments.

The range includes unscreened and screened CAT 5e, CAT 6 and CAT 6A architectures with indoor, outdoor, PVC, LSZH and PE jacket options. CCT considers channel length, insertion loss, crosstalk, electromagnetic exposure, shield bonding, Power over Ethernet loading and installation environment when coordinating the cable system.

Applications

- Commercial structured-cabling systems
- Office and enterprise networks
- Data centres and equipment rooms
- Industrial Ethernet networks
- Building-management systems
- IP CCTV and security systems
- Access-control and intercom networks
- Wireless-access-point connections
- Voice-over-IP systems
- Power over Ethernet devices
- Outdoor and moisture-exposed data links
- Electrically noisy industrial environments



CAT 5e U/UTP

Unscreened four-pair data cable using 24 AWG solid bare-copper conductors. Intended for general Ethernet horizontal cabling where external electromagnetic interference is controlled.



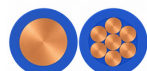
CAT 6 U/UTP

Unscreened four-pair, 24 AWG solid-copper cable with HDPE-insulated pairs. Designed with tighter pair geometry and crosstalk control than CAT 5e.



CAT 6 S/FTP

Four individually foil-screened 24 AWG twisted pairs with an overall tinned-copper braid. Provides low transfer impedance and enhanced immunity to electromagnetic and radio-frequency interference.



CAT 6A U/UTP with waterproof tape

Unscreened four-pair, 23 AWG solid-copper CAT 6A cable incorporating a water-blocking tape for moisture migration control in external or wet-route installations.



CAT 6A U/UTP

Unscreened four-pair, 23 AWG solid-copper cable with HDPE insulation. The larger conductor and controlled pair geometry support lower insertion loss and improved alien-crosstalk performance.



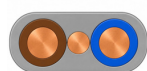
CAT 6A U/FTP

Four individually foil-screened 23 AWG twisted pairs without an overall shield. Pair-level screening reduces internal crosstalk and improves high-frequency noise immunity.



CAT 6A F/UTP

Four unscreened 23 AWG twisted pairs surrounded by a common overall foil screen. Provides system-level EMI protection while retaining simpler termination than individually screened pairs.



CAT 6A F/FTP

Four individually foil-screened 23 AWG pairs plus an overall foil shield. Provides high screening effectiveness and crosstalk isolation for electrically noisy environments.

Specified with confidence.

NK Cable Systems are sourced from qualified international manufacturing partners and selected against the electrical, mechanical, environmental and fire-performance requirements of each project.

CCT coordinates the technical documentation required for consultant review, client approval and project handover helping ensure that the proposed cable is correctly specified, properly documented and traceable.

Technical assurance

- Compliance with applicable IEC, BS, BS EN and SANS standards
- Manufacturer datasheets and construction details
- Type-test and routine-test documentation
- Certificates of conformity
- Conductor and insulation material verification
- Electrical and dimensional test results
- Cable schedules and technical submittals
- Drum identification and product traceability
- Project-specific documentation packages
- Inspection and testing coordination where required

SELECTED PROJECT REFERENCES

NK cables and conductors across major utility and industrial applications in Africa.



GOLDEN AFRICA PROJECT

DAKAR, SENEGAL | 2021

Cable materials supplied for the project through PCTL Automation, with product quality and service formally endorsed.



LAFARGE ZAMBIA

INDUSTRIAL APPLICATIONS | ZAMBIA

Low- and medium-voltage cables supplied for multiple industrial applications, with satisfactory quality and performance reported.



ZESCO

UTILITY APPLICATIONS | ZAMBIA

Low- and medium-voltage cables supplied for power-sector applications, with performance reported as compliant with industry specifications.

References relate to NK manufacturing and supply experience.

Technical coordination at every stage.

CCT supports the cable package from the first electrical requirement through technical approval, procurement and delivery.

Our role is to reduce specification uncertainty, coordinate the correct construction and keep the commercial supply aligned with the approved technical requirement.

The CCT process

- 01** **Define the duty**
Voltage, load, fault level, installation method and operating environment.
- ↓
- 02** **Select the construction**
Conductor, insulation, screening, armour, sheath and fire-performance requirements.
- ↓
- 03** **Confirm compliance**
Applicable standards, test requirements and project specifications.
- ↓
- 04** **Prepare the submittal**
Datasheets, compliance schedules, certificates and supporting documentation.
- ↓
- 05** **Coordinate supply**
Manufacturing, inspection, drum schedule, logistics and delivery.
- ↓
- 06** **Support the project**
Technical clarification, installation coordination and after-sales assistance.

From cable selection to site delivery, CCT keeps the technical and commercial requirements connected.



CONSTRUCTION TECHNOLOGIES L.L.C

BUILD BETTER



TAKE THE UNCERTAINTY OUT OF CABLE SPECIFICATION AND SUPPLY.

Cable selection involves more than matching voltage and conductor size. CCT reviews the electrical duty, installation conditions, current capacity, voltage drop, short-circuit withstand, construction, compliance and documentation—then coordinates the appropriate NK solution from technical submittal through commercial supply and delivery.



Office No 08M, Dar Al Wuheida Building,
Dubai, United Arab Emirates



+971 50 537 0102
+971 54 247 8130



CCT.Solutions



Info@cct.solutions
sales@cct.solutions

**DURABLE SOLUTIONS
FOR A SAFER TOMORROW**



CCT CONSTRUCTION TECHNOLOGIES LLC

