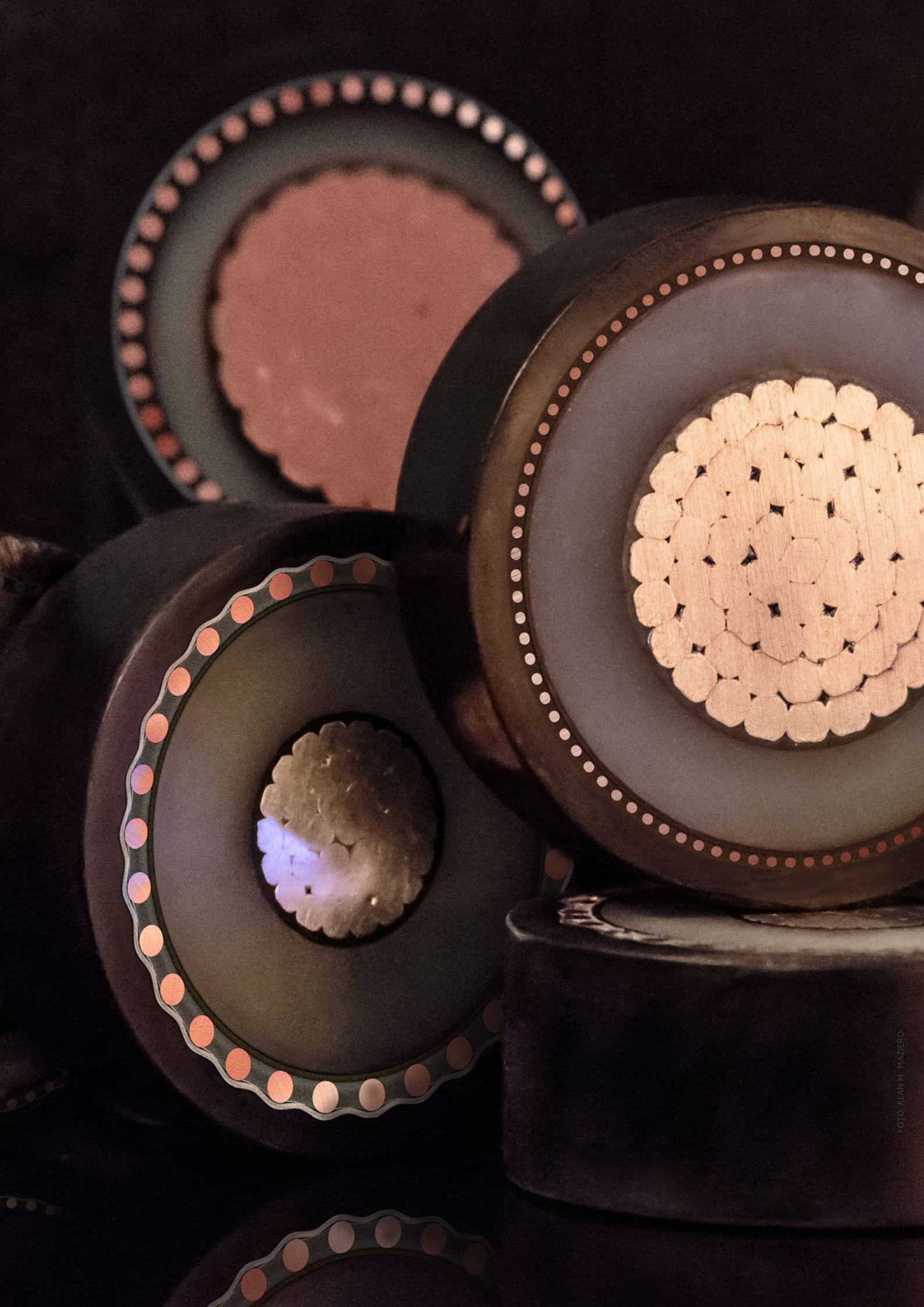




Medium Voltage Cables

3.6 kV ~ 35 kV

 **INDUSCABOS**
CONDUTORES ELÉTRICOS
A escolha de quem conhece



Cables for Underground Facilities

3.6/6 kV to 20/35 kV

Cable Epronax Slim 105	11
Cable Epronax AL Slim 105	17
Cable Epronax 105	23
Cable Epronax AL 105	29
Cable Indulink	35
Cable Indulink AL	41

Non halogenated cables for underground installations

3.6/6 kV to 20/35 kV

Cable Atox Slim 90	49
Cable Atox AL Slim 90	55
Cable Atox 90	61
Cable Atox AL 90	67
Cable Atox Flex 90	73

Cables for aerial installations - Compact networks

15 kV, 25 kV and 35 kV

Cable Indugrex AL TR	79
Cable Indugrex AL/SCI TR	83
Cable Indugrex TR Copper	87

Cables for aerial installations - isolated networks

8.7/15 kV to 20/35 kV

Cable Triplex AL	91
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Cables for wind farms

20/35 kV

Cable Epronax AL Slim 105 Wind	97
Cable Indulink AL Slim	101



Introduction

New plant for power cables in medium voltage

Medium voltage cables: 3,6/6,0 kV up to 20/35 kV

Induscabos started manufacturing medium voltage cables in 2000, when it had a significant investment in industrial equipment, laboratories and human resources. In the initial phase, the range of products aimed at meeting the needs of distribution networks in industrial installations. Over the years, the range of products was being supplemented and new technologies have been incorporated, enabling the production of cable sections and with big specific characteristics,

depending on the applications.

In 2010, seeking to meet the growing demand, **Induscabos** made a new investment for the production of cables for medium voltage, in Poá - São Paulo - Brazil, a new plant with capacity to produce insulated cables up to 138 kV voltage class.

The new production line is working with the most modern equipments of manufacturing

electrical cables with EPR insulation (Compound thermoset rubber) and XLPE (Compound thermoset cross-linked polyethylene).

The new plant is equipped with two extrusion lines – catenary – the latest generation, with a manufacturing capacity exceeding 200 km per month.

Three converging extruders simultaneously apply the internal semiconductor, insulation and

the outer semiconductor. This co-extrusion of the three layers – a triple extrusion – eliminates the likelihood of contaminants in the insulation during extrusion process and assures a smooth interface between the three layers. Vulcanization (crosslinking) of the three layers is made by a chemical process inside a tube - catenary - electrically heated and pressurized by nitrogen.

This technology, also known as *Dry Curing*, eliminates the presence of moisture in the compounds and ensures adhesion between the

three layers, resulting in a product with high dielectric strength.

The processing used by **Induscabos** for manufacturing medium voltage cables provides for the storage of EPR and XLPE insulation in a controlled environment (clean room) and pressure, vacuum being transported to the point of extrusion. It eliminates the possibility of contamination by handling and particles suspended in the atmosphere to ensure the physical integrity of insulating compounds.

The quality of products is measured in a complete laboratory equipped to test cables with solid extruded insulation of medium and high voltage. The partial discharge test, a leading indicator of the intrinsic quality of the insulation, is performed in shielded environment against electromagnetic interference – Faraday – cage designed and built with the most advanced standards of world technology.

This investment allowed **Induscabos** to provide to the market a complete line of cables until 20/35 kV class.

Cables for facilities outdoor and underground

The electricity distribution network is comprised of the primary electrical networks (medium voltage - MT) and secondary networks (low voltage - LV).

The use of insulated cables with impregnated paper with thermosetting composite insulated cables of medium voltage, there were many changes and adaptations that the electric system had over the years.

Medium voltage cables is designed to meet and exceed the needs of outdoor facilities and ground current electricity distribution.

CABLE EPRONAX 105 AND CABLE EPRONAX SLIM 105:

Isolated with RPE (Compound thermoset rubber). This compound is characterized by excellent physical properties and being resistant

material water treeing phenomenon is suitable for installations in which the average and high voltage cables operate in permanent contact with water.

Its high dielectric strength EPR (thermoset rubber compound) allows the use of larger design gradients, resulting in reduced thickness for insulation.

NBR 7286 calls this reduced thickness as a “coordinated” thickness. Proven thermal stability of the compound admits temperature in the conductor under normal conditions up to 105 °C, increasing the current capacity by 15 % when compared to traditional class cables 90 °C.

The combination of these two properties (dielectric strength and thermal stability) results in a cable with less insulation thickness, the lower conductive section and therefore lower weight and

outside diameter, making Epronax Slim 105 line an excellent technical and economic alternative to power transportation in medium voltage.

Induscabos uses the name of Epronax 105 for its line with full thickness and Epronax Slim 105 to the line with coordinated thickness.

CABLE INDULINK

Insulated with XLPE (cross-linked polyethylene thermoset compound). This compound is obtained from the modification of Thermoplastic Polyethylene structure. It has high dielectric strength and excellent thermal stability, admitting temperature in the driver under normal conditions up to 90 °C. The blocked construction (driver and metal shield) has been used in installations where the cables are kept in prolonged contact with water.

Cables non halogenated

ATOX CABLES

In the subway lines it is required not only for low-voltage cables, but also for the medium voltage circuits, cables free construction of halogens and low emission of smoke.

Induscabos completed the technological development, adopting an unique and economical design using rigid and flexible conductors, which have been certified with the UL laboratory (Underwriters Laboratories), the body recognized and prestigious in the world.

Isolated on EPR (thermoset rubber compound) thermal class 90 °C, the line ATOX Medium Voltage has free material covering halogen and low smoke, oxidizing agents harmful to the respiratory system as well as aggressive for equipment and electronic components. This characteristic is demonstrated by measuring the acidity of gasses as well as the quantity and opacity of the smoke given off during firing. Atox Cable also meets the characteristics of non-spread and self extinguishing the fire, observed through the oxygen index and vertical burn test (fire).

Cables for aerial facilities – compact networks (DRC)

COVERED CABLES

The compact distribution networks are consolidated for the vast majority of the Electric Utilities in Brazil.

Use covered cables (protected) fixed spacers and supported by a

messenger cable.

It was initially designed for use in wooded areas, seeking to reduce the leakage current when in accidental contact with the tree branches, thus minimizing shutdowns. Currently they are used in various other applications: areas with constant acts of vandalism; substations outputs with circuit congestion; areas with high incidence of lightning; circuits near facades / buildings, etc.

Induscabos' project for covered protected cables provides driver locked against moisture penetration and coverage with double cross-linked polyethylene layer XLPE 90 °C. For the next layer is the driver used a compound with high dielectric strength. The second layer of material is especially additive to ensure weather resistance, ultraviolet radiation, mechanical abrasion and electrical tracking (discharges caused by contact with trees and branches moisture). This design results in an economical cable, reliable, safe and long service life.

Air installations cables – networks isolated (RDI)

MULTIPLEXED MEDIUM VOLTAGE CABLES

The air isolated network distribution is built with multiplexed cables, self-sustaining. usually used as a primary feeder (stem) is also expected in circuits with high-level shutdown in places where you want a better reliability and

security levels, multiple circuits on the same post, locations with restricted physical space, in need of preservation ecological and aesthetic appearance, and also for crossings under bridges and viaducts. it is particularly suitable for highly aggressive polluting areas.

The multiplexed medium voltage cable consists of three-phase aluminum conductors with cross-linked polyethylene XLPE insulation 90 °C, between layers of semiconductor material. The phase-conductors are arranged helically around a supporting conductor, neutral system. The assembly is self-supporting aerial cable with bare neutral binder wire with flat ribbon consists of two steel wires, coated with polyethylene. It maintains the geometric arrangement of the cable during installation, avoiding the detachment of the same between the attachment points.

The project includes **Induscabos** blocked construction (driver and metal shield), coordinated thickness and additive polyethylene cover to withstand the UV attack.

Wind farms cables

Wind energy transformation into electrical energy is used for decades in many parts of the world. The electricity is obtained through wind turbines, which are large turbines driven by wind vane installed in regions with strong and constant winds. Wind farm consists of several wind turbines,

the electricity generated in each unit is carried by Medium Voltage electrical cables, to a substation, where it is made the connection to the transmission system.

Induscabos has a dedicated line for these projects on 20/35 kV voltage class.

Typically, the aluminum conductor cables may be insulated with EPR and XLPE. The metal shield is comprised of copper crown, and the electrical section of the same set according to each project short circuit currents.

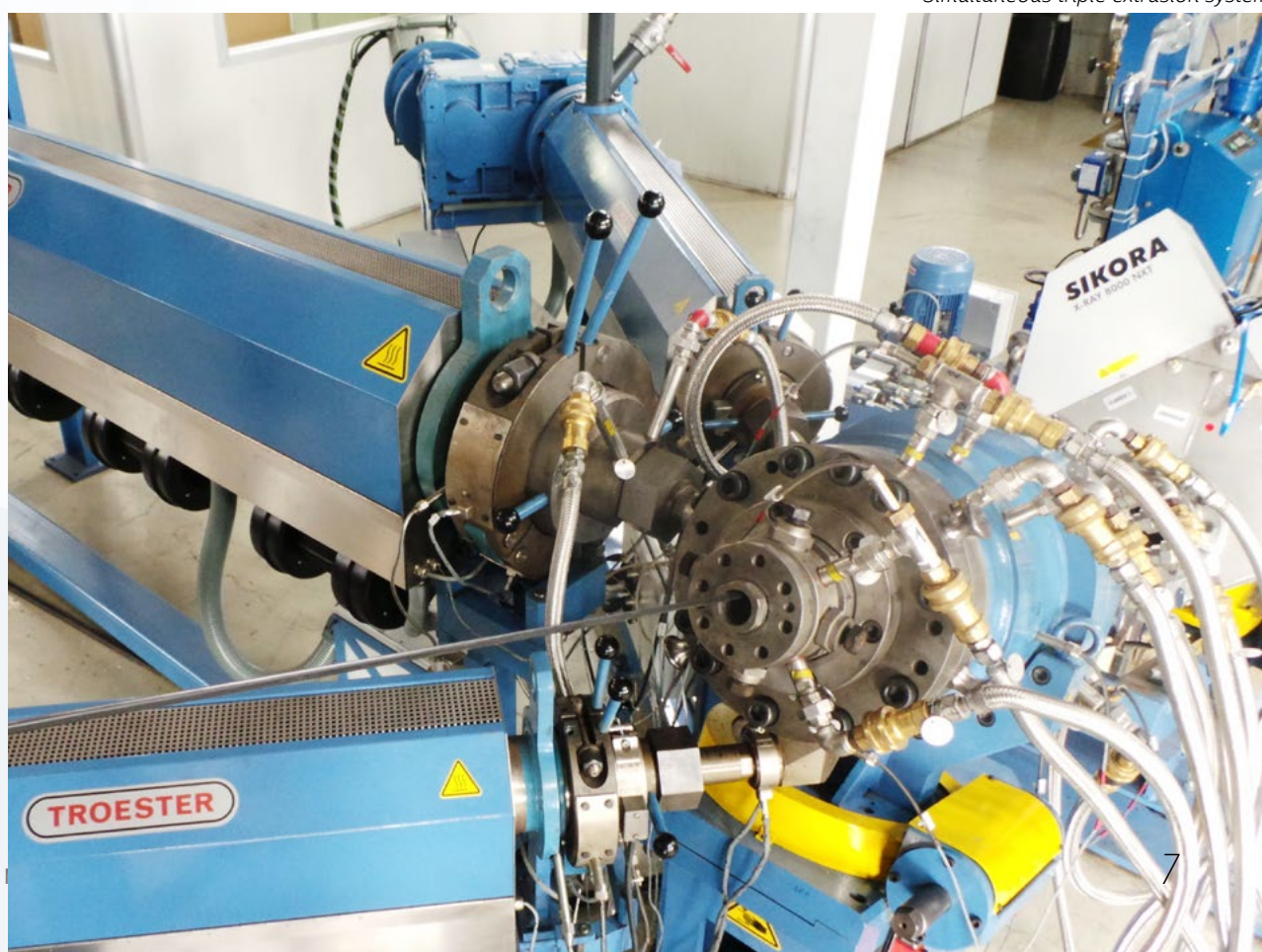
The cover is made with high density polyethylene, which in addition to ensuring an excellent

tightness, has high resistance to abrasion and tear, important characteristics due to mechanical stress during installation.

The cable design provides the blocked construction of the driver and the metal shield against longitudinal penetration of moisture.



Simultaneous triple extrusion system







Cables for **UNDERGROUND FACILITIES** 3.6/6 kV to 20/35 kV

Cable Epronax Slim 105, 11

Cable Epronax AL Slim 105, 17

Cable Epronax 105, 23

Cable Epronax AL 105, 29

Cable Indulink, 35

Cable Indulink AL, 41



Cable Epronax Slim 105

3.6/6 kV to 20/35 kV Coordination Insulation



Construction

- 1 Conductor:** Bare electrolytic copper, soft temper, corded circular compact (Class 2)
- 2 Conductor Shielding:** Semiconductor thermosetting compound.
- 3 Insulation:** EPR rubber thermosetting compound 105 °C.
- 4 Insulation Shielding:** Semiconductor compound thermosetting layer of easy cold removal.
- 5 Metallic Shielding:** Bare copper wires.
- 6 Separator:** Non-hygroscopic polyester tape, applied on a propeller, covering 100 % of the cable.
- 7 Coverage:** Polyvinyl Chloride thermoplastic compound (PVC ST2).

Identification

Cables with 3 conductors, identification of the veins by means of ribbons in the colors white, blue and red.

Application

The modern technology utilized in the manufacturing of the **EPRONAX SLIM 105 CABLES** provides a great technical and also very economical alternative for input and/or distribution circuit of residential or industrial buildings, substations, etc. They may be installed outdoors, in electroducts, cable ducts, trays or directly grounded.

Packaging

They are normally packaged in wood coils.

Specifications

ABNT NBR 7286 Power cables with ethylene propylene rubber extruded insulation (EPR, HEPR OR EPR 105) for voltages from 1 kV to 35 kV – Requirements

Epronax Slim 105 Cable [3.6/6 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3700.01.012	10	3.80	2.5	10.0	1	1.4	15.4	364
3700.03.012					3	1.8	32.6	1,332
3700.01.013	16	4.80		11.0	1	1.4	16.4	431
3700.03.013					3	1.9	35.0	1,581
3700.01.014	25	6.00		12.2	1	1.4	17.6	538
3700.03.014					3	2.0	37.7	1,965
3700.01.015	35	7.10		13.3	1	1.4	18.7	650
3700.03.015					3	2.1	40.3	2,365
3700.01.016	50	8.10		14.3	1	1.4	19.7	778
3700.03.016					3	2.1	42.5	2,793
3700.01.017	70	9.55		15.8	1	1.4	21.2	1,001
3700.03.017					3	2.3	46.4	3,615
3700.01.018	95	11.3		17.5	1	1.5	23.1	1,257
3700.03.018					3	2.4	50.4	4,476
3700.01.019	120	12.7		18.9	1	1.6	24.7	1,512
3700.03.019					3	2.5	53.6	5,314
3700.01.020	150	13.8		20.0	1	1.6	25.8	1,777
3700.03.020					3	2.6	56.6	6,256
3700.01.021	185	15.5		21.7	1	1.7	27.7	2,143
3700.03.021					3	2.7	60.5	7,463
3700.01.022	240	18.0		24.8	1	1.8	31.0	2,744
3700.03.022					3	3.0	67.8	9,551
3700.01.023	300	20.5		27.3	1	1.8	33.5	3,336
3700.03.023					3	3.2	73.6	11,606
3700.01.024	400	23.3		30.1	1	1.9	36.5	4,148
3700.03.024					3	3.4	80.0	14,328
3700.01.025	500	26.4		33.2	1	2.1	40.0	5,301
3700.03.025					3	3.6	87.1	18,075

Epronax Slim 105 Cable [6/10 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3702.01.013	16	4.80	2.5	11.0	1	1.4	16.4	431
3702.03.013					3	1.9	35.0	1,581
3702.01.014	25	6.00		12.2	1	1.4	17.6	538
3702.03.014					3	2.0	37.7	1,965
3702.01.015	35	7.10		13.3	1	1.4	18.7	650
3702.03.015					3	2.1	40.3	2,365
3702.01.016	50	8.10		14.3	1	1.4	19.7	778
3702.03.016					3	2.1	42.5	2,793
3702.01.017	70	9.55		15.8	1	1.4	21.2	1,001
3702.03.017					3	2.3	46.4	3,615
3702.01.018	95	11.3		17.5	1	1.5	23.1	1,257
3702.03.018					3	2.4	50.4	4,476

►CONTINUATION *Epronax Slim 105 Cable [6/10 kV] Coordination Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3702.01.019	120	12.7	2.5	18.9	1	1.6	24.7	1,512
3702.03.019					3	2.5	53.6	5,314
3702.01.020	150	13.8		20.0	1	1.6	25.8	1,777
3702.03.020					3	2.6	56.6	6,256
3702.01.021	185	15.5		21.7	1	1.7	27.7	2,143
3702.03.021					3	2.7	60.5	7,463
3702.01.022	240	18.0	2.8	24.8	1	1.8	31.0	2,744
3702.03.022					3	3.0	67.8	9,551
3702.01.023	300	20.5		27.3	1	1.8	33.5	3,336
3702.03.023					3	3.2	73.6	11,606
3702.01.024	400	23.3		30.1	1	1.9	36.5	4,148
3702.03.024					3	3.4	80.0	14,328
3702.01.025	500	26.4		33.2	1	2.1	40.0	5,301
3702.03.025					3	3.6	87.1	18,075

Epronax Slim 105 Cable [8.7/15 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3704.01.013	16	4.80	3.5	13.0	1	1.4	18.4	496
3704.03.013					3	2.0	39.5	1.871
3704.01.014	25	6.00	3.0	13.2	1	1.4	18.6	572
3704.03.014					3	2.1	40.1	2.125
3704.01.015	35	7.10		14.3	1	1.4	19.7	686
3704.03.015					3	2.1	42.5	2.517
3704.01.016	50	8.10		15.3	1	1.4	20.7	815
3704.03.016					3	2.2	44.8	2.974
3704.01.017	70	9.55		16.8	1	1.5	22.4	1.051
3704.03.017					3	2.3	48.6	3.791
3704.01.018	95	11.3		18.5	1	1.5	24.1	1.301
3704.03.018					3	2.5	52.8	4.691
3704.01.019	120	12.7		19.9	1	1.6	25.7	1.558
3704.03.019					3	2.6	56.0	5.543
3704.01.020	150	13.8		21.0	1	1.6	26.8	1.825
3704.03.020					3	2.7	59.0	6.498
3704.01.021	185	15.5		22.7	1	1.7	28.7	2.195
3704.03.021					3	2.8	62.8	7.722
3704.01.022	240	18.0	3.5	26.2	1	1.8	32.4	2.826
3704.03.022					3	3.1	71.0	9.947
3704.01.023	300	20.5		28.7	1	1.9	35.1	3.440
3704.03.023					3	3.3	76.8	12.035
3704.01.024	400	23.3		31.5	1	2.0	38.1	4.261
3704.03.024					3	3.5	83.2	14.794
3704.01.025	500	26.4		34.6	1	2.1	41.4	5.406
3704.03.025					3	3.7	90.3	18.583

Epronax Slim 105 Cable [12/20 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3706.01.013	16	4.80	5.2	16.4	1	1.5	22.0	633
3706.03.013					3	2.3	47.4	2,474
3706.01.014	25	6.00	4.7	16.6	1	1.5	22.2	710
3706.03.014					3	2.3	47.9	2,716
3706.01.015	35	7.10	4.0	16.3	1	1.5	21.9	773
3706.03.015					3	2.3	47.2	2,888
3706.01.016	50	8.10		17.3	1	1.5	22.9	906
3706.03.016					3	2.4	49.6	3,366
3706.01.017	70	9.55		18.8	1	1.5	24.4	1,137
3706.03.017					3	2.5	53.3	4,216
3706.01.018	95	11.3		20.5	1	1.6	26.3	1,406
3706.03.018					3	2.6	57.3	5,125
3706.01.019	120	12.7		21.9	1	1.7	27.9	1,670
3706.03.019					3	2.7	60.5	6,003
3706.01.020	150	13.8		23.0	1	1.7	29.0	1,941
3706.03.020					3	2.8	63.5	6,983
3706.01.021	185	15.5		24.7	1	1.8	30.9	2,319
3706.03.021					3	3.0	67.5	8,269
3706.01.022	240	18.0	4.5	28.2	1	1.9	34.6	2,965
3706.03.022					3	3.2	75.5	10,529
3706.01.023	300	20.5		30.7	1	2.0	37.3	3,591
3706.03.023					3	3.4	81.3	12,665
3706.01.024	400	23.3		33.5	1	2.1	40.3	4,424
3706.03.024					3	3.6	87.8	15,476
3706.01.025	500	26.4		36.6	1	2.2	43.6	5,583
3706.03.025					3	3.9	95.1	19,365

Epronax Slim 105 Cable [15/25 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3708.01.015	35	7.10	6.2	20.7	1	1.6	26.5	981
3708.03.015					3	2.6	57.3	3,811
3708.01.016	50	8.10	5.5	20.3	1	1.6	26.1	1,054
3708.03.016					3	2.6	56.4	4,003
3708.01.017	70	9.55		21.8	1	1.7	27.8	1,306
3708.03.017					3	2.7	60.2	4,901
3708.01.018	95	11.3		23.5	1	1.7	29.5	1,574
3708.03.018					3	2.8	64.2	5,859
3708.01.019	120	12.7		24.9	1	1.8	31.1	1,847
3708.03.019					3	3.0	67.6	6,808

►CONTINUATION *Epronax Slim 105 Cable[15/25 kV] Coordination Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3708.01.020	150	13.8	5.5	26.0	1	1.8	32.2	2,125
3708.03.020					3	3.1	70.6	7,827
3708.01.021	185	15.5		27.7	1	1.9	34.1	2,514
3708.03.021					3	3.2	74.4	9,132
3708.01.022	240	18.0	5.0	29.2	1	1.9	35.6	3,030
3708.03.022					3	3.3	77.9	10,852
3708.01.023	300	20.5		20.5	1	2.0	38.3	3,660
3708.03.023					3	3.5	83.7	13,012
3708.01.024	400	23.3		34.5	1	2.1	41.3	4,499
3708.03.024					3	3.7	90.1	15,851
3708.01.025	500	26.4		37.6	1	2.2	44.6	5,664
3708.03.025					3	3.9	97.2	19,727

Epronax Slim 105 Cable [20/35 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg./km)
3710. 01. 016	50	8. 10	8. 2	25. 7	1	1. 8	31. 9	1,370
3710. 03. 016					3	3. 0	68. 9	5,378
3710. 01. 017	70	9. 55	7. 5	25. 8	1	1. 8	32. 0	1,541
3710. 03. 017					3	3. 0	69. 4	5,957
3710. 01. 018	95	11. 3		27. 5	1	1. 9	33. 9	1,837
3710. 03. 018					3	3. 2	73. 6	7,014
3710. 01. 019	120	12. 7		28. 9	1	1. 9	35. 3	2,108
3710. 03. 019					3	3. 3	76. 8	7,988
3710. 01. 020	150	13. 8		30. 0	1	1. 9	36. 4	2,395
3710. 03. 020					3	3. 4	79. 8	9,058
3710. 01. 021	185	15. 5		29. 7	1	1. 9	36. 1	2,644
3710. 03. 021					3	3. 3	78. 9	9,742
3710. 01. 022	240	18. 0	32. 2	1	2. 0	38. 8	3,253	
3710. 03. 022				3	3. 5	84. 7	11,842	
3710. 01. 023	300	20. 5	34. 7	1	2. 1	41. 5	3,900	
3710. 03. 023				3	3. 7	90. 5	14,074	
3710. 01. 024	400	23. 3	37. 5	1	2. 2	44. 5	4,757	
3710. 03. 024				3	3. 9	97. 0	16,992	
3710. 01. 025	500	26. 4	40. 6	1	2. 3	47. 8	5,941	
3701. 03. 025				3	4. 2	104	21,003	



Cable Epronax AL Slim 105

3.6/6 kV to 20/35 kV Coordination Insulation



Construction

- 1 Conductor:** Bare aluminum, 1350 alloy, corded circular compact (Class 2)
- 2 Conductor Shielding:** Semiconductor thermosetting compound.
- 3 Insulation:** EPR rubber thermosetting compound 105 °C.
- 4 Insulation Shielding:** Semiconductor compound thermosetting layer of easy cold removal.
- 5 Metallic Shielding:** Bare copper wires.
- 6 Separator:** Non-hygroscopic polyester tape, applied on a propeller, covering 100 % of the cable.
- 7 Coverage:** Polyvinyl Chloride thermoplastic compound (PVC ST2).

Identification

Cables with 3 conductors, identification of the veins by means of ribbons in the colors white, blue and red.

Application

The modern technology utilized in the manufacturing of the **EPRONAX AL SLIM 105 CABLES** provides a great technical and also very economical alternative for input and/or distribution circuit of residential or industrial buildings, substations, etc. They may be installed outdoors, in electroducts, cable ducts, trays or directly grounded.

Packaging

They are normally packaged in wood coils.

Specifications

ABNT NBR 7286 Power cables with ethylene propylene rubber extruded insulation (EPR, HEPR or EPR 105) for voltages from 1 kV to 35 kV – Requirements.

Epronax AL Slim 105 Cable [3.6/6 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3712.01.012	10	3.8	2.5	10	1	1.4	15.4	300
3712.03.012					3	1.8	32.6	1,140
3712.01.013	16	4.8		11	1	1.4	16.4	338
3712.03.013					3	1.9	35	1,302
3712.01.014	25	6		12.2	1	1.4	17.6	388
3712.03.014					3	2	37.7	1,515
3712.01.015	35	7.1		13.3	1	1.4	18.7	437
3712.03.015					3	2.1	40.3	1,725
3712.01.016	50	8.3		14.5	1	1.4	19.9	495
3712.03.016					3	2.2	43.1	1,973
3712.01.017	70	9.9		16.1	1	1.5	21.7	594
3712.03.017					3	2.3	47.2	2,385
3712.01.018	95	11.8		18	1	1.5	23.6	704
3712.03.018					3	2.4	51.5	2,845
3712.01.019	120	13.2		19.4	1	1.6	25.2	811
3712.03.019					3	2.5	54.7	3,244
3712.01.020	150	14.8		21	1	1.6	26.8	918
3712.03.020					3	2.7	59	3,775
3712.01.021	185	16.3		22.5	1	1.7	28.5	1,062
3712.03.021					3	2.8	62.4	4,306
3712.01.022	240	18.5		25.3	1	1.8	31.5	1,310
3712.03.022					3	3	68.8	5,290
3712.01.023	300	20.5		27.3	1	1.8	33.5	1,515
3712.03.023					3	3.2	73.6	6,144
3712.01.024	400	23.3		30.1	1	1.9	36.5	1,823
3712.03.024					3	3.4	80	7,354
3712.01.025	500	26.2		33	1	2	39.6	2,201
3712.03.025					3	3.6	86.7	8,808

Epronax AL Slim 105 Cable [6/10 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3714. 01. 013	16	4. 8	2. 5	11	1	1. 4	16. 4	338
3714. 03. 013					3	1. 9	35	1,302
3714. 01. 014	25	6		12. 2	1	1. 4	17. 6	388
3714. 03. 014					3	2	37. 7	1,515
3714. 01. 015	35	7. 1		13. 3	1	1. 4	18. 7	437
3714. 03. 015					3	2. 1	40. 3	1,725
3714. 01. 016	50	8. 3		14. 5	1	1. 4	19. 9	495
3714. 03. 016					3	2. 2	43. 5	2,012
3714. 01. 017	70	9. 9		16. 1	1	1. 5	21. 7	594
3714. 03. 017					3	2. 3	47. 2	2,385
3714. 01. 018	95	11. 8		18	1	1. 5	23. 6	704
3714. 03. 018					3	2. 4	51. 5	2,845

► CONTINUATION *Epronax AL Slim 105 Cable [6/10 kV] Coordination Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT	
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)	
3714. 01. 019	120	13. 2	2. 5	19. 4	1	1. 6	25. 2	811	
3714. 03. 019					3	2. 6	55. 3	3,319	
3714. 01. 020	150	14. 8		21	1	1. 6	26. 8	918	
3714. 03. 020					3	2. 7	59	3,775	
3714. 01. 021	185	16. 3		22. 5	1	1. 7	28. 5	1,062	
3714. 03. 021					3	2. 8	63. 7	4,447	
3714. 01. 022	240	18. 5	2. 8	25. 3	1	1. 8	31. 5	1,310	
3714. 03. 022					3	3	68. 8	5,290	
3714. 01. 023	300	20. 5		27. 3	1	1. 8	33. 5	1,515	
3714. 03. 023					3	3. 2	73. 6	6,144	
3714. 01. 024	400	23. 3		30. 1	1	1. 9	36. 5	1,823	
3714. 03. 024					3	3. 4	80	7,354	
3714. 01. 025	500	26. 2		33	1	2	39. 6	2,201	
3714. 03. 025					3	3. 6	86. 7	8,808	

Epronax AL Slim 105 Cable [8.7/15 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3716. 01. 013	16	4. 8	3. 5	13	1	1. 4	18. 4	403
3716. 03. 013					3	2	39. 5	1,591
3716. 01. 014	25	6	3	13. 2	1	1. 4	18. 6	422
3716. 03. 014					3	2. 1	40. 1	1,675
3716. 01. 015	35	7. 1		14. 3	1	1. 4	19. 7	473
3716. 03. 015					3	2. 1	42. 5	1,877
3716. 01. 016	50	8. 3		15. 5	1	1. 4	20. 9	533
3716. 03. 016					3	2. 2	45. 3	2,136
3716. 01. 017	70	9. 9		17. 1	1	1. 5	22. 7	635
3716. 03. 017					3	2. 4	49. 5	2,586
3716. 01. 018	95	11. 8		19	1	1. 6	24. 8	760
3716. 03. 018					3	2. 5	53. 8	3,065
3716. 01. 019	120	13. 2		20. 4	1	1. 6	26. 2	859
3716. 03. 019					3	2. 6	57. 1	3,477
3716. 01. 020	150	14. 8		22	1	1. 7	28	981
3716. 03. 020					3	2. 8	61. 3	4,027
3716. 01. 021	185	16. 3		23. 5	1	1. 7	29. 5	1,115
3716. 03. 021					3	2. 9	64. 8	4,573
3716. 01. 022	240	18. 5		26. 7	1	1. 8	32. 9	1,393
3716. 03. 022					3	3. 1	72. 1	5,691
3716. 01. 023	300	20. 5		28. 7	1	1. 9	35. 1	1,619
3716. 03. 023					3	3. 3	76. 8	6,573
3716. 01. 024	400	23. 3		31. 5	1	2	38. 1	1,937
3716. 03. 024					3	3. 5	83. 2	7,821
3716. 01. 025	500	26. 2		34. 4	1	2. 1	41. 2	2,324
3716. 03. 025					3	3. 7	89. 9	9,313

Epronax AL Slim 105 Cable [12/20 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3718.01.013	16	4.8	5.2	16.4	1	1.5	22	539
3718.03.013					3	2.3	47.4	2,194
3718.01.014	25	6	4.7	16.6	1	1.5	22.2	560
3718.03.014					3	2.3	47.9	2,266
3718.01.015	35	7.1	4	16.3	1	1.5	21.9	559
3718.03.015					3	2.3	47.2	2,249
3718.01.016	50	8.3		17.5	1	1.5	23.1	624
3718.03.016					3	2.4	50	2,531
3718.01.017	70	9.9		19.1	1	1.6	24.9	734
3718.03.017					3	2.5	54.1	2,994
3718.01.018	95	11.8		21	1	1.6	26.8	855
3718.03.018					3	2.7	58.6	3,534
3718.01.019	120	13.2		22.4	1	1.7	28.4	972
3718.03.019					3	2.8	61.8	3,974
3718.01.020	150	14.8		24	1	1.7	30	1,088
3718.03.020					3	2.9	65.8	4,531
3718.01.021	185	16.3		25.5	1	1.8	31.7	1,243
3718.03.021					3	3	69.3	5,105
3718.01.022	240	18.5		28.7	1	1.9	35.1	1,534
3718.03.022					3	3.3	76.8	6,318
3718.01.023	300	20.5		30.7	1	2	37.3	1,770
3718.03.023					3	3.4	81.3	7,203
3718.01.024	400	23.3		33.5	1	2.1	40.3	2,100
3718.03.024					3	3.6	87.8	8,503
3718.01.025	500	26.2		36.4	1	2.2	43.4	2,499
3718.03.025					3	3.8	94.4	10,048

Epronax AL Slim 105 Cable [15/25 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3720.01.015	35	7.1	6.2	20.7	1	1.6	26.5	768
3720.03.015					3	2.6	57.3	3,172
3720.01.016	50	8.3	5.5	20.5	1	1.6	26.3	773
3720.03.016					3	2.6	56.9	3,174
3720.01.017	70	9.9		22.1	1	1.7	28.1	894
3720.03.017					3	2.7	60.9	3,689
3720.01.018	95	11.8		24	1	1.7	30	1,026
3720.03.018					3	2.9	65.4	4,285
3720.01.019	120	13.2		25.4	1	1.8	31.6	1,153
3720.03.019					3	3	68.7	4,764

► CONTINUATION *Epronax AL Slim 105 Cable [15/25 kV] Coordination Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3720.01.020	150	14.8	5.5	27	1	1.8	33.2	1,278
3720.03.020					3	3.1	72.7	5,373
3720.01.021	185	16.3		28.5	1	1.9	34.9	1,443
3720.03.021					3	3.2	76.2	5,989
3720.01.022	240	18.5	5	29.7	1	1.9	36.1	1,600
3720.03.022					3	3.3	78.9	6,610
3720.01.023	300	20.5		31.7	1	2	38.3	1,840
3720.03.023					3	3.5	83.7	7,550
3720.01.024	400	23.3		34.5	1	2.1	41.3	2,175
3720.03.024					3	3.7	90.1	8,878
3720.01.025	500	26.2		37.4	1	2.2	44.4	2,580
3720.03.025					3	3.9	96.8	10,452

Epronax AL Slim 105 Cable [20/35 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3722.01.016	50	8.3	8.2	25.9	1	1.8	32.1	1,091
3722.03.016					3	3	69.3	4,558
3722.01.017	70	9.9	7.5	26.1	1	1.8	32.3	1,131
3722.03.017					3	3	70.2	4,757
3722.01.018	95	11.8		28	1	1.9	34.4	1,131
3722.03.018					3	3.2	74.7	5,428
3722.01.019	120	13.2		29.4	1	1.9	35.8	1,417
3722.03.019					3	3.3	77.9	5,961
3722.01.020	150	14.8		31	1	2	37.6	1,572
3722.03.020					3	3.4	82	6,639
3722.01.021	185	16.3		30.5	1	2	37.1	1,592
3722.03.021					3	3.4	80.9	6,650
3722.01.022	240	18.5	6.5	32.7	1	2	39.3	1,826
3722.03.022					3	3.6	86	7,652
3722.01.023	300	20.5		34.7	1	2.1	41.5	2,079
3722.03.023					3	3.7	90.5	8,612
3722.01.024	400	23.3		37.5	1	2.2	44.5	2,432
3722.03.024					3	3.9	97	10,019
3722.01.025	500	26.2	40.4	1	2.3	47.6	2,856	
3722.03.025				3	4.1	104	11,675	



Cable Epronax 105

3.6/6 kV to 20/35 kV Full Insulation



Construction

- 1 **Conductor:** Bare electrolytic copper, soft temper, corded circular compact (Class 2)
- 2 **Conductor Shielding:** Semiconductor thermosetting compound.
- 3 **Insulation:** EPR rubber thermosetting compound 105 °C.
- 4 **Insulation Shielding:** Semiconductor compound thermosetting layer of easy cold removal.
- 5 **Metallic Shielding:** Bare copper wires.
- 6 **Separator:** Non-hygroscopic polyester tape, applied on a propeller, covering 100 % of the cable.
- 7 **Coverage:** Polyvinyl Chloride thermoplastic compound (PVC ST2).

Identification

Cables with 3 conductors, identification of the veins by means of ribbons in the colors white, blue and red.

Application

The modern technology utilized in the manufacturing of the **EPRONAX 105 CABLES** provides a great technical and also very economical alternative for input and/or distribution circuit of residential or industrial buildings, substations, etc. They may be installed outdoors, in electroducts, cable ducts, trays or directly grounded.

Packaging

They are normally packaged in wood coils.

Specifications

ABNT NBR 7286 Power cables with ethylene propylene rubber extruded insulation (EPR, HEPR or EPR 105) for voltages from 1 kV to 35 kV – Requirements.

Epronax 105 Cable [3.6/6 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3701.01.012	10	3.8	3	11	1	1.4	16.4	394
3701.03.012					3	1.9	35	1,470
3701.01.013	16	4.8		12	1	1.4	17.4	462
3701.03.013					3	2	37.3	1,730
3701.01.014	25	6		13.2	1	1.4	18.6	572
3701.03.014					3	2.1	40.1	2,125
3701.01.015	35	7.1		14.3	1	1.4	19.7	686
3701.03.015					3	2.1	42.5	2,517
3701.01.016	50	8.3		15.5	1	1.4	20.9	820
3701.03.016					3	2.2	45.3	2,998
3701.01.017	70	9.6		16.8	1	1.5	22.4	1,052
3701.03.017					3	2.3	48.7	3,797
3701.01.018	95	11.3		18.5	1	1.5	24.1	1,301
3701.03.018					3	2.5	52.8	4,691
3701.01.019	120	12.7		19.9	1	1.6	25.7	1,558
3701.03.019					3	2.6	56	5,543
3701.01.020	150	13.8		21	1	1.6	26.8	1,825
3701.03.020					3	2.7	59	6,498
3701.01.021	185	15.5		22.7	1	1.7	28.7	2,195
3701.03.021					3	2.8	62.8	7,722
3701.01.022	240	18.4		25.6	1	1.8	31.8	2,777
3701.03.022					3	3	69.5	9,717
3701.01.023	300	20.5		27.7	1	1.9	34.1	3,376
3701.03.023					3	3.2	74.4	11,717
3701.01.024	400	23.3		30.5	1	2	37.1	4,192
3701.03.024					3	3.4	80.9	14,448
3701.01.025	500	26.4	3.2	34	1	2.1	40.8	5,361
3701.03.025					3	3.7	89	18,381

Cabo Epronax 105 Cable [6/10 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3703.01.013	16	4.8	3.4	12.8	1	1.4	18.2	489
3703.03.013					3	2	39	1,842
3703.01.014	25	6		14	1	1.4	19.4	600
3703.03.014					3	2.1	41.8	2,246
3703.01.015	35	7.1		15.1	1	1.4	20.5	716
3703.03.015					3	2.2	44.4	2,665
3703.01.016	50	8.3		16.3	1	1.5	21.9	862
3703.03.016					3	2.3	47.2	3,156
3703.01.017	70	9.6		17.6	1	1.5	23.2	1,086
3703.03.017					3	2.4	50.6	3,967
3703.01.018	95	11.3		19.3	1	1.6	25.1	1,349
3703.03.018					3	2.5	54.5	4,850

► CONTINUATION *Epronax 105 Cable [6/10 kV] Full Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3703.01.019	120	12.7	3.4	20.7	1	1.6	26.5	1,597
3703.03.019					3	2.6	57.7	5,712
3703.01.020	150	13.8		21.8	1	1.7	27.8	1,878
3703.03.020					3	2.7	60.7	6,676
3703.01.021	185	15.5		23.5	1	1.7	29.5	2,238
3703.03.021					3	2.9	64.8	7,942
3703.01.022	240	18.4		26.4	1	1.8	32.6	2,825
3703.03.022					3	3.1	71.4	9,960
3703.01.023	300	20.5		28.5	1	1.9	34.9	3,427
3703.03.023					3	3.2	76.2	11,943
3703.01.024	400	23.3		31.3	1	2	37.9	4,247
3703.03.024					3	3.5	82.8	14,732
3703.01.025	500	26.4		34.4	1	2.1	41.2	5,391
3703.03.025					3	3.7	89.9	18,515

Epronax 105 Cable [8.7/15 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3705.01.014	25	6	4.5	16.2	1	1.5	21.8	694
3705.03.014					3	2.3	47	2,646
3705.01.015	35	7.1		17.3	1	1.5	22.9	814
3705.03.015					3	2.4	49.6	3,089
3705.01.016	50	8.3		18.5	1	1.5	24.1	956
3705.03.016					3	2.5	52.4	3,606
3705.01.017	70	9.6		19.8	1	1.6	25.6	1,197
3705.03.017					3	2.6	55.8	4,451
3705.01.018	95	11.3		21.5	1	1.6	27.3	1,456
3705.03.018					3	2.7	59.6	5,369
3705.01.019	120	12.7		22.9	1	1.7	28.9	1,723
3705.03.019					3	2.8	62.9	6,261
3705.01.020	150	13.8		24	1	1.7	30	1,996
3705.03.020					3	2.9	65.8	7,254
3705.01.021	185	15.5		25.7	1	1.8	31.9	2,377
3705.03.021					3	3	69.7	8,526
3705.01.022	240	18.4		28.6	1	1.9	35	2,978
3705.03.022					3	3.2	76.4	10,604
3705.01.023	300	20.5		30.7	1	2	37.3	3,591
3705.03.023					3	3.4	81.3	12,665
3705.01.024	400	23.3		33.5	1	2.1	40.3	4,424
3705.03.024					3	3.6	87.8	15,476
3705.01.025	500	26.4		36.6	1	2.2	43.6	5,583
3705.03.025					3	3.9	95.1	19,365

Epronax 105 Cable [12/20 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3707.01.015	35	7.1	5.5	19.3	1	1.6	25.1	914
3707.03.015					3	2.5	54.1	3,497
3707.01.016	50	8.3		20.5	1	1.6	26.3	1,060
3707.03.016					3	2.6	56.9	4,036
3707.01.017	70	9.6		21.8	1	1.7	27.8	1,308
3707.03.017					3	2.7	60.3	4,909
3707.01.018	95	11.3		23.5	1	1.7	29.5	1,574
3707.03.018					3	2.8	64.2	5,859
3707.01.019	120	12.7		24.9	1	1.8	31.1	1,847
3707.03.019					3	3	67.6	6,808
3707.01.020	150	13.8		26	1	1.8	32.2	2,125
3707.03.020					3	3.1	70.6	7,827
3707.01.021	185	15.5		27.7	1	1.9	34.1	2,514
3707.03.021					3	3.2	74.4	9,132
3707.01.022	240	18.4		30.6	1	2	37.2	3,128
3707.03.022					3	3.4	81.1	11,266
3707.01.023	300	20.5		32.7	1	2	39.3	3,732
3707.03.023					3	3.6	86	13,370
3707.01.024	400	23.3		35.5	1	2.1	42.3	4,577
3707.03.024					3	3.8	92.5	16,236
3707.01.025	500	26.4		38.6	1	2.2	45.6	5,747
3707.03.025					3	4	99.6	20,142

Epronax 105 Cable [15/25 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3709.01.016	50	8.3	6.8	23.1	1	1.7	29.1	1,206
3709.03.016					3	2.8	62.9	4,670
3709.01.017	70	9.6		24.4	1	1.7	30.4	1,448
3709.03.017					3	2.9	66.3	5,581
3709.01.018	95	11.3		26.1	1	1.8	32.3	1,736
3709.03.018					3	3	70.2	6,572
3709.01.019	120	12.7		27.5	1	1.9	33.9	2,019
3709.03.019					3	3.2	73.6	7,559
3709.01.020	150	13.8		28.6	1	1.9	35	2,302
3709.03.020					3	3.2	76.4	8,577
3709.01.021	185	15.5		30.3	1	2	36.9	2,701
3709.03.021					3	3.4	80.4	9,958

►CONTINUATION *Epronax 105 Cable [15/25 kV] Full Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3709.01.022	240	18.4	6.8	33.2	1	2.1	40	3,331
3709.03.022					3	3.6	87.1	12,165
3709.01.023	300	20.5		35.3	1	2.1	42.1	3,946
3709.03.023					3	3.8	92	14,322
3709.01.024	400	23.3		38.1	1	2.2	45.1	4,806
3709.03.024					3	4	98.5	17,258
3709.01.025	500	26.4		41.2	1	2.3	48.4	5,994
3709.03.025					3	4.2	106	21,241

Epronax 105 Cable [20/35 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3711.01.016	50	8.3	8.8	27.1	1	1.8	33.3	1,451
3711.03.016					3	3.1	72.1	5,769
3711.01.017	70	9.6		28.4	1	1.9	34.8	1,719
3711.03.017					3	3.2	75.5	6,739
3711.01.018	95	11.3		30.1	1	1.9	36.5	2,006
3711.03.018					3	3.3	79.4	7,794
3711.01.019	120	12.7		31.5	1	2	38.1	2,301
3711.03.019					3	3.5	82.8	8,839
3711.01.020	150	13.8		32.6	1	2	39.2	2,593
3711.03.020					3	3.6	85.8	9,943
3711.01.021	185	15.5		34.3	1	2.1	41.1	3,007
3711.03.021					3	3.7	89.7	11,353
3711.01.022	240	18.4		37.2	1	2.2	44.2	3,661
3711.03.022					3	3.9	96.3	13,670
3711.01.023	300	20.5		39.3	1	2.3	46.5	4,314
3711.03.023					3	4.1	101	15,910
3711.01.024	400	23.3		42.1	1	2.4	49.5	5,199
3711.03.024					3	4.3	108	18,953
3711.01.025	500	26.4		45.2	1	2.5	52.8	6,414
3711.03.025					3	4.5	115	23,054



Cable Epronax AL 105

3.6/6 kV to 20/35 kV Full Insulation



Construction

- 1 Conductor:** Bare aluminum, 1350 alloy, corded circular compact (Class 2)
- 2 Conductor Shielding:** Semiconductor thermosetting compound.
- 3 Insulation:** EPR rubber thermosetting compound 105 °C.
- 4 Insulation Shielding:** Semiconductor compound thermosetting layer of easy cold removal.
- 5 Metallic Shielding:** Bare copper wires.
- 6 Separator:** Non-hygroscopic polyester tape, applied on a propeller, covering 100 % of the cable.
- 7 Coverage:** Polyvinyl Chloride thermoplastic compound (PVC ST2).

Identification

Cables with 3 conductors, identification of the veins by means of ribbons in the colors white, blue and red.

Application

The modern technology utilized in the manufacturing of the **EPRONAX AL 105 CABLES** provides a great technical and also very economical alternative for input and/or distribution circuit of residential or industrial buildings, substations, etc. They may be installed outdoors, in electroducts, cable ducts, trays or directly grounded.

Packaging

They are normally packaged in wood coils.

Specifications

ABNT NBR 7286 Power cables with ethylene propylene rubber extruded insulation (EPR, HEPR or EPR 105) for voltages from 1 kV to 35 kV – Requirements

Epronax AL 105 Cable [3.6/6 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3713.01.012	10	3.8	3	11	1	1.4	16.4	330
3713.03.012					3	1.9	35	1,279
3713.01.013	16	4.8		12	1	1.4	17.4	369
3713.03.013					3	2	37.3	1,450
3713.01.014	25	6		13.2	1	1.4	18.6	422
3713.03.014					3	2.1	40.1	1,675
3713.01.015	35	7.1		14.3	1	1.4	19.7	473
3713.03.015					3	2.1	42.5	1,877
3713.01.016	50	8.3		15.5	1	1.4	20.9	533
3713.03.016					3	2.2	45.3	2,136
3713.01.017	70	9.9		17.1	1	1.5	22.7	635
3713.03.017					3	2.4	49.5	2,586
3713.01.018	95	11.8		19	1	1.6	24.8	760
3713.03.018					3	2.5	53.8	3,065
3713.01.019	120	13.2		20.4	1	1.6	26.2	859
3713.03.019					3	2.6	57.1	3,477
3713.01.020	150	14.8		22	1	1.7	28	981
3713.03.020					3	2.8	61.3	4,027
3713.01.021	185	16.3		23.5	1	1.7	29.5	1,115
3713.03.021					3	2.9	64.8	4,573
3713.01.022	240	18.5		25.7	1	1.8	31.9	1,333
3713.03.022					3	3	69.7	5,393
3713.01.023	300	20.5		27.7	1	1.9	34.1	1,555
3713.03.023					3	3.2	74.4	6,255
3713.01.024	400	23.3		30.5	1	2	37.1	1,867
3713.03.024					3	3.4	80.9	7,475
3713.01.025	500	26.2	3.2	33.8	1	2.1	40.6	2,278
3713.03.025					3	3.6	88.4	9,071

Epronax AL 105 Cable [6/10 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3715.01.013	16	4.8	3.4	12.8	1	1.4	18.2	396
3715.03.013					3	2	39	1,562
3715.01.014	25	6		14	1	1.4	19.4	450
3715.03.014					3	2.1	41.8	1,796
3715.01.015	35	7.1		15.1	1	1.4	20.5	502
3715.03.015					3	2.2	44.4	2,025
3715.01.016	50	8.3		16.3	1	1.5	21.9	574
3715.03.016					3	2.3	47.2	2,293
3715.01.017	70	9.9		17.9	1	1.5	23.5	669
3715.03.017					3	2.4	51.3	2,736

► CONTINUATION *Epronax AL 105 Cable [6/10 kV] Full Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3715.01.018	95	11.8	3.4	19.8	1	1.6	25.6	797
3715.03.018					3	2.6	55.8	3,253
3715.01.019	120	13.2		21.2	1	1.6	27	898
3715.03.019					3	2.7	59	3,676
3715.01.020	150	14.8		22.8	1	1.7	28.8	1,023
3715.03.020					3	2.8	63	4,213
3715.01.022	240	18.5		26.5	1	1.8	32.7	1,381
3715.03.022					3	3.1	71.6	5,638
3715.01.023	300	20.5		28.5	1	1.9	34.9	1,607
3715.03.023					3	3.2	76.2	6,481
3715.01.024	400	23.3		31.3	1	2	37.9	1,923
3715.03.024					3	3.5	82.8	7,759
3715.01.025	500	26.2		34.2	1	2.1	41	2,309
3715.03.025					3	3.7	89.5	9,245

Epronax AL 105 Cable [8.7/15 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3717.01.014	25	6	4.5	16.2	1	1.5	21.8	544
3717.03.014					3	2.3	47	2,196
3717.01.015	35	7.1		17.3	1	1.5	22.9	601
3717.03.015					3	2.4	49.6	2,450
3717.01.016	50	8.3		18.5	1	1.5	24.1	668
3717.03.016					3	2.5	52.4	2,744
3717.01.017	70	9.9		20.1	1	1.6	25.9	781
3717.03.017					3	2.6	56.4	3,225
3717.01.018	95	11.8		22	1	1.7	28	919
3717.03.018					3	2.7	60.7	3,756
3717.01.019	120	13.2		23.4	1	1.7	29.4	1,026
3717.03.019					3	2.8	63.9	4,208
3717.01.020	150	14.8		25	1	1.8	31.2	1,159
3717.03.020					3	3	68.2	4,813
3717.01.021	185	16.3		26.5	1	1.8	32.7	1,302
3717.03.021					3	3.1	71.6	5,401
3717.01.022	240	18.5		28.7	1	1.9	35.1	1,534
3717.03.022					3	3.3	76.8	6,318
3717.01.023	300	20.5		30.7	1	2	37.3	1,770
3717.03.023					3	3.4	81.3	7,203
3717.01.024	400	23.3		33.5	1	2.1	40.3	2,100
3717.03.024					3	3.6	87.8	8,503
3717.01.025	500	26.2		36.4	1	2.2	43.4	2,499
3717.03.025					3	3.8	94.4	10,048

Epronax AL 105 Cable [12/20 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3719.01.015	35	7.1	5.5	19.3	1	1.6	25.1	701
3719.03.015					3	2.5	54.1	2,857
3719.01.016	50	8.3		20.5	1	1.6	26.3	773
3719.03.016					3	2.6	56.9	3,174
3719.01.017	70	9.9		22.1	1	1.7	28.1	894
3719.03.017					3	2.7	60.9	3,689
3719.01.018	95	11.8		24	1	1.7	30	1,026
3719.03.018					3	2.9	65.4	4,285
3719.01.019	120	13.2		25.4	1	1.8	31.6	1,153
3719.03.019					3	3	68.7	4,764
3719.01.020	150	14.8		27	1	1.8	33.2	1,278
3719.03.020					3	3.1	72.7	5,373
3719.01.021	185	16.3		28.5	1	1.9	34.9	1,443
3719.03.021					3	3.2	76.2	5,989
3719.01.022	240	18.5		30.7	1	2	37.3	1,685
3719.03.022					3	3.4	81.3	6,947
3719.01.023	300	20.5		32.7	1	2	39.3	1,911
3719.03.023					3	3.6	86	7,908
3719.01.024	400	23.3		35.5	1	2.1	42.3	2,252
3719.03.024					3	3.8	92.5	9,263
3719.01.025	500	26.2		38.4	1	2.2	45.4	2,663
3719.03.025					3	4	99.1	10,865

Epronax AL 105 Cable [15/25 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3721.01.016	50	8.3	6.8	23.1	1	1.7	29.1	919
3721.03.016					3	2.8	62.9	3,808
3721.01.017	70	9.9		24.7	1	1.8	30.9	1,049
3721.03.017					3	2.9	66.9	4,367
3721.01.018	95	11.8		26.6	1	1.8	32.8	1,191
3721.03.018					3	3.1	71.5	5,012
3721.01.019	120	13.2		28	1	1.9	34.4	1,326
3721.03.019					3	3.2	74.7	5,526
3721.01.020	150	14.8		29.6	1	1.9	36	1,460
3721.03.020					3	3.3	78.7	6,180
3721.01.021	185	16.3		31.1	1	2	37.7	1,634
3721.03.021					3	3.4	82.2	6,833

► CONTINUATION *Epronax AL 105 Cable [15/25 kV] Full Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3721.01.022	240	18.5	6.8	33.3	1	2.1	40.1	1,888
3721.03.022					3	3.6	87.3	7,848
3721.01.023	300	20.5		35.3	1	2.1	42.1	2,125
3721.03.023					3	3.8	92	8,860
3721.01.024	400	23.3		38.1	1	2.2	45.1	2,482
3721.03.024					3	4	98.5	10,284
3721.01.025	500	26.2		41	1	2.3	48.2	2,909
3721.03.025					3	4.2	105	11,959

Epronax AL 105 Cable [20/35 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3723. 01. 016	50	8. 3	8. 8	23. 1	1	1. 8	33. 3	1,164
3723. 03. 016					3	3. 1	72. 1	4,907
3723. 01. 017	70	9. 9		24. 7	1	1. 9	35. 1	1,309
3723. 03. 017					3	3. 2	76. 2	5,536
3723. 01. 018	95	11. 8		26. 6	1	2	37. 2	1,482
3723. 03. 018					3	3. 4	80. 7	6,256
3723. 01. 019	120	13. 2		28	1	2	38. 6	1,613
3723. 03. 019					3	3. 5	83. 9	6,824
3723. 01. 020	150	14. 8		29. 6	1	2. 1	40. 4	1,777
3723. 03. 020					3	3. 6	88	7,546
3723. 01. 021	185	16. 3		31. 1	1	2. 1	41. 9	1,946
3723. 03. 021					3	3. 7	91. 4	8,257
3723. 01. 022	240	18. 5		33. 3	1	2. 2	44. 3	2,219
3723. 03. 022					3	3. 9	96. 6	9,357
3723. 01. 023	300	20. 5		35. 3	1	2. 3	46. 5	2,493
3723. 03. 023					3	4. 1	101	10,448
3723. 01. 024	400	23. 3		38. 1	1	2. 4	49. 5	2,874
3723. 03. 024					3	4. 3	108	11,980
3723. 01. 025	500	26. 2		41	1	2. 5	52. 6	3,327
3723. 03. 025					3	4. 5	114	13,765



Indulink Cable

3.6/6 kV to 20/35 kV



Construction

- 1 Conductor:** Bare electrolytic copper, soft temper, corded circular compact (Class 2)
- 2 Conductor Shielding:** Semiconductor thermosetting compound.
- 3 Insulation:** Reticulated polyethylene thermosetting compound XLPE 90 °C.
- 4 Insulation Shielding:** Semiconductor compound thermosetting layer of easy cold removal.
- 5 Metallic Shielding:** Bare copper wires.
- 6 Separator:** Non-hygroscopic polyester tape, applied on a propeller, covering 100 % of the cables.
- 7 Coverage:** Polyvinyl Chloride thermoplastic compound (PVC ST2).

Identification

Cables with 3 conductors, identification of the veins by means of ribbons in the colors white, blue and red.

Application

The **INDULINK CABLES** are utilized in input and/or distribution circuits, in residential or industrial buildings, substations, etc. They may be installed outdoors, in electroducts, cable ducts, trays or directly grounded.

Packaging

They are normally packaged in wood coils.

Specifications

ABNT NBR 7287 Power cables with reticulated polyethylene extruded insulation (XLPE) for voltages from 1 kV to 35 kV – Performance requirements.

Indulink Cable [3.6/6 kV]

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1310.10.012	10	3.8	2.5	10	1	1.4	15.4	351
1310.30.012					3	1.8	32.6	1,293
1310.10.013	16	4.8		11	1	1.4	16.4	416
1310.30.013					3	1.9	35	1,537
1310.10.014	25	6		12.2	1	1.4	17.6	521
1310.30.014					3	2	37.7	1,915
1310.10.015	35	7.1		13.3	1	1.4	18.7	631
1310.30.015					3	2.1	40.3	2,309
1310.10.016	50	8.3		14.5	1	1.4	19.7	758
1310.30.016					3	2.1	42.5	2,732
1310.10.017	70	9.6		15.8	1	1.4	21.2	978
1310.30.017					3	2.3	46.4	3,547
1310.10.018	95	11.3		17.5	1	1.5	23.1	1,231
1310.30.018					3	2.4	50.4	4,398
1310.10.019	120	12.7		18.9	1	1.6	24.7	1,483
1310.30.019					3	2.5	53.6	5,229
1310.10.020	150	13.8		20	1	1.6	25.8	1,747
1310.30.020					3	2.6	56.6	6,165
1310.10.021	185	15.5		21.7	1	1.7	27.7	2,110
1310.30.021					3	2.7	60.5	7,364
1310.10.022	240	18.4	2.6	24.8	1	1.7	30.4	2,668
1310.30.022					3	2.9	66.7	9,302
1310.10.023	300	20.5	2.8	27.3	1	1.8	33.5	3,288
1310.30.023					3	3.2	73.6	11,464
1310.10.024	400	23.3	3	30.5	1	2	37.1	4,135
1310.30.024					3	3.4	80.9	14,277
1310.10.025	500	26.4	3.2	34	1	2.1	40.8	5,293
1310.30.025					3	3.7	89	18,176

Indulink Cable [6/10 kV]

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1320.10.013	16	4.8	3.4	12.8	1	1.4	18.2	467
1320.30.013					3	2	39	1,776
1320.10.014	25	6		14	1	1.4	19.4	575
1320.30.014					3	2.1	41.8	2,171
1320.10.015	35	7.1		15.1	1	1.4	20.5	688
1320.30.015					3	2.2	44.4	2,582
1320.10.016	50	8.3		16.3	1	1.5	21.7	827
1320.30.016					3	2.3	46.8	3,040
1320.10.017	70	9.6		17.6	1	1.5	23.2	1,051
1320.30.017					3	2.4	50.5	3,861

► CONTINUATION *Indulink Cable [6/10kV]*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1320. 10. 018	95	11. 3	3. 4	19. 3	1	1. 6	25. 1	1,311
1320. 30. 018					3	2. 5	54. 5	4,738
1320. 10. 019	120	12. 7		20. 7	1	1. 6	26. 5	1,556
1320. 30. 019					3	2. 6	57. 7	5,590
1320. 10. 020	150	13. 8		21. 8	1	1. 7	27. 8	1,835
1320. 30. 020					3	2. 7	60. 7	6,547
1320. 10. 021	185	15. 5		23. 5	1	1. 7	29. 5	2,191
1320. 30. 021					3	2. 9	64. 8	7,800
1320. 10. 022	240	18. 4		26. 4	1	1. 8	32. 2	2,761
1320. 30. 022					3	3. 1	70. 6	9,734
1320. 10. 023	300	20. 5		28. 5	1	1. 9	34. 9	3,368
1320. 30. 023					3	3. 2	76. 2	11,766
1320. 10. 024	400	23. 3		31. 3	1	2	37. 9	4,182
1320. 30. 024					3	3. 5	82. 8	14,535
1320. 10. 025	500	26. 4		34. 4	1	2. 1	41. 2	5,318
1320. 30. 025					3	3. 7	89. 9	18,297

Indulink Cable [8.7/15 kV]

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1330. 10. 015	35	7. 1	4. 5	17. 3	1	1. 5	22. 9	774
1330. 30. 015					3	2. 4	49. 6	2,970
1330. 10. 016	50	8. 3		18. 5	1	1. 5	23. 9	907
1330. 30. 016					3	2. 4	51. 7	3,424
1330. 10. 017	70	9. 6		19. 8	1	1. 6	25. 6	1,148
1330. 30. 017					3	2. 6	55. 7	4,301
1330. 10. 018	95	11. 3		21. 5	1	1. 6	27. 3	1,403
1330. 30. 018					3	2. 7	59. 6	5,211
1330. 10. 019	120	12. 7		22. 9	1	1. 7	28. 9	1,665
1330. 30. 019					3	2. 8	62. 9	6,090
1330. 10. 020	150	13. 8		24	1	1. 7	30	1,935
1330. 30. 020					3	2. 9	65. 8	7,072
1330. 10. 021	185	15. 5		25. 7	1	1. 8	31. 9	2,311
1330. 30. 021					3	3	69. 7	8,328
1330. 10. 022	240	18. 4		28. 6	1	1. 9	34. 6	2,892
1330. 30. 022					3	3. 2	75. 5	10,308
1330. 10. 023	300	20. 5		30. 7	1	2	37. 3	3,509
1330. 30. 023					3	3. 4	81. 3	12,420
1330. 10. 024	400	23. 3		33. 5	1	2. 1	40. 3	4,334
1330. 30. 024					3	3. 6	87. 8	15,205
1330. 10. 025	500	26. 4		36. 6	1	2. 2	43. 6	5,483
1330. 30. 025					3	3. 9	95. 1	19,066

Indulink Cable [12/20 kV]

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1340.10.015	35	7.1	5.5	19.3	1	1.6	25.1	862
1340.30.015					3	2.5	54.1	3,339
1340.10.016	50	8.3		20.5	1	1.6	26.1	997
1340.30.016					3	2.6	56.4	3,835
1340.10.017	70	9.6		21.8	1	1.7	27.8	1,244
1340.30.017					3	2.7	60.2	4,715
1340.10.018	95	11.3		23.5	1	1.7	29.5	1,505
1340.30.018					3	2.8	64.2	5,654
1340.10.019	120	12.7		24.9	1	1.8	31.1	1,774
1340.30.019					3	3	67.6	6,587
1340.10.020	150	13.8		26	1	1.8	32.2	2,047
1340.30.020					3	3.1	70.6	7,593
1340.10.021	185	15.5		27.7	1	1.9	34.1	2,430
1340.30.021					3	3.2	74.4	8,879
1340.10.022	240	18.4		30.6	1	1.9	36.6	3,003
1340.30.022					3	3.4	80.2	10,903
1340.10.023	300	20.5		32.7	1	2	39.3	3,629
1340.30.023					3	3.6	86	13,060
1340.10.024	400	23.3		35.5	1	2.1	42.3	4,462
1340.30.024					3	3.8	92.5	15,894
1340.10.025	500	26.4		38.6	1	2.2	45.6	4,622
1340.30.025					3	4	99.6	19,765

Indulink Cable [15/25 kV]

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1350.10.016	50	8.3	6.8	23.1	1	1.7	28.9	1,123
1350.30.016					3	2.8	62.5	4,405
1350.10.017	70	9.6		24.4	1	1.7	30.4	1,363
1350.30.017					3	2.9	66.2	5,324
1350.10.018	95	11.3		26.1	1	1.8	32.3	1,646
1350.30.018					3	3	70.2	6,300
1350.10.019	120	12.7		27.5	1	1.9	33.9	1,921
1350.30.019					3	3.2	73.6	7,267
1350.10.020	150	13.8		28.6	1	1.9	35	2,200
1350.30.020					3	3.2	76.4	8,270
1350.10.021	185	15.5		30.3	1	2	36.9	2,591
1350.30.021					3	3.4	80.4	9,627

►CONTINUATION *Indulink Cable [15/25 kV]*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1350.10.022	240	18.4	6.8	33.2	1	2	39.8	3,174
1350.30.022					3	3.6	86.2	11,707
1350.10.023	300	20.5		35.3	1	2.1	42.1	3,812
1350.30.023					3	3.8	92	13,920
1350.10.024	400	23.3		38.1	1	2.2	45.1	4,659
1350.30.024					3	4	98.5	16,816
1350.10.025	500	26.4		41.2	1	2.3	48.4	5,833
1350.30.025					3	4.2	106	20,756

Indulink Cable [20/35 kV]

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1353.10.016	50	8.3	8.8	27.1	1	1.9	35	1,389
1353.30.016					3	3.1	71.7	5,394
1353.10.017	70	9.6		28.4	1	1.9	36.6	1,664
1353.30.017					3	3.2	75.4	6,370
1353.10.018	95	11.3		30.1	1	2	38.7	1,952
1353.30.018					3	3.3	79.4	7,406
1353.10.019	120	12.7		31.5	1	2.1	40.3	2,163
1353.30.019					3	3.5	82.8	8,424
1353.10.020	150	13.8		32.6	1	2.1	41.9	2,449
1353.30.020					3	3.6	85.8	9,509
1353.10.021	185	15.5		34.3	1	2.2	43.6	2,852
1353.30.021					3	3.7	89.7	10,888
1353.10.022	240	18.4		37.2	1	2.2	45.8	3,472
1353.30.022					3	3.9	95.5	13,055
1353.10.023	300	20.5		39.3	1	2.3	48	4,128
1353.30.023					3	4.1	101	15,354
1353.10.024	400	23.3		42.1	1	2.4	51	4,996
1353.30.024					3	4.3	108	18,345
1353.10.025	500	26.4		45.2	1	2.5	54.1	6,197
1353.30.025					3	4.5	115	22,417



Cable Indulink AL

3.6/6 kV to 20/35 kV

Construction

- 1 Conductor:** Bare aluminum, 1350 alloy, corded circular compact (Class 2)
- 2 Conductor Shielding:** Semiconductor thermosetting compound.
- 3 Insulation:** Reticulated polyethylene thermosetting compound XLPE 90 °C.
- 4 Insulation Shielding:** Semiconductor compound thermosetting layer of easy cold removal.
- 5 Metallic Shielding:** Bare copper wires.
- 6 Separator:** Non-hygroscopic polyester tape, applied on a propeller, covering 100 % of the cable.
- 7 Coverage:** Polyvinyl Chloride thermoplastic compound (PVC ST2).

Identification

Cables with 3 conductors, identification of the veins by means of ribbons in the colors white, blue and red.

Application

The **INDULINK CABLES** are utilized in input and/or distribution circuits, in residential or industrial buildings, substations, etc. They may be installed outdoors, in electroducts, cable ducts, trays or directly grounded.

Packaging

They are normally packaged in wood coils.

Specifications

ABNT NBR 7287 Power cables with reticulated polyethylene extruded insulation (XLPE) for voltages from 1 kV to 35 kV – Performance requirements.



Indulink AL Cable [3.6/6 kV]

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3713.01.012	10	3.8	2.5	10	1	1.4	15.4	287
3713.03.012					3	1.8	32.6	1,102
3713.01.013	16	4.8		11	1	1.4	16.4	323
3713.03.013					3	1.9	35	1,258
3713.01.014	25	6		12.2	1	1.4	17.6	371
3713.03.014					3	2	37.7	1,464
3713.01.015	35	7.1		13.3	1	1.4	18.7	418
3713.03.015					3	2.1	40.3	1,669
3713.01.016	50	8.3		14.5	1	1.4	19.9	474
3713.03.016					3	2.2	43.1	1,911
3713.01.017	70	9.9		16.1	1	1.5	21.7	570
3713.03.017					3	2.3	47.2	2,314
3713.01.018	95	11.8		18	1	1.5	23.6	677
3713.03.018					3	2.4	51.5	2,765
3713.01.019	120	13.2		19.4	1	1.6	25.2	782
3713.03.019					3	2.5	54.7	3,156
3713.01.020	150	14.8		21	1	1.6	26.8	886
3713.03.020					3	2.7	59	3,679
3713.01.021	185	16.3		22.5	1	1.7	28.5	1,027
3713.03.021					3	2.8	62.4	4,202
3713.01.022	240	18.5	2.6	24.9	1	1.8	31.1	1,246
3713.03.022					3	3	68	5,067
3713.01.023	300	20.5	2.8	27.3	1	1.8	33.5	1,468
3713.03.023					3	3.2	73.6	6,002
3713.01.024	400	23.3	3	30.5	1	2	37.1	1,810
3713.03.024					3	3.4	80.9	7,304
3713.01.025	500	26.2	3.2	33.8	1	2.1	40.6	2,211
3713.03.025					3	3.6	88.4	8,868

Indulink AL Cable [6/10 kV]

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1392.01.013	16	4.8	3.4	12.8	1	1.4	18.2	374
1392.03.013					3	2	2	1,496
1392.01.014	25	6		14	1	1.4	19.4	425
1392.03.014					3	2.1	41.8	1,721
1392.01.015	35	7.1		15.1	1	1.4	20.5	475
1392.03.015					3	2.2	44.4	1,942
1392.01.016	50	8.3		16.3	1	1.5	21.9	544
1392.03.016					3	2.3	47.2	2,202
1392.01.017	70	9.9		17.9	1	1.5	23.5	635
1392.03.017					3	2.4	51.3	2,634

►CONTINUATION *Indulink AL Cable [6/10 kV]*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1392.01.018	95	11.8	3.4	19.8	1	1.6	25.6	759
1392.03.018					3	2.6	55.8	3,137
1392.01.019	120	13.2		21.2	1	1.6	27	856
1392.03.019					3	2.7	59	3,551
1392.01.020	150	14.8		22.8	1	1.7	28.8	978
1392.03.020					3	2.8	63	4,076
1392.01.021	185	16.3		24.3	1	1.7	30.3	1,111
1392.03.021					3	2.9	66.5	4,622
1392.01.022	240	18.5		26.5	1	1.8	32.7	1,327
1392.03.022					3	3.1	71.6	5,475
1392.01.023	300	20.5		28.5	1	1.9	34.9	1,548
1392.03.023					3	3.2	76.2	6,304
1392.01.024	400	23.3		31.3	1	2	37.9	1,857
1392.03.024					3	3.5	82.8	7,562
1392.01.025	500	26.2		34.2	1	2.1	41	2,236
1392.03.025					3	3.7	89.5	9,028

Indulink AL Cable [8.7/15 kV]

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1393.01.015	35	7.1	4.5	17.3	1	1.5	22.9	561
1393.03.015					3	2.4	49.6	2,330
1393.01.016	50	8.3		18.5	1	1.5	24.1	625
1393.03.016					3	2.5	52.4	2,613
1393.01.017	70	9.9		20.1	1	1.6	25.9	733
1393.03.017					3	2.6	56.4	3,079
1393.01.018	95	11.8		22	1	1.7	28	864
1393.03.018					3	2.7	60.7	3,593
1393.01.019	120	13.2		23.4	1	1.7	29.4	967
1393.03.019					3	2.8	63.9	4,032
1393.01.020	150	14.8		25	1	1.8	31.2	1,095
1393.03.020					3	3	68.2	4,621
1393.01.021	185	16.3		26.5	1	1.8	32.7	1,234
1393.03.021					3	3.1	71.6	5,196
1393.01.022	240	18.5		28.7	1	1.9	35.1	1,459
1393.03.022					3	3.3	76.8	6,092
1393.01.023	300	20.5		30.7	1	2	37.3	1,688
1393.03.023					3	3.4	81.3	6,958
1393.01.024	400	23.3		33.5	1	2.1	40.3	2,009
1393.03.024					3	3.6	87.8	8,232
1393.01.025	500	26.2		36.4	1	2.2	43.4	2,400
1393.03.025					3	3.8	94.4	9,751

Indulink AL Cable [12/20 kV]

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1394. 01. 015	35	7. 1	5. 5	19. 3	1	1. 6	25. 1	648
1394. 03. 015					3	2. 5	54. 1	2,700
1394. 01. 016	50	8. 3		20. 5	1	1. 6	26. 3	716
1394. 03. 016					3	2. 6	56. 9	3,003
1394. 01. 017	70	9. 9		22. 1	1	1. 7	28. 1	831
1394. 03. 017					3	2. 7	60. 9	3,499
1394. 01. 018	95	11. 8		24	1	1. 7	30	956
1394. 03. 018					3	2. 9	65. 4	4,074
1394. 01. 019	120	13. 2		25. 4	1	1. 8	31. 6	1,077
1394. 03. 019					3	3	68. 7	4,537
1394. 01. 020	150	14. 8		27	1	1. 8	33. 2	1,196
1394. 03. 020					3	3. 1	72. 7	5,128
1394. 01. 021	185	16. 3		28. 5	1	1. 9	34. 9	1,355
1394. 03. 021					3	3. 2	76. 2	5,727
1394. 01. 022	240	18. 5		30. 7	1	2	37. 3	1,589
1394. 03. 022					3	3. 4	81. 3	6,660
1394. 01. 023	300	20. 5		32. 7	1	2	39. 3	1,808
1394. 03. 023					3	3. 6	86	7,597
1394. 01. 024	400	23. 3		35. 5	1	2. 1	42. 3	2,138
1394. 03. 024					3	3. 8	92. 5	8,921
1394. 01. 025	500	26. 2		38. 4	1	2. 2	45. 4	2,538
1394. 03. 025					3	4	99. 1	10,490

Indulink AL Cable [15/25 kV]

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1395. 01. 016	50	8. 3	6. 8	23. 1	1	1. 7	29. 1	842
1395. 03. 016					3	2. 8	62. 9	3,578
1395. 01. 017	70	9. 9		24. 7	1	1. 8	30. 9	965
1395. 03. 017					3	2. 9	66. 9	4,115
1395. 01. 018	95	11. 8		26. 6	1	1. 8	32. 8	1,098
1395. 03. 018					3	3. 1	71. 5	4,733
1395. 01. 019	120	13. 2		28	1	1. 9	34. 4	1,227
1395. 03. 019					3	3. 2	74. 7	5,228

►CONTINUATION *Indulink AL Cable [15/25 kV]*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1395. 01. 020	150	14. 8	6. 8	29. 6	1	1. 9	36	1,353
1395. 03. 020					3	3. 3	78. 7	5,859
1395. 01. 021	185	16. 3		31. 1	1	2	37. 7	1,519
1395. 03. 021					3	3. 4	82. 2	6,491
1395. 01. 022	240	18. 5		33. 3	1	2. 1	40. 1	1,764
1395. 03. 022					3	3. 6	87. 3	7,474
1395. 01. 023	300	20. 5		35. 5	1	2. 1	42. 1	1,991
1395. 03. 023					3	3. 8	92	8,458
1395. 01. 024	400	23. 3		38. 1	1	2. 2	45. 1	2,335
1395. 03. 024					3	4	98. 5	9,843
1395. 01. 025	500	26. 2		41	1	2. 3	48. 2	2,748
1395. 03. 025					3	4. 2	105	11,477

Indulink AL Cable [20/35 kV]

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1352.01.016	50	8.3	8.8	27.1	1	1.8	33.3	1,053
1352.03.016					3	3.1	72.1	4,573
1352.01.017	70	9.9		28.7	1	1.9	35.1	1,188
1352.03.017					3	3.2	76.2	5,173
1352.01.018	95	11.8		30.6	1	2	37.2	1,350
1352.03.018					3	3.4	80.7	5,858
1352.01.019	120	13.2		32	1	2	38.6	1,472
1352.03.019					3	3.5	83.9	6,400
1352.01.020	150	14.8		33.6	1	2.1	40.4	1,626
1352.03.020					3	3.6	88	7,094
1352.01.021	185	16.3		35.1	1	2.1	41.9	1,786
1352.03.021					3	3.7	91.4	7,777
1352.01.022	240	18.5		37.3	1	2.2	44.3	2,046
1352.03.022					3	3.9	96.6	8,837
1352.01.023	300	20.5		39.3	1	2.3	46.5	2,307
1352.03.023					3	4.1	101	9,891
1352.01.024	400	23.3		42.1	1	2.4	49.5	2,672
1352.03.024					3	4.3	108	11,372
1352.01.025	500	26.2		45	1	2.5	52.6	3,107
1352.03.025					3	4.5	114	13,104





NON HALOGENATED CABLES

– for underground installations
3.6/6 kV to 20/35 kV

Cable Atox Slim 90, 49

Cable Atox AL Slim 90, 55

Cable Atox 90, 61

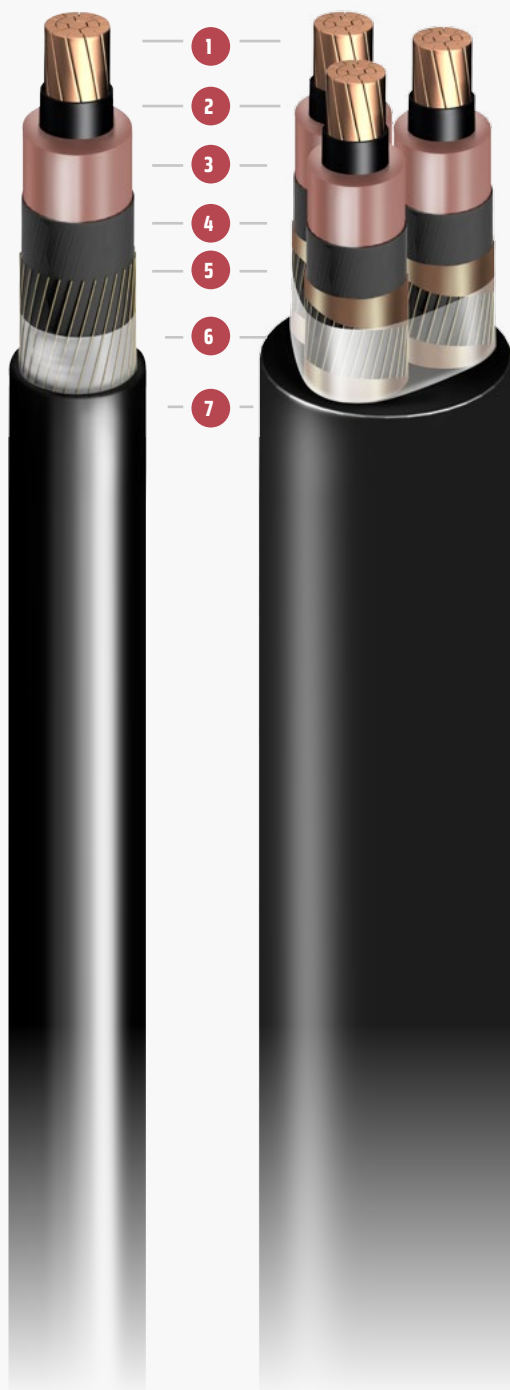
Cable Atox AL 90, 67

Cable Atox Flex 90, 73



Cable Atox Slim 90

3.6/6 kV to 20/35 kV Coordination Insulation



Construction

- 1 **Conductor:** Bare electrolytic copper, soft temper, corded circular compact (Class 2)
- 2 **Conductor Shielding:** Semiconductor thermosetting compound.
- 3 **Insulation:** EPR rubber thermosetting compound High Module 90 °C.
- 4 **Insulation Shielding:** Semiconductor compound thermosetting layer of easy cold removal.
- 5 **Metallic Shielding:** Bare copper wires.
- 6 **Separator:** Non-hygroscopic polyester tape, applied on a propeller, covering 100% of the cable.
- 7 **Coverage:** Thermoplastic compound, non-halogenated, flame retardant (SHF1), with low emission of smoke and toxic gases.

Identification

Cables with 3 conductors, identification of the veins by means of ribbons in the colors white, blue and red.

Application

The modern technology utilized in the manufacturing of the **ATOX SLIM 90 CABLES** provides a great technical and also very economical alternative for electrical installations of buildings where there is a great concentration of people (for example: airports, tunnels, hospitals, residential and commercial buildings, such as: hotels, movie theaters, shopping centers, theaters) and which, in case of fire, the evacuation of the place is long and difficult (areas classified as BD2, BD3 and BD4 by the norms ABNT NBR 5410 and ABNT NBR 13570). They may be installed outdoors, in electroducts, cable ducts, trays or directly grounded.

Packaging

They are normally packaged in wood coils.

Specifications

ABNT NBR 16132 Non-halogenated power cables, with low emission of smoke, insulated, with coverage, for voltages from 3 kV to 35 kV – Performance requirements.

Atox Slim 90 Cable [3.6/6 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3724. 01. 012	10	3. 8	2. 5	10	1	1. 4	15. 5	388
3724. 03. 012					3	1. 8	33. 3	1,469
3724. 01. 013	16	4. 8		11	1	1. 4	16. 5	455
3724. 03. 013					3	1. 9	35. 7	1,729
3724. 01. 014	25	6		12. 2	1	1. 4	17. 7	564
3724. 03. 014					3	2	38. 5	2,126
3724. 01. 015	35	7. 1		13. 3	1	1. 4	18. 8	677
3724. 03. 015					3	2. 1	41	2,539
3724. 01. 016	50	8. 3		14. 5	1	1. 4	19. 8	805
3724. 03. 016					3	2. 2	43. 4	2,998
3724. 01. 017	70	9. 6		15. 8	1	1. 4	21. 3	1,029
3724. 03. 017					3	2. 3	46. 7	3,776
3724. 01. 018	95	11. 3		17. 5	1	1. 5	23. 2	1,288
3724. 03. 018					3	2. 4	50. 7	4,653
3724. 01. 019	120	12. 7		18. 9	1	1. 6	24. 8	1,544
3724. 03. 019					3	2. 5	53. 9	5,505
3724. 01. 020	150	13. 8		20	1	1. 6	25. 9	1,810
3724. 03. 020					3	2. 6	56. 9	6,461
3724. 01. 021	185	15. 5		21. 7	1	1. 7	27. 8	2,178
3724. 03. 021					3	2. 7	60. 8	7,686
3724. 01. 022	240	18. 4	25. 2	1	1. 8	31. 1	2,782	
3724. 03. 022				3	3	68. 1	9,808	
3724. 01. 023	300	20. 5	27. 3	1	1. 9	33. 8	3,392	
3724. 03. 023				3	3. 2	73. 9	11,891	
3724. 01. 024	400	23. 3	30. 1	1	1. 9	36. 6	4,192	
3724. 03. 024				3	3. 4	80. 3	14,645	
3724. 01. 025	500	26. 4	33. 2	1	2. 1	40. 1	5,349	
3724. 03. 025				3	3. 6	87. 4	18,429	

Atox Slim 90 Cable [6/10 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3726. 01. 013	16	4. 8	2. 5	11	1	1. 4	16. 5	455
3726. 03. 013					3	1. 9	35. 7	1,729
3726. 01. 014	25	6		12. 2	1	1. 4	17. 7	564
3726. 03. 014					3	2	38. 5	2,126
3726. 01. 015	35	7. 1		13. 3	1	1. 4	18. 8	677
3726. 03. 015					3	2. 1	41	2,539
3726. 01. 016	50	8. 3		14. 5	1	1. 4	19. 8	805
3726. 03. 016					3	2. 2	43. 4	2,998

► CONTINUATION *Atox Slim 90 Cable [6/10 kV] Coordination Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3726.01.017	70	9.6	2.5	15.8	1	1.4	21.3	1,029
3726.03.017					3	2.3	46.7	3,776
3726.01.018	95	11.3		17.5	1	1.5	23.2	1,288
3726.03.018					3	2.4	50.7	4,653
3726.01.019	120	12.7		18.9	1	1.6	24.8	1,544
3726.03.019					3	2.5	53.9	5,505
3726.01.020	150	13.8		20	1	1.6	25.9	1,810
3726.03.020					3	2.6	56.9	6,461
3726.01.021	185	15.5		21.7	1	1.7	27.8	2,178
3726.03.021					3	2.7	60.8	7,686
3726.01.022	240	18.4	2.8	25.2	1	1.8	31.1	2,782
3726.03.022					3	3	68.1	9,808
3726.01.023	300	20.5		27.3	1	1.9	33.8	3,392
3726.03.023					3	3.2	73.9	11,891
3726.01.024	400	23.3		30.1	1	1.9	36.6	4,192
3726.03.024					3	3.4	80.3	14,645
3726.01.025	500	26.4		33.2	1	2.1	4.1	5,349
3726.03.025					3	3.6	87.4	18,429

Atox Slim 90 Cable [8.7/15 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3728. 01. 013	16	4. 8	3. 5	11	1	1. 4	18. 5	522
3728. 03. 013					3	2. 1	40. 4	2,060
3728. 01. 014	25	6	3	13. 2	1	1. 4	18. 7	598
3728. 03. 014					3	2. 1	40. 6	2,298
3728. 01. 015	35	7. 1		14. 5	1	1. 4	19. 8	713
3728. 03. 015					3	2. 2	43. 4	2,722
3728. 01. 016	50	8. 3		15. 3	1	1. 4	20. 8	844
3728. 03. 016					3	2. 2	45. 6	3,170
3728. 01. 017	70	9. 6		16. 8	1	1. 5	22. 5	1,081
3728. 03. 017					3	2. 4	49. 1	3,984
3728. 01. 018	95	11. 3		18. 5	1	1. 5	24. 2	1,332
3728. 03. 018					3	2. 5	53. 1	4,878
3728. 01. 019	120	12. 7		19. 9	1	1. 6	25. 8	1,591
3728. 03. 019					3	2. 6	56. 3	5,744
3728. 01. 020	150	13. 8		21	1	1. 6	26. 9	1,859
3728. 03. 020					3	2. 7	59. 3	6,714
3728. 01. 021	185	15. 5		22. 7	1	1. 7	28. 8	2,231
3728. 03. 021					3	2. 8	63. 1	7,955
3728. 01. 022	240	18. 4	3. 5	26. 6	1	1. 8	32. 5	2,866
3728. 03. 022					3	3. 1	71. 3	10,219

► CONTINUATION *Atox Slim 90 Cable [8.7/15 kV] Coordination Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg./km)
3728.01.023	300	20.5	3.5	28.7	1	1.9	35.2	3,483
3728.03.023					3	3.3	77.1	12,336
3728.01.024	400	23.3		31.5	1	2	38.2	4,307
3728.03.024					3	3.5	83.6	15,128
3728.01.025	500	26.4		34.6	1	2.1	41.5	5,456
3728.03.025					3	3.7	90.7	18,954

Atox Slim 90 Cable [12/20 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3730.01.013	16	4.8	5.2	16.4	1	1.5	22.1	662
3730.03.013					3	2.3	48.1	2,683
3730.01.014	25	6	4.7	16.6	1	1.5	22.3	740
3730.03.014					3	2.3	48.6	2,928
3730.01.015	35	7.1	4	16.3	1	1.5	22	802
3730.03.015					3	2.3	47.9	3,097
3730.01.016	50	8.3		17.5	1	1.5	23	937
3730.03.016					3	2.4	50.3	3,586
3730.01.017	70	9.6		18.8	1	1.6	24.7	1,181
3730.03.017					3	2.5	53.6	4,405
3730.01.018	95	11.3		20.5	1	1.6	26.4	1,439
3730.03.018					3	2.6	57.6	5,332
3730.01.019	120	12.7		21.9	1	1.7	28	1,705
3730.03.019					3	2.7	60.8	6,225
3730.01.020	150	13.8		23	1	1.7	29.1	1,978
3730.03.020					3	2.8	63.8	7,220
3730.01.021	185	15.5		24.7	1	1.8	31	2,358
3730.03.021					3	3	67.9	8,525
3730.01.022	240	18.4	28.6	1	1.9	34.7	3,007	
3730.03.022				3	3.2	75.8	10,824	
3730.01.023	300	20.5	4.5	30.7	1	2	37.4	3,636
3730.03.023					3	3.4	81.6	12,988
3730.01.024	400	23.3		33.5	1	2.1	40.4	4,472
3730.03.024					3	3.6	88.1	15,833
3730.01.025	500	26.4		36.6	1	2.2	43.7	5,635
3730.03.025					3	3.9	95.4	19,762

Atox Slim 90 Cable [15/25 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3732.01.015	35	7.1	6.2	20.7	1	1.6	26.6	989
3732.03.015					3	2.6	58	3,916

►CONTINUATION *Atox Slim 90 Cable [15/25 kV] Coordination Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3732.01.016	50	8.3	5.5	20.5	1	1.6	26.2	1,068
3732.03.016					3	2.6	57.2	4,140
3732.01.017	70	9.6		21.8	1	1.7	27.9	1,316
3732.03.017					3	2.7	60.5	4,966
3732.01.018	95	11.3		23.5	1	1.7	29.6	1,582
3732.03.018					3	2.9	64.7	5,923
3732.01.019	120	12.7		24.9	1	1.8	31.2	1,857
3732.03.019					3	3	67.9	6,879
3732.01.020	150	13.8		26	1	1.8	32.3	2,136
3732.03.020					3	3.1	70.9	7,906
3732.01.021	185	15.5		27.7	1	1.9	34.2	2,526
3732.03.021					3	3.2	74.7	9,218
3732.01.022	240	18.4	5	29.6	1	1.9	35.7	3,042
3732.03.022					3	3.3	78.2	10,946
3732.01.023	300	20.5		31.7	1	2	38.4	3,674
3732.03.023					3	3.5	84	13,120
3732.01.024	400	23.3		34.5	1	2.1	41.4	4,514
3732.03.024					3	3.7	90.4	15,975
3732.01.025	500	26.4		37.6	1	2.2	44.7	5,681
3732.03.025					3	3.9	97.5	19,870

Atox Slim 90 Cable [20/35 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3734.01.016	50	8.3	8.2	25.9	1	1.8	32	1,409
3734.03.016					3	3	69.6	5,703
3734.01.017	70	9.6	7.5	25.8	1	1.8	32.1	1,580
3734.03.017					3	3	69.7	6,220
3734.01.018	95	11.3		27.5	1	1.9	34	1,879
3734.03.018					3	3.2	73.9	7,298
3734.01.019	120	12.7		28.9	1	1.9	35.4	2,151
3734.03.019					3	3.3	77.1	8,287
3734.01.020	150	13.8		30	1	1.9	36.5	2,438
3734.03.020					3	3.4	80.1	9,374
3734.01.021	185	15.5		29.7	1	1.9	36.2	2,688
3734.03.021					3	3.3	79.3	10,054
3734.01.022	240	18.4		32.6	1	2	38.9	3,300
3734.03.022					3	3.5	85.1	12,183
3734.01.023	300	20.5		34.7	1	2.1	41.6	3,949
3734.03.023					3	3.7	90.9	14,446
3734.01.024	400	23.3		37.5	1	2.2	44.6	4,810
3734.03.024					3	3.9	97.3	17,399
3734.01.025	500	26.4		40.6	1	2.3	47.9	5,998
3734.03.025					3	4.2	105	21,452



Cable Atox AL Slim 90

3.6/6 kV to 20/35 kV Coordination Insulation



Construction

- 1 **Conductor:** Bare aluminum, 1350 alloy, corded circular compact (Class 2)
- 2 **Conductor Shielding:** Semiconductor thermosetting compound.
- 3 **Insulation:** EPR rubber thermosetting compound High Module 90 °C.
- 4 **Insulation Shielding:** Semiconductor compound thermosetting layer of easy cold removal.
- 5 **Metallic Shielding:** Bare copper wires.
- 6 **Separator:** Non-hygroscopic polyester tape, applied on a propeller, covering 100% of the cable.
- 7 **Coverage:** Thermoplastic compound, non-halogenated, flame retardant (SHF1), with low emission of smoke and toxic gases.

Identification

Cables with 3 conductors, identification of the veins by means of ribbons in the colors white, blue and red.

Application

The modern technology utilized in the manufacturing of the **ATOX AL SLIM 90 CABLES** provides a great technical and also very economical alternative for electrical installations of buildings where there is a great concentration of people (for example: airports, tunnels, hospitals, residential and commercial buildings, such as: hotels, movie theaters, shopping centers, theaters) and which, in case of fire, the evacuation of the place is long and difficult (areas classified as BD2, BD3 and BD4 by the norms ABNT NBR 5410 and ABNT NBR 13570). They may be installed outdoors, in electroducts, cable ducts, trays or directly grounded.

Packaging

They are normally packaged in wood coils.

Specifications

ABNT NBR 16132 Non-halogenated power cables, with low emission of smoke, insulated, with coverage, for voltages from 3 kV to 35 kV – Performance requirements.

Atox AL Slim 90 Cable [3.6/6 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3736.01.012	10	3.8	2.5	10.0	1	1.4	15.4	300
3736.03.012					3	1.8	32.6	1,140
3736.01.013	16	4.8		11.0	1	1.4	16.4	338
3736.03.013					3	1.9	35.0	1,302
3736.01.014	25	6.0		12.2	1	1.4	17.6	388
3736.03.014					3	2.0	37.7	1,515
3736.01.015	35	7.1		13.3	1	1.4	18.7	437
3736.03.015					3	2.1	40.3	1,725
3736.01.016	50	8.3		14.5	1	1.4	19.9	495
3736.03.016					3	2.2	43.1	1,973
3736.01.017	70	9.9		16.1	1	1.5	21.7	594
3736.03.017					3	2.3	47.2	2,385
3736.01.018	95	11.8		18.0	1	1.5	23.6	704
3736.03.018					3	2.4	51.5	2,845
3736.01.019	120	13.2		19.4	1	1.6	25.2	811
3736.03.019					3	2.5	54.7	3,244
3736.01.020	150	14.8		21.0	1	1.6	26.8	918
3736.03.020					3	2.7	59.0	3,775
3736.01.021	185	16.3		22.5	1	1.7	28.5	1,062
3736.03.021					3	2.8	62.4	4,306
3736.01.022	240	18.5		25.3	1	1.8	31.5	1,310
3736.03.022					3	3.0	68.8	5,290
3736.01.023	300	20.5		27.3	1	1.8	33.5	1,515
3736.03.023					3	3.2	73.6	6,144
3736.01.024	400	23.3		30.1	1	1.9	36.5	1,823
3736.03.024					3	3.4	80.0	7,354
3736.01.025	500	26.2		33.0	1	2.0	39.6	2,201
3736.03.025					3	3.6	86.7	8,808

Atox AL Slim 90 Cable [6/10 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3738.01.013	16	4.8	2.5	11	1	1.4	16.4	338
3738.03.013					3	1.9	35	1,302
3738.01.014	25	6		12.2	1	1.4	17.6	388
3738.03.014					3	2	37.7	1,515
3738.01.015	35	7.1		13.3	1	1.4	18.7	437
3738.03.015					3	2.1	40.3	1,725
3738.01.016	50	8.3		14.5	1	1.4	19.9	495
3738.03.016					3	2.2	43.5	2,012
3738.01.017	70	9.9		16.1	1	1.5	21.7	594
3738.03.017					3	2.3	47.2	2,385
3738.01.018	95	11.8		18	1	1.5	23.6	704
3738.03.018					3	2.4	51.5	2,845

►CONTINUATION *Atox AL Slim 90 Cable [6/10 kV] Coordination Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3738. 01. 019	120	13. 2	2. 5	19. 4	1	1. 6	25. 2	811
3738. 03. 019					3	2. 6	55. 3	3,319
3738. 01. 020	150	14. 8		21	1	1. 6	26. 8	918
3738. 03. 020					3	2. 7	59	3,775
3738. 01. 021	185	16. 3		22. 5	1	1. 7	28. 5	1,062
3738. 03. 021					3	2. 8	63. 7	4,447
3738. 01. 022	240	18. 5	2. 8	25. 3	1	1. 8	31. 5	1,310
3738. 03. 022					3	3	68. 8	5,290
3738. 01. 023	300	20. 5		27. 3	1	1. 8	33. 5	1,515
3738. 03. 023					3	3. 2	73. 6	6,144
3738. 01. 024	400	23. 3		30. 1	1	1. 9	36. 5	1,823
3738. 03. 024					3	3. 4	80	7,354
3738. 01. 025	500	26. 2		33	1	2	39. 6	2,201
3738. 03. 025					3	3. 6	86. 7	8,808

Atox AL Slim 90 Cable [8.7/15 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3740. 01. 013	16	4. 8	3. 5	13	1	1. 4	18. 4	403
3740. 03. 013					3	2	39. 5	1,591
3740. 01. 014	25	6	3	13. 2	1	1. 4	18. 6	422
3740. 03. 014					3	2. 1	40. 1	1,675
3740. 01. 015	35	7. 1		14. 3	1	1. 4	19. 7	473
3740. 03. 015					3	2. 1	42. 5	1,877
3740. 01. 016	50	8. 3		15. 5	1	1. 4	20. 9	533
3740. 03. 016					3	2. 2	45. 3	2,136
3740. 01. 017	70	9. 9		17. 1	1	1. 5	22. 7	635
3740. 03. 017					3	2. 4	49. 5	2,586
3740. 01. 018	95	11. 8		19	1	1. 6	24. 8	760
3740. 03. 018					3	2. 5	53. 8	3,065
3740. 01. 019	120	13. 2		20. 4	1	1. 6	26. 2	859
3740. 03. 019					3	2. 6	57. 1	3,477
3740. 01. 020	150	14. 8		22	1	1. 7	28	981
3740. 03. 020					3	2. 8	61. 3	4,027
3740. 01. 021	185	16. 3		23. 5	1	1. 7	29. 5	1,115
3740. 03. 021					3	2. 9	64. 8	4,573
3740. 01. 022	240	18. 5	3. 5	26. 7	1	1. 8	32. 9	1,393
3740. 03. 022					3	3. 1	72. 1	5,691
3740. 01. 023	300	20. 5		28. 7	1	1. 9	35. 1	1,619
3740. 03. 023					3	3. 3	76. 8	6,573
3740. 01. 024	400	23. 3		31. 5	1	2	38. 1	1,937
3740. 03. 024					3	3. 5	83. 2	7,821
3740. 01. 025	500	26. 2		34. 4	1	2. 1	41. 2	2,324
3740. 03. 025					3	3. 7	89. 9	9,313

Atox AL Slim 90 Cable [12/20 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3742.01.013	16	4.8	5.2	16.4	1	1.5	22	539
3742.03.013					3	2.3	47.4	2,194
3742.01.014	25	6	4.7	16.6	1	1.5	22.2	560
3742.03.014					3	2.3	47.9	2,266
3742.01.015	35	7.1	4	16.3	1	1.5	21.9	559
3742.03.015					3	2.3	47.2	2,249
3742.01.016	50	8.3		17.5	1	1.5	23.1	624
3742.03.016					3	2.4	50	2,531
3742.01.017	70	9.9		19.1	1	1.6	24.9	734
3742.03.017					3	2.5	54.1	2,994
3742.01.018	95	11.8		21	1	1.6	26.8	855
3742.03.018					3	2.7	58.6	3,534
3742.01.019	120	13.2		22.4	1	1.7	28.4	972
3742.03.019					3	2.8	61.8	3,974
3742.01.020	150	14.8		24	1	1.7	30	1,088
3742.03.020					3	2.9	65.8	4,531
3742.01.021	185	16.3		25.5	1	1.8	31.7	1,243
3742.03.021					3	3	69.3	5,105
3742.01.022	240	18.5	4.5	28.7	1	1.9	35.1	1,534
3742.03.022					3	3.3	76.8	6,318
3742.01.023	300	20.5		30.7	1	2	37.3	1,770
3742.03.023					3	3.4	81.3	7,203
3742.01.024	400	23.3		33.5	1	2.1	40.3	2,100
3742.03.024					3	3.6	87.8	8,503
3742.01.025	500	26.2		36.4	1	2.2	43.4	2,499
3742.03.025					3	3.8	94.4	10,048

Atox AL Slim 90 Cable [15/25 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3744. 01. 015	35	7. 1	6. 2	20. 7	1	1. 6	26. 5	768
3744. 03. 015					3	2. 6	57. 3	3,172
3744. 01. 016	50	8. 3	5. 5	20. 5	1	1. 6	26. 3	773
3744. 03. 016					3	2. 6	56. 9	3,174
3744. 01. 017	70	9. 9		22. 1	1	1. 7	28. 1	894
3744. 03. 017					3	2. 7	60. 9	3,689
3744. 01. 018	95	11. 8		24	1	1. 7	30	1,026
3744. 03. 018					3	2. 9	65. 4	4,285
3744. 01. 019	120	13. 2		25. 4	1	1. 8	31. 6	1,153
3744. 03. 019					3	3	68. 7	4,764

► CONTINUATION *Atox AL Slim 90 Cable [15/25 kV] Coordination Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3744. 01. 020	150	14. 8	5. 5	27	1	1. 8	33. 2	1, 278
3744. 03. 020					3	3. 1	72. 7	5, 373
3744. 01. 021	185	16. 3		28. 5	1	1. 9	34. 9	1, 443
3744. 03. 021					3	3. 2	76. 2	5, 989
3744. 01. 022	240	18. 5	5	29. 7	1	1. 9	36. 1	1, 600
3744. 03. 022					3	3. 3	78. 9	6, 610
3744. 01. 023	300	20. 5		31. 7	1	2	38. 3	1, 840
3744. 03. 023					3	3. 5	83. 7	7, 550
3744. 01. 024	400	23. 3		34. 5	1	2. 1	41. 3	2, 175
3744. 03. 024					3	3. 7	90. 1	8, 878
3744. 01. 025	500	26. 2		37. 4	1	2. 2	44. 4	2, 580
3744. 03. 025					3	3. 9	96. 8	10, 452

Atox AL Slim 90 Cable [20/35 kV] Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT	
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)	
3746. 01. 016	50	8. 3	8. 2	25. 9	1	1. 8	32. 1	1,091	
3746. 03. 016					3	3	69. 3	4,558	
3746. 01. 017	70	9. 9	7. 5	26. 1	1	1. 8	32. 3	1,131	
3746. 03. 017					3	3	70. 2	4,757	
3746. 01. 018	95	11. 8		28	1	1. 9	34. 4	1,294	
3746. 03. 018					3	3. 2	74. 7	5,428	
3746. 01. 019	120	13. 2		29. 4	1	1. 9	35. 8	1,417	
3746. 03. 019					3	3. 3	77. 9	5,961	
3746. 01. 020	150	14. 8		31	1	2	37. 6	1,572	
3746. 03. 020					3	3. 4	82	6,639	
3746. 01. 021	185	16. 3		6. 5	30. 5	1	2	37. 1	1,592
3746. 03. 021						3	3. 4	80. 9	6,650
3746. 01. 022	240	18. 5	32. 7		1	2	39. 3	7,652	
3746. 03. 022					3	3. 6	86	7,652	
3746. 01. 023	300	20. 5	34. 7		1	2. 1	41. 5	2,079	
3746. 03. 023					3	3. 7	90. 5	8,612	
3746. 01. 024	400	23. 3	37. 5		1	2. 2	44. 5	2,432	
3746. 03. 024					3	3. 9	97	10,019	
3746. 01. 025	500	26. 2	40. 4		1	2. 3	47. 6	2,856	
3746. 03. 025					3	4. 1	104	11,675	



Cable Atox 90

3.6/6 kV to 20/35 kV Full Insulation



Construction

- 1 Conductor:** Bare electrolytic copper, soft temper, corded circular compact (Class 2)
- 2 Conductor Shielding:** Semiconductor thermosetting compound.
- 3 Insulation:** EPR rubber thermosetting compound High Module 90 °C.
- 4 Insulation Shielding:** Semiconductor compound thermosetting layer of easy cold removal.
- 5 Metallic Shielding:** Bare copper wires.
- 6 Separator:** Non-hygroscopic polyester tape, applied on a propeller, covering 100 % of the cable.
- 7 Coverage:** Thermoplastic compound coverage, non-halogenated, flame retardant (SHF1), with low emission of smoke and toxic gases.

Identification

Cables with 3 conductors, identification of the veins by means of ribbons in the colors white, blue and red.

Application

The modern technology utilized in the manufacturing of the **ATOX 90 CABLES** provides a great technical and also very economical alternative for electrical installations of buildings where there is a great concentration of people (for example: airports, tunnels, hospitals, residential and commercial buildings, such as: hotels, movie theaters, shopping centers, theaters) and which, in case of fire, the evacuation of the place is long and difficult (areas classified as BD2, BD3 and BD4 by the norms ABNT NBR 5410 and ABNT NBR 13570). They may be installed outdoors, in electroducts, cable ducts, trays or directly grounded.

Packaging

They are normally packaged in wood coils.

Specifications

ABNT NBR 16132 Non-halogenated power cables, with low emission of smoke, insulated, with coverage, for voltages from 3 kV to 35 kV – Performance requirements.

Atox 90 Cable [3.6/6 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3725.01.012	10	3.8	3	11	1	1.4	16.5	418
3725.03.012					3	1.9	35.7	1,618
3725.01.013	16	4.8		12	1	1.4	17.5	488
3725.03.013					3	2	38	1,889
3725.01.014	25	6		13.2	1	1.4	18.7	598
3725.03.014					3	2.2	40.8	2,298
3725.01.015	35	7.1		14.3	1	1.4	19.8	713
3725.03.015					3	2.2	43.4	2,722
3725.01.016	50	8.3		15.5	1	1.4	20.8	844
3725.03.016					3	2.2	45.6	3,170
3725.01.017	70	9.6		16.8	1	1.5	22.5	1,081
3725.03.017					3	2.4	49.1	3,984
3725.01.018	95	11.3		18.5	1	1.5	24.2	1,332
3725.03.018					3	2.5	53.1	4,878
3725.01.019	120	12.7		19.9	1	1.6	25.8	1,591
3725.03.019					3	2.6	56.3	5,744
3725.01.020	150	13.8		21	1	1.6	26.9	1,859
3725.03.020					3	2.7	59.3	6,714
3725.01.021	185	15.5		22.7	1	1.7	28.8	2,231
3725.03.021					3	2.8	63.1	7,955
3725.01.022	240	18.4		25.6	1	1.8	31.5	2,806
3725.03.022					3	3	68.9	9,914
3725.01.023	300	20.5		27.7	1	1.9	34.2	3,411
3725.03.023					3	3.2	74.7	12,006
3725.01.024	400	23.3		30.5	1	2	37.2	4,192
3725.03.024					3	3.4	81.2	14,448
3725.01.025	500	26.4	3.2	34	1	2.1	40.9	5,410
3725.03.025					3	3.7	89.4	18,381

Atox 90 Cable [6/10 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3727.01.013	16	4.8	3.4	12.8	1	1.4	18.3	515
3727.03.013					3	2.1	40	2,028
3727.01.014	25	6		14	1	1.4	19.5	627
3727.03.014					3	2.1	42.6	2,427
3727.01.015	35	7.1		15.1	1	1.4	20.6	744
3727.03.015					3	2.2	45.1	2,859
3727.01.016	50	8.3		16.3	1	1.5	21.8	886
3727.03.016					3	2.3	47.5	3,336
3727.01.017	70	9.6		17.6	1	1.5	23.3	1,115
3727.03.017					3	2.4	50.8	4,138
3727.01.018	95	11.3		19.3	1	1.6	26.6	1,631
3727.03.018					3	2.5	58	5,921

►CONTINUATION *Atox 90 Cable [6/10 kV] Full Insulation*

REFERENCE		CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)	
3727.01.019	120	12.7	3.4	20.7	1	1.6	26.6	1,631	
3727.03.019					3	2.6	58	5,921	
3727.01.020	150	13.8		21.8	1	1.7	27.8	1,878	
3727.03.020					3	2.7	60.7	6,680	
3727.01.021	185	15.5		23.5	1	1.7	29.5	2,238	
3727.03.021					3	2.9	64.8	7,945	
3727.01.022	240	18.4		26	1	1.8	32.2	2,814	
3727.03.022					3	3.1	70.6	9,894	
3727.01.023	300	20.5		28.5	1	1.9	34.9	3,427	
3727.03.023					3	3.2	76.2	11,943	
3727.01.024	400	23.3		31.3	1	2	37.9	4,247	
3727.03.024					3	3.5	82.8	14,732	
3727.01.025	500	26.4		34.4	1	2.1	41.2	5,391	
3727.03.025					3	3.7	89.9	18,515	

Atox 90 Cable [8.7/15 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3729.01.014	25	6	4.5	16.2	1	1.5	21.9	723
3729.03.014					3	2.3	47.7	2,854
3729.01.015	35	7.1		17.3	1	1.5	23	844
3729.03.015					3	2.4	50.3	3,310
3729.01.016	50	8.3		18.5	1	1.5	24	981
3729.03.016					3	2.5	52.6	3,810
3729.01.017	70	9.6		19.8	1	1.6	25.7	1,228
3729.03.017					3	2.6	56	4,643
3729.01.018	95	11.3		21.5	1	1.6	27.4	1,490
3729.03.018					3	2.7	60	5,587
3729.01.019	120	12.7		22.9	1	1.7	29	1,759
3729.03.019					3	2.8	63.2	6,494
3729.01.020	150	13.8		24	1	1.7	30.1	2,033
3729.03.020					3	2.9	66.2	7,502
3729.01.021	185	15.5		25.7	1	1.8	32	2,417
3729.03.021					3	3	70	8,792
3729.01.022	240	18.4		28.6	1	1.9	34.7	3,007
3729.03.022					3	3.2	75.8	10,824
3729.01.023	300	20.5		30.7	1	2	37.4	3,636
3729.03.023					3	3.4	81.6	12,988
3729.01.024	400	23.3		33.5	1	2.1	40.4	4,472
3729.03.024					3	3.6	88.1	15,833
3729.01.025	500	26.4		36.6	1	2.2	43.7	5,635
3729.03.025					3	3.9	95.4	19,762

Atox 90 Cable [12/20 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3731.01.015	35	7.1	5.5	19.3	1	1.6	25.2	947
3731.03.015					3	2.5	54.8	3,741
3731.01.016	50	8.3		20.5	1	1.6	26.2	1,087
3731.03.016					3	2.6	57.2	4,260
3731.01.017	70	9.6		21.8	1	1.7	27.9	1,341
3731.03.017					3	2.7	60.5	5,121
3731.01.018	95	11.3		23.5	1	1.7	29.6	1,610
3731.03.018					3	2.9	64.7	6,128
3731.01.019	120	12.7		24.9	1	1.8	31.2	1,886
3731.03.019					3	3	67.9	7,062
3731.01.020	150	13.8		26	1	1.8	32.3	2,165
3731.03.020					3	3.1	70.9	8,097
3731.01.021	185	15.5		27.7	1	1.9	34.2	2,556
3731.03.021					3	3.2	74.7	9,421
3731.01.022	240	18.4		30.6	1	2	36.9	3,158
3731.03.022					3	3.4	80.5	11,503
3731.01.023	300	20.5		32.7	1	2	39.4	3,779
3731.03.023					3	3.6	86.3	13,718
3731.01.024	400	23.3		35.5	1	2.1	42.4	4,627
3731.03.024					3	3.8	92.8	16,618
3731.01.025	500	26.4		38.6	1	2.2	45.7	5,802
3731.03.025					3	4	99.9	20,564

Atox 90 Cable [15/25 kV] Full Insulation

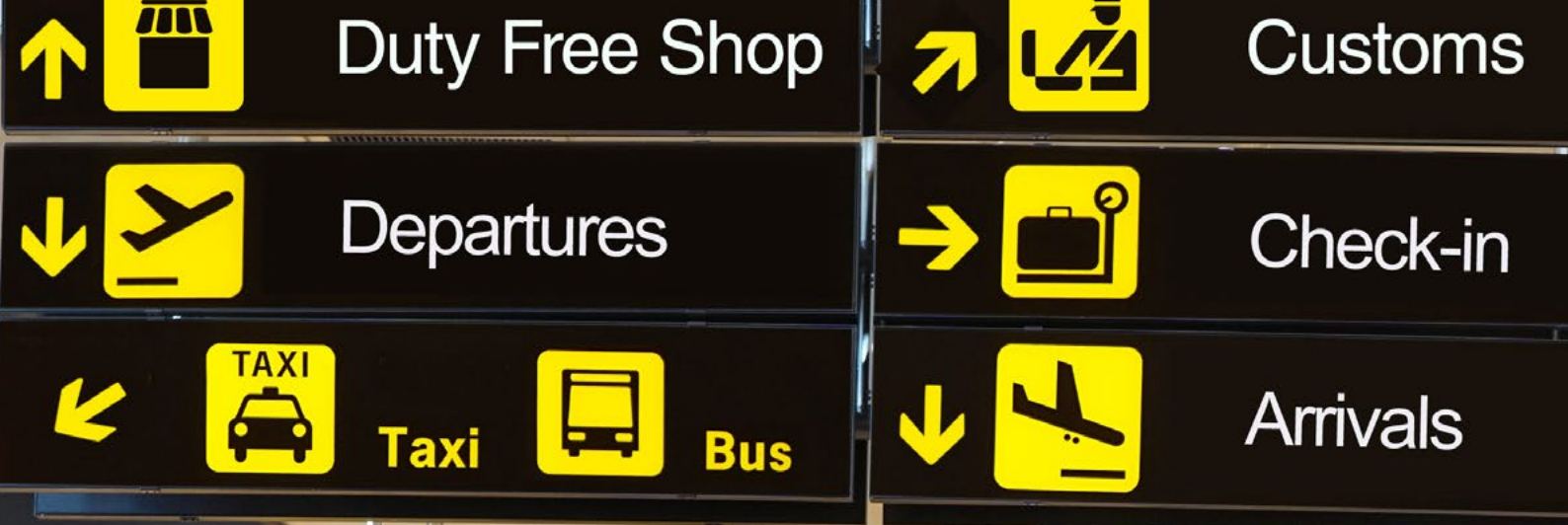
REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3733.01.016	50	8.3	6.8	23.1	1	1.7	29	1,235
3733.03.016					3	2.6	58	4,632
3733.01.017	70	9.6		24.4	1	1.7	30.5	1,483
3733.03.017					3	2.6	57.2	5,571
3733.01.018	95	11.3		26.1	1	1.8	32.4	1,776
3733.03.018					3	2.7	60.5	6,572
3733.01.019	120	12.7		27.5	1	1.9	34	2,060
3733.03.019					3	2.9	64.7	7,559
3733.01.020	150	13.8		28.6	1	1.9	35.1	2,345
3733.03.020					3	3	67.9	8,577
3733.01.021	185	15.5		30.3	1	2	37	2,746
3733.03.021					3	3.1	70.9	9,958
3733.01.022	240	18.4		33.2	1	2	39.5	3,344
3733.03.022					3	3.2	74.7	12,074

► CONTINUATION *Atox 90 Cable [15/25 kV] Full Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3733.01.023	300	20.5	6.8	35.3	1	2.1	42.2	3,996
3733.03.023					3	3.3	78.2	14,322
3733.01.024	400	23.3		38.1	1	2.2	45.2	4,860
3733.03.024					3	3.7	90.4	17,258
3733.01.025	500	26.4		41.2	1	2.3	48.5	6,052
3733.03.025					3	3.9	97.5	21,241

Atox 90 Cable [20/35 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3735.01.016	50	8.3	8.8	27.1	1	1.8	33.2	1,483
3735.03.016					3	3.1	72.4	6,066
3735.01.017	70	9.6		28.4	1	1.9	34.9	1,759
3735.03.017					3	3.2	75.8	7,019
3735.01.018	95	11.3		30.1	1	1.9	36.6	2,050
3735.03.018					3	3.4	79.9	8,144
3735.01.019	120	12.7		31.5	1	2	38.2	2,347
3735.03.019					3	3.5	83.2	9,168
3735.01.020	150	13.8		32.6	1	2	39.3	2,640
3735.03.020					3	3.6	86.1	10,290
3735.01.021	185	15.5		34.3	1	2.1	41.2	3,057
3735.03.021					3	3.7	90	11,721
3735.01.022	240	18.4		37.2	1	2.2	43.9	3,694
3735.03.022					3	3.9	95.8	13,965
3735.01.023	300	20.5		39.3	1	2.3	46.6	4,369
3735.03.023					3	4.1	102	16,342
3735.01.024	400	23.3		42.1	1	2.4	49.6	5,258
3735.03.024					3	4.3	108	19,421
3735.01.025	500	26.4		45.2	1	2.5	52.9	6,477
3735.03.025					3	4.5	115	23,564



Cable Atox AL 90

3.6/6 kV to 20/35 kV Full Insulation



Construction

- 1 Conductor:** Bare aluminum, 1350 alloy, corded circular compact (Class 2)
- 2 Conductor Shielding:** Semiconductor thermosetting compound.
- 3 Insulation:** EPR rubber thermosetting compound High Module 90 °C.
- 4 Insulation Shielding:** Semiconductor compound thermosetting layer of easy cold removal.
- 5 Metallic Shielding:** Bare copper wires.
- 6 Separator:** Non-hygroscopic polyester tape, applied on a propeller, covering 100% of the cable.
- 7 Coverage:** Thermoplastic compound, non-halogenated, flame retardant (SHF1), with low emission of smoke and toxic gases.

Identification

Cables with 3 conductors, identification of the veins by means of ribbons in the colors white, blue and red.

Application

The modern technology utilized in the manufacturing of the **ATOX AL 90 CABLES** provides a great technical and also very economical alternative for electrical installations of buildings where there is a great concentration of people (for example: airports, tunnels, hospitals, residential and commercial buildings, such as: hotels, movie theaters, shopping centers, theaters) and which, in case of fire, the evacuation of the place is long and difficult (areas classified as BD2, BD3 and BD4 by the norms ABNT NBR 5410 and ABNT NBR 13570). They may be installed outdoors, in electroducts, cable ducts, trays or directly grounded.

Packaging

They are normally packaged in wood coils.

Specifications

ABNT NBR 16132 Non-halogenated power cables, with low emission of smoke, insulated, with coverage, for voltages from 3 kV to 35 kV – Performance requirements.

Atox AL 90 Cable [3.6/6 kV] IFull Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3737.01.012	10	3.8	3	11	1	1.4	16.5	418
3737.03.012					3	1.9	35.7	1,618
3737.01.013	16	4.8		12	1	1.4	17.5	488
3737.03.013					3	2	38	1,889
3737.01.014	25	6		13.2	1	1.4	18.7	598
3737.03.014					3	2.2	40.8	2,298
3737.01.015	35	7.1		14.3	1	1.4	19.8	713
3737.03.015					3	2.2	43.4	2,722
3737.01.016	50	8.1		15.3	1	1.4	20.8	844
3737.03.016					3	2.2	45.6	3,170
3737.01.017	70	9.55		16.8	1	1.5	22.5	1,081
3737.03.017					3	2.4	49.1	3,984
3737.01.018	95	11.3		18.5	1	1.5	24.2	1,332
3737.03.018					3	2.5	53.1	4,878
3737.01.019	120	12.7		19.9	1	1.6	25.8	1,591
3737.03.019					3	2.6	56.3	5,744
3737.01.020	150	13.8		21	1	1.6	26.9	1,859
3737.03.020					3	2.7	59.3	6,714
3737.01.021	185	15.5		22.7	1	1.7	28.8	2,231
3737.03.021					3	2.8	63.1	7,955
3737.01.022	240	18		25.2	1	1.8	31.5	2,806
3737.03.022					3	3	68.9	9,914
3737.01.023	300	20.5		27.7	1	1.9	34.2	34,118
3737.03.023					3	3.2	74.7	12,006
3737.01.024	400	23.3		30.5	1	2	37.2	14,770
3737.03.024					3	3.4	81.2	5,410
3737.01.025	500	26.4		34	1	2.1	40.9	5,410
3737.03.025					3	3.7	89.4	18,745

Atox AL 90 Cable [6/10 kV] IFull Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3739.01.013	16	4.80	3.4	12.8	1	1.4	18.3	515
3739.03.013					3	2.1	40.0	2,028
3739.01.014	25	6.00		14.00	1	1.4	19.5	627
3739.03.014					3	2.1	42.6	2,427
3739.01.015	35	7.10		15.1	1	1.4	20.6	744
3739.03.015					3	2.2	45.1	2,859
3739.01.016	50	8.10		16.1	1	1.5	21.8	886
3739.03.016					3	2.3	47.5	3,336
3739.01.017	70	9.55		17.6	1	1.5	23.3	1,115
3739.03.017					3	2.4	50.8	4,138
3739.01.018	95	11.3		19.3	1	1.6	26.6	1,631
3739.03.018					3	2.5	58.0	5,921

► CONTINUATION *Atox AL 90 Cable [6/10 kV] Full Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3739.01.019	120	12.7	3.4	20.7	1	1.6	26.6	1,631
3739.03.019					3	2.6	58.0	5,921
3739.01.020	16	4.80		12.8	1	1.4	18.3	515
3739.03.020					3	2.1	40.00	2,028
3739.01.021	25	6.00		14.00	1	1.4	19.5	627
3739.03.021					3	2.1	42.6	2,427
3739.01.022	35	7.10		15.1	1	1.4	20.6	744
3739.03.022					3	2.2	45.1	2,859
3739.01.023	50	8.10		16.1	1	1.5	21.8	886
3739.03.023					3	2.3	47.5	3,336
3739.01.024	70	9.55		17.6	1	1.5	23.3	1,115
3739.03.024					3	2.4	50.8	4,138
3739.01.025	95	11.3		19.3	1	1.6	26.6	1,631
3739.03.025					3	2.5	58.0	5,921
3739.01.026	120	12.7		20.7	1	1.6	26.6	1,631
3739.03.026					3	2.6	58.0	5,921

Atox AL 90 Cable [8.7/15 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3741. 01. 013	25	6	4. 5	16. 2	1	1. 5	21. 9	723
3741. 03. 013					3	2. 3	47. 7	2,854
3741. 01. 014	35	7. 1		17. 3	1	1. 5	23	844
3741. 03. 014					3	2. 4	50. 3	3,310
3741. 01. 015	50	8. 1		18. 3	1	1. 5	24	981
3741. 03. 015					3	2. 5	52. 6	3,810
3741. 01. 016	70	9. 55		19. 8	1	1. 6	25. 7	1,228
3741. 03. 016					3	2. 6	56	4,643
3741. 01. 017	95	11. 3		21. 5	1	1. 6	27. 4	1,490
3741. 03. 017					3	2. 7	60	5,587
3741. 01. 018	120	12. 7		22. 9	1	1. 7	29	1,759
3741. 03. 018					3	2. 8	63. 2	6,494
3741. 01. 019	150	13. 8		24	1	1. 7	30. 1	2,033
3741. 03. 019					3	2. 9	66. 2	7,502
3741. 01. 020	185	15. 5		25. 7	1	1. 8	32	2,417
3741. 03. 020					3	3	70	8,792
3741. 01. 021	240	18		28. 2	1	1. 9	34. 7	3,007
3741. 03. 021					3	3. 2	75. 8	10,824
3741. 01. 022	300	20. 5		30. 7	1	2	37. 4	3,636
3741. 03. 022					3	3. 4	81. 6	12,988
3741. 01. 023	400	23. 3		33. 5	1	2. 1	40. 4	4,472
3741. 03. 023					3	3. 6	88. 1	15,833
3741. 01. 024	500	26. 4		36. 6	1	2. 2	43. 7	5,635
3741. 03. 024					3	3. 9	95. 4	19,762

Atox AL 90 Cable [12/20 kV] IFull Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3743.01.015	35	7.10	5.5	19.3	1	1.6	25.2	947
3743.03.015					3	2.5	54.8	3,741
3743.01.016	50	8.10		20.3	1	1.6	26.2	1,087
3743.03.016					3	2.6	57.2	4,260
3743.01.017	70	9.55		21.8	1	1.7	27.9	1,341
3743.03.017					3	2.7	60.5	5,121
3743.01.018	95	11.3		23.5	1	1.7	29.6	1,610
3743.03.018					3	2.9	64.7	6,128
3743.01.019	120	12.7		24.9	1	1.8	31.2	1,886
3743.03.019					3	3.0	67.9	7,062
3743.01.020	150	13.8		26.0	1	1.8	32.3	2,165
3743.03.020					3	3.1	70.9	8,097
3743.01.021	185	15.5		27.7	1	1.9	34.2	2,556
3743.03.021					3	3.2	74.7	9,421
3743.01.022	240	18.0		30.2	1	2.0	36.9	3,158
3743.03.022					3	3.4	80.5	11,503
3743.01.023	300	20.5		32.7	1	2.0	39.4	3,779
3743.03.023					3	3.6	86.3	13,718
3743.01.024	400	23.3		35.5	1	2.1	42.4	4,627
3743.03.024					3	3.8	92.8	16,618
3743.01.025	500	26.4		38.6	1	2.2	45.7	5,802
3743.03.025					3	4.0	99.9	20,564

Atox AL 90 Cable [15/25 kV] IFull Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3745.01.015	50	8.1	6.8	22.9	1	1.7	29	1,235
3745.03.015					3	2.6	58	679
3745.01.016	70	9.55		24.4	1	1.7	30.5	1,483
3745.03.016					3	2.6	57.2	669
3745.01.017	95	11.3		26.1	1	1.8	32.4	1,776
3745.03.017					3	2.7	60.5	735
3745.01.018	120	12.7		27.5	1	1.9	34	2,060
3745.03.018					3	2.9	64.7	844
3745.01.019	150	13.8		28.6	1	1.9	35.1	2,345
3745.03.019					3	3	67.9	917
3745.01.020	185	15.5		30.3	1	2	37	2,746
3745.03.020					3	3.1	70.9	990

► CONTINUATION *Atox AL 90 [15/25 kV] Full Insulation*

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3745. 01. 021	240	18	6. 8	32. 8	1	2	39. 5	3,344
3745. 03. 021					3	3. 2	74. 7	1,079
3745. 01. 022	300	20. 5		35. 3	1	2. 1	42. 2	3,996
3745. 03. 022					3	3. 3	78. 2	1,165
3745. 01. 023	400	23. 3		38. 1	1	2. 2	45. 2	4,860
3745. 03. 023					3	3. 7	90. 4	1,512
3745. 01. 024	500	26. 4		41. 2	1	2. 3	48. 5	6,052
3745. 03. 024					3	3. 9	97. 5	1,721

Atox AL 90 Cable [20/35 kV] Full Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3747.01.016	50	8.1	8.8	26.9	1	1.8	33.2	1,483
3747.03.016					3	3.1	72.4	6,066
3747.01.017	70	9.55		28.4	1	1.9	34.9	1,759
3747.03.017					3	3.2	75.8	7,019
3747.01.018	95	11.3		30.1	1	1.9	36.6	2,050
3747.03.018					3	3.4	79.9	8,144
3747.01.019	120	12.7		31.5	1	2	38.2	2,347
3747.03.019					3	3.5	83.2	9,168
3747.01.020	150	13.8		32.6	1	2	39.3	2,640
3747.03.020					3	3.6	86.1	10,290
3747.01.021	185	15.5		34.3	1	2.1	41.2	3,057
3747.03.021					3	3.7	90	11,721
3747.01.022	240	18		36.8	1	2.2	43.9	3,694
3747.03.022					3	3.9	95.8	13,965
3747.01.023	300	20.5		39.3	1	2.3	46.6	4,369
3747.03.023					3	4.1	102	16,342
3747.01.024	400	23.3		42.1	1	2.4	49.6	5,258
3747.03.024					3	4.3	108	19,421
3747.01.025	500	26.4		45.2	1	2.5	52.9	6,477
3747.03.025					3	4.5	115	23,564



Cable Atox Flex 90

3.6/6 kV to 20/35 kV



Construction

- 1 **Conductor:** electrolytic bare copper, soft temper corded flexible (Class 5).
- 2 **Shield:** conductor thermoset compound semiconductor.
- 3 **Insulation:** rubber thermosetting compound EPR High Module 90 °C.
- 4 **Shield Insulation:** thermosetting composite layer semiconductor easy removal cold.
- 5 **Metallic Shielding:** bare copper wires.
- 6 **Tab:** Ribbon not hygroscopic polyester applied in propeller covering 100% of the cable.
- 7 **Coverage:** Compound thermoplastic, non-halogenated, non-propagating the flame (SHF1) with low smoke and toxic gases.

Identification

Recording indelible ink on the cover.

Application

Modern technology used in the manufacture of cables **ATOX FLEX 90** provides a great alternative technique and also very economical for electrical installations in buildings where there is a large concentration of people (eg airports, tunnels, hospitals, residential and commercial buildings such as hotels, cinemas, shopping centers, theaters) and, in case of fire, the Local evacuation is long and difficult (these areas classified as BD2, BD3 and BD4, the standards NBR 5410 and ABNT NBR 13570). They can be installed outdoors, in cable ducts, channels, trays or directly buried.

Packaging

They are usually packed in wooden reels.

Specifications

ABNT NBR NM 280: insulated cable conductors (IEC 60228, Mod).

ABNT NBR 6251: Power cables with extruded insulation for voltages of 1 kV to 35 kV - constructive requirements.

ABNT NBR 16132: Power cables not halogenated with low smoke, isolated, covering, for voltages 3 kV to 35 kV - Performance requirements.

Cabo Atox Flex 90 [3.6/6 kV]

REFERENCE	CONDUCTOR		INSULATION		COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3831.01.015	35	7.35	3	15.4	1.4	20.8	705
3831.01.016	50	8.8		16.8	1.5	22.4	875
3831.01.017	70	10.4		18.4	1.5	24	1,081
3831.01.018	95	12.1		20.1	1.6	25.9	1,330
3831.01.019	120	13.8		21.8	1.7	27.8	1,642
3831.01.020	150	15.5		23.5	1.7	29.5	1,921
3831.01.021	185	16.8		24.8	1.8	31	2,230
3831.01.022	240	19.9		27.9	1.9	34.3	2,868
3831.01.023	300	21.4		29.4	1.9	35.8	3,294
3831.01.024	400	25.1		33.1	2	39.7	4,318
3831.01.025	500	28	3.2	36.4	2.2	43.7	5,310

Cabo Atox Flex 90 [6/10 kV]

REFERENCE	CONDUCTOR		INSULATION		COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3832.01.015	35	7.35	3.4	16.2	1.5	21.8	747
3832.01.016	50	8.8		17.6	1.5	23.2	909
3832.01.017	70	10.4		19.2	1.6	25	1,129
3832.01.018	95	12.1		20.9	1.6	26.7	1,369
3832.01.019	120	13.8		22.6	1.7	28.6	1,684
3832.01.020	150	15.5		24.3	1.7	30.3	1,966
3832.01.021	185	16.8		25.6	1.8	31.8	2,276
3832.01.022	240	19.9		28.7	1.9	35.1	2,920
3832.01.023	300	21.4		30.2	1.9	36.6	3,348
3832.01.024	400	25.1		33.9	2.1	40.7	4,396
3832.01.025	500	28		36.8	2.2	43.8	5,342

Cabo Atox Flex 90 [8.7/15 kV]

REFERENCE	CONDUCTOR		INSULATION		COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3833.01.015	35	7.35	4.5	18.4	1.5	24	841
3833.01.016	50	8.8		19.8	1.6	25.6	1,020
3833.01.017	70	10.4		21.4	1.6	27.2	1,236
3833.01.018	95	12.1		23.1	1.7	29.1	1,497
3833.01.019	120	13.8		24.8	1.8	31	1,820
3833.01.020	150	15.5		26.5	1.8	32.7	2,109
3833.01.021	185	16.8		27.8	1.9	34.2	2,427
3833.01.022	240	19.9		30.9	2	37.5	3,085
3833.01.023	300	21.4		32.4	2	39	3,520
3833.01.024	400	25.1		36.1	2.2	43.1	4,587
3833.01.025	500	28		39	2.3	46.2	5,547

Cabo Atox Flex 90 [12/20 kV]

REFERENCE	CONDUCTOR		INSULATION		COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3834.01.015	35	7.35	5.5	20.4	1.6	26.2	946
3834.01.016	50	8.8		21.8	1.7	27.8	1,133
3834.01.017	70	10.4		23.4	1.7	29.4	1,355
3834.01.018	95	12.1		25.1	1.8	31.3	1,623
3834.01.019	120	13.8		26.8	1.8	33	1,939
3834.01.020	150	15.5		28.5	1.9	34.9	2,251
3834.01.021	185	16.8		29.8	1.9	36.2	2,558
3834.01.022	240	19.9		32.9	2	39.5	3,228
3834.01.023	300	21.4		34.4	2.1	41.2	3,688
3834.01.024	400	25.1		38.1	2.2	45.1	4,751
3834.01.025	500	28		41	2.3	48.2	5,722

Cabo Atox Flex 90 [15/25 kV]

REFERENCE	CONDUCTOR		INSULATION		COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3835.01.016	50	8.8	6.8	24.4	1.7	30.4	1,274
3835.01.017	70	10.4		26	1.8	32.2	1,519
3835.01.018	95	12.1		27.7	1.9	34.1	1,797
3835.01.019	120	13.8		29.4	1.9	35.8	2,121
3835.01.020	150	15.5		31.1	2	37.7	2,444
3835.01.021	185	16.8		32.4	2	39	2,757
3835.01.022	240	19.9		35.5	2.1	42.3	3,445
3835.01.023	300	21.4		37	2.2	44	3,913
3835.01.024	400	25.1		40.7	2.3	47.9	4,997
3835.01.025	500	28		43.6	2.4	51	5,985

Cabo Atox Flex 90 [20/35 kV]

REFERENCE	CONDUCTOR		INSULATION		COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3836.01.016	50	8.8	8.8	28.4	1.9	34.8	1,547
3836.01.017	70	10.4		30	1.9	36.4	1,790
3836.01.018	95	12.1		31.7	2	38.3	2,083
3836.01.019	120	13.8		33.4	2.1	40.2	2,440
3836.01.020	150	15.5		35.1	2.1	41.9	2,758
3836.01.021	185	16.8		36.4	2.2	43.4	3,102
3836.01.022	240	19.9		39.5	2.3	46.7	3,817
3836.01.023	300	21.4		41	2.3	48.2	4,277
3836.01.024	400	25.1		44.7	2.5	52.3	5,416
3836.01.025	500	28		47.6	2.6	55.4	6,429



Cables for
AERIAL INSTALLATIONS
– compact networks
15 kV, 25 kV and 35 kV

Cable Indugrex AL TR, 79

Cable Indugrex AL/SCI TR, 83

Cable Indugrex TR Copper, 87



Cable Indugrex AL TR

15 kV and 25 kV



Construction

- 1 Conductor:** Bare aluminum, 1350 alloy, corded circular compact (Class 2), blocked against longitudinal water penetration.
- 2A Coverage:** Reticulated polyethylene thermosetting compound XLPE 90 °C.
- 2B Coverage:** Reticulated polyethylene thermosetting compound XLPE 90 °C, resistant to storms, electrical tracking, ultraviolet radiation and mechanical abrasion.

The two coverage layers are completely adhered to each other.

Identification

The **INDUGREX AL TR CABLES** are normally supplied in the gray color.

Application

Utilized in power overhead distribution networks, in voltages of 15 kV and 25 kV between phases, in which the space for installation is limited. Considered as a non-insulated conductor, it presents a coverage resistant to storms, ultraviolet radiation, mechanical abrasion and electrical tracking (discharges caused by contact with tree branches and humidity). It may also be utilized with other cables in configuration defined by spacers occupying a minimum space (compact network), which is very useful in congested areas.

Packaging

They are normally packaged in wood coils.

Specifications

ABNT NBR 11873 Cables covered with polymer material for electric power overhead distribution networks fixed in spacers, with voltages from 13.8 kV to 34.5 kV.

Indugrex AL Cable TR [15 kV]

REFERENCE	CONDUCTOR		COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1441.01.015	35	7.1	3	13.1	185
1441.01.016	50	8.3		14.3	228
1441.01.017	70	9.9		15.9	302
1441.01.018	95	11.8		17.8	388
1441.01.019	120	13.2		19.2	467
1441.01.020	150	14.3		20.3	549
1441.01.021	185	16.3		22.3	671
1441.01.022	240	18.5		24.5	841
1441.01.023	300	20.5		26.5	1,019

Indugrex AL Cable TR [25 kV]

REFERENCE	CONDUCTOR		COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1443.01.015	35	7.1	4	15.1	226
1443.01.016	50	8.3		16.3	273
1443.01.017	70	9.9		17.9	351
1443.01.018	95	11.8		19.8	443
1443.01.019	120	13.2		21.2	526
1443.01.020	150	14.3		22.3	611
1443.01.021	185	16.3		24.3	739
1443.01.022	240	18.5		26.5	916
1443.01.023	300	20.5		28.5	1,099



Cable Indugrex AL/SCI TR

25 kV to 35 kV



Construction

- 1 Conductor:** Bare aluminum, 1350 alloy, corded circular compact (Class 2), blocked against longitudinal water penetration.
- 2 Conductor Shielding:** Semiconductor thermosetting compound.
- 3 Coverage:** Reticulated polyethylene thermosetting compound XLPE 90 °C, resistant to storms, electrical tracking, ultraviolet radiation and mechanical abrasion.

Identification

The **INDUGREX AL/SCI TR CABLES** are normally supplied in the gray color..

Application

Utilized in power overhead distribution networks, in voltages of 25 kV and 35 kV between phases, in which the space for installation is limited. Considered as a non-insulated conductor, it presents a coverage resistant to storms, ultraviolet radiation, mechanical abrasion and electrical tracking (discharges caused by contact with tree branches and humidity). It may also be utilized with other cables in configuration defined by spacers occupying a minimum space (compact network), which is very useful in congested areas.

Packaging

They are normally packaged in wood coils.

Specifications

ABNT NBR 11873 Cables covered with polymer material for electric power overhead distribution networks fixed in spacers, with voltages from 13.8 kV to 34.5 kV

Indugrex AL/SCI Cable TR [25 kV]

REFERENCE	CONDUCTOR		COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	
1446.01.015	35	7.1	4	16.3	256
1446.01.016	50	8.3		17.5	305
1446.01.017	70	9.9		19.1	386
1446.01.018	95	11.8		21	482
1446.01.019	120	13.2		22.4	568
1446.01.020	150	14.3		23.5	655
1446.01.021	185	16.3		25.5	787
1446.01.022	240	18.5		27.7	969
1446.01.023	300	20.5		29.7	1,156

Indugrex AL/SCI Cable TR [35 kV]

REFERENCE	CONDUCTOR		COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1447.01.017	70	9.9	7.6	26.3	625
1447.01.018	95	11.7		28.2	741
1447.01.019	120	13.2		29.6	841
1447.01.020	150	14.5		30.7	940
1447.01.021	185	16.3		32.7	1,093
1447.01.022	240	18.5		34.9	1,298
1447.01.023	300	20.5		36.9	1,506



Cable Indugrex TR Copper

15 kV



Construction

- 1 Conductor:** Bare electrolytic copper, soft temper, corded circular compact (Class 2), blocked against longitudinal water penetration.
- 2A Coverage:** Reticulated polyethylene thermosetting compound XLPE 90 °C.
- 2B Coverage:** Reticulated polyethylene thermosetting compound XLPE 90 °C, resistant to storms, electrical tracking, ultraviolet radiation and mechanical abrasion.

The two coverage layers are completely adhered to each other.

Identification

The **INDUGREX TR COPPER CABLES** are normally supplied in the gray color.

Application

Utilized to connect the compact network to the transformer.

Packaging

They are normally packaged in wood coils.

Specifications

The **INDUGREX TR COPPER** meets the specifications of the following clients:

- Elektro** ND 060201/1
- Copel** NTC 810631/83
- Light** NTL 140 - MARC/98
- AES Sul** NTU AES - 001-5
- Eletropaulo** NT AES - 001-4

Indugrex TR Copper Cable [15 kV]

REFERENCE	CONDUCTOR		COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
1440.01.013	16	4.8	3.0	10.8	207





CABLES FOR AERIAL INSTALLATIONS

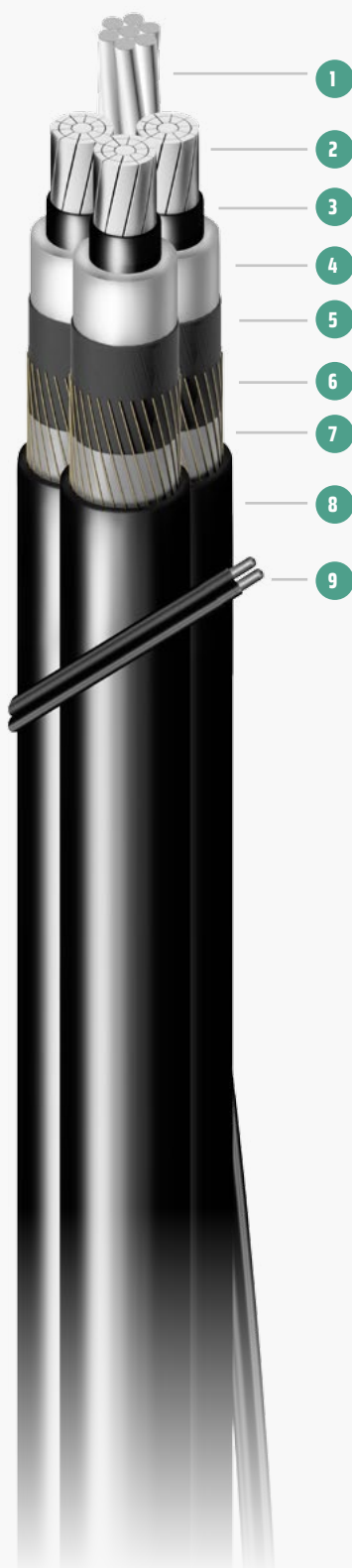
– isolated networks
8.7/15 kV to 20/35 kV

Cable Triplex AL, 91



Cable Triplex AL

8.7/15 kV to 20/35 kV



Construction

- 1 **Conductor:** Bare aluminum conductor phase, 1350 alloy, corded circular compact (Class 2), blocked against longitudinal water penetration.
- 2 **Conductor Shielding:** Semiconductor thermosetting compound.
- 3 **Insulation:** Reticulated polyethylene thermosetting compound XLPE 90 °C.
- 4 **Insulation Shielding:** Semiconductor compound thermosetting layer of easy cold removal.
- 5 **Metallic Shielding:** Bare copper wires, blocked against longitudinal water penetration.
- 6 **Separator:** Non-hygroscopic polyester tape, applied on a propeller, covering 100 % of the cable.
- 7 **Coverage:** Polyethylene thermoplastic compound PE ST7.
- 8 **Lashing Tape:** Two steel wires covered with a layer of polyethylene thermoplastic compound PE.
- 9 **Neutral Conductor:** Zinc coated steel wire rope class A, category HS or corded Conductor of aluminum-magnesium-silicon alloy (CAL).

Identification

Bare neutral conductor + 3 conductors engraved phase 1, phase 2, phase 3.

Application

The **TRIPLEX AL CABLE** is indicated mainly for: heavily wooded areas, areas with high content of pollution, sea coast. Widely utilized by electrical power concessionaires, in outlets of substations, crossing of overpasses and bridges, in express circuits where high reliability is required.

Packaging

They are normally packaged in wood coils.

Specifications

NBR 9024:2009 High-supported multiplexed power cables, with XLPE extruded insulation for voltages from 10 kV to 35 kV, with coverage – Performance requirements

Triplex AL Cable [8.7/15 kV]

REFERENCE	CONDUCTOR		COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	
3805.04.115	35	7.1	1.5	22.9	1,987
3805.04.116	50	8.3		24.1	2,166
3805.04.117	70	9.9	1.6	25.9	2,463
3805.04.118	95	11.8	1.7	28	2,825
3805.04.119	120	13.2	1.7	29.4	3,118
3805.04.120	150	14.3	1.7	30.5	3,408
3805.04.121	185	16.3	1.8	32.7	3,870
3805.04.122	240	18.5	1.9	35.1	4,504
3805.04.123	300	20.5	2	37.3	5,151
3805.04.124	400	23.3	2.1	40.3	6,060
3805.04.125	500	26.2	2.2	43.4	7,175

Triplex AL Cable [12/20 kV]

REFERENCE	CONDUCTOR		COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	
3808.04.115	35	7.1	1.6	25.1	2,218
3808.04.116	50	8.3		26.3	2,408
3808.04.117	70	9.9	1.7	28.1	2,723
3808.04.118	95	11.8		30	3,078
3808.04.119	120	13.2	1.8	31.6	3,411
3808.04.120	150	14.3		32.7	3,711
3808.04.121	185	16.3	1.9	34.9	4,195
3808.04.122	240	18.5	2	37.3	4,852
3808.04.123	300	20.5		39.3	5,486
3808.04.124	400	23.3	2.1	42.3	6,422
3808.04.125	500	26.2	2.2	45.4	7,563

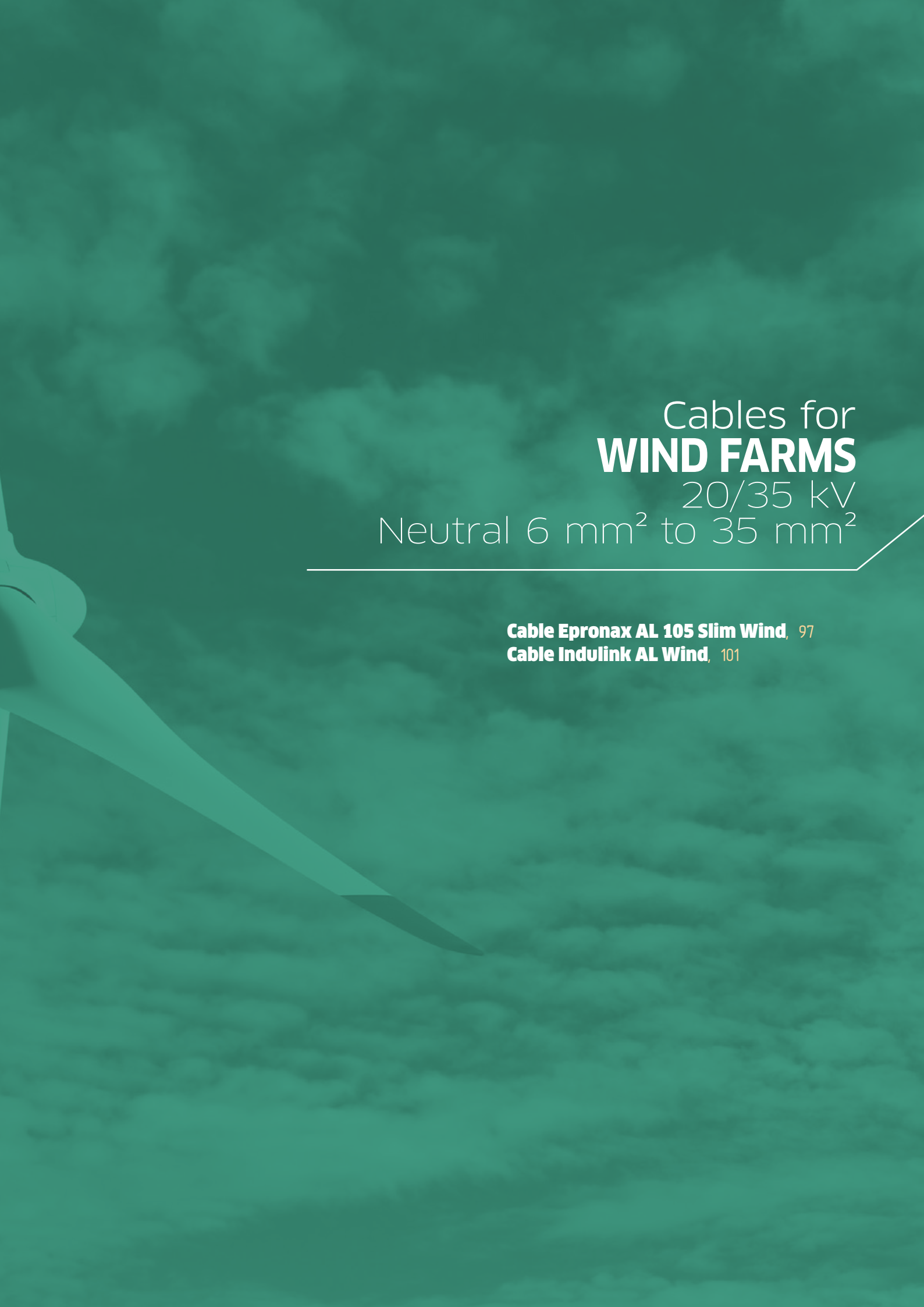
Triplex AL Cable [15/25 kV]

REFERENCE	CONDUCTOR		COVERAGE		TOTAL WEIGHT (kg/km)
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	
3811.04.116	50	8.3	1.7	29.1	2,747
3811.04.117	70	9.9	1.8	30.9	3,084
3811.04.118	95	11.8		32.8	3,462
3811.04.119	120	13.2	1.9	34.4	3,815
3811.04.120	150	14.3		35.5	4,129
3811.04.121	185	16.3	2	37.7	4,639
3811.04.122	240	18.5	2.1	40.1	5,326
3811.04.123	300	20.5		42.1	5,984
3811.04.124	400	23.3	2.2	45.1	6,957
3811.04.125	500	26.2	2.3	48.2	8,137

Triplex AL Cable [20/35 kV]

REFERENCE	CONDUCTOR		COVERAGE		TOTAL WEIGHT (kg/km)
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	
3814.04.116	50	8.3	1.8	33.3	3,320
3814.04.117	70	9.9	1.9	35.1	3,690
3814.04.118	95	11.8	2	37.2	4,136
3814.04.119	120	13.2		38.6	4,486
3814.04.120	150	14.3		39.7	4,819
3814.04.121	185	16.3	2.1	41.9	5,370
3814.04.122	240	18.5	2.2	44.3	6,101
3814.04.123	300	20.5	2.3	46.5	6,837
3814.04.124	400	23.3	2.4	49.5	7,867
3814.04.125	500	26.2	2.5	52.6	9,107





Cables for **WIND FARMS**

20/35 kV
Neutral 6 mm² to 35 mm²

Cable Epronax AL 105 Slim Wind, 97

Cable Indulink AL Wind, 101



Cable Epronax AL 105 Slim Wind

6 mm² to 35 mm² Coordinated Insulation



Construction

- 1 **Conductor:** Bare aluminum, 1350 alloy, corded circular compact (Class 2), blocked against longitudinal water penetration.
- 2 **Conductor Shielding:** Semiconductor thermosetting compound.
- 3 **Insulation:** EPR rubber thermosetting compound 105 °C.
- 4 **Insulation Shielding:** Semiconductor compound thermosetting layer of easy cold removal.
- 5 **Metallic Shielding:** Bare copper wires, blocked against longitudinal water penetration.
- 6 **Separator:** Non-hygroscopic polyester tape, applied on a propeller, covering 100 % of the cable.
- 7 **Coverage:** Polyethylene thermoplastic compound PE ST7.

Identification

Coverage in black color.

Application

- Feeding and primary distribution in electrical power concessionaires;
- Feeding and distribution in industrial plants;
- Generation-transformation interconnection in hydroelectric, thermoelectric, wind power stations, etc.;
- Feeding of substations of buildings and of great consumers in general.

Packaging

They are normally packaged in wood coils.

Specifications

ABNT NBR 7286 Power cables with ethylene propylene rubber extruded insulation (EPR, HEPR or EPR 105) for voltages from 1 kV to 35 kV – Requirements

Epronax AL Slim 105 Wind Neutral Cable [20/35 kV] 6 mm² Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3756.01.016	50	8.3	8.2	25.9	1	1.8	33.3	981
3756.01.017	70	9.9	7.5	26.1			33.5	1,026
3756.01.018	95	11.8		28		1.9	35.6	1,175
3756.01.019	120	13.2		29.4			37.2	1,305
3756.01.020	150	14.8		31		2	38.8	1,436
3756.01.021	185	16.3	6.5	30.5			38.3	1,459
3756.01.022	240	18.5		32.7		2.1	40.7	1,696
3756.01.023	300	20.5		34.7			42.7	1,922
3756.01.024	400	23.3		37.5		2.2	45.7	2,257
3756.01.025	500	26.2		40.4			48.8	2,660

Epronax AL Slim 105 Wind Neutral Cable [20/35 kV] 10 mm² Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3767.01.016	50	8.3	8.2	25.9	1	1.8	33.6	1,017
3767.01.017	70	9.9	7.5	26.1		1.9	34	1,071
3767.01.018	95	11.8		28			35.9	1,211
3767.01.019	120	13.2		29.4		2	37.5	1,340
3767.01.020	150	14.8		31			39.1	1,472
3767.01.021	185	16.3	6.5	30.5		2.1	38.6	1,495
3767.01.022	240	18.5		32.7			41	1,731
3767.01.023	300	20.5		34.7		2.2	43.2	1,970
3767.01.024	400	23.3		37.5		2.3	46.2	2,306
3767.01.025	500	26.2		40.4		2.4	49.3	2,710

Epronax AL Slim 105 Wind Neutral Cable [20/35 kV] 16 mm² Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3758.01.016	50	8.3	8.2	27.1	1	1.8	33.4	1,082
3758.01.017	70	9.9	7.5	27.3		1.9	33.8	1,136
3758.01.018	95	11.8		29.2			35.7	1,276
3758.01.019	120	13.2		30.6		2	37.3	1,405
3758.01.020	150	14.8		32.2			38.9	1,537
3758.01.021	185	16.3	6.5	31.7		2.1	38.4	1,560
3758.01.022	240	18.5		33.9			40.8	1,796
3758.01.023	300	20.5		35.9		2.2	43	2,035
3758.01.024	400	23.3		38.7			45.8	2,358
3758.01.025	500	26.2		41.6		2.4	49.1	2,775

Epronax AL Slim 105 Wind Neutral Cable [20/35 kV] 25 mm² Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3760.01.016	50	8.3	8.2	25.9	1	1.9	34.6	1,190
3760.01.017	70	9.9	7.5	26.1			34.8	1,234
3760.01.018	95	11.8		28		2	36.9	1,385
3760.01.019	120	13.2		29.4			38.3	1,504
3760.01.020	150	14.8		31		2.1	40.1	1,647
3760.01.021	185	16.3	6.5	30.5		2	39.4	1,658
3760.01.022	240	18.5		32.7		2.1	41.8	1,896
3760.01.023	300	20.5		34.7		2.2	44	2,134
3760.01.024	400	23.3		37.5		2.3	47	2,471
3760.01.025	500	26.2		40.4		2.4	50.1	2,875

Epronax AL Slim 105 Wind Neutral Cable [20/35 kV] 35 mm² Coordination Insulation

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3762.01.016	50	8.3	8.2	25.9	1	1.9	35	1,296
3762.01.017	70	9.9	7.5	26.1			35.2	1,340
3762.01.018	95	11.8		28		2	37.3	1,491
3762.01.019	120	13.2		29.4			38.7	1,610
3762.01.020	150	14.8		31		2.1	40.5	1,753
3762.01.021	185	16.3	6.5	30.5			40	1,776
3762.01.022	240	18.5		32.7		2.2	42.2	2,002
3762.01.023	300	20.5		34.7			44.4	2,240
3762.01.024	400	23.3		37.5		2.3	47.4	2,577
3762.01.025	500	26.2		40.4		2.4	50.5	2,981



Cable Indulink AL Wind

20/35 35 kV Neutral 6 mm² to 35 mm²



Construction

- 1 Conductor:** Bare aluminum, 1350 alloy, corded circular compact (Class 2), blocked against longitudinal water penetration.
- 2 Conductor Shielding:** Semiconductor thermosetting compound.
- 3 Insulation:** Reticulated polyethylene thermosetting compound XLPE 90 °C.
- 4 Insulation Shielding:** Semiconductor compound thermosetting layer of easy cold removal.
- 5 Metallic Shielding:** Bare copper wires, blocked against longitudinal water penetration.
- 6 Separator:** Non-hygroscopic polyester tape, applied on a propeller, covering 100 % of the cable.
- 7 Coverage:** Polyethylene thermoplastic compound PE ST7.

Identification

Coverage in black color.

Application

- Feeding and primary distribution in electrical power concessionaires;
- Feeding and distribution in industrial plants;
- Generation-transformation interconnection in hydroelectric, thermoelectric, wind power stations, etc.;
- Feeding of substations of buildings and of great consumers in general.

Packaging

They are normally packaged in wood coils.

Specifications

ABNT NBR 7287 Power cables with reticulated polyethylene extruded insulation (XLPE) for voltages from 1 kV to 35 kV – Performance requirements.

Indulink AL Slim Cable [20/35 kV] Neutral 6 mm²

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3900.01.016	50	8.3	8.8	27.1	1	1.9	36.2	959
3900.01.017	70	9.9		28.7		2	38	1,088
3900.01.018	95	11.8		30.6		2.1	40.1	1,239
3900.01.019	120	13.2		32		2.1	41.5	1,356
3900.01.020	150	14.8		33.6		2.2	43.3	1,499
3900.01.021	185	16.4		35.2		2.2	44.8	1,652
3900.01.022	240	18.5		37.3		2.3	47.2	1,897
3900.01.023	300	20.5		39.3		2.4	49.4	2,144
3900.01.024	400	23.3		42.1		2.5	52.4	2,489
3900.01.025	500	26.2		45		2.6	55.5	2,904

Indulink AL Slim Cable [20/35 kV] Neutral 10 mm²

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3901.01.016	50	8.3	8.8	27.1	1	1.9	35	982
3901.01.017	70	9.9		28.7		1.9	36.6	1,100
3901.01.018	95	11.8		30.6		2	38.7	1,250
3901.01.019	120	13.2		32		2.1	40.3	1,378
3901.01.020	150	14.8		33.6		2.1	41.9	1,508
3901.01.021	185	16.3		35.1		2.2	43.6	1,673
3901.01.022	240	18.5		37.3		2.2	45.8	1,904
3901.01.023	300	20.5		39.3		2.3	48	2,149
3901.01.024	400	23.3		42.1		2.4	51	2,493
3901.01.025	500	26.2		45		2.5	54.1	2,907

Indulink AL Slim Cable [20/35 kV] Neutral 16 mm²

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3901.01.016	50	8.3	8.8	27.1	1	1.9	34.8	1,047
3901.01.017	70	9.9		28.7		1.9	36.4	1,165
3901.01.018	95	11.8		30.6		2	38.5	1,315
3901.01.019	120	13.2		32		2.1	40.1	1,443
3901.01.020	150	14.8		33.6		2.1	41.7	1,573
3901.01.021	185	16.3		35.1		2.2	43.4	1,738
3901.01.022	240	18.5		37.3		2.2	45.6	1,968
3901.01.023	300	20.5		39.3		2.3	47.8	2,214
3901.01.024	400	23.3		42.1		2.4	50.8	2,558
3901.01.025	500	26.2		45		2.5	53.9	2,971

Indulink AL Slim Cable [20/35 kV] Neutral 25 mm²

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3902.01.016	50	8.3	8.8	27.1	1	2	37.5	1,169
3902.01.017	70	9.9		28.7		2	39.1	1,288
3902.01.018	95	11.8		30.6		2.1	41.2	1,438
3902.01.019	120	13.2		32		2.1	42.6	1,555
3902.01.020	150	14.8		33.6		2.2	44.4	1,699
3902.01.021	185	16.3		35.1		2.3	46.1	1,865
3902.01.022	240	18.5		37.3		2.3	48.3	2,097
3902.01.023	300	20.5		39.3		2.4	50.5	2,344
3902.01.024	400	23.3		42.1		2.5	53.5	2,690
3902.01.025	500	26.2		45		2.6	56.6	3,106

Indulink AL Slim Cable [20/35 kV] Neutral 35 mm²

REFERENCE	CONDUCTOR		INSULATION		NUMBER OF CONDUCTORS	COVERAGE		TOTAL WEIGHT
	NOMINAL SECTION (mm ²)	NOMINAL DIAMETER (mm)	NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)		NOMINAL THICKNESS (mm)	NOMINAL DIAMETER (mm)	(kg/km)
3903.01.016	50	8.3	8.8	27.1	1	1.9	38	1,275
3903.01.017	70	9.9		28.7		2	39.6	1,394
3903.01.018	95	11.8		30.6		2.1	41.7	1,545
3903.01.019	120	13.2		32		2.2	43.3	1,674
3903.01.020	150	14.8		33.6		2.2	44.9	1,805
3903.01.021	185	16.3		35.1		2.3	46.6	1,972
3903.01.022	240	18.5		37.3		2.3	48.8	2,204
3903.01.023	300	20.5		39.3		2.4	5	2,451
3903.01.024	400	23.3		42.1		2.5	54	2,797
3903.01.025	500	26.2		45		2.6	57.1	3,212







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