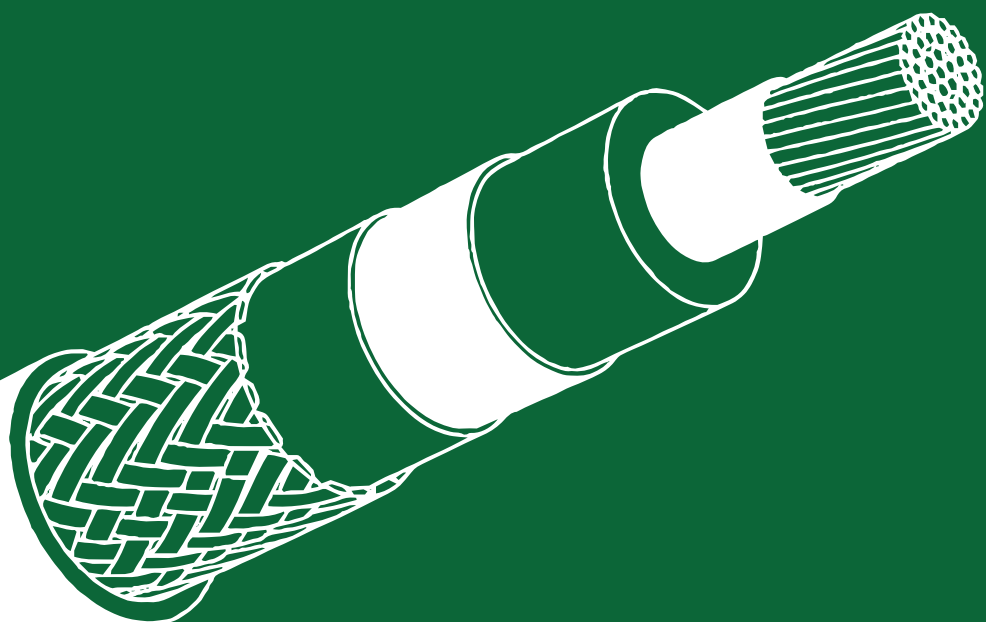


TIKA

C A B L E

**Industrial &
Manufacturing**



Description

Industrial and manufacturing environments demand cables that can withstand high temperatures, oil and chemical exposure, continuous vibration, mechanical impact, and electrical interference from heavy machinery. This category provides robust cabling solutions for factories, processing plants, and heavy industrial facilities.

Products include medium voltage power cables (6.6kV to 33kV) for large motors and compressors, heavy-duty control cables with steel wire armour for control circuits, flexible control cables for moving machinery and robotic arms, and oil-resistant flexible cables for CNC machines and machine tools. These cables are built for reliability in harsh conditions, minimizing downtime and maintenance costs.

Typical applications:

Cement plants and steel mills

Automotive manufacturing lines

Food and beverage processing

Pulp and paper mills

Mining and mineral processing

Plastic and rubber manufacturing

Specification

Medium Voltage Power Cable (6.6kV / 11kV / 33kV)

These medium voltage cables are the primary feeders for heavy industrial facilities. Rated from 6.6kV up to 33kV, these cables feature compact stranded copper or aluminium conductors, XLPE insulation for high thermal performance, a semi-conducting conductor and insulation screen, steel wire armour (SWA) for mechanical protection in harsh industrial environments, and a robust PVC or LSZH outer sheath resistant to oils and chemicals. These cables connect the facility's incoming substation to main switchgear, then to large loads such as compressors, shredders, large pumps, and high-power motors (above 1MW). The XLPE insulation allows operation at conductor temperatures up to 90°C normal and 250°C under short circuit conditions, providing excellent overload capacity.



Armoured Medium Voltage Power Cable

Control Cable (PVC/SWA/PVC)

This heavy-duty control cable is used for control circuits in industrial environments. Featuring multicore construction (2 to 61 cores), stranded copper conductors, PVC insulation, a PVC inner sheath, steel wire armour (SWA) for mechanical protection, and an outer PVC sheath, this cable is extremely robust and resistant to physical damage. It is used to carry control signals from operator panels to motor starters, valves, and actuators throughout the factory floor. The SWA armour allows direct burial, installation on heavy-duty cable trays, or exposed runs where forklifts or heavy equipment may contact the cable. This is the standard control cable for cement plants, steel mills, pulp and paper factories, and mining facilities.



Control Cable

Flexible Control Cable (PVC/PVC)

This flexible control cable is designed for moving applications where vibration or repeated flexing occurs. Featuring fine-stranded (Class 5 or 6) copper conductors for high flexibility, PVC insulation, and a flexible PVC sheath, this cable is commonly used on machine tools, robotic arms, pick-and-place machines, and automated assembly lines. The fine stranding allows the cable to withstand thousands or millions of flex cycles without conductor fatigue failure. Designed to meet VDE 0250 standards, this cable is also oil-resistant and suitable for wet or dry industrial environments. It is the preferred choice for original equipment manufacturers (OEMs) of industrial machinery.

Oil Resistant Flexible Cable

This specialized flexible cable is designed for machine tools and CNC (Computer Numerical Control) equipment where exposure to cutting oils, coolants, and lubricants is constant. The cable features fine-stranded tinned copper conductors for flexibility and corrosion resistance, PVC or rubber insulation, and a durable PUR (polyurethane) or oil-resistant PVC outer sheath. The sheath material resists swelling, cracking, and hardening when in continuous contact with mineral oils, synthetic oils, and water-based coolants. This cable is used for power supply to moving machine heads, coolant pumps, and workpiece handling systems on lathes, milling machines, and machining centers.

Multicore Medium Voltage Cable

This cable is specifically designed for high-power industrial equipment requiring medium voltage supply in a single, convenient cable construction. Featuring three individually screened and insulated cores (for 3-phase power) laid up together, with a common bedding, steel wire armour (SWA), and outer sheath, this cable eliminates the need for three separate single-core cables. The multicore construction simplifies installation, reduces cable tray space requirements, and ensures correct phase balancing. Typical applications include large compressors (chillers, air compressors), shredders (recycling plants, wood processing), high-voltage motors (pumps, fans, conveyors), and variable frequency drive (VFD) connections.



Multi-Core Medium Voltage Power Cable

Overhead Conductors

Parameter	MV Power Cable (6.6kV–33kV)	Control Cable (PVC/SWA/PVC)	Flexible Control Cable	Oil Resistant Flexible Cable
Voltage Rating	3.6/6kV to 18/30kV (U ₀ /U)	450/750V	300/500V or 450/750V	450/750V
Conductor	Class 2 stranded copper or aluminium	Class 2 stranded copper	Class 5 or 6 fine stranded copper	Class 5 or 6 fine stranded tinned copper
Conductor Screen	Semi-conducting XLPE (conductor + insulation)	None	None	None
Insulation	XLPE (high thermal grade)	PVC (type TI2)	PVC (type TI3 flexible)	PVC or EPR (oil-resistant grade)
Insulation Thickness	IEC 60502-2 Table 3/4	IEC 60502-1 Table 5	VDE 0250 / IEC 60227	VDE 0250 / HD 21
Core Identification	Phase colors (brown/black/grey) + numbered	Numbers (1 to 61) + color	Numbers + color	Numbers + color
Bedding	PVC or PE	PVC	None or PVC	None or PVC
Armour	Steel wire armour (SWA) or double tape	Steel wire armour (SWA)	None (flexible design)	None (or braided)
Sheath	PVC (ST2) or LSZH (ST8)	PVC (TM1 or ST2)	PVC (flexible grade)	PUR or oil-resistant PVC
Oil Resistance	Moderate (standard PVC)	Moderate	Good (flexible PVC)	Excellent (PUR or special PVC)
Flex Life (bending cycles)	N/A (fixed installation)	N/A (fixed)	>1 million cycles (VDE test)	>1 million cycles
Min Bending Radius (fixed)	12 × OD	10 × OD	6 × OD	6 × OD
Min Bending Radius (flexing)	Not applicable	Not applicable	10 × OD	10 × OD
Temperature Range (fixed)	-15°C to +90°C	-15°C to +70°C	-5°C to +70°C	-15°C to +80°C
Temperature Range (flexing)	Not applicable	Not applicable	-5°C to +70°C	-5°C to +80°C
Standards	IEC 60502-2	IEC 60502-1	VDE 0250, IEC 60227	VDE 0250, HD 21.13 S1
Typical Applications	Compressors, shredders, high-power motors	Conveyors, starters, panels	Robotics, pick-and-place, automation	CNC machines, machine tools

