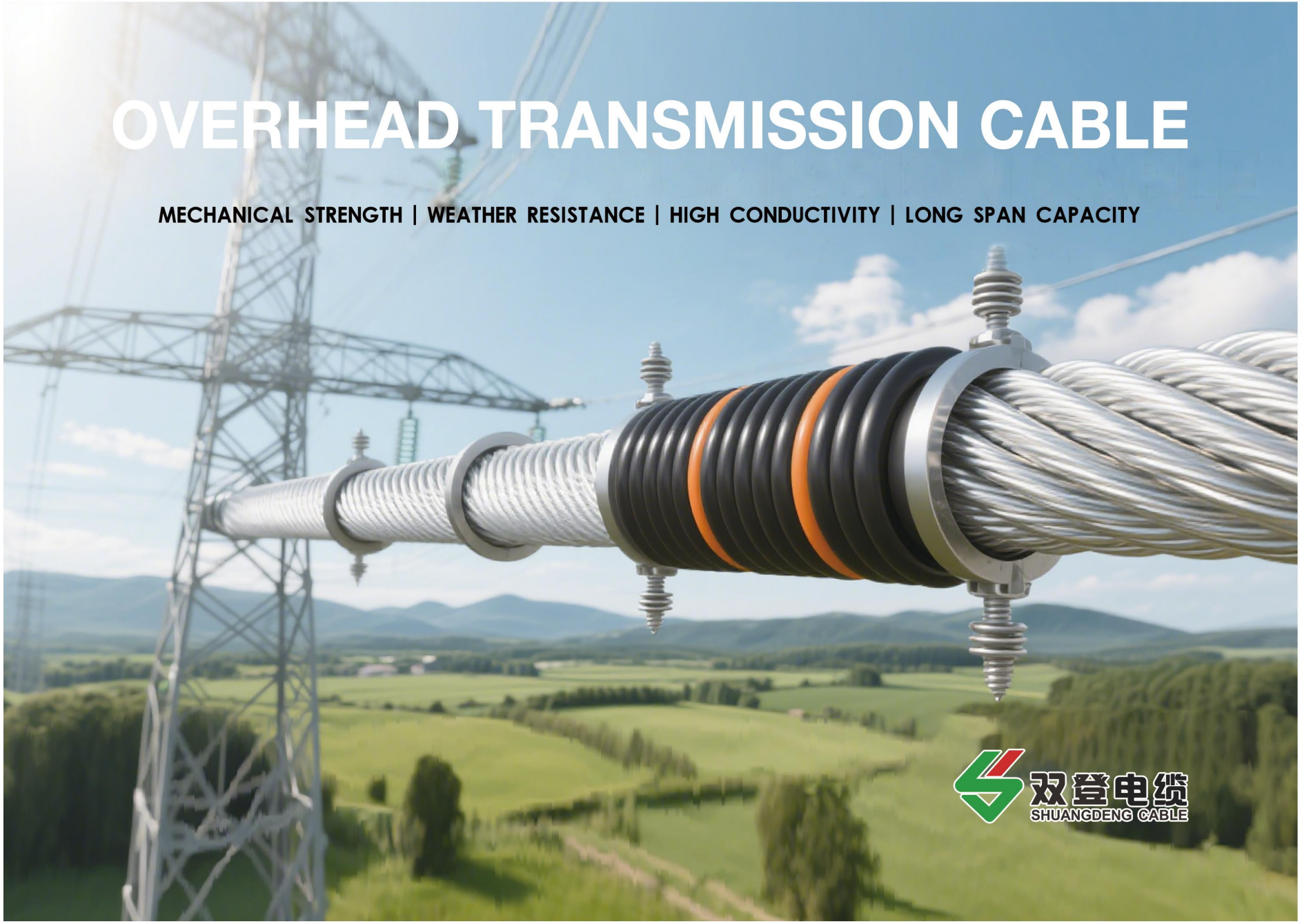
OVERHEAD TRANSMISSION CABLE
MECHANICAL STRENGTH | WEATHER RESISTANCE | HIGH CONDUCTIVITY | LONG SPAN CAPACITY
双登电缆
SHUANGDENG CABLE

Shuangdeng Overhead Line Product Manual

Reliable Power Transmission for Overhead Networks

❶ Product Overview

Shuangdeng Overhead Lines are meticulously designed to meet the demanding requirements of power distribution and transmission in overhead electrical networks. Engineered to withstand diverse environmental conditions, including strong winds, heavy ice loads, and extreme temperatures, these overhead lines ensure stable and efficient power delivery across urban, rural, and industrial areas. Combining high - quality materials with advanced manufacturing techniques, our overhead lines offer exceptional mechanical strength, electrical performance, and long - term durability.

❷ Core Features & Benefits

Feature	Technical Advantage	Application Benefit
High Mechanical Strength	Constructed with aluminum conductors reinforced by steel cores (ACSR - Aluminum Conductor Steel Reinforced) or all - aluminum alloy conductors (AAAC), providing excellent resistance to tension, wind, and ice.	Ensures reliable operation in harsh weather conditions, reducing the risk of line breakage and minimizing power outages.
Superior Electrical Conductivity	Utilizes high - purity aluminum or aluminum alloy materials with optimized conductor stranding, minimizing electrical resistance and power loss.	Increases the efficiency of power transmission, allowing for longer - distance power distribution with reduced energy consumption.
Corrosion Resistance	Special surface treatments and corrosion - resistant materials, such as anti - oxidizing coatings on aluminum conductors, protect against environmental corrosion.	Extends the service life of the overhead lines, especially in coastal, industrial, and polluted areas.
Lightweight Design	Aluminum - based conductors offer a lightweight solution compared to copper, reducing the structural load on supporting towers and poles.	Facilitates easier installation and maintenance, while also lowering construction and operational costs.
Thermal Stability	Maintains electrical and mechanical properties within a wide temperature range (-40°C to +80°C), ensuring consistent performance in various climates.	Suitable for use in regions with extreme temperature variations, preventing thermal expansion - related damage.

❸ Product Specifications

3.1 Conductor Type

· ACSR (Aluminum Conductor Steel Reinforced):
  Aluminum strand: High - purity aluminum (≥99.5% conductivity)
  Steel core: Galvanized steel for high tensile strength
  Cross - sections: 16mm² - 800mm²
· AAAC (All - Aluminum Alloy Conductor):
  Material: High - strength aluminum alloy with enhanced conductivity and corrosion resistance
  Cross - sections: 25mm² - 630mm²

3.2 Structural Details

· Stranding pattern: Concentric lay - stranded construction (compliant with relevant international standards)
· Outer diameter: Varies based on conductor size and type, typically ranging from 6mm to 35mm

3.3 Electrical Characteristics

· Rated voltage: 1kV (low - voltage), 10kV, 35kV, 110kV, 220kV (customizable for different transmission needs)
· DC resistance: Meets or exceeds the requirements of IEC 61089 and other relevant standards
· Current - carrying capacity: Up to 1200A (depending on conductor type, size, and ambient conditions)

❹ Application Scenarios

· Urban and rural power distribution networks
· High - voltage long - distance power transmission lines
· Industrial parks and manufacturing plant power supply systems
· Renewable energy projects (connecting wind farms, solar power plants to the grid)
· Temporary power supply lines for construction sites and events

❺ Compliance & Certifications

· International standards: IEC 61089, ASTM B232, GB/T 1179 (China national standard)
· Environmental compliance: RoHS 3.0, REACH
· Optional certifications: TÜV, SGS, ISO 9001

6 Installation & Maintenance

6.1 Installation Guidelines

· Ensure proper tensioning during installation to avoid over - stressing or sagging of the lines
· Maintain safe clearances from buildings, trees, and other obstacles as per electrical safety regulations
· Use appropriate insulators and fittings suitable for the line voltage and environmental conditions
· Regularly inspect for signs of wear, corrosion, or damage after installation

6.2 Maintenance

· Periodic visual inspections to check for conductor damage, corrosion, and insulator degradation
· Cleaning of insulators in polluted areas to prevent flashovers
· Replacing damaged or worn - out components promptly to ensure continuous reliable operation

7 Customization Options

· Custom - designed conductor cross - sections and tensile strengths for specific project requirements
· Specialized anti - corrosion coatings for harsh environments
· Tailored lengths and packaging for large - scale projects
· Custom color - coding and marking for easy identification in complex networks