

**LITMUS**  
INDUSTRIES LIMITED



# **WIRES And CABLES**



**LITMUS**  
— CABLES —  
QUALITY ॐ NO.1

[www.litmus.com.np](http://www.litmus.com.np)

# INTRODUCTION

**Founded in 1977, Litmus Industries Ltd.  
(formerly Lumbini Vidyut) had the vision to tap  
into Nepal's boundless hydropower potential**

It was far ahead of its time to identify the enormous need for conductor based transmission lines that could be a catalyst for change by distributing electricity to all regions in Nepal. Upon acquiring Litmus Industries in 1977, Lucky Group (now Ramesh Comtrp.) underwent a 360-degree change in management and policies. Over the years, Litmus Industries gradually transformed into a profitable organization based on the consistent efforts of the new management and the group's commitment to quality and innovation. With a large area of land in Butwal Industrial Estate, near the border of Sunauli, the company has now established itself as one of the leading names in the Cables & Conductors Industry in Nepal, and has exported its products once to India for over 15 years. As a result of our diverse product portfolio, relentless dedication, expertise in the market, and the trust of our growing customer base has placed in us, we have been able to reap immense rewards. From the prestigious NS Quality Award in 2010 to the most coveted ISI certification for our Cables in 2015, Litmus Industries is the only cable company in Nepal that has an ISI (Indian Standard) mark.

## OUR MISSION

- Innovate for a brighter future.
- To work towards safe, energy efficient products and solutions for our customers
- To create deeo connections, value creation and growth for our people, partners and stakeholders.

## OUR VISION

To maintain Leadership by being the largest and most diversified cables and electrical company in Nepal through commitment in quality, advance technology and best customer service.

## AT A GLANCE

### FOUNDED

1977

### EMPLOYEE

500+ Personnel

### Corporate office

Tripureswor, Kathmandu

### Factory Office

BID, Butwal

### Technology

Advance German  
Technology

### Production Capacity

Annual Capacity of over  
72000 KMPA



# QUALITY POLICY/ QUALITY STANDARD

Implementation of a Total Quality Management System that is reviewed on a regular basis and communicated to every employee as a means of continuous improvement.

Providing quality service and products conforming to relevant specifications at a competitive price to meet or exceed customer expectations is Litmus Industries' motto, the best resources will be used in order to achieve continuous improvement in the quality of the work and to enhance employee involvements at all levels.

Quality Management Policy is regularly reviewed and communicated to all those who work for and on behalf of the company along with the provision of Critical to Quality (CTQ) trainings to supervisors and operators. By doing so, the quality management policy will be transferred into an ongoing, ceaseless procedure. Prospective raw materials will be cautiously inspected from arriving companies for their performance parameters and conformance to the quality management policy. Throughout the entire production process, strict quality parameters are checked consistently at each stage of production. Regular internal quality checks are conducted in different section to monitor the effectiveness of Total Quality Management.

## Some Salient Features of LITMUS Wires and Cables

- Made from imported quality raw materials
- ISO 9001: 2015 certified
- Awarded with NS mark by the department of Nepal Bureau of Standard & Metrology
- Well-equipped machinery to produce 1.5 sq mm to 1000 sq mm power cables
- In-house testing facility and opportunity to inspect at every stage of manufacturing
- Managed by highly experienced and trained engineers and professionals
- Well-established packaging and delivery system
- Quality products and services at a competitive price
- Clientele ranging from the giant private sector to the public sector



# MULTISTRAND CABLES

Litmus wires are mainly used for wiring domestic and commercial structures. They are capable of handling 85°C operating temperature since they are insulated with a flame-retardant PVC compound (formulated and manufactured in-house). They have excellent electrical and mechanical characteristics. Stressing over damage caused by rodents to the wiring in your house is a thing of the past with Litmus. The anti-rodent properties of Litmus wires make them an ideal choice. They are manufactured using minimum 99.97% Electrolytic grade, annealed bare copper with more than 100% conductivity. Their fine drawn multi strand conductor provides enhanced flexibility and makes them ideal for concealed wiring. They are suitable for installation in lighting fittings and appliances up to 1100 v (A.C.). These wires work well even in adverse atmospheric conditions. Characteristics like these make Litmus wires reliable, energy efficient and highly safe.

## Application

These cables are used for wiring domestic and commercial buildings. A fine drawn multi strand conductor provides enhanced flexibility & makes it ideal for concealed wiring. It is suitable for installation in lighting fittings and appliances up to 1100 v (A.C)

## Construction/ Structure

Conductor	99.98% pure electrolyte grade bright annealed bare Copper.
Insulation	FR+HR PVC compound with a high insulation resistance ensures uninterrupted power supply at all weather condition.
Operating Temperature	99.98% pure electrolyte grade bright annealed bare Copper.
Conductor	-15°C to maximum + 85°C
Standard length of packing	90 meters coil in mono pack.
Color	Red, Green, Yellow, Blue, Black.



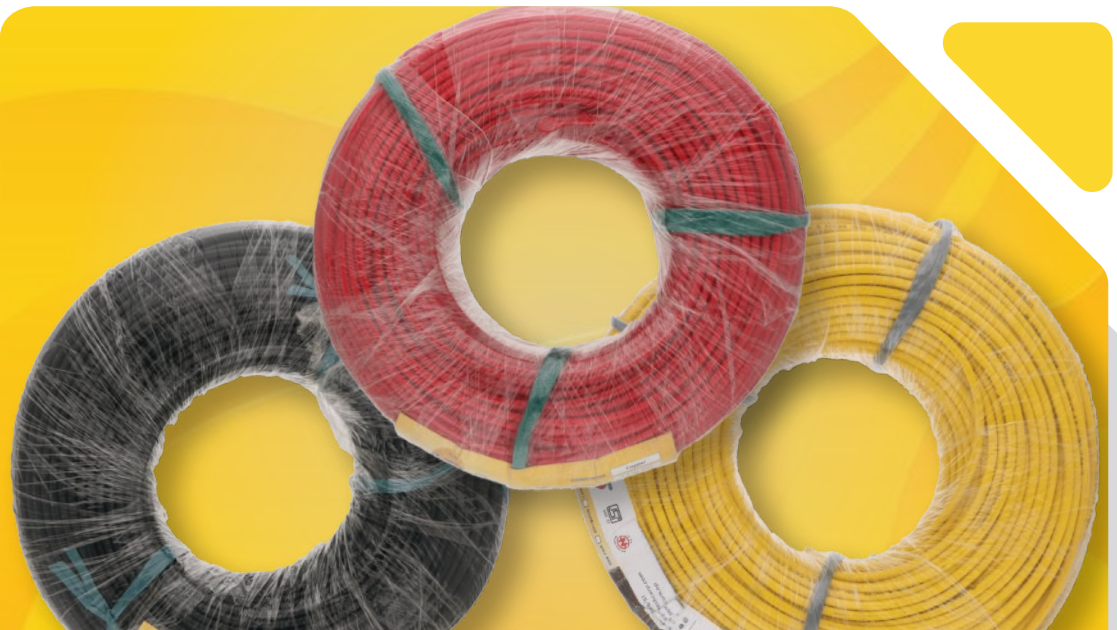
# FIRE RETARDANT (FR)

Fire Retardant (FR) cables retain circuit integrity and continue to work in the presence of fire. It is necessary for fire alarm systems, emergency lighting, and voice alarm systems. In a case of a fire, it is possible to assure building evacuation, alarm signals, and activation of extinguishing systems. Fire resistant cables are always flame retardant, ensuring the maximum level of safety during a fire.

## BENEFITS OF FIRE RETARDANT (FR) CABLES:

- ◆ The cable can prevent the burning flame, effectively controlling the spread of the fire & the loss and ensuring personal safety.
- ◆ Low toxin and halogen free
- ◆ Does not produce corrosive gas which damages metal and other building materials.
- ◆ Easy to install and operate

**Available Sizes:** 0.75 SQ MM - 16 SQ MM (Upto 1100 KV)





# FIRE RETARDANT LOW SMOKE (FRLS)

Fire Retardant Low Smoke Cables (FRLS Cables) are manufactured with Pure Electrolyte Grade, lightened bare copper with more than 100% conductivity which produces magnificent conductor of electricity and saves energy. FRLS Cables makes sure the release of low smoke compared to other wires with PVC coating. These cable are less toxic in nature and emit low amount of corrosive fumes.

## BENEFITS OF FIRE RETARDANT LOW SMOKE (FR) CABLES:

- ♦ High resistance to ignition
- ♦ High resistance to flame propagation
- ♦ Low smoke emission
- ♦ Low emission of acid fume
- ♦ High critical oxygen index, which is much greater than general purpose of PVC.

**Available Sizes:** 0.75 SQ MM - 16 SQ MM (Upto 1100 KV)



# ECOWIRE-ZH

Elevated safety awareness has led to a higher demand for electrical installations that use low-emission wires and cables to protect people, buildings, equipment, and the environment from fire hazards. Litmus Cables' ECOWIRE-ZH is a revolutionary wire manufactured in Nepal with specially formulated PVC polymers containing ZERO HALOGEN to improve safety by reducing smoke and halogen-free gases released in the event of a fire, making electrical wiring safe and environmentally friendly.

## FEATURES OF ECOWIRE-ZH:

- ♦ The smoke density of burnt cables is low, allowing people to safely exit the building and rescue groups to respond quickly.
- ♦ No halogens, toxic fumes, or asphyxiating gases.
- ♦ Corrosive gases do not corrode the hardware.
- ♦ Flames cannot spread because cables are flame-resistant.
- ♦ Environmentally friendly and Ozonefriendly

**Available Sizes:** 0.75 SQ MM - 16 SQ MM (Upto 1100 KV)





# SAJILO PACK

A Sajilo pack is a smaller version of our standard wire pack, with a length of 30 and 45 meters. It is designed to cater to customers who require smaller amounts of wire for their specific needs.

- ◆ Convenience
- ◆ Reduced waste
- ◆ Cost-effective
- ◆ Accessibility
- ◆ Practicality

**Available Sizes:** 0.75 mm to 6mm (30 and 45 M)



# Single core PVC insulated Multi-strand Copper

## Conductor Cables for Flexible Wiring Voltage Grade 650/1100 V

NOMINAL CS AREA OF CONDUCTOR	NUMBER OF WIRES AND DIA OF WIRES	NOMINAL THICKNESS OF INSULATION	CURRENT CARRYING CAPACITY IN CONDUIT/ TRUNKING	2 CABLES SINGLE Ø UNENCLOSED CLIPPED DIRECTLY TO A SURFACE OR ON CABLE TRAYS	CONDUCTOR RESISTANCE OHM/KM (MAX)
SQ MM	MM	MM	AMPS	AMPS	AT 20° C
1.0	14/0.3	0.70	11	12	18.10
1.5	21/0.30	0.70	13	16	12.10
2.5	36/0.30	0.80	18	22	7.41
4.0	56/0.3	0.80	24	29	4.95
6.0	85/0.3	0.80	31	37	3.30
10	80/0.4	1.00	42	51	1.91
16	126/0.4	1.00	57	68	1.21
25	196/0.4	1.20	71	86	0.780
35	276/0.4	1.20	91	110	0.554
50	396/0.4	1.40	120	145	0.386

# Multi-core Round Flexible PVC insulated Copper Conductor & Sheathed Cables for Flexible Wiring in Voltage Grade 650/1100 V

NOMINAL CS AREA OF CONDUCTOR	NUMBER/ NOM.DIA OF WIRES	THICKNESS OF INSULATION (NOM)	NOMINAL THICKNESS OF SHEATH				CURRENT RATING AC	VOLTAGE DROP		RESISTANCE MAX PER KM @200C
			TWIN CORE	THREE CORE	FOUR CORE	FIVE CORE		D/C 1 Ø AC	3 Ø AC	
MM	SQ. MM	MM	MM	MM	MM	MM	AMPS	MV	MV	OHMS
0.5	7 / 0.30	0.6	0.9	0.9	0.9	0.9	4	83	72	39.0
0.75	10 / 0.30	0.6	0.9	0.9	0.9	0.9	7	56	48	26.0
1.0	14 / 0.30	0.6	0.9	0.9	0.9	1.0	11	43	37	19.5
1.5	21 / 0.30	0.6	0.9	0.9	1.0	1.0	15	31	26	13.3
2.5	36 / 0.30	0.7	1.0	1.0	1.0	1.0	20	18	16	7.98
4.0	56 / 0.30	0.8	1.0	1.0	1.0	1.0	26	11	9.6	4.95



# CONCENTRIC CABLES

Litmus Cables manufacture a comprehensive range of concentric cables which includes neutral earth wires around the insulated phase conductors covered with PVC Sheath for providing the final service connection to domestic properties. These cables are designed to be installed in air, or burial in free draining soil conditions.

## Features

- ◆ Low and Zero order impedance which benefits quality improvement for power supply.
- ◆ Lower Preface resistance which benefits the sensitive action of automatic protection devices on short circuit.
- ◆ Strong resistant characters against electromagnetic interferences and thunder strike,
- ◆ Easy for Installation.

## Technical Information

Type	Size	Voltage Rating
Aluminium Conductor PVC Insulation Aluminium Armoured PVC Outer Sheathed in accordance to IEC-60502(part-I).	4 Sq.mm. to 25 Sq.mm.	Upto 1.1 kV

# FLEXIBLE TWIN TWISTED CABLES

Flexible Twin Twisted Cable is a wire made of copper conductor and is commonly used for temporary use to fulfil domestic needs.

## FEATURES OF FIRE RETARDANT (FR) CABLES:

- ◆ With perfect thickness
- ◆ Can easily use in innumerable applications
- ◆ Perfectly twisted
- ◆ Copper Conductor

**Available Sizes:** 0.25 SQ MM & 0.5 SQ MM)



# LOW VOLTAGE POWER CABLES

Ideal for distributing electricity to residential, commercial and industrial units the Low-Tension Power Cables are made with high quality copper and aluminium to offer superior conductivity. Available in Single core and multi core configurations, they are safe, non-hazardous, lead and cadmium-free and are manufactured at the largest integrated cables unit in Nepal. These cables consist of three major components conductors, insulation, and protective outer sheath. The makeup of individual cables varies according to application.

## Application

LV power cables is used widely in many industries ranging from industries involved in water, renewable energy, distribution and power networks, nuclear and thermal power stations, airports, marine, defense, telecommunications, windmills, building, mining, offshore, applications, ship wiring, railways, automation, audio visual and manufacturing industries, these cables can be suitable for a huge amount of applications.





# Construction

Conductor	Stranded / Solid / Circular / shaped as per IS:8130, IEC 60228, BS 6360
Material	Aluminium / Copper
Insulation	PVC / XLPE / HR PVC / Zero Halogen
Inner sheath	PVC /HR PVC /FR/FRLS PVC / Zero Halogen as per IS 5831, IEC 60502, BS 7655.
Armour	G.S STEEL ROUND WIRE /G.S. STEEL FORMED WIRE (STRIP) / G.S. STEEL TAPE/ALUMINIUM ROUND WIRE / ALUMINIUM FORMED WIRE (STRIP)/ ALUMINIUM TAPE as per IS 3975, IEC 60502 P 1.
Outer sheath	PVC /HR PVC /FR/FRLS PVC / Zero Halogen as per IS 5831, IEC 60502, BS 7655.

Product	Type	Size	Voltage Rating
PVC / XLPE insulated cables conforming to IS:1554 I / IS:7098 I, BS:6346, IEC:60502, BS:5467, BS:6724 and Customer specific requirements	Aluminum Armoured & Unarmoured	Single Core : 1.5 to 1000 sq. mm	Upto 1.1 kV
		Multi core : 1.5 to 630 sq. mm	
	Copper Armoured & Unarmoured	Single Core : 1.5 to 1000 sq. mm	
		Multi core : 1.5 to 630 sq. mm	

# Product Features

## XLPE INSULATED CABLES

Higher current rating and emergency overload rating  
Superior short circuit rating  
Low dielectric loss  
Much better insulation resistance  
Resistant to chemical & corrosive gases etc.  
Better resistance to surge currents  
Much longer life of the cables

## PVC INSULATED CABLES


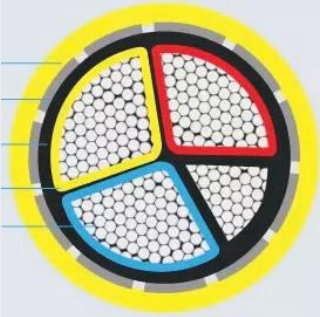
- High dielectric strength & resistance to D.C. Voltage effects
- High mechanical strength & resistance to abrasion, vibration & ageing
- Resistant to most acids, alkalis, to temporary contact with solvents, Oils and liquid fluids
- Flame retardant, does not support combustion and self-extinguishing

## INSULATION MATERIAL

- FR/FRLS/FRLSH/HFFR
- PVC/XLPE

## APPLICABLE STANDARD

- IS:1554-1, IS:7098-1
- IS:8130, IS:5831

TECHNICAL INFORMATION	CONSTRUCTION OPTION	CROSS SECTIONAL VIEW
<p><b>Type:</b></p> <p>PVC / XLPE insulated cables conforming to IS:1554-I / IS:7098-I, BS:6346, IEC:60502, BS:5467, BS:7846 and Customer specific requirements</p>	<p>Conductor – Stranded / Solid / Circular shaped as per class-2 of IS:8130</p> <p>Material – -Aluminum / Copper</p>	 <p>A circular cross-section of a three-core cable. It features three distinct sectors, each containing a bundle of small circles representing conductors. These sectors are separated by thin, colored insulation layers in red, yellow, and blue. The entire assembly is surrounded by a thick, dark grey or black outer sheath.</p>
<p><b>Sizes:</b></p> <p>Single Core 1.5 to 1000 sq. mm</p> <p>Multi core 1.5 to 630 sq. mm</p>	<p>Insulation – PVC /XLPE/HR PVC / Zero Halogen (Phase, Red, Yellow, Blue &amp; Neutral – Black) Colour</p>	 <p>A circular cross-section of a three-core cable, similar to the first diagram but with a different insulation configuration. It shows three sectors of conductors, each with its own colored insulation (red, yellow, blue). These are all enclosed within a single, thick, bright yellow outer insulation layer. Blue lines point to the different colored insulation layers within the sectors.</p>
<p>Voltage Rating: 1.1 Kv</p>	<p>Inner sheath – PVC /HR PVC /FR/FRLS PVC, as per IS :7098PT-1</p>	

CURRENT RATINGS FOR PVC INSULTAED & PVC SHEATHED (Unarmoured and Armoured) POWER CABLES VOLT GRADE 650/1100 V

SIZE	CORE	OUTER DIAMETER		CURRENT RATINGS			
		UNARMOURED	ARMOURED	ALUMINIUM		COPPER	
				IN GROUND	IN AIR	IN GROUND	IN AIR
SQ. MM.		MM	MM	AMPS	AMPS	AMPS	AMPS
1.5	1	6.8	9.4	21	18	25	22
	2	11.0	12.2	18	16	23	20
	3	11.2	12.3	16	13	21	17
	4	11.4	13.1	16	13	21	17
2.5	1	7.5	10.0	28	25	35	30
	2	13.8	15.5	25	21	32	27
	3	14.4	14.6	21	18	27	24
	4	14.5	14.6	21	18	27	24
4	1	8.2	10.8	31	27	39	35
	2	15.5	15.8	32	27	41	35
	3	16.0	16.2	28	23	36	30
	4	14.5	16.2	28	23	36	30
6	1	8.8	11.4	39	35	49	44
	2	16.5	17.0	40	35	50	45
	3	17.5	17.7	35	30	45	39
	4	15.7	16.8	35	30	45	39
10	1	9.8	12.4	51	47	65	60
	2	18.4	19.2	55	47	70	60
	3	18.5	18.9	46	40	60	52
	4	17.7	18.5	46	40	60	52
16	1	10.7	13.3	66	64	85	82
	2	20.5	21.2	70	59	90	78
	3	21.5	21.5	60	51	77	66
	4	20.0	20.8	60	51	77	66
25	1	12.8	15.3	86	84	110	110
	2	21.8	22.2	86	75	115	105
	3	22.8	23.0	76	70	99	90
	3.5	23.1	23.5	76	70	99	90
	4	24.1	24.5	76	70	99	90
35	1	13.6	16.2	100	105	130	130
	2	23.5	24.0	110	99	140	125
	3	25.0	25.4	92	86	120	110
	3.5	25.0	25.4	92	86	120	110
	4	26.6	27.1	92	86	120	110
50	1	15.5	18.0	120	130	155	165
	2	25.0	25.8	135	125	165	155
	3	27.5	28.6	110	105	145	135
	3.5	29.0	29.7	110	105	145	135
	4	30.7	31.5	110	105	145	135

SIZE	CORE	OUTER DIAMETER		CURRENT RATINGS			
		UNARMoured	ARMoured	ALUMINIUM		COPPER	
				IN GROUND	IN AIR	IN GROUND	IN AIR
SQ. MM.		MM	MM	AMPS	AMPS	AMPS	AMPS
70	1	17.7	20.6	140	155	190	205
	2	30.2	30.5	160	150	205	195
	3	32.0	32.5	135	130	175	165
	3.5	32.8	33.6	135	130	175	165
	4	34.7	35.2	135	130	175	165
95	1	19.9	22.4	175	190	220	245
	2	32.8	33.2	190	185	240	230
	3	35.5	36.5	165	155	210	200
	3.5	37.4	37.7	165	155	210	200
	4	39.5	40.3	165	155	210	200
120	1	21.5	24.0	195	220	250	280
	2	36.5	37.5	210	210	275	265
	3	39.0	39.5	185	108	240	230
	3.5	40.7	41.4	185	108	240	230
	4	42.8	43.7	185	108	240	230
150	1	23.4	25.9	220	250	280	320
	2	38.2	38.8	240	240	310	305
	3	43.0	43.8	210	205	270	265
	3.5	44.6	45.2	210	205	270	265
	4	47.8	48.5	210	205	270	265
185	1	25.7	28.6	240	290	305	370
	2	40.5	40.8	275	275	350	350
	3	46.5	48.3	235	240	305	300
	3.5	49.8	50.3	235	240	300	305
	4	52.4	53.5	235	240	300	305
240	1	28.8	32.1	270	335	345	425
	2	45.0	46.0	320	325	405	410
	3	52.0	54.2	275	280	345	355
	3.5	55.8	56.2	275	280	345	355
	4	59.2	60.2	275	280	345	355
300	1	31.8	35.0	295	380	375	475
	2	49.0	49.5	355	365	450	465
	3	57.5	60.1	305	315	385	400
	3.5	62.1	62.4	305	315	385	400
	4	65.9	66.6	305	315	385	400
400	1	35.4	39.1	325	435	400	550
	2	56.0	57.5	385	420	490	530
	3	65.0	38.1	335	375	425	455
	3.5	70.3	71.5	335	375	425	455
	4	74.6	75.6	335	375	425	455
500	1	40.2	44.3	345	480	425	590
630	1	44.7	49.9	390	550	470	660
800	1	49.0	54.8	440	600	530	725
1000	1	53.8	59.9	490	720	590	870

**Confirming Standard:** BS 6346, IS 1554  
**Packing:** Wooden Drum  
**Insulation:** PVC  
**Conductor:** Aluminium / Copper (Armoured / Unarmoured)  
 \* Outer Dia is for Conduit & Trunk guidance only.



# XLPE Insulated PVC Sheathed Power Cables

SIZE	CORE	OUTER DIAMETER		CURRENT RATINGS			
		UNARMOURED	ARMOURED	ALUMINIUM		COPPER	
				IN GROUND	IN AIR	IN GROUND	IN AIR
SQ. MM.	NUMBER	MM	MM	AMPS	AMPS	AMPS	AMPS
1.5	1	6.4	9.4	22	19	26	23
	2	9.4	12.2	20	18	25	22
	3	9.8	12.3	18	15	21	17
	4	10.5	13.1	18	15	21	17
2.5	1	6.8	10.0	28	25	35	30
	2	10.2	15.5	26	22	32	27
	3	10.7	14.6	23	20	27	24
	4	11.5	14.6	23	20	27	24
4	1	7.2	10.8	36	31	47	42
	2	11.1	15.8	40	34	51	44
	3	11.6	16.2	34	31	43	36
	4	12.5	16.2	34	31	43	36
6	1	8.2	11.4	44	31	59	53
	2	13.4	17.0	50	39	63	56
	3	14.0	17.7	43	44	54	47
	4	15.3	16.8	43	50	54	47
10	1	9.1	12.4	59	53	78	72
	2	15.1	19.2	69	59	88	75
	3	15.9	18.9	57	67	72	62
	4	17.4	18.5	57	67	72	62
16	1	10.1	13.3	76	73	102	98
	2	16.2	21.2	88	74	113	98
	3	18.2	21.5	73	70	92	79
	4	19.0	20.8	73	70	92	79
25	1	11.8	15.3	96	98	132	132
	2	17.0	22.2	112	98	144	131
	3	20.0	23.0	94	96	119	108
	3.5	21.0	23.5	94	96	119	108
	4	22.0	24.5	94	96	119	108
35	1	12.9	16.2	114	121	156	156
	2	19.0	24.0	138	124	175	150
	3	21.5	25.4	113	117	144	132
	3.5	22.8	25.4	113	117	144	132
	4	23.5	27.1	113	117	144	132
50	1	14.6	18.0	135	150	186	198
	2	21.0	25.8	169	156	206	194
	3	24.5	28.6	133	142	174	162
	3.5	25.0	29.7	133	142	174	162
	4	27.9	31.5	133	142	174	162

SIZE	CORE	OUTER DIAMETER		CURRENT RATINGS			
		UNARMoured	ARMoured	ALUMINIUM		COPPER	
SQ. MM.	NUMBER	MM	MM	IN GROUND	IN AIR	IN GROUND	IN AIR
				AMPS	AMPS	AMPS	AMPS
70	1	16.6	18.9	166	187	228	246
	2	23.0	25.5	200	188	256	244
	3	29.0	30.0	164	179	210	198
	3.5	28.2	30.0	164	179	210	198
	4	30.5	33.8	64	79	210	198
95	1	18.3	21.3	198	230	264	294
	2	26.5	28.0	238	231	300	288
	3	32.5	33.5	196	221	252	240
	3.5	32.0	33.8	196	221	252	240
	4	33.5	37.6	196	221	252	240
120	1	20.2	23.2	225	268	300	336
	2	28.5	30.5	262	262	344	331
	3	34.5	35.5	223	257	288	276
	3.5	35.4	37.0	223	257	288	276
	4	37.5	40.5	223	257	288	276
150	1	22.5	25.1	253	309	336	384
	2	32.0	34.0	300	300	388	381
	3	38.5	40.5	249	292	324	318
	3.5	41.0	42.0	249	292	324	318
	4	42.2	43.5	249	292	324	318
185	1	24.7	27.3	286	360	366	444
	2	35.5	37.0	344	344	438	438
	3	43.5	44.5	282	337	360	366
	3.5	46.5	47.5	282	337	360	366
	4	48.0	49.2	282	337	360	366
240	1	27.4	30.3	332	433	414	510
	2	39.5	41.0	400	406	506	512
	3	48.5	49.0	326	399	414	426
	3.5	52.5	53.5	326	399	414	426
	4	54.0	55.8	326	399	414	426
300	1	30.1	33.8	376	501	450	570
	2	43.5	45.5	444	456	562	581
	3	51.5	33.0	367	455	462	480
	3.5	56.0	57.0	367	455	462	480
	4	58.0	59.5	367	455	462	480
400	1	34.1	37.6	431	596	480	660
	2	49.0	51.0	481	525	612	662
	3	59.5	59.8	420	530	510	546
	3.5	64.0	65.0	420	530	510	546
	4	66.5	68.0	420	530	510	546
500	1	38.1	42.4				
	1	42.2	47.4				
	1	46.7	52.7				
	1	52.1	58.0				

Confirming Standard: BS 6346, IS 1554  
 Packing: Wooden Drum  
 Insulation: PVC  
 Conductor: Aluminium/ Copper (Armoured / Unarmoured)  
 \* Outer Dia is for Conduit & Trunk guidance only.

# CONTROL CABLES



## Application

Control cables are ideal to be used in the power distribution sector, with the flexibility and performance that offer excellent signaling in the control distribution unit.

Electrical systems with multiple functionalities

Systems that are providing monitor, control, regulation and measurement of technical devices and components

Automated systems

Systems that are installed with multiple inputs and outputs

Control cables are multi-conductors cables used in automation and instrumentation applications. Control cables can measure and regulate transmissions of automated processes. These are typically shielded with a foil shield, braid shield or combination of both.

# FEATURES OF CONTROL CABLES:

- ◆ Control cables have a copper conductor, which may or may not be enveloped in galvanized steel braid.
- ◆ These cables can be manufactured as per any applicable standard.
- ◆ These cables can be manufactured for Zero Halogen properties or high thermal stability PVC over sheathed.
- ◆ Litmus control cables offer various degrees of protection against electrical interference and resistance to caustic substances and oils.

## Construction

Conductor	Stranded / Solid / Circular / shaped as per IS:8130, IEC 60228, BS 6360
Material	Copper
Insulation	PVC /HR PVC / Zero Halogen
Inner sheath	PVC /HR PVC /FR/FRLS PVC / Zero Halogen as per IS 5831, IEC 60502, BS 7655.
Armour	G.S STEEL ROUND WIRE /G.S. STEEL FORMED WIRE (STRIP) / G.S. STEEL TAPE/ALUMINIUM ROUND WIRE / ALUMINIUM FORMED WIRE (STRIP)/ ALUMINIUM TAPE as per IS 3975, IEC 60502 P 1.
Outer sheath	PVC /HR PVC /FR/FRLS PVC / Zero Halogen as per IS 5831, IEC 60502, BS 7655.

Type	Size	Voltage Rating
PVC insulated cables conforming to IS:1554-I and Customer specific requirements	1.5 sqmm to 4 sqmm Single core to 24 cores	Upto 1.1 kV

SIZE	CORE	OUTER DIAMETER		MAX RESISTANCE AT 200°C	CURRENT RATINGS		
		UNARMoured	ARMoured		DIRECT IN GROUND	IN DUCT	LAI D IN AIR
SQ. MM.	NUMBER	MM	MM	AMPS	AMPS	AMPS	AMPS
1.5	2	11.7	13.6	12.1	23	20	20
	3	12.3	14.1	12.1	21	17	17
	4	13.1	14.9	12.1	21	17	17
	5	14.3	16.1	12.1	21	17	17
	6	15.3	17.1	12.1	15	13	13
	7	15.3	17.1	12.1	14	13	13
	10	18.6	20.8	12.1	13	11	11
	12	19.2	19.8	12.1	12	10	10
	14	20	21	12.1	11	10	10
	16	21	22	12.1	11	9	9
	19	22.4	23.2	12.1	10	9	9
	24	25.8	26.4	12.1	9	8	8
	27	26.2	26.9	12.1	9	8	8
	30	27.2	27.8	12.1	9	7	7
	37	29.1	29.7	12.1	8	7	7
	44	32.3	33.4	12.1	7	6	6
	52	34	35	12.1	7	6	6
	61	36.3	36.9	12.1	6	6	6
2.5	2	12.8	15	7.41	32	27	27
	3	13.7	15.5	7.41	27	24	24
	4	14.7	16.5	7.41	27	24	24
	5	16	18	7.41	27	24	24
	6	17	19	7.41	21	18	18
	7	17	19	7.41	20	17	17
	10	21.1	23.8	7.41	18	15	15
	12	20.3	22.8	7.41	17	14	14
	14	23.2	23.9	7.41	16	13	13
	16	24.4	25	7.41	15	12	12
	19	25.7	26.3	7.41	14	12	12
	24	29.7	30.3	7.41	13	11	11
	27	30.3	30.9	7.41	12	10	10
	30	31.3	32.3	7.41	12	10	10
	37	34.2	34.9	7.41	11	9	9
	44	38.2	38.9	7.41	10	9	9
	52	39.9	40.3	7.41	10	8	8
	61	41.9	42.5	7.41	9	8	8

Confirming Standard: BS 6346, IS 1554  
 Packing: Wooden Drum  
 Insulation: PVC  
 Conductor: Aluminium/ Copper (Armoured / Unarmoured)  
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# RANGE OF PRODUCTS

CATEGORY	PRODUCTS	STANDARD
Overhead Conductors	1. Aluminium Conductor Steel Reinforced (ACSR) upto 61 Strands for overhead electrical power transmission 2. All Aluminium Conductors (AAC) upto 61 strands for overhead transmission of power 3. All Aluminium Alloy Conductors (AAAC) upto 61 Strands for overhead transmission of power 4. High Temperature Low Sag Conductors (HTLS) (Launching Soon) 5. XLPE covered conductors	BS:215, NS:259, IS:398
	6. Aerial Bunched Cables (ABC)	IS: 14255, BS: 7870 IEC: 208, IEC: 502
	<b>1. House Wiring Cables</b> i. Multi Strand Cable ii. Fire Retardant Low Smoke (FRLS) iii. Ecowire- ZH (Halogen free) iv. Concentric cables v. Flexible Twin Twisted Cables	IS:994, BS:6346
Wires & Cables	<b>2. LV Power Cables</b> i. Copper Conductor- Armoured & Unarmoured - Single core up to 1000 mm2 - Multi-core up to 400 mm2 ii. Aluminium Conductor- Armoured & Unarmoured - Single core up to 1000 mm2 - Multi-core up to 400 mm2	BS:6346, IS:1554, IS:7098
	<b>3. Control Cables</b> Copper Conductor- Armoured and Unarmoured (Up to 61 core in size 1.5 mm2, 2.5 mm2)	BS:6346, IS:1554
Enamel wires & Copper strips	Enamel copper winding wires	IS:13730
	Paper insulated wires/ strips	IEC:60317



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