Adding Power to your Life®

LT WIRES & CABLES

ISO 14001:2015 COMPANY

ISO 9001:2008 COMPANY

IS:694 CM/L-3699892

IS:1554 CM/L-3699993

IS:7098 CM/L-3787586

CE

adcab®
Atlas Cables & Accessories Pvt. Ltd.

FIRE RETARDANT

ERDA

FIA FIRE INSURANCE APPROVED

TAC TARIFF ADVISORY COMMITTEE

adcab®

Adding POWER to your life

Wires & Cables

Atlas Cables And Accessories Pvt Ltd

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Wires are not Just Wires

They are Nervous System of Infrastructure !

Our Journey

Atlas Cables And Accessories Pvt. Ltd. (**ADCAB**) is a leading brand offering Building Wires, Single Core & Multi Core Flexible Cables, Specialized Cable, Power Cable, Instrumentation Cable & Flat Submersible Cables etc. Atlas Cables And Accessories Pvt. Ltd. is one of the leading manufacturer and exporter of LT Wires & Cables: with a glorious track record of more than 30 years. **ADCAB** is the brain child of Atlas Cables And Accessories Pvt Ltd.

We began our journey in the year 2010 when we launched our new manufacturing unit creating the complete range of LT Cables at Gandhidham-Kandla Complex, Kutch, Gujarat. Under the leadership of Mr. Sandeep Nahata and Mr. Hardik Patel, we started the new manufacturing unit complying with BIS Standards, ISO : 9001 Rating & CE Marking.

We believe that wires play a vital role in electrification of any building. That's why we have highly qualified and experienced professionals on board, to provide the products and that we promise to our customers. With the help of extraordinary research studies, design innovations, stringent quality control system and a dedicated team of engineers, designers and technical experts; **ADCAB** is all set to sail to the stars !

Customer Satisfaction is our first-and-foremost objective, and it inspires us to provide superior quality, timely delivery, market oriented products and most competitive price in the market with amazing technical support and after sales service.

A RELIABLE NAME IN THE CABLE INDUSTRY !

We are constantly engaged with new research and developments that are significant for the industry, aimed at creating better quality products and a healthier environment. **ADCAB**'s in-house **NABL** Approved Quality Assurance Laboratory is blessed with the latest technology in the hands of the experts. Continuous research, innovation , development and ultimately evolution; this is the way of life at **ADCAB.**

Supreme Quality, Product Customization and Amazing Services; we offer the LT Wires & Cables that are the best in safety, stability, resistance and all other electrical parameters !

WE BELIEVE IN QUALITY !

- ISO 14001:2015
- ISO 9001 : 2015
- CE Marking
- IS 694 / IS 7098 / IS 1554
- IRS Approved
- CRISIL Verified

Mission

PERFECTION IN EVERYTHING THAT WE DO !

Our mission is to manufacture LT Wires & Cables, which have the supreme QUALITY and eternal RELIABILITY; and ultimately give the end users a flawless Experience. We are here to expand the horizons and reach the developing markets throughout the world with our top-quality product range.

Vision

A FUTURISTIC WAY OF LIFE !

Our vision is to contribute our best in creating a new world with futuristic technology and a comfortable life. To create superior products and provide through services as a responsible LT Wires & Cables manufacturer; and making all that possible which people are dreaming about.

This is what makes us UNIQUE !

- Most competitive rates in the market.
- Customer oriented business model
- Strong technical support
- Timely delivery
- Extensive manufacturing and engineering capabilities
- Ability to meet the requirements of specific core sector
- Complete solution for domestic cabling needs
- High standards of safety and quality control
- Service and client satisfaction as the top priority
- Total transparency in management

Product Range

House Wire

IS : 694
HRFR / FRLS / ZHFR
UP TO 10 SQ MM
In All Color
99.97 % Pure Copper
100% Conductivity
Higher Flexibility
Environment Friendly

Industrial Power Cable
Industrial Control Cable
Flexible Cable
IS 7098 / IS 1554 / IS 694
Copper / Aluminum
XLPE / FRLS / HR / ZHFR
Armored / Un Armored
Single Core up to 630 sq mm
Multi Core up to 400 sq mm

Industrial Cable

Flat Cable

IS : 694 / IS 7098
Copper Conductor
PVC Insulated Cable
XLPE Insulated Cable
3 Core / 4 Core
For Agriculture Use
Up to 50 sq mm

Instrumentation Cables
(Braided & Shielded Cable)
Rubber Cable
Welding Cable
Marine Cable
Fire Survival Cable
Solar Cable
Copper Ropes
Automative Cables ect

Specialized Cable

Building Wire

HRFR Wire

Multistranded Heat Resistant Flame Retardant (HRFR) PVC Insulated Single Core Unsheathed Copper Wire as per IS:694-2010 (up to 1100 V)

Application : Suitable for wiring in all kind of infrastructure, residential as well as industrial

Voltage Grade : Up to and including 1100 V

Approvals : IS 694:2010, ISO 9001:2015, FIA/TAC

Conductor : The Conductors, drawn from bright electrolytic grade copper are annealed and bunched together for better flexibility and higher rating values

Insulation : These wires are insulated with a Heat Resistant Flame Retardant (HRFR) PVC Compound

Color : Red, Yellow, Blue, Black, Grey, Green, White
Any specialized as per customer requirement

Packing : 90 Mtr. Coil in Carton Packing, 180 Mtr. Project Coil

Size, Dimension and Ration

Nominal Area of Conductor (sq mm)	Number/Nom. Dia of Strands* (Nom.)	Thickness of Insulation (Nom.) (mm)	Overall Diameter (Max) (mm)	Current Carrying Capacity* (AMPS)		Resistance (Max) km.@20 C (Ohm/km)
				Casing	Concealed	
0.75	24/0.20	0.6	2.5	8	7	26.00
1.00	14/0.30	0.7	2.8	12	11	18.10
1.50	22/0.30	0.7	3.1	16	13	12.10
2.50	36/0.30	0.8	3.8	22	18	7.41
4.00*	56/0.30	0.8	4.4	29	24	4.95
6.00*	84/0.30	0.8	5.2	37	31	3.30

*As per IS 3961 (Part V)-1968 and conductor as per IS-8130:1984

FR Properties

Test	Specification	Value
Critical Oxygen Index	ASTM-D-2863	Minimum 29
Temperature Index	ASTM-D-2863	Minimum 250 C

Note : *Conductor in Class V as per IS:8130

FRLS Wire

MULTISTRANDED COPPER CONDUCTOR FLAME RETARDANT LOW SMOKE PVC INSULATED SINGLE CORE WIRE UP TO 1100 V - ADCAB MAKE

Application : Suitable for wiring in all kind of infrastructure, especially for fire and explosion prone areas, chemical industries, school and colleges, hospitals, treaters, densely populated areas etc

Voltage Grade : Up to and including 1100 V

Approvals : IS 694:2010, ISO 9001:2015, FIA/TAC

Conductor : The Conductors, drawn from bright electrolytic grade copper are annealed and bunched together for better flexibility and higher rating values

Insulation : These wires are insulated with a Flame Retardant Low Smoke Low Halogen (FRLS) PVC Compound to restrict the flame smoke as well as spread of flames in fire situation.

Insulation IS : IS 5831 Type A/D FR-LS 70 C

Color : Red, Yellow, Blue, Black, Grey, Green, White
Any specialized as per customer requirement

Packing : 180 Mtr. Project Coil

Size, Dimension and Ration

Nominal Area of Conductor (sq mm)	Number/Nom. Dia of Strands* (Nom.)	Thickness of Insulation (Nom.) (mm)	Overall Diameter (Max) (mm)	Current Carrying Capacity* (AMPS)		Resistance (Max) km.@20 C (Ohm/km)
				Casing	Concealed	
1.00	14/0.30	0.7	2.8	12	11	18.10
1.50	22/0.30	0.7	3.1	16	13	12.10
2.50	36/0.30	0.8	3.8	22	18	7.41
4.00*	56/0.30	0.8	4.4	29	24	4.95
6.00*	84/0.30	0.8	5.2	37	31	3.30

*As per IS 3961 (Part V)-1968 and conductor as per IS-8130:1984

FR-LS Properties

Test	Specification	Value
Critical Oxygen Index	ASTM-D-2863	Minimum 29
Temperature Index	ASTM-D-2863	Minimum 250 C
Acid Gas Generation	IEC 754	Maximum 20
Smoke Density	ASTM-D-2843	Maximum 60

Note : *Conductor in Class V as per IS:8130

ZHFR Wire

MULTISTRANDED COPPER CONDUCTOR ZERO HALOGEN FLAME RETARDANT PVC INSULATED SINGLE CORE WIRE UP TO 1100 V - ADCAB MAKE

Application : Suitable for wiring in all kind of infrastructure fire safety is of utmost importance, like high rise buildings, pharmaceutical companies, laboratories, theatres, school & college building, chemical industries ect.

Voltage Grade : Up to and including 1100 V

Approvals : IS 694:2010, ISO 9001:2015, FIA/TAC

Conductor : The Conductors, drawn from bright electrolytic grade copper are annealed and bunched togethe for better flexibility and higher rating values

Insulation : These wires are insulated with a Zero Halogen Flame Retardant (ZHFR) PVC Compound.

Insulation IS : IEC 60332-1&3, IEC 60754-1&2

Color : Red, Yellow, Blue, Black, Grey, Green, White
Any specialized as per customer requirement

Packing : 180 Mtr. Project Coil

Size, Dimension and Ration

Nominal Area of Conductor (sq mm)	Number/Nom. Dia of Strands* (Nom.)	Thickness of Insulation (Nom.) (mm)	Overall Diameter (Max) (mm)	Current Carrying Capacity* (AMPS)		Resistance (Max) km.@20 C (Ohm/km)
				Casing	Concealed	
1.00	14/0.30	0.7	2.8	12	11	18.10
1.50	22/0.30	0.7	3.1	16	13	12.10
2.50	36/0.30	0.8	3.8	22	18	7.41
4.00*	56/0.30	0.8	4.4	29	24	4.95
6.00*	84/0.30	0.8	5.2	37	31	3.30

*As per IS 3961 (Part V)-1968 and conductor as per IS-8130:1984

ZHFR Properties

Test	Specification	Value
Critical Oxygen Index	ASTM-D-2863	Minimum 29
Temperature Index	ASTM-D-2863	Minimum 250 C
Acid Gas Generation	IEC 754	Maximum 5
Smoke Density	ASTM-D-2843	Maximum 20

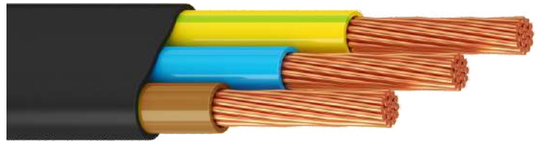
Submersible Flat Cable - PVC

MULTISTRAND COPPER CONDUCTOR PVC INSULATED & ST-1 PVC OUTER SHEATHED SUBMERSIBLE FLAT CABLE VOLTAGE GRADE UP TO 1100 V

Application : **Submersible Flat Cable Suitable for Pump Industry, Overhead Crane etc Providing protection while immersed under water and underground hand pumps etc**

CONSTRUCTION OF CABLE

- **BIS** : IS 694:2010
- **Conductor** : Electrolytic Grade Plain Copper Class V as per IS:8130
- **Insulation** : Type A, FR or FRLS PVC Compound
- **Sheath** : Type ‘St1' PVC Compound
- **Voltage Grade** : Up to and including 1100 V
- **Packing** : 500 / 1000 Mtr. Wooden Drum
- **Cable Color** : Black, Grey. Other of special request
- **Range** : 1.0 sq mm to 50 sq mm



CABLE TECHNICAL PERAMETER

Nominal Cross Sectional Area of Conductor (sq. mm)	Number Max. Dia. of Strands	Nominal Insulation Thickness (mm)	Approx Overall Diameter	Sheath Approx Overall Diameter		Max. Conductor Resistance per KM @ 20 C Ohms	Current Carrying Capacity @ 40 C AMPS
				Width (Nom) mm	Height (Nom) mm		
1.5 **	22/0.3	0.7	0.9	10.2	4.6	12.1	13
2.5 **	36/0.3	0.8	1.0	13.0	5.65	7.41	18
4.0	56/0.3	0.8	1.0	14.55	6.2	4.95	24
6.0	84/0.3	0.8	1.1	16.5	7.0	3.30	31
10	140/0.3	1.0	1.4	21.05	8.90	1.91	42
16	126/0.4	1.0	1.4	24.30	10.0	1.21	57
25	196/0.4	1.2	2.0	30.55	12.85	0.780	72
35	276/0.4	1.2	2.0	34.0	14.0	0.554	90

Note : The numbers and diameter of conductor stands are for reference only. Conductor resistance as pr IS:8130 is the governing criteria. Conductor shall be of Class II for 1.5 & 2.5 sq mm and for other size shall be of Class V as per IS:8130

Submersible Flat Cable - XLPE

MULTISTRAND COPPER CONDUCTOR XLPE INSULATED & ST-1 PVC OUTER SHEATHED SUBMERSIBLE FLAT CABLE VOLTAGE GRADE UP TO 1100 V

Application : **Submersible Flat Cable Suitable for agriculture, fountain, open well irrigation, mines dewatering, industrial use etc.**

CONSTRUCTION OF CABLE

- **BIS** : IS 7098 (Part I)
- **Conductor** : Electrolytic Grade Plain Copper Class V as per IS:8130
- **Insulation** : Cross Linked Polyethylene (XLPE)
- **Sheath** : Heat Resistant Type ‘St 2' PVC Compound
- **Voltage Grade** : Up to and including 1100 V
- **Packing** : 500 / 1000 Mtr. Wooden Drum
- **Cable Color** : Black, Grey. Other of special request
- **Range** : 1.0 sq mm to 50 sq mm

CABLE TECHNICAL PERAMETER

Nominal Cross Sectional Area of Conductor (sq. mm)	Number Max. Dia. of Strands	Nominal Insulation Thickness (mm)	Approx Overall Diameter	Sheath Approx Overall Diameter		Max. Conductor Resistance per KM @ 20 C Ohms	Current Carrying Capacity @ 40 C AMPS
				Width (Nom) mm	Height (Nom) mm		
1.5 **	22/0.3	0.7	0.9	10.8	4.8	12.1	22
2.5 **	36/0.3	0.7	1.0	12.41	5.47	7.41	30
4.0	56/0.3	0.7	1.0	14	6	4.95	37
6.0	84/0.3	0.7	1.1	15.88	6.76	3.30	46
10	140/0.3	0.7	1.4	19.3	8.3	1.91	66
16	126/0.4	0.7	1.4	22.48	9.36	1.21	85
25	196/0.4	0.9	2.0	28.72	12.24	0.780	113
35	276/0.4	0.9	2.0	32.32	13.44	0.554	139

SELECTION GUIDE FOR 3 CORE FLAT CALBE
CABLE SELECTION CHART @ 40 C 415 V (WITH DOL STARTER)

SUBMERSIBLE MOTORS		SIZE OF CABLES IN SQ MM AT DIFFERENT LENGTH IN MTR														
H.P	FULL LOAD CURRENT	10	20	30	40	50	60	70	80	90	100	110	128	140	180	200
5	7.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	4	4
7.5	11	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	4	4	4	6
10	15	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4	4	4	4	6	6
12.5	19	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4	4	4	4	6	6	10	10
15	22.5	4	4	4	4	4	4	4	4	4	4	6	6	10	10	10
17.5	26	4	4	4	4	4	4	4	4	6	6	6	10	10	10	10
20	28.4	6	6	6	6	6	6	6	6	6	6	6	10	10	10	16
25	35.6	10	10	10	10	10	10	10	10	10	10	10	10	10	16	16
30	42.3	10	10	10	10	10	10	10	10	10	10	10	10	16	16	16
35	50.4	16	16	16	16	16	16	16	16	16	16	16	16	16	25	25
40	58.1	16	16	16	16	16	16	16	16	16	16	16	16	16	25	25
45	62.1	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
50	67.5	25	25	25	25	25	25	25	25	25	25	25	25	25	25	35
55	73.8	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
60	81.0	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
65	87.3	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
70	93.6	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
75	100.8	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
80	108.0	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50

CABLE SELECTION CHART @ 40 C 415 V (WITH STAR DELTA STARTER - DOUBLE CABLE)

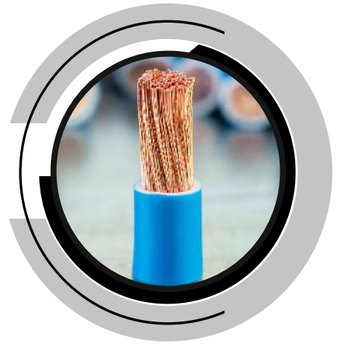
SUBMERSIBLE MOTORS		SIZE OF CABLES IN SQ MM AT DIFFERENT LENGTH IN MTR														
H.P	FULL LOAD CURRENT AMPS.	10	20	30	40	50	60	70	80	90	100	110	128	140	180	200
5	7.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
7.5	11	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	4	4
10	15	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	4	4	4	6
12.5	19	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.5	2.5	2.5	2.5	4	4	4	6
15	22.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4	4	4	4	6	6
17.5	26	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4	4	4	4	6	6
20	28.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4	4	4	4	6	6	10	10
25	35.6	4	4	4	4	4	4	4	4	4	4	6	6	10	10	10
30	42.3	4	4	4	4	4	4	4	4	6	6	6	10	10	10	10
35	50.4	6	6	6	6	6	6	66	6	6	6	6	10	10	10	16
40	56.1	10	10	10	10	10	10	10	10	10	10	10	10	10	16	16
45	62.1	10	10	10	10	10	10	10	10	10	10	10	10	10	16	16
50	67.5	10	10	10	10	10	10	10	10	10	10	10	10	16	16	16
55	73.8	10	10	10	10	10	10	10	10	10	10	10	10	16	16	16
60	81.0	16	16	16	16	16	16	16	16	16	16	16	16	16	25	25
65	87.3	16	16	16	16	16	16	16	16	16	16	16	16	16	25	25
70	93.6	16	16	16	16	16	16	16	16	16	16	16	16	16	25	25
75	100.8	16	16	16	16	16	16	16	16	16	16	16	16	16	25	25
80	108.0	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

SINGLE CORE FLEXIBLE CABLE

MULTISTRANDED COPPER CONDUCTOR FRLS PVC INSULATED & ST-3 GRADE OUTER SHEATHED SINGLE CORE FLEXIBLE CABLE CONLATE GRADE UP TO 1100 V - ADCAB MAKE

Application — **Cable Suitable for internal wiring of control & instrumentation panels, motor starters, relay, controllers, connectors, static appliances etc.**

CONSTRUCTION OF CABLE



- **BIS** : IS 694-2010
- **Conductor** : Electrolytic Grade Plain Copper Class V as per IS:8130
- **Insulation** : Primary - Natural PVC with FRLS Properties
Secondary - Skin Color Coated PVC with FRLS Properties
- **Voltage Grade** : Up to and including 1100 V
- **Packing** : Standard 100 mtr coil / 500 or 1000 Mtr. Wooden Drum
- **Cable Color** : Standard Black Color. Others as per special request
- **Range** : 0.5 sq mm to 1000 sq mm

CABLE TECHNICAL PERAMETER

Nominal Cross Sectional Area of Conductor (sq. mm)	Number Max. Dia. of Strands	Nominal Insulation Thickness (mm)	Approx Overall Diameter (Max) (mm)	*Current Carrying Capacity-2 Cables Single Phase (AMPS) Unenclosed Clipped Direct to a Surface or on Cable Trays	Max. Conductor Resistance pr KM @ 20 C
10	140/0.30	1.0	6.10	72	1.91
16	126/0.40	1.0	7.20	92	1.21
25	196/0.40	1.2	8.85	120	0.780
35	276/0.40	1.2	10.05	140	0.554
50	396/0.40	1.4	11.95	165	0.386
70	354/0.50	1.4	13.65	214	0.272
95	484/0.50	1.6	15.85	260	0.206
120	608/0.50	1.6	17.40	305	0.161
150	750/0.50	1.8	19.35	355	0.129
185	925/0.50	2.0	21.50	415	0.106
240	1210/0.50	2.2	24.40	500	0.0801
300	1527/0.50	2.4	27.30	570	0.0641
400	2036/0.50	2.6	31.15	690	0.0486

MULTICORE FLEXIBLE CABLE

MULTISTRANDED COPPER CONDUCTOR FRLS PVC INSULATED & ST-3 GRADE OUTER SHEATHED MULTI CORE FLEXIBLE CABLE VOLTAGE GRADE UP TO 1100 V - ADCAB MAKE

Application Cable Suitable for internal wiring of all type of Industrial, Residential & Commercial Infrastructure, Machineries, Tools for Controlling & Instrumentation, Motors etc.

CONSTRUCTION OF CABLE

- **BIS** : IS 694:2010
- **Conductor** : Electrolytic Grade Plain Annealed Copper Class V as per IS:8130
- **Insulation** : Type D, FRLS PVC Compound
- **Sheath** : Flexible Grade PVC
- **Voltage Grade** : Up to and including 1100 V
- **Packing** : Standard 100 Mtr Coil. Longer in Wooden Drum as per customer requirement
- **Cable Color** : Black, Gray & White, Others - as per customer requirement
- **Range** : 0.5 sq mm to 1000 sq mm in Single Core
  0.5 sq mm to 400 sq mm in Multi Core

CORE IDENTIFICATION

- **2 CORE** : Red, Black
- **3 CORE** : Red, Black & Yellow-Green*
- **4 CORE** : Red, Yellow, Blue Yellow-Green*
- **5 CORE** : Red, Yellow, Blue, Black & Gray
- **6 CORE** : Red, Yellow, Blue, Green, White & Yellow-Green
- **7 CORE** : Numbering in Each Core / Color Coding as specified in IS:694 and above

Note : The numbers and diameter of conductor stands are for reference only. Conductor resistance as pr IS:8130 is the governing criteria. Conductor shall be of Class V as per IS:8130

CABLE TECHNICAL PERAMETER

Nominal Cross Sectional Area of Conductor (sq. mm)	Number Max. Dia. of Strands	Nominal Insulation Thickness (mm)	Nominal Thickness of Sheath					Approx Overall Diameter					Max. Conductor Resistance per KM @ 20 C Ohms
			5 Core mm	6 Core mm	7 Core mm	8 Core mm	10 Core mm	5 Core mm	6 Core mm	7 Core mm	8 Core mm	10 Core mm	
0.50	16/0.20	0.6	0.9	0.9	0.9	1.0	1.0	7.55	8.2	8.2	9.3	10.5	39.0
0.75	24/0.20	0.6	0.9	1.0	1.0	1.0	1.1	8.1	9.0	9.0	10.0	11.5	26.0
1.00	32/0.20	0.6	0.9	1.0	1.0	1.0	1.1	8.75	9.5	9.5	10.65	12.2	19.5
1.50	30/0.25	0.6	0.9	1.0	1.0	1.1	1.1	9.5	10.3	10.3	11.75	13.3	13.3
2.50	50/0.25	0.7	1.0	1.1	1.1	1.2	1.3	11.25	12.5	12.5	14.25	16.3	7.98

Nominal Cross Sectional Area of Conductor (sq. mm)	Number Max. Dia. of Strands	Nominal Insulation Thikness (mm)	Nominal Thickness of Sheath					Approx Overall Diameter					Max. Conductor Resistance per KM @ 20 C Ohms
			12 Core mm	14 Core mm	16 Core mm	19 Core mm	24 Core mm	12 Core mm	14 Core mm	16 Core mm	19 Core mm	24 Core mm	
0.50	16/0.20	0.6	1.0	1.1	1.1	1.1	1.2	10.85	11.55	12.2	12.8	15.15	39.0
0.75	24/0.20	0.6	1.1	1.1	1.2	1.2	1.3	11.85	12.45	13.30	13.30	16.55	26.0
1.00	32/0.20	0.6	1.1	1.1	1.2	1.3	1.4	12.6	13.25	14.15	14.15	17.8	19.5
1.50	30/0.25	0.6	1.1	1.2	1.2	1.3	1.4	13.75	14.6	15.45	15.45	19.4	13.3
2.50	50/0.25	0.7	1.3	1.3	1.4	1.4	1.5	16.9	17.75	18.95	18.95	23.6	7.98

Nominal Cross Sectional Area of Conductor (sq. mm)	Number Max. Dia. of Strands	Nominal Insulation Thikness (mm)	Nominal Thickness of Sheath			Approx Overall Diameter			Current Rating AC	Voltage Drop / AMP. / MTR		Max. Conductor Resistance per KM @ 20 C Ohms
			2 Core mm	3 Core mm	4 Core mm	2 Core mm	3 Core mm	4 Core mm		DC Single Phase AC mV	3 Phase AC mV	
0.50	16/0.20	0.6	0.9	0.9	0.9	6.05	6.40	6.95	4	83	72	39.0
0.75	24/0.20	0.6	0.9	0.9	0.9	6.45	6.85	7.45	7	56	48	26.0
1.00	32/0.20	0.6	0.9	0.9	0.9	6.80	7.20	7.85	11	43	37	19.5
1.50	30/0.25	0.6	0.9	0.9	1.0	7.40	7.80	8.75	13	31	26	13.3
2.50	50/0.25	0.7	1.0	1.0	1.0	8.85	9.40	10.30	18	18	16	7.98
4.00	56/0.30	0.8	1.0	1.0	1.0	10.35	11.0	12.10	24	11	9.6	4.95
6.00	84/0.30	0.8	1.1	1.2	1.2	11.70	12.65	13.90	31	8	7	3.30
10	140/0.30	1.0	1.3	1.4	1.4	14.75	15.95	17.50	42	4	3.5	1.91
16	126/0.40	1.0	1.4	1.4	1.4	17.10	18.25	20.10	57	2.5	2.2	1.21
25	196/0.40	1.2	1.4	1.5	1.6	20.50	22.10	24.60	72	1.6	1.4	0.780
35	276/0.40	1.2	1.6	1.6	1.7	23.20	24.80	27.60	91	1.2	1.0	0.554
50	396/0.40	1.4	2.0	2.0	2.0	27.9	29.8	32.9	120	0.97	0.84	0.386
70	354/0.50	1.4	2.2	2.2	2.2	31.6	33.8	37.35	200	0.7	0.62	0.272
95	484/0.50	1.6	2.4	2.4	2.4	36.5	39.0	43.15	225	0.59	0.48	0.206
120	608/0.50	1.6	2.5	2.5	2.5	36.75	42.55	47.05	305	0.48	0.42	0.161
150	750/0.50	1.8	-	2.6	2.6	-	47.0	52.0	355	-	-	0.129
185	925/0.50	2.0	-	2.8	2.8	-	52.0	57.60	415	-	-	0.106
240	1210/0.50	2.2	-	3.0	3.0	-	58.7	65.0	500	-	-	0.0801
300	1527/0.50	2.4	-	3.2	3.2	-	65.30	72.40	587	-	-	0.0641

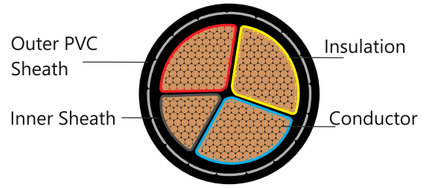
Note : The numbers and diameter of conductor stands are for reference only. Conductor resistance as pr IS:8130 is the governing criteria. Conductor shall be of Class V as per IS:8130

LT PVC CABLE

IS 1554 (PART I)- 1988			
Construction of Conductor			
Nominal Cross Sectional Area of Conductor (mm²)		Solid / Stranded	Flexibility Class Ref to IS :8130 1984
Copper mm²	Aluminium mm²		
	1.5	Solid	Class -1
1.5 to 6	2.5 to 10	Solid / Stranded	Class 1 for solid or Class 2 for stranded
10 and Above	16 and Above	Stranded	Class 2
Thickness of Insulation (mm) AS PER IS 1554 (PART-1)			
The following code shall be used for designationg the cable			
Constitutent			Code Latter
Aluminium conductor			A
PVC Insulation			Y
Steel round wire armour			W
Steel strip armour			F
Steel double round wire armour			WW
Steel double strip armour			FF
PVC Sheath			Y
Type of cable			Legend
i) Improved fire performance or Category C1			FR
ii) Improved fire performance or Category C2			FR-LSH

PVC / XLPE INSULATED POWER & CONTROL CABLE

Armoured Cables



Current Ratings (Based on IS 3961 (Part II) 1967)

The Current ratings are based on the normal conditions of installation described below:

Maximum Conductor temperature	70°C
Ambient air temperature	40°C
Ground temperature	30°C
Depth of laying	75 cm (1.1 KV)
Thermal resistivity of soil	150°C cm/Watt
Thermal resistivity of 'ATLAS' cables	650°C cm/Watt

For other Conditions, the Corresponding rating factors are to be applied.

Method of Installation

Single Core Cables

Laid direct in the Ground

Three in Close trefoil formation or
two touching in horizontal formation.

In Air

a) Two Single Core Cables installed one above the other fixed to a vertical wall as follows, the distance between the wall and the surface of the cable being 2.5 cm. In each case.

- Cables upto and including 185 Sq.mm. are installed at a distance between centres of twice the overall diameter of the cable.
- Cables of Size 240 Sq.mm. and above are installed at a distance between centres of 9 cm.

The ratings for two cables may be applied with safety in cases where such cabes are installed in horizontal formation, or brackets fixed to a wall, either spaced as indicated above or touching throughout.

b) Three Single Core Cables installed in trefoil formation touching.

LT- XLPE POWER & CONTROL CABLE RATING & PARAMETERS

(Unarmour , Armoured Cable Conforming to IS 7098 - I / 1988 Weight Dimention data & Current carrying capacity of cables.)														
650/1100 VOLTS MULTICORE CONTROL CABLE WITH SOLID COPPER CONDUCTOR OF SIZE 1.5 SQ.MM. XLPE INSULATED.							650/1100 VOLTS MULTICORE CONTROL CABLE WITH SOLID COPPER CONDUCTOR OF SIZE 2.5 SQ.MM. XLPE INSULATED.						
Solid & Stranded Conductor							Solid & Stranded Conductor						
Number of Cores	Unarmourd Cable		Armourd Cable		Current Rating		Number of Cores	Unarmourd Cable		Armourd Cable		Current Rating	
	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air		Approx. Overall Diameter of Cable	Approx. Weight of Cable	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air
Nos	mm	Kgs/km	mm	Kgs/km	Amps	Amps	Nos	mm	Kgs/km	mm	Kgs/km	Amps	Amps
2.00	10.0	138	12.5	365	33	29	2	11.5	180	13.5	370	39	32
3.00	10.5	158	13.0	385	25	22	3	12.0	215	14.0	415	34	30
4.00	11.5	198	13.5	410	25	22	4	13.0	250	14.5	490	34	30
5.00	12.5	222	14.5	460	24	21	5	14.0	290	15.5	515	31	28
6.00	13.5	248	15.5	495	22	19	6	15.0	330	16.5	590	29	26
7.00	13.5	257	15.5	515	21	18	7	15.0	350	16.5	615	27	25
8.00	14.5	277	16.5	570	20	18	8	16.0	390	18.0	690	26	24
9.00	15.5	313	17.5	620	19	17	9	16.5	440	19.5	790	25	22
10.00	17.0	335	18.5	645	18	16	10	17.5	465	21.0	865	24	21
12.00	17.5	385	19.0	710	17	15	12	18.0	540	21.5	965	22	20
14.00	18.0	435	20.0	815	16	14	14	19.0	615	22.0	1040	21	19
16.00	18.5	470	21.0	915	16	14	16	20.5	665	23.5	1145	20	18
19.00	19.5	535	22.0	1000	15	13	19	21.5	755	24.5	1235	19	17
20.00	20.5	595	23.0	1145	14	12	20	22.5	845	25.5	1335	18	16
24.00	22.5	660	25.0	1240	13	12	24	24.5	935	27.5	1485	17	16
27.00	23.0	745	25.5	1320	13	11	27	25.5	1035	28.5	1605	16	16
30.00	23.5	715	26.0	1390	12	11	30	26.0	1135	29.0	1740	16	14
33.00	24.0	905	27.0	1460	12	10	33	27.0	1235	30.5	1930	15	14
37.00	25.0	970	28.0	1535	11	10	37	28.0	1335	31.5	2060	15	13
44.00	28.0	1145	30.5	1835	11	9	44	32.0	1635	35.5	2580	14	12
52.00	29.0	1295	32.0	2035	10	9	52	33.5	1935	37.5	2880	13	12
61.00	31.0	1495	34.5	2535	9	8	61	35.0	2135	39.0	2380	12	11

PVC CONTROL CABLE CURRENT RATING & PARAMETERS

(Unarmour , Armoured Cable Conforming to IS 1554 - I / 1988 Weight Dimention data & Current carrying capacity of cables.)														
650/1100 VOLTS MULTICORE CONTROL CABLE WITH SOLID COPPER CONDUCTOR OF SIZE 1.5 SQ.MM. PVC INSULATED.							650/1100 VOLTS MULTICORE CONTROL CABLE WITH SOLID COPPER CONDUCTOR OF SIZE 2.5 SQ.MM. PVC INSULATED.						
Solid & Stranded Conductor							Solid & Stranded Conductor						
Number of Cores	Unarmourd Cable		Armourd Cable		Current Rating		Number of Cores	Unarmourd Cable		Armourd Cable		Current Rating	
	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air		Approx. Overall Diameter of Cable	Approx. Weight of Cable	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground	In Air
Nos	mm	Kgs/km	mm	Kgs/km	Amps	Amps	Nos	mm	Kgs/km	mm	Kgs/km	Amps	Amps
2	10.5	145	13.5	345	23	20	2	12.0	215	13.7	425	32	27
3	11.0	165	14.0	390	21	17	3	12.5	345	14.5	470	27	24
4	11.5	210	15.0	440	21	17	4	12.5	300	15.5	520	27	24
5	12.5	230	15.5	490	21	17	5	12.5	350	16.5	585	27	24
6	13.0	260	16.0	535	15	13	6	14.5	400	17.5	660	20	18
7	13.5	265	16.5	550	14	13	7	15.5	440	17.5	685	20	17
8	15.0	300	16.5	615	14	13	8	17.5	490	18.0	795	18	15
9	15.5	350	17.0	715	13	12	9	18.0	545	20.0	985	18	15
10	16.5	380	19.0	735	13	11	10	19.5	590	21.0	775	18	15
12	17.5	420	19.5	640	12	10	12	20.0	690	22.0	840	17	14
14	18.0	470	20.0	745	11	9	14	21.0	770	22.0	940	16	13
16	19.5	520	21.0	785	11	9	16	22.0	870	23.0	1035	15	13
19	20.0	600	22.0	835	10	9	19	23.0	990	24.0	1135	14	12
20	21.5	700	23.0	990	10	9	20	24.0	1060	28.0	1245	14	12
24	23.0	735	25.0	1035	9	7	24	27.0	1245	28.5	1390	13	11
27	24.0	820	25.5	1155	9	8	27	28.0	1340	29.0	1580	13	11
30	24.5	840	26.5	1185	9	8	30	28.5	1485	30.0	1700	12	10
33	25.0	1000	27.0	1300	9	8	33	29.6	1600	31.0	1855	12	10
37	26.0	1050	28.0	1375	9	8	37	32.0	1800	32.0	1980	11	10
44	30.5	1235	31.5	1725	8	7	44	35.5	2150	34.0	2380	11	10
52	32.0	1400	33.0	1975	7	6	52	37.0	2500	38.0	2695	10	9
61	33.0	1620	35.0	2080	7	6	61	38.5	2850	40.0	3080	9	8

LT- CABLE

COMPARATIVE CURRENT RATINGS OF 650 / 1100 VOLTS
MULTI CORE HEAVY DUTY PVC INSULATED CABLES & XLPE INSULATED CABLES.
(3,3.5 & 4 Core Unarmored / Armored PVC Sheathed Cables with Aluminum Conductor)

Current Rating in Amps						
Aluminium Conductor P.V.C. Insulated Armoured & P.V.C. Sheathed Cables for Working Voltage up to 1100 Volts as per IS: 3961						
Nominal Size of cable	3,3.5 & 4 Core PVC Insulated & Sheathed Cables as per IS-1554 (Part-1) 1988			3,3.5 & 4 Core XLPE Insulated & Sheathed Cables as per IS-7098 (Part-1) 1988		
	In Ground	In Air	Approx Voltage Drop	In Ground	In Air	Approx Voltage Drop
Sq. mm	Amp	Amp	Mv/Amp/Mtr	Amp	Amp	Mv/Amp/Mtr
16	60	51	4.0	73	70	4.20
25	76	70	2.5	94	96	2.70
35	92	86	1.8	113	117	1.90
50	110	105	1.3	133	140	1.40
70	135	130	0.93	164	176	0.99
95	165	155	0.68	196	221	0.72
120	185	180	0.54	223	257	0.58
150	210	205	0.46	249	292	0.48
185	235	240	0.38	282	337	0.39
240	275	280	0.28	326	399	0.31
300	305	315	0.25	367	455	0.26
400	335	315	0.20	420	530	0.21

Current Rating in Amps								
Aluminium Conductor P.V.C. Insulated Armoured & P.V.C. Sheathed Cables for Working Voltage up to 1100 Volts as per IS: 3961								
Conductor Dia in mm. Nominal	Laid in Ground				Laid in Air			
	Single Core	2 Core	3 Core	4 Core	Single Core	2 Core	3 Core	4 Core
4.00	36	32	28	28	32	27	23	23
6.00	44	40	35	35	41	35	30	30
10.00	54	55	465	46	56	47	40	40
16.00	75	70	60	60	72	59	51	51
25.00	97	90	76	76	99	78	70	70
35.00	120	110	92	92	120	99	86	86
50.00	145	135	110	110	150	125	105	105
70.00	170	160	135	135	185	150	130	130
95.00	205	190	165	165	215	185	155	155
120.00	230	210	185	185	240	210	180	180
150.00	265	240	210	210	270	240	205	205
185.00	300	275	235	235	305	275	240	240
240.00	335	320	275	275	350	320	280	280
300.00	370	355	305	305	395	365	315	315

COMPARISON OF SHORT CIRCUIT RATING FOR 1 SECOND DURATION FOR
* PVC & XLPE Insulated Cables ** with Copper and Aluminum Conductors. (current in kAmps)

Nominal Size	PVC Insulated		XLPE Insulated	
Sq. mm	Copper	Aluminium	Copper	Aluminium
1.5	0.173	0.114	0.215	0.141
2.5	0.288	0.190	0.358	0.235
4	0.460	0.304	0.572	0.380
6	0.690	0.455	0.858	0.570
10	1.150	0.758	1.40	0.940
16	1.840	1.21	2.30	1.500
25	2.880	1.90	3.60	2.400
35	4.030	2.65	5.00	3.300
50	5.750	3.79	7.10	4.700
70	8.050	5.31	10.00	6.600
95	10.900	7.20	13.60	9.000
120	13.800	9.10	17.10	11.300
150	17.300	11.40	21.40	14.200
185	21.300	14.02	26.40	17.500
240	27.600	18.20	34.30	22.600
300	34.500	22.80	42.90	28.300
400	46.000	30.40	57.10	37.700
500	57.500	38.00	71.40	47.200
630	72.500	47.25	90.00	59.400
800	92.000	60.00	114.30	75.500
1000	115.000	75.00	142.90	94.300

* PVC Type 'A' Insulation as per IS-5831 '1984.
** PVC Cables as per IS-1554 (Part-1)-1988.
** XLPE Cables as per IS-7098 (Part-1)-1988.

1) Max. Conductor Temperature during Operation — PVC 70°C, XLPE 90°C

2) Max. Conductor Temperature during Short Circuit — 160°C, 250°C

Formula relating Short Circuit Rating with duration

$$Isht = \frac{K\,A}{\sqrt{t}} = \text{Kilo AMPS.}$$

Where
K = Constant depends on the types of conductor & insulation material.
A = Nominal cross section area of conductor in mm^2.
t = Duration in seconds.
Ish = Short circuit rating for 1 second. conductor in mm^2

Our Clientele