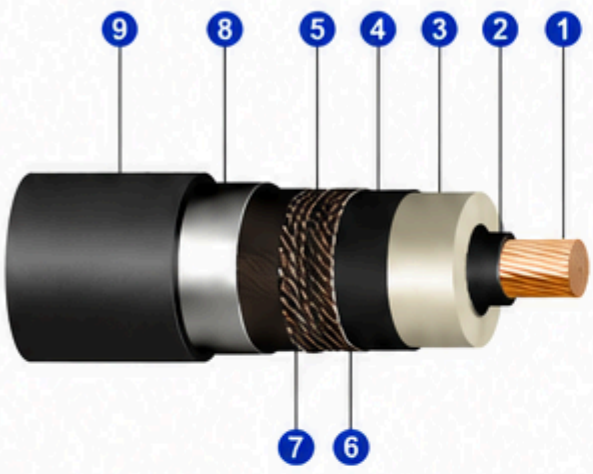
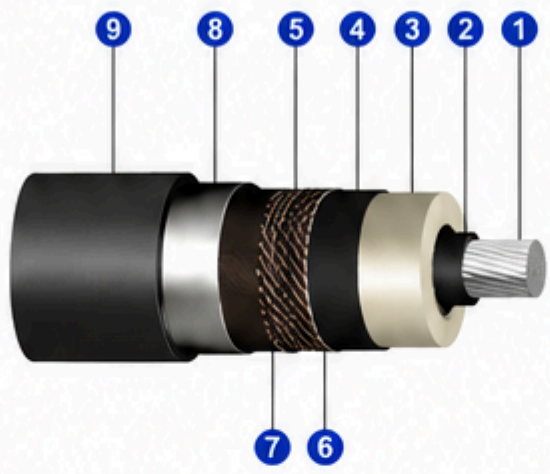
INDUSCABOS
CONDUTORES ELÉTRICOS
A escolha de quem conhece

CABLE INDULINK 69 kV ~ 138 kV

COPPER CONDUCTOR



ALUMINUM CONDUCTOR



CONSTRUCTION

1. **Conductor:** Bare electrolytic copper or aluminum conductor, soft temper, compacted circular stranded (Class 2), longitudinal water-blocked.
2. **Conductor Shield:** Semi-conducting thermoset compound.
3. **Insulation:** TR-XLPE (Tree Retardant) thermoset insulation, 90 °C.
4. **Insulation Shield:** Semi-conducting thermoset compound.
5. **Insulation Tape:** Semi-conductive tape, longitudinal water-blocked.
6. **Metallic Shield:** Bare copper wires with cross section suitable to the design, longitudinal water-blocked.
7. **Separator:** Semi-conductive tape, longitudinal water-blocked.
8. **Water Blocking:** Aluminum laminated tape (APL) for radial water-blocking.
9. **Outer Sheath:** Thermoplastic polyethylene compound PE ST7 (HDPE).

APPLICATION

INDULINK cables 69 kV ~ 138 kV are suitable for all public, industrial and utility applications (generation, transmission and distribution of power).

The cables may be installed in ducts, galleries, directly buried or in subfluvial and sublacustrine crossings.

The sizing of high voltage cables depends on the power to be transmitted, the applicable protections, the environmental and installation conditions (triangular or flat formation, natural or forced ventilation, etc.).

STANDARDS

IEC 60840 – Power Cables with Extruded Insulation for Rated Voltages above 30 kV (U_m = 36 kV) up to 150 kV (U_m = 170 kV) – Test Methods and Requirements.

TECHNICAL CHARACTERISTICS

Electrical		
Cable	69 kV	138 kV
Maximum Rated Voltage	72.5 kV	145 kV
Basic Insulation Level (BIL)	350 kV	600 kV
Typical Test Voltage (AC – 30 min)	90 kV / 30 min	190 kV / 30 min

Conductor Temperature	
Normal Operating	90 °C
Emergency (Overload)	105 °C
Short Circuit	250 °C

Design Characteristics	
XLPE Loss Factor	0.005
Relative Permittivity	2.3

INDULINK – COPPER 69 kV

CONDUCTOR		INSULATION		OUTER SHEATH		TOTAL WEIGHT (kg/km)
NOMINAL CROSS SECTION (mm²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	
120	12,7	11,0	36,3	2,5	48,0	2.829
150	13,8	11,0	37,4	2,5	49,1	3.120
185	15,5	11,0	39,1	2,6	51,0	3.529
240	18,4	11,0	42,0	2,7	54,1	4.175
300	20,5	11,0	44,1	2,8	56,4	4.841
400	23,3	11,0	46,9	2,9	59,4	5.719
500	26,4	11,0	50,0	3,0	62,7	6.922

INDULINK – ALUMINUM 69 kV

CONDUCTOR		INSULATION		OUTER SHEATH		TOTAL WEIGHT (kg/km)
NOMINAL CROSS SECTION (mm²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	
120	13,2	11,0	36,8	2,5	48,5	2.140
150	14,3	11,0	37,9	2,6	49,8	2.276
185	16,3	11,0	39,9	2,6	51,8	2.467
240	18,5	11,0	42,1	2,7	54,2	2.754
300	20,8	11,0	44,4	2,8	56,7	3.034
400	23,3	11,0	46,9	2,9	59,4	3.394
500	26,2	11,0	49,8	3,0	62,5	3.836
630	30,5	11,0	54,1	3,1	67,0	4.448

INDULINK – COPPER 138 kV

CONDUCTOR		INSULATION		OUTER SHEATH		TOTAL WEIGHT (kg/km)
NOMINAL CROSS SECTION (mm²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	
300	20,5	21,6	66,7	3,7	83,3	8.223
400	23,3	21,6	69,5	3,8	86,3	9.213
500	26,4	21,6	72,6	3,9	89,6	10.544
630	30,5	21,6	76,2	4,0	93,9	12.082

INDULINK – ALUMINUM 138 kV

CONDUCTOR		INSULATION		OUTER SHEATH		TOTAL WEIGHT (kg/km)
NOMINAL CROSS SECTION (mm²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	
300	20,8	21,6	67,0	3,7	83,6	6.428
400	23,3	21,6	69,5	3,8	86,3	6.889
500	26,2	21,6	72,4	3,9	89,4	7.450
630	30,5	21,6	76,7	4,0	93,9	8.220
800	34,0	21,6	80,2	4,1	97,6	9.012

Note: The dimensions and weights are approximate and subject to manufacturing tolerances.