ANHUI FEICHUN SPECIAL CABLE CO., LTD.

安徽飞纯特种电缆有限公司

FLEXIBLE ELECTRIC CABLE - TECHNICAL DATA SHEET

4 × 10 MM²

Flexible Electric Cable with 1.1kV Insulation

HIGH FLEXIBILITY | COPPER CONDUCTOR

Number of Cores	Cross Section	Rated Voltage	Flexibility Class
4	10 mm²	1.1 kV	5

1. GENERAL DESCRIPTION

This flexible electric cable is designed for power transmission and distribution applications requiring frequent movement and excellent flexibility. Featuring four copper conductors with a cross-sectional area of 10mm² each, the cable is suitable for industrial machinery, mobile equipment, and installations where flexibility is essential. The 1.1kV insulation rating makes it ideal for low to medium voltage electrical systems.

Parameter	Specification
Cable Designation	**4 × 10 MM² Flexible Electric Cable**
Number of Cores	**4 Cores**
Conductor Cross-Section	**10 mm² per core**
Rated Voltage U_0/U	**0.6/1.1 kV**
Conductor Material	Bare Copper (Cu) - Class 5 Stranded
Conductor Type	Flexible Stranded (Fine Wire)
Insulation Material	Cross-Linked Polyethylene (XLPE) or PVC
Sheath Material	Polyvinyl Chloride (PVC) or Thermoplastic Elastomer (TPE)
Flexibility Grade	High Flexibility - Class 5

2. CABLE CONSTRUCTION

CABLE STRUCTURE (From Core to Outer Layer)

1. Conductor Core: Fine stranded bare copper wires (Class 5), 10mm² nominal cross-section per core

2. Conductor Insulation: XLPE or PVC insulation with color identification

3. Assembly: Four insulated cores laid in parallel or twisted configuration

4. Filler (Optional): Non-hygroscopic material to maintain roundness

5. Inner Sheath (Optional): Separator tape or thin PVC layer

6. Outer Sheath: Heavy-duty PVC or TPE compound (Black or Orange)

Component	Material/Description	Technical Details
Conductor	Class 5 flexible stranded copper	Per IEC 60228, conductor diameter ≤0.41mm
Number of Strands	Multiple fine copper wires	Approximately 84+ strands per conductor
DC Resistance	Maximum at 20°C	≤1.91 Ω/km per conductor
Insulation Thickness	XLPE or PVC Type	0.7 - 1.0 mm nominal
Core Colors	Standard identification	Brown, Black, Grey, Blue (or custom)
Sheath Thickness	PVC/TPE outer protection	1.8 - 2.0 mm nominal
Overall Diameter	Approximate	16.5 - 18.0 mm
Approximate Weight	Per kilometer	420 - 480 kg/km

3. ELECTRICAL CHARACTERISTICS

Parameter	Value	Test Condition / Standard
Rated Voltage (U_0/U)	**0.6/1.1 kV**	AC 50/60 Hz
Maximum Conductor DC Resistance	1.91 Ω/km	At 20°C per IEC 60228
Current Carrying Capacity	57 - 70 A	Depends on installation method
AC Voltage Test	3.5 kV for 5 minutes	Between conductors and earth
Insulation Resistance	≥20 MΩ·km	At 20°C

Maximum Operating Temperature	70°C (PVC) / 90°C (XLPE)	Continuous operation
Short Circuit Temperature	160°C (PVC) / 250°C (XLPE)	Maximum 5 seconds duration
Voltage Drop	Approx. 4.2 V/A/km	At power factor 0.8

4. MECHANICAL PROPERTIES

Parameter	Specification	Notes
Flexibility Class	**Class 5 - High Flexibility**	Per IEC 60228
Minimum Bending Radius (Moving)	8 × Overall Diameter (≥144 mm)	For flexible applications
Minimum Bending Radius (Fixed)	6 × Overall Diameter (≥108 mm)	For stationary installation
Tensile Strength	≥12.5 N/mm²	Insulation material
Elongation at Break	≥150%	Before aging
Installation Temperature	≥-5°C to ≥0°C	Without preheating
Operating Temperature Range	-15°C to +70°C (PVC)	Ambient conditions
Flame Retardant	IEC 60332-1	Single vertical wire test

5. APPLICATIONS

Industrial Machinery

Power supply to mobile industrial equipment, cranes, hoists, and manufacturing machinery

Construction Sites

Temporary power distribution on construction sites and outdoor applications

Material Handling

Power cables for conveyors, automated guided vehicles (AGV), and logistics systems

Marine & Offshore

Suitable for shipboard installations and offshore platforms with proper protection

Entertainment & Events

Power distribution for stage equipment, lighting systems, and temporary installations

Mobile Equipment

Power supply to portable generators, welding machines, and mobile workshops

Key Advantages: Exceptional flexibility for dynamic applications | High current carrying capacity | Excellent mechanical strength | Oil and chemical resistant options available | Suitable for indoor and outdoor use | Long service life | UV resistant sheath

6. TECHNICAL STANDARDS & COMPLIANCE

Standard	Description
IEC 60502-1	Power cables with extruded insulation and their accessories for rated voltages from 1 kV up to 30 kV
IEC 60228	Conductors of insulated cables - Class 5 flexible conductors
IEC 60332-1	Tests on electric and optical fibre cables under fire conditions - Single vertical insulated wire or cable flame test
IEC 61034	Measurement of smoke density of cables burning under defined conditions (Low smoke options)
GB/T 12706	Chinese National Standard for power cables with rated voltages from 0.6/1kV to 26/35kV
RoHS Directive	Restriction of Hazardous Substances - Environmental compliance
CE Marking	European Conformity (where applicable)

7. INSTALLATION GUIDELINES

Installation Parameter	Requirement
Cable Support Spacing	Maximum 0.4 - 0.6 meters for vertical runs
Pulling Force	Not to exceed 50 N/mm² of conductor area
Maximum Pulling Length	Depends on route configuration - use pulling lubricant for long runs
Cable Termination	Use appropriate cable lugs and compression tools
Protective Measures	Use cable glands, conduit, or cable tray as per environment
Earth Bonding	Proper earthing required per local electrical codes

Installation Warning: Always ensure power is disconnected before installation. Follow local electrical codes and regulations. Use qualified electricians for installation and termination. Do not exceed the maximum bending radius to avoid conductor damage. Protect cables from sharp edges and mechanical stress.

8. QUALITY ASSURANCE & TESTING

Each cable undergoes rigorous quality control testing including:

- Conductor resistance measurement
- High voltage insulation test

- Insulation resistance test
- Dimensional verification
- Mechanical flexibility test
- Fire performance test (sample basis)
- Visual inspection of construction

Quality Certification: All cables are manufactured under ISO 9001:2015 quality management system. Test reports and certificates of conformity are available upon request.

9. PACKAGING & DELIVERY

Item	Details
Standard Length	100m, 200m, 500m, or customized length
Packaging Type	Wooden cable drum or steel drum with protective wrapping
Cable Marking	Manufacturer name, cable type, specifications, voltage rating, length marking (sequential meters)
Documentation	Test report, certificate of conformity, packing list included
Lead Time	15-30 working days after order confirmation (subject to quantity)
Minimum Order Quantity	500 meters (negotiable for trial orders)

Important Notes:

- This specification is for reference purposes and subject to technical modifications
- Custom specifications, colors, and constructions available upon request
- For detailed engineering drawings and specific installation requirements, please contact our technical department
- Storage: Keep cables in dry, cool place away from direct sunlight
- Shelf life: 24 months under proper storage conditions

飞纯电缆

FEICHUN SPECIAL CABLES

Website Address www.reelingcable.com www.feichuncables.com
Whatsapp Account + 86 13855123218
Email Address Zihao.yang@feichuncables.com & Ziyu.huang@feichuncables.com