



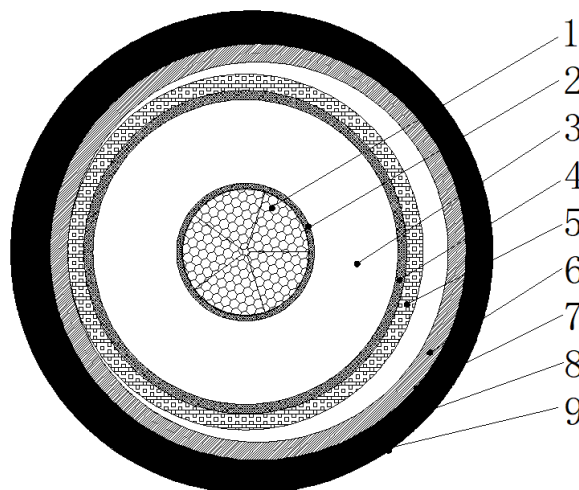
CUSTOM Systems del Norte, S.A. de C.V.

500kV XLPE Insulated

WCAS PE-LW ESL Power Cable

500kV XLPE Insulated Cable

●DESIGN & CONSTRUCTION



DESIGN & CONSTRUCTION			
No.	CONSTRUCTION	Nominal Thickness(mm)	Average Outer Diameter and Tolerance(mm)
1	Conductor(Copper)	/	61.0±1.0
2	Conductor Screen	0.7+2.2	66.9±1.5
3	Insulation(XLPE)	32.1	131.5±1.5
4	Insulation Screen	1.5	134.5±1.5
5	缓冲层(半导电丁基胶带+半导电缓冲阻水带+半导电铜丝带)	/	147.1±3.0
6	Welded Corrugated Aluminum Sheath	3.4	163.4±4.0
7	防腐层	0.25	163.9±4.0
8	外护套	6.5	177.3±4.0
9	导电层	0.3	177.9±4.0

●STANDARDS & APPROVALS

- The Product was designed and produced under IEC62067:2022 “Power Cables with Extruded Insulation and their Accessories for Rated Voltage Above150kV(Um=170kV) up to 500kV(Um=550kV) Test Methods and Requirements .”
- QRUNNING Cable offers a wide range of voltage power cables with diverse design options depending on the reference standards and customer requirements.

●APPLICATION

1. Underground/Submarine Transmission
 - Key for long-distance power links (e.g., offshore wind farms, urban tunnels).
 - WCAS + PE-LW resists water ingress and corrosion.
2. High-Density Urban Grids
 - Compact XLPE insulation suits tight spaces; ESL ensures safety in populated areas.
3. Harsh Environments
 - Withstands extreme temperatures (-40°C–90°C), corrosive soils, or coastal salinity.
4. Renewable Energy Integration
 - Transfers bulk power from remote solar/wind/hydro plants with minimal losses.
5. Critical Infrastructure
 - Fire-resistant and EMI-shielded for nuclear plants, data centers, or tunnels.

●OPERATIONAL PERFORMANCE

- The rated voltage of the cable, represented as $U_0/U:290/500\text{kV}$.
- The maximum allowable operating temperature of the cable conductor is 90°C.
- During a short circuit (with a maximum duration of 1 seconds),the maximum temperature of the conductor shall not exceed 250°C.
- The ambient temperature for cable installation should not be lower than 0°C.
- Minimum bending radius: Single-Core Cables: $\geq 25 \times \text{cable OD}$

●Technical Parameters

- Conductor Resistance at 20°C: $0.0072 \Omega/\text{km}$
- Conductor AC Resistance at 90°C: $0.0108 \Omega/\text{km}$
- Conductor Short-Circuit Current: 207.9 kA/3s
- Metallic Shield Short-Circuit Current: 75.7 kA/3s
- Current-Carrying Capacity (Buried): 1,609 A