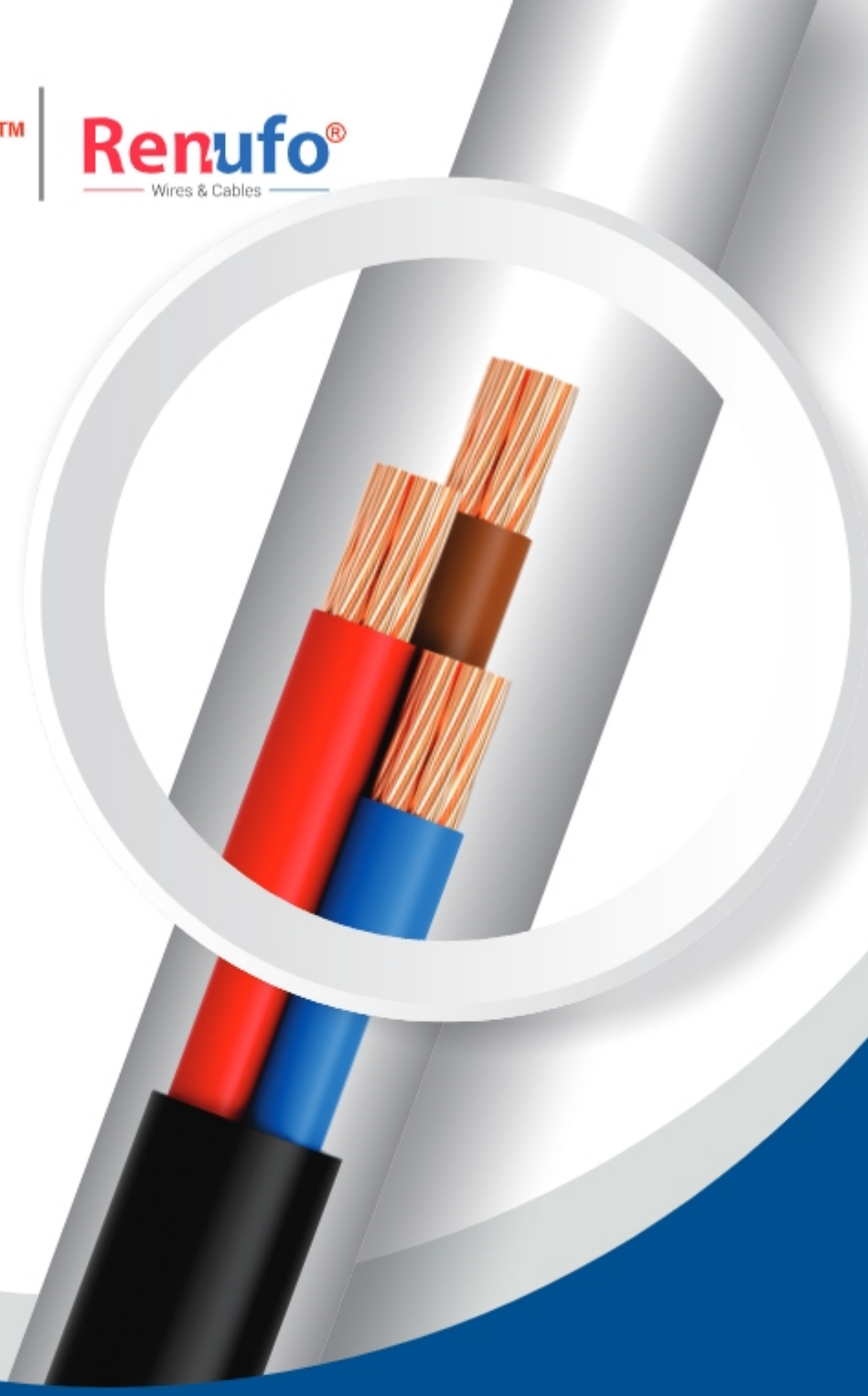
PRIMECAB™
It's all about excellence

Renufo®
Wires & Cables



TRANSFORMING FUTURE AT ELECTRIFYING PACE!

www.primecabindia.com

Chairman's Message

Prime Cable Industries Pvt. Ltd. is one of the India's leading cables manufacturing company having valuable experience of over one and a half decade. Over the years the group has widened its part and has attained a reputable name in the cable industry. Our product caters to wide span of industries including Power Generation, Transmission & Distribution, Electricity Boards, Thermal Power Plant, Oil & Gas, Railway, Steel Plant, Port Trust etc. Prime Cable Industries boasts of a prestigious client that includes Governments, Semi-governments, Institutional and Major Private Sector organizations at national level.

Prime Cable Industries has always laid a great emphasis on manufacturing excellence, technological advancement and customer satisfaction. Our in house process control and quality assurance experts ensure that every customer receives a high quality product. Furthermore, our organization culture is one that encourages constant growth and improvement. Right from human capital to product capital, we ensure that our resources are amongst the best, making us capable of delivering our promises and surpassing expectations.

It is my belief that despite the high levels of inflation, India continues to be rather well-positioned to achieve continued economic success and growth in this very challenging environment. Despite our rapid growth and elevation to the leadership position in the industry, the market trends and changing technology continue to be our driving force. The core value customer focus and meeting commitments have given us a unique position and respect.

Gearing up for the future and to keep winds in tomorrow's world we have our streamlined and efficient manufacturing capabilities to with stand the winds of agile and customer center. We will need to anticipate the future and be ready with solution.

We hope to improve each day to serve you better.

Happy Cabling !!!

PURSHOTAM SINGLA
(Director)

About us

Prime Cable Industries Pvt. Ltd. is one of the leading Cable & Wire manufacturing companies in India for the past **25 years.** It was started as a proprietorship firm in the year **1997** and since then we have grown into a company having PAN India presence offering all kinds of wire & cable solutions.

Prime Cable Industries Pvt. Ltd. is a renowned name in the manufacturing of Control, Power, Aerial Bunched and Communication cables under the Brand Name **"PRIMECAB & RENUFO"**.

We are an **ISO 9001: 2015 & ISO 14001:2015** certified company offering products as per different Indian & world standards . We continue to endeavour to create the World Class Quality products using the latest technologies in wire designing and engineering.

We provide a wide range of cabling solutions to almost all the sectors of the economy including **Power, Oil & Gas, petrochemical, steel, Wind, Solar, IT, Railways, Industrial & Housing Sector.**

Our vast product catalogue includes LV Aerial-Bunched Cables, Control and Power Cables, Instrumentation Cables, House Wires and Panel Wires.

Our manufacturing plants are well equipped with all modern machinery to manufacture Quality Products.

We have established 2 major manufacturing plants in India spanned over an area of more than 50,000 sq feets. These manufacturing plants are located at Narela, Delhi & Bhiwadi, Rajasthan respectively. We are also coming up with a new manufacturing facility spanning over 70,000 sq feets in Ghiloth, Rajasthan. This new facility will increase our product portfolio from 1.1KV to 33kV.

Currently we are headquartered in New Delhi , and also have 3 branch offices and warehouses in Delhi, Bangalore & Indore respectively.

PRIMCAB | RENUFO are also in the process of establishing our supply chain & our network of authorized dealers and distributors Pan India for Flexible House Wires.

It has taken us 3 Decades of hard work , zeal and devotion to achieve what we are today. And We will continue to take this journey forward to become a **Global Brand** offering **Make in India** wire & cable products and solutions.

PRIMECAB™
It's all about excellence

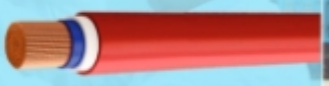
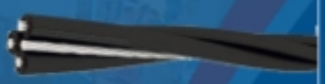
Renufo®
Wires & Cables

25
YEARS OF EXCELLENCE

POWERING INDIA SINCE 1997

Power and Control Cables
Aerial Bunch Cables

PRODUCT RANGE

SNO.	DESCRIPTION	SIZE & RANGE	BIS STANDARD
1	**1.1 KV XLPE Insulated & PVC Sheathed** *Aluminium/Copper Armoured/Unarmoured Power /Control Cable*	**Single Core** *1.5 Sq.mm to 1000 Sq.mm* **Copper Control Cable** *1.5 & 2.5 Sq.mm upto 61 Core* **Multi Core** 4 Sq.mm to 400 Sq.mm	IS :- 7098(Part-I):1988
2	**1.1 KV PVC Insulated & Sheathed** *Aluminium/Copper Armoured/Unarmoured Power /Control Cable*	**Single Core** *1.5 Sq.mm to 1000 Sq.mm* **Copper Control Cable.** *1.5 & 2.5 Sq.mm upto 61 Core* **Multi Core** *4 Sq.mm to 400 Sq.mm*	IS : 1554(Part-I)/1988
3	**660/1100 Volts PVC** Aluminium/Copper Cable	**Single Core & Round Flexible Cable** 1.5 Sq.mm to 400 Sq.mm	IS : 694/2010 
4	**1.1 KV Aerial Bunched Cable**	**Single Core** *25 Sq.mm to 150 Sq.mm + Messenger* **3 Core** *16 Sq.mm to 150 Sq.mm + Messenger + Street Light* **4Core** *Up to 150 Sq.mm + Messenger + Street Light*	IS: 14255/1995 

PRODUCTION RANGE

CABLES

L.T. Power Cable IS 1554 (Part-I)
L.T. Control Cable IS 1554 (Part-I)
L.T. XLPE Cables IS 7098 (Part-I)
Ariel Bunched Cables (14255-1995)
Railway Signalling Cables
High Temperature Cables.

WIRES

Multi Strand Wires IS 694/2010
Panel Wires
Round Flexible Wires Up to 30 Core
Submersible Wires
PVC Aluminium Service Wire

Our Major Clients
Govt./Semi Govt./PSUs & amp; Private Organization

Public Sector Undertaking

- Power Grid Corporation of India Limited (PGCIL)
- Bharat Heavy Electricals Limited - Ranipet, Jhansi, Varanasi, Hyderabad, Haridwar & Bhopal (BHEL)
- National Thermal Power Corporation - Vidhyachal, Raipur (Chhattisgarh), Simadhari & Sipat Super Thermal Power Plants, Kudgi, Kahalgaon (NTPC)
- Karnataka Power Corporation Limited (KPCL)

State Utilities

- Gujarat Energy Transmission Corporation Limited (GETCO)
- disha Power Transmission Corporation Limited (OPTCL)
- BSES Yamuna Power Limited (BSES)
- Jammu and Kashmir Power Transmission Corporation Limited (JKPTCL)
- Jammu and Kashmir Power Distribution Corporation Limited(JKPDCL)
- Andhra Pradesh Power Transmission Corporation Limited (APTRANSCO)
- Uttar Pradesh Power Transmission Corporation Limited (UPPTCL)
- Karnataka Power Transmission Corporation Limited (KPTCL)
- Bangalore Electricity Supply Company Limited (BESCOM)
- Hubli Electricity Supply Company Limited (HESCOM)
- Gulbarga Electricity Supply Company Limited (GESCOM)
- Mangalore Electricity Supply Company Limited (MESCOM)
- Chamundeshwari Electricity Supply Corporation Limited (CESCOM)
- Rashtriya Chemical and Fertilizers Limited (RCF)
- National Mineral Development Corporation Private Limited(NMDC)
- Telangana State Southern Power Distribution Company Limited TSSPDCL)
- Transmission Corporation of TelanganaLimited (TSTRANSCO)
- Maharashtra State Power Generation Company (MSPGCL)
- Maharashtra State Electricity Transmission Company (MSETCL)
- Maharashtra State Electricity Distribution Company (MSEDCL)
- Andhra Pradesh Power Generation Corporation (APGENCO)
- Tamil Nadu Electricity Board (TNEB)
- Madhya Pradesh Power Transmission Company Limited(MPPTCL)
- Jharkhand UrjaSancharan Nigam Limited (JUSNL)
- Power Transmission Corporation of Uttarakhand Limited (PTCUL)
- PurvanchalVidyutVitaran Nigam Limited (PUVVNL)
- Rajasthan RajyaVidyutUtpadan Nigam Limited (RVUNL)
- Kerala State Electricity Board Limited (KSEB)
- Chhattisgarh State Power Transmission Company Limited(CSPTCL)
- Punjab State Power Corporation Limited (PSPCL)

Gas, Refinery, Steel Plant, Port Trust, Railway & Other Sectors

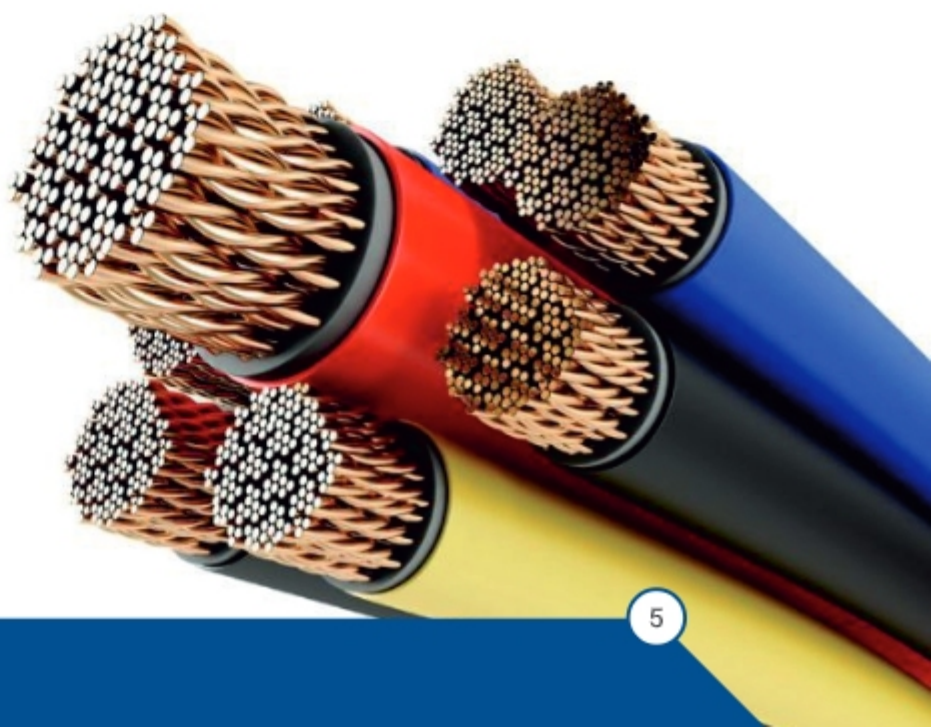
- Hindustan Petroleum Corporation Limited (HPCL)
- Indian Oil Corporation Limited (IOCL)
- Visakhapatnam Steel Plant (VSP)
- National Aluminium Company Limited (NALCO)
- Gas Authority of India Limited (GAIL)
- Oil and Natural Gas Corporation(ONGC)
- South Eastern Coalfields Limited (SECL)
- Northern Railway
- Visakhapatnam Port Trust (Premium Port of India)

Private Sectors

- Adani Infra India Ltd.
- Powertech Electroinfra Pvt. Ltd.
- Sumaja Electroinfra Pvt. Ltd.
- Ethos Power Pvt. Ltd.
- R.S Infra Projects Private Limited
- Flowmore Limited
- Larsen & Toubro Limited
- Siemens Limited
- Godrej & Boyce Mfg. Co. Ltd.
- Blue Star Limited
- GE T&D India Private Limited
- P Cube Industrial Enterprises Private Limited
- ACME Solar Holdings Private Limited
- BNC Power Projects Limited
- Bajaj Electricals
- JK Electricals EngineersPrivate Limited
- NCC Limited
- Aravinda Electricals
- Amara Raja Power Systems Limited
- Shyam Steel Limited
- Gayatri Fabricator
- Sterling & Wilson
- Salasar Techno Engineering Limited
- Gepdec Infratech Limited
- Asha Bhanu Technical Services Limited
- VR Patil vividh Vidyuth Nigam Limited
- Micron Electricals
- KGN Electricals
- Shreem Electric Limited
- Basaveshwar Electricals Private Limited
- BGR Energy Systems Limited
- AshokaBuildconLimited
- Stelmec Limited
- Mahaveer Electro-MechPrivate Limited
- Ali Mohd. Baba and Sons.
- TATA Projects Limited
- ABB Limited
- Windworld India Infrastructure Private Limited
- KS Wind & Renewables India Private Limited
- Suncity Enterprises
- Shyam Steel Private Limited
- Anil Electricals& Contractors
- Mavin Switchgears & Control Private Limited

Housing & Panel Wires

- Sobha Limited
- Prestige
- Godrej
- GE
- L & T
- Techno Crafts
- Desert Greens
- SME
- Adobe Metal
- Gilgal Engineering
- Energivo Control Systems
- Vesion Electrical
- A K Extrem
- SVV Power



VISION

Our vision to aimed at making Prime Cable Industries the largest Cables solution provider, with State of the Art technology, all inclusive quality, with high-skill local technical expertise, and its highly diversified products offering multiplicity of alternatives at competitively attracting prices to the world. Driven to produce quality products and ensure safety is our ultimate goal.

MILESTONES

Prime Cable Industries Pvt. Ltd. was founded in 1997 by Mr. Purshotam Singla with the mission to provide Quality LT cables to the Transmission , generation and distribution of Power in Indian Infrastructure . With a team of dedicated and skilled professionals, Prime Cables quickly established itself as a leader in the field, offering top-notch services and cutting-edge products.

Over the years, Prime Cables has grown and expanded, opening offices in several major cities across India. The company has also diversified its offerings, becoming a one-stop-shop for all types of Low Tension cables. Today, Prime Cables is recognized as a trusted supplier to all major PSUs, EPCs and private companies of all sizes, helping them to stay ahead of the curve and stay competitive in this ever evolving Power Industry.

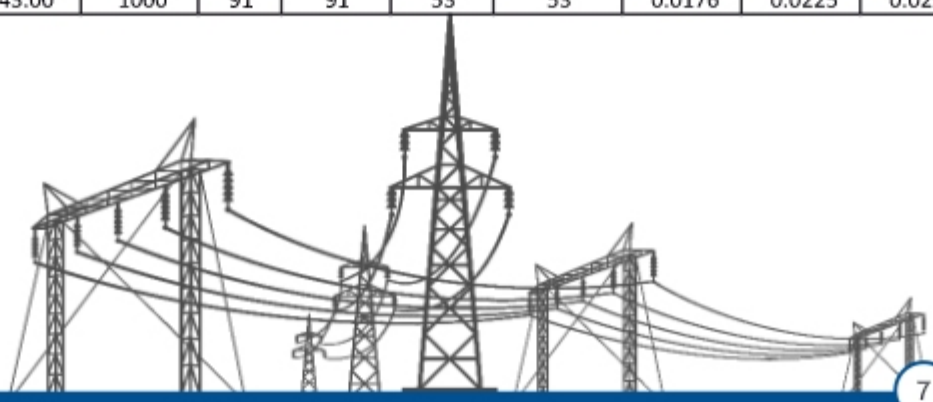
- 1997- Prime Cable Industries was founded as a proprietorship firm in SSI Industrial Area Delhi
- 2002 - Expanded itself and became a Private Limited Company by the name of Prime Cable Industries Pvt. Ltd.
- 2008 - The company launched its new Unit in DSIDC Narela , Delhi with the area of around 40,000 Sq. feets
- 2014 - The company launched its one more unit adjust to the previous one with almost the similar area to meets it growing requirements.
- 2018 - The company expanded its 3rd unit in the same area, integrating several back processes of cable manufacturing, making it self sufficient in every manner.
- 2020 - Bought a land to construct its 5th Manufacturing unit in Ghiloth, near Neemrana District of Rajasthan
- 2021- Launched its first Warehouse in Bangalore to make its product readily available in the southern region of India
- 2022 - Launched its 4th Manufacturing Unit in Bhiwadi Industrial Area of Rajasthan
- 2023 - The company opened its second warehouse in Bhopal ,M.P to make its product readily available in the central parts of India.
- 2023 - The company is about to finish its construction of its 5th manufacturing Unit which is spanned over more than 1,00,000 Sq. feets, with the plans of also integrating HT cables till 3.3KV in its product portfolios.

LT (XLPE) POWER CABLE

Power Cables with XLPE insulation for power transmission, with Voltage grade 650/1100 volts (U/ U) with or without HR/FRLS properties. Conforming to standard specification like IS 7098 (Pt.-I), IEC 502.

Range of LT Power cables from single core (upto 1000 sq.mm) & Multicore upto 3.5/4 core with Aluminium / Copper (Solid Standard Circular/Compacted/Sector Shaped Conductor with XLPE Insulation,taped/extrutded inner sheath, Galvanized Steel Wire/Strip/Double Helical Steel tape (Aluminium wire armouring for single core cable with usually black outer sheath or as per purchaser specification.

SHORT CIRCUIT RATING for 1 Sec.			MAXIMUM A.C/D.C RESISTANCE OF CONDUCTOR IN OHM / KM								
Nom. C/S Area of Cond.	Aluminium conductor	Copper Conductor	Nom. C/S Area of Cond.	Minium No. of Wires				Max. D.C Resistance		Max. A.C Resistance	
				Circular Conductor (Non Compacted)		Compacted Circular/ Shaped Conductor		Aluminium	Copper	Copper	Aluminium
								At 20 Deg.C	At 90 Deg.C	At 20 Deg.C	At 90 Deg.C
Sqmm	K Amps	K Amps	Sqmm	Copper	Aluminium	Copper	Aluminium	Ohm/Km	Ohm/Km	Ohm/Km	Ohm/Km
1.5	0.141	0.215	1.5	3	3	-	-	12.1	15.49	18.18	23.17
2.5	0.235	0.358	2.5	3	3	-	-	7.41	9.48	12.1	15.49
4	0.376	0.572	4	7	3	-	-	4.61	5.9	7.41	9.48
6	0.564	0.858	6	7	3	-	-	3.08	3.94	4.61	5.90
10	0.940	1.430	10	7	7	-	-	1.83	2.34	3.08	3.94
16	1.504	2.288	16	7	7	-	-	1.15	1.47	1.91	2.44
25	2.350	3.575	25	7	7	6	6	0.727	0.931	1.20	1.54
35	3.29	5.01	35	7	7	6	6	0.524	0.671	0.868	1.111
50	4.70	7.15	50	19	19	6	6	0.387	0.495	0.641	0.820
70	6.58	10.01	70	19	19	12	12	0.268	0.343	0.443	0.567
95	8.93	13.59	95	19	19	15	15	0.193	0.247	0.320	0.410
120	11.28	17.16	120	37	37	18	15	0.153	0.196	0.253	0.324
150	14.10	21.45	150	37	37	18	15	0.124	0.159	0.206	0.264
185	17.39	26.46	185	37	37	30	30	0.0991	0.1268	0.1640	0.2099
240	22.56	34.32	240	61	37	34	30	0.0754	0.0965	0.1250	0.1600
300	28.20	42.90	300	61	61	34	30	0.0601	0.0769	0.1000	0.1280
400	37.60	57.20	400	61	61	53	53	0.0470	0.0602	0.0778	0.0996
500	47.00	71.50	500	61	61	53	53	0.0366	0.0468	0.0605	0.0774
630	59.22	90.09	630	91	91	53	53	0.0283	0.0362	0.0469	0.0600
800	75.20	114.40	800	91	91	53	53	0.0221	0.0283	0.0367	0.0470
1000	94.00	143.00	1000	91	91	53	53	0.0176	0.0225	0.0291	0.0372



LT (XLPE) POWER CABLE

PRIMECAB | Renufo

LT XPLE CABLES 1.1 KV GRADE

Nom. Area of conductor Sqmm	Capacitance				Reactance at 50 Hz		
	Single Core Cable		Twin Core Cable	Multi Core Cable	Single Core Cable		Twin & Multicore Cable
	Unarmoured mF/Km	Armoured mF/Km	mF/Km	mF/Km	Unarmoured (Ohm/Km)	Armoured (Ohm/Km)	(Ohm/Km)
1.5000	0.1900	-	0.0510	0.1500	0.1550	-	0.1070
2.5000	0.2400	-	0.0580	0.1800	0.1420	-	0.0850
4.0000	0.2900	-	0.0650	0.2200	0.1320	-	0.0927
6.0000	0.3400	-	0.0710	0.2500	0.1270	-	0.0884
10.0000	0.4300	0.3200	0.0810	0.3100	0.1140	0.1340	0.0837
16.0000	0.5100	0.3800	0.0880	0.3600	0.1080	0.1250	0.0808
25.0000	0.4900	0.3800	0.0890	0.4100	0.0103	0.1200	0.0805
35.0000	0.5700	0.4400	0.0960	0.4700	0.0986	0.1140	0.0783
50.0000	0.5800	0.4600	0.0980	0.5000	0.0937	0.1080	0.0750
70.0000	0.6300	0.5100	0.1000	0.5300	0.0900	0.1020	0.0740
95.0000	0.7300	0.5900	0.1100	0.6100	0.0865	0.1000	0.0724
120.0000	0.7400	0.6100	0.1100	0.6300	0.0841	0.0968	0.0712
150.0000	0.7300	0.6100	0.1100	0.6000	0.0839	0.0941	0.0716
185.0000	0.6900	0.5900	0.1100	0.6000	0.0836	0.0932	0.0718
240.0000	0.7400	0.6400	0.1100	0.6300	0.0813	0.0900	0.0710
300.0000	0.8000	0.6900	0.1200	0.6700	0.0795	0.0881	0.0705
400.0000	0.8300	0.7000	0.1200	0.6700	0.0787	0.0873	0.0704
500.0000	0.8300	0.7100	0.1200	0.6900	0.0779	0.0859	0.0702
630.0000	0.8700	0.7500	0.1100	0.7300	0.0785	0.0843	0.0698
800.0000	0.9200	0.7800	-	-	0.0755	0.0826	-
1000.0000	0.9400	0.8100	-	-	0.0752	0.0825	-

Note: Conductors are compacted as per class 2 of IS & 8130.

The date given above are generally as per IS:7098(pt-I)

LT XLPE CABLES

1 Core 1.1 KV aluminium/copper conductor XLPE Armoured/Unarmoured Power Cable

	Unarmoured			Armoured							Unarmoured					
Cross Sectional Area (Nom.)	Nom. Thickness of Insulation	Nom. Thickness of PVC Outersheath	Overall dia (app.)	Thickness of insulation (nom.)	Nominal Dimension of Armour		Min. Thickness of outer		overall dia. (app.)		Net. Wt. of cable		Net. Wt. of cable			
					wire	Strip	wire	strip	wire	strip	conductor		Wire		Strip	
											Al.	Cu.	Al.	Cu.	Al.	Cu.
Sqmm	mm	mm	mm	sqmm	mm.	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Kg/Km	Kg/Km	Kg/Km	Kg/Km
25	0.9000	1.8	12.0000	1.2000	1.4000	-	1.2400	-	14.0000	-	180	330	250	390	-	-
35	0.9000	1.8	13.0000	1.2000	1.4000	-	1.2400	-	15.0000	-	210	420	290	490	-	-
50	1	1.8	15	1.3	1.4	-	1.2400	-	17	-	270	550	350	620	-	-
70	1.1	1.8	16	1.4	1.4	-	1.2400	-	19	-	350	750	440	830	-	-
95	1.1	1.8	18	1.4	1.6	4x0.8	1.4	1.4	22	21	440	1010	580	1120	540	1080
120	1.2	1.8	20	1.5	1.6	4x0.8	1.4	1.4	24	23	530	1250	680	1360	640	1320
150	1.4	2	22	1.7	1.6	4x0.8	1.4	1.4	25	24	650	1540	790	1630	740	1580
185	1.6	2	24	1.9	1.6	4x0.8	1.4	1.4	28	26	790	1900	950	2000	890	1940
240	1.7	2	27	2	1.6	4x0.8	1.4	1.4	30	30	980	2440	1150	2530	1090	2470
300	1.8	2	30	2.1	1.6	4x0.8	1.56	1.56	33	32	1180	3030	1380	3120	1320	3060
400	2	2.2	33	2.4	2	4x0.8	1.56	1.56	39	36	1510	3850	1800	4020	1650	3870
500	2.2	2.2	36	2.6	2	4x0.8	1.56	1.56	41	39	1870	4870	2160	5010	2000	4850
630	2.4	2.2	40	2.8	2	4x0.8	1.72	1.72	46	44	2340	6230	2690	6383	2510	6200
800	2.6	2.4	47	3.1	2	4x0.8	1.88	1.72	51	48	2950	7940	3350	8080	3110	7830
1000	2.8	2.6	51	3.3	2.5	4x0.8	2.04	1.88	56	54	3660	9910	4250	10170	3820	9740

Note: Conductors are compacted as per class 2 of IS & 8130.

The date given above are generally as per IS:7098(pt-I)

LT (XLPE) POWER CABLE

LT XPLE CABLES

2 core 1.1 KV Aluminium Copper conductor XLPE insulated unarmoured / Armroured Power Cables

Unarmoured					Armoured						Net WT. of Cables					
cross sectional area (nom.)	Thickness of insulation (nom.)	Min. Thickness of pvc innersheath	Nom. Thickess of pvc outersheath	overall dia. (app.)	Nominal size of Armour		Minimum Thickness of outer sheath		Overall dia with armour		Unarmoured		Armoured			
					Wire	Strip	Wire	strip	wire	strip	conductor		Wire		Strip	
sqmm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Al. (Kg/km)	Cu (kg/km)	Al. (kg/km)	Cu. (kg/km)	Al. (kg/km)	Cu. (kg/km)
4	0.7	0.3	1.8	13	1.4	-	1.24	-	15.6	-	152	173	425	523	-	-
6	0.7	0.3	1.8	14	1.4	-	1.24	-	16.7	-	185	227	490	610	-	-
10	0.7	0.3	1.8	16.3	1.4	-	1.24	-	18.2	-	228	300	63	745	-	-
16	0.7	0.3	1.8	14.2	1.4	-	1.4	-	17.3	-	230	420	575	770	-	-
25	0.9	0.3	2	19.3	1.6	4x0.8	1.4	1.4	21.3	19.7	400	700	760	1040	570	860
35	0.9	0.3	2	20.1	1.6	4x0.8	1.4	1.4	22.1	20.5	450	900	880	1280	670	1070
50	1	0.3	2	22.4	1.6	4x0.8	1.4	1.4	24.2	22.8	590	1160	1040	1580	810	1350
70	1.1	0.3	2.2	24.7	1.6	4x0.8	1.56	1.56	27.5	25.5	750	1580	1280	2070	1020	1800
95	1.1	0.4	2.2	28.2	2	4x0.8	1.56	1.56	30.9	28.4	980	2120	1710	2790	1250	2340
120	1.2	0.4	2.2	30.1	2	4x0.8	1.56	1.56	33	30.2	1170	2620	1990	3360	1490	2860
150	1.4	0.4	2.2	33.3	2	4x0.8	1.72	1.72	36.5	33.9	1390	3170	2290	3990	1740	3430
185	1.6	0.5	2.4	37	2	4x0.8	1.88	1.72	40	37	1720	3950	2730	4840	2090	4200
240	1.7	0.5	2.6	40.5	2.5	4x0.8	2.04	1.88	44	40.2	2160	5090	3580	6360	2560	5340
300	1.8	0.6	3.8	45.8	2.5	4x0.8	2.2	2.04	50.1	45.9	2630	6320	4190	7680	3050	6540
400	2	0.6	3	49.1	2.5	4x0.8	2.36	2.36	54.2	50.2	3300	8010	5040	9500	3810	8270

Note: Conductors are compacted as per class 2 of IS & 8130.

The date given above are generally as per IS:7098(pt-I)

LT XPLE CABLES

3 core 1.1 KV Aluminium Copper conductor XLPE insulated unarmoured / Armroured Power Cables

Unarmoured					Armoured						Net WT. of Cables					
cross sectional area (nom.)	Thickness of insulatio	Min. Thickness of pvc	Nom. Thickess of pvc	overall dia. (app.)	Nominal size of Armour		Minimum Thickness of outer sheath		Overall dia with armour		Unarmoured		Armoured			
					Wire	Strip	Wire	strip	wire	strip	conductor		Wire		Strip	
sqmm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Al. (Kg/km)	Cu (kg/km)	Al. (kg/km)	Cu. (kg/km)	Al. (kg/km)	Cu. (kg/km)
4	0.7	0.3	1.8	13	1.4	-	1.24	-	16.2	-	162	233	512	583	-	-
6	0.7	0.3	1.8	14	1.4	-	1.24	-	17.2	-	188	304	585	678	-	-
10	0.7	0.3	1.8	16.3	1.4	-	1.24	-	19.1	-	230	413	678	867	-	-
16	0.7	0.3	1.8	14.2	-	-	-	-	-	18.7	312	428	535	828	-	-
25	0.9	0.3	2	20.2	1.6	4x0.8	1.4	1.24	21	20.2	520	970	920	1350	720	1150
35	90	0.3	2	22.5	1.6	4x0.8	1.4	1.4	23.7	22.8	630	1270	1090	1690	840	1440
50	1	0.3	2	25.1	1.6	4x0.8	1.56	1.4	26.5	24.7	790	1640	1320	2140	1030	1840
70	1.1	0.3	2.2	29.3	2	4x0.8	1.56	1.4	31.2	28.8	1070	2310	1830	3000	1650	2530
95	1.1	0.4	2.2	31.6	2	4x0.8	1.56	1.56	33.6	31.1	1340	3050	2180	3800	1950	3270
120	1.2	0.4	2.2	36.1	2	4x0.8	1.72	1.56	38.5	35.8	1620	3790	2590	4640	2360	1040
150	1.4	0.4	2.4	39.7	2	4x0.8	1.88	1.72	42.1	39.1	1990	4670	3050	5590	2850	4900
185	1.6	0.5	2.6	43.8	2.5	4x0.8	2.04	1.88	47	43.2	2450	5800	3950	7120	3520	6020
240	1.7	0.5	2.8	47.1	2.5	4x0.8	2.2	2.04	50.1	46.4	3100	7510	4770	8950	4240	7620
300	1.8	0.6	3	52.4	2.5	4x0.8	2.36	2.2	55.2	51.8	3790	9320	5640	10880	5270	9480
400	2	0.7	3.2	59.1	3.2	4x0.8	2.68	2.52	63.4	58.5	4770	11830	7480	14170		11960

Note: Conductors are compacted as per class 2 of IS & 8130.

The date given above are generally as per IS:7098(pt-I)

LT (PVC) POWER CABLE

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LT XPLE CABLES

3.5 core 1.1 KV Aluminium Copper conductor XLPE insulated unarmoured / Armroured Power Cables

Unarmoured					Armoured						Net WT. of Cables					
cross sectional area (nom.)	Thickness of insulatio	Min. Thickness of pvc	Nom. Thickess of pvc	overall dia. (app.)	Nominal size of Armour		Minimum Thickness of outer sheath		Overall dia with armour		Unarmoured conductor		Armoured Wire		Armoured Strip	
					Wire	Strip	Wire	strip	wire	strip						
sqmm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Al. (Kg/km)	Cu (kg/km)	Al. (kg/km)	Cu. (kg/km)	Al. (kg/km)	Cu. (kg/km)
25/16	0.9/0.7	0.3	2	22.5	1.6	4x0.8	1.4	1.4	23.9	22.3	595	1150	1039	1560	814	1330
35/16	0.9/0.7	0.3	2	24	1.6	4x0.8	1.4	1.4	25.6	24	710	1440	1203	1890	962	1650
50/25	1.0/0.9	0.3	2	27.4	1.6	4x0.8	1.56	1.4	29	27	900	1910	1474	2430	1153	2110
70/35	1.1/0.9	0.4	2.2	31.8	2	4x0.8	1.56	1.56	34.1	31.8	1207	2660	2028	3410	1501	2880
95/50	1.1/1.0	0.4	2.2	35.5	2	4x0.8	1.56	1.56	37.8	35.2	1534	3540	2447	4350	1869	3770
120/70	1.2/1.1	0.4	2.2	37.9	2	4x0.8	1.72	1.72	40.1	37.9	1891	4470	2954	5400	2297	4740
150/70	1.4/1.1	0.5	2.4	42.9	2	4x0.8	1.88	1.72	45.2	42.5	2270	5360	3427	6360	2656	5590
185/95	1.6/1.1	0.5	2.6	46.4	2.5	4x0.8	2.04	1.88	49.9	45.9	2820	6740	4470	8180	3254	6970
240/120	1.7/1.2	0.6	2.8	52.6	2.5	4x0.8	2.2	2.04	55.5	51.8	3560	8690	5386	10240	4006	8860
300/150	1.8/1.4	0.6	3	56.5	2.5	4x0.8	2.36	2.2	59.2	55.9	4340	10770	6344	12430	4821	10910
400/185	2.0/1.6	0.7	3.4	65.2	3.2	4x0.8	2.68	2.52	69.1	64	5560	13740	8446	16190	6042	13790

Note: Conductors are compacted as per class 2 of IS & 8130.

The date given above are generally as per IS:7098(pt-I)

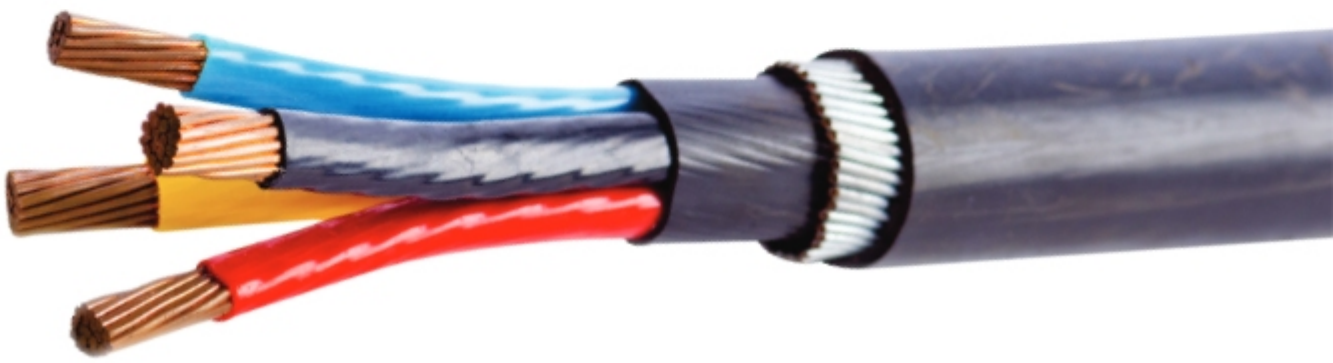
LT XPLE CABLES

4 core 1.1 KV Aluminium Copper conductor XLPE insulated unarmoured / Armroured Power Cables

Unarmoured					Armoured						Net WT. of Cables					
cross sectional area (nom.)	Thickness of insulatio	Min. Thickness s of pvc	Nom. Thickess of pvc	overall dia. (app.)	Nominal size of Armour		Minimum Thickness of outer sheath		Overall dia with armour		Unarmoured conductor		Armoured Wire		Armoured Strip	
					Wire	Strip	Wire	strip	wire	strip						
sqmm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Al. (Kg/km)	Cu (kg/km)	Al. (kg/km)	Cu. (kg/km)	Al. (kg/km)	Cu. (kg/km)
4	0.7	0.3	1.8	16	1.4	-	1.24	-	17.6	-	182	282	562	662	-	-
6	0.7	0.3	1.8	17.7	1.4	-	1.24	-	19.2	-	217	366	627	776	-	-
10	0.7	0.3	1.8	18.5	1.4	-	1.24	-	20.5	-	260	512	767	1012	-	-
16	0.7	0.3	1.8	19.6	-	4x0.8	-	1.4	-	20.1	355	755	716	1055	-	-
25	0.9	0.3	2	22.5	1.6	4x0.8	1.4	1.4	23.9	23.1	650	1250	1110	1680	880	1450
35	0.9	0.3	2	24.6	1.6	4x0.8	1.4	1.4	26	24.5	790	1640	1320	2120	1050	1850
50	1	0.3	2	27.9	1.6	4x0.8	1.56	1.56	29.6	28	990	2130	1610	2690	1310	2390
70	1.1	0.4	2.2	32.1	2	4x0.8	1.56	1.56	34	31.6	1350	3010	2260	3820	1680	3240
95	1.1	0.4	2.2	35.5	2	4x0.8	1.72	1.56	38	35.1	1700	4000	2710	4880	2050	4220
120	1.2	0.5	2.4	39.6	2	4x0.8	1.88	1.72	42	39	2140	5030	3250	5990	2510	5250
150	1.4	0.5	2.6	42.9	2.5	4x0.8	2.04	1.88	46.2	42.6	2600	6160	4190	7570	3000	6380
185	1.6	0.5	2.8	48.2	2.5	4x0.8	2.2	2.04	51.5	47.8	3200	7670	4980	9210	3650	7880
240	1.7	0.6	3	54.7	2.5	4x0.8	2.36	2.2	57.6	53.9	4050	9920	6000	11560	4530	10090
300	1.8	0.7	3.2	60.6	3.15	4x0.8	2.52	2.36	64.5	59.4	4990	12370	7810	17490	5510	12500
400	2	0.7	3.6	68.2	3.15	4x0.8	2.84	2.68	72	67	6320	15740	9400	18320	6820	15740

Note: Conductors are compacted as per class 2 of IS & 8130.

The date given above are generally as per IS:7098(pt-I)



LT (PVC) POWER CABLE

Power Cables with pvc insulation for power transmission. Voltage grade 650/1100 volts (U/ U) provided with ISI marking IS 1554(pt.1), IEC502, BS6436/87.

Configuration:- Single core upto 1000 sq. mm. Multi-core upto 400 Sq.mmx3 1/2 cores.

1 core, aluminium conductor, pvc insulated, pvc sheathed, unarmoured (ayy)/armoured (aywy)/ cable- 650/1100 volts as per is : 1554 (pt-1)/88

Nominal cross sectional area	UNARMOURED			ARMOURED				Max. D.C. Conductor Resistance at 20° C	A.C CURRENT RATING (AMPS.)							
									In Air				In ground			
	nominal thickness of pvc insulation	app. Overall dia	app. Weight	nominal thickness of pvc insulation	nominal dia. Of aluminium wire	app. Overall dia	app. Weight		GPPVC Insulation Cables		HRPVC Insulation Cables		GPPVC Insulation Cables		HRPVC Insulation Cables	
sq. mm	mm	mm	kg/km	mm	mm	kg/km	kg/km	Ohm/km.	2	3	2	3	2	3	2	3
1.5	0.8	6.7	68	1.1	1.4	10	108	18.1	18	15	21	18	21	17	24	20
2.5	0.9	7.4	70	1.2	1.4	10.8	115	12.1	5	21	30	26	28	24	33	28
4	1	8.2	81	1.3	1.4	11.5	126	7.41	32	27	38	33	36	31	41	35
6	1	8.8	90	1.3	1.4	12.2	164	4.61	41	35	50	42	44	39	52	46
10	1	9.7	115	1.3	1.4	13	197	3.08	56	47	69	57	59	51	69	60
16	1	10.7	155	1.3	1.4	14.1	238	1.91	72	64	88	78	75	66	88	77
25	1.2	12.3	195	1.5	1.4	16	295	1.2	99	84	121	103	97	86	112	101
35	1.2	14.1	270	1.5	1.4	17.2	375	0.868	120	105	146	129	120	100	140	117
50	1.4	15	334	1.7	1.4	18.7	566	0.641	150	130	184	158	145	120	170	140
70	1.4	16.7	427	1.7	1.4	20.9	608	0.443	185	155	226	190	170	140	199	163
95	1.6	19	546	1.9	16	23	732	0.32	215	190	264	233	205	175	240	205
120	1.6	20.8	643	1.9	16	25	844	0.253	240	220	292	270	230	195	268	228
150	1.8	23	760	2.1	16	26.2	979	0.206	270	250	330	305	265	220	310	258
185	2	25	950	2.3	16	28.5	1151	0.164	305	290	374	356	300	240	351	278
240	2.2	28	1150	2.5	16	31.9	1429	0.125	350	335	430	410	335	270	392	316
300	2.4	32	1420	2.7	2	35.5	1784	0.1	395	380	484	464	370	295	434	345
400	2.6	35.5	1731	3	2	40	2226	0.0778	455	435	557	534	410	325	480	378
500	3	39	2200	3.4	2	43	2671	0.0605	490	480	600	589	435	345	510	403
630	3.4	45	2850	3.5	2	49	3337	0.0469	560	550	680	674	485	390	565	456
800	3.4	48.5	3450	3.9	2	52.8	4210	0.0367	640	630	774	785	530	440	620	515
1000	3.4	55	4150	3.9	2	58	5024	0.0291	740	720	895	800	580	490	680	570

Technical Data of Cables with copper can be supplied on request.

2 core, aluminium conductor, pvc insulated, pvc sheathed, unarmoured (ayy)/armoured (aywy)/ cable- 650/1100 volts as per is : 1554 (pt-1)/88

Nominal cross sectional area	Nominal thickness of pvc	UNARMOURED		ARMOURED				Max. D.C. Conductor Resistance	A.C CURRENT RATING (AMPS.)			
		app. Overall	app. Weight	Nominal Steel Armour Size mm		app. Overall	app. Weight		In Air		In ground	
									GPPVC	HRPVC	GPPVC	HRPVC
sq. mm	mm	mm	kg/km	W	F	mm	kg/km	Ohm/km.	Amps	Amps	2	3
1.5	0.8	11.5	175	1.4	-	14.5	435	18.1	16	20	18	21
2.5	0.9	13	210	1.4	-	16	500	12.1	21	26	25	29
1	1	14.5	270	1.4	-	17.5	600	7.41	27	33	32	36
6	1	16	310	1.4	-	18.5	650	4.61	35	42	40	47
10	1	18.1	400	1.4	-	20.9	720	3.08	47	57	55	64
16	1	19	470	-	4x0.8	21	840	1.91	59	72	70	82
25	1.2	20	498	-	4x0.8	22	770	1.2	78	95	90	105
35	1.2	21.5	590	-	4x0.8	23	910	0.868	99	120	110	128
50	1.4	24	730	-	4x0.8	25.6	110	0.641	125	153	135	158
70	1.4	26.5	880	-	4x0.8	28	1345	0.443	150	183	160	187
95	1.6	29	1190	-	4x0.8	30.6	1685	0.32	185	225	190	222
120	1.6	31.9	1350	-	4x0.8	33.5	1890	0.253	210	256	210	245
150	1.8	35	1650	-	4x0.8	36	2265	0.206	240	294	240	280
185	2	37.3	1950	-	4x0.8	39.8	2685	0.164	275	334	275	322
240	2.2	43.7	2500	-	4x0.8	45.7	3400	0.125	325	397	320	374
300	2.4	45.8	3100	-	4x0.8	47.6	44330	0.1	365	445	355	416
400	2.6	51	4000	-	4x0.8	52.5	4950	0.0778	420	515	385	450

Cables with conductor area upto 10 Sq.mm can be substituted with copper conductor of one size lower.

LT (PVC) POWER CABLE

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3 core, aluminium conductor, PVC insulated, PVC Sheathed, unarmoured (AYY) / Armoured (AYWY & AYFY)/ cable-650/1100 volts as per IS: 1554 (pt-1)/88

Nominal cross sectional area sq.mm	Nominal thickness of pvc insulation	Unarmoured		Armoured				Max. D.C. conductor resistance at 20°C	A.C. current rating (Amps.)			
		app. Overall dia.	app. Weight	nominal steel armour size mm		app. Overall dia.	app. Weight		In air		In ground	
	mm	mm	kg/km	W	F	mm	kg/km	ohm/km	GPPVC insulation Amps.	HRPVC insulation Amps.	GPPVC insulation Amps.	HRPVC insulation Amps.
1.5	0.8	11.5	200	1.4	-	14.5	485	18.1	13	16	16	18
2.5	0.9	13.5	240	1.4	-	16	560	12.1	18	22	21	24
4	1	15.4	290	1.4	-	17.5	610	7.41	23	28	28	32
6	1	16.5	338	1.4	-	19	690	4.61	30	38	35	41
10	1	18.5	420	1.4	-	22.5	850	3.08	40	49	46	54
16	1	21.2	560	-	4x0.8	23	970	1.91	51	63	60	69
25	1.2	22	620	-	4x0.8	23.5	1050	1.2	70	86	76	89
35	1.2	24	770	-	4x0.8	25.5	1145	0.868	86	105	92	108
50	1.4	27.5	970	-	4x0.8	29	1450	0.641	105	127	110	129
70	1.4	30.5	1270	-	4x0.8	31.5	1700	0.443	130	159	135	157
95	1.6	34.5	1640	-	4x0.8	36	2200	0.32	155	190	165	193
120	1.6	37	1865	-	4x0.8	38.5	2490	0.253	180	218	185	215
150	1.8	40.8	2370	-	4x0.8	42.8	3080	0.206	205	251	210	246
185	2	45.2	2875	-	4x0.8	46.8	3615	0.164	240	294	235	276
240	2.2	50.6	3820	-	4x0.8	52.5	4550	0.125	280	340	275	322
300	2.4	58.5	4635	-	4x0.8	59.5	5500	0.1	315	386	305	358
400	2.6	63.3	5600	-	4x0.8	65	6700	0.0778	375	445	335	390

Cables with conductor area upto 10 Sq.mm can be substituted with copper conductor of one size lower.

3.5 core, aluminium conductor, PVC insulated, PVC sheathed, unarmoured (AYY)/ armoured (AYWY & AYFY)/ cable-650/1100 volts as per IS:1554(pt-1)/88

Nominal cross sectional area sq.mm	Nominal thickness of pvc insulation	unarmoured		armoured			Max. D.C. conductor resistance at 20°C	A.C. current rating (Amps.)			
		app. Overall dia.	app. Weight	nominal steel armour size mm	app. Overall dia.	app. Weight		In air		In ground	
	mm	mm	kg/km	W	mm	kg/km	1.2	GPPVC insulation Amps.	HRPVC insulation Amps.	GPPVC insulation Amps.	HRPVC insulation Amps.
25/16	1.2/1.0	25	760	4x0.8	26	1170	1.2	70	86	76	89
35/16	1.2/1.0	27	880	4x0.8	28	1300	0.868	86	105	92	108
50/25	1.4/1.2	30	1145	4x0.8	31.6	1660	0.641	105	127	110	129
70/35	1.4/1.2	34.5	1470	4x0.8	35	2020	0.443	130	159	135	157
95/50	1.6/1.4	38.5	1890	4x0.8	40	2520	0.32	155	190	165	193
120/70	1.6/1.4	42	2300	4x0.8	43	2990	0.253	180	218	185	215
150/70	1.8/1.4	46	2710	4x0.8	47	3515	0.206	205	251	210	246
185/95	2.0/1.6	50.2	3210	4x0.8	52	4170	0.164	240	294	235	276
240/120	2.2/1.6	56.5	4230	4x0.8	58	5275	0.125	280	340	275	322
300/150	2.4/1.8	62.5	5385	4x0.8	64	6300	0.1	315	386	305	358
400/185	2.6/2.0	69.5	6650	4x0.8	71.5	7800	0.1778	375	445	335	390

Cables with conductor area upto 10 Sq.mm can be substituted with copper conductor of one size lower.

LT (PVC) POWER CABLE

4 core, aluminium conductor, PVC insulated, PVC sheathed, unarmoured (AYY)/ Armoured (AYWY & AYFY)/ cable -650/1100volts as per IS: 1554(pt-1)/88

Nominal cross sectional area	Nominal thickness of pvc insulation	Unarmoured		Armoured				Max. D.C. conductor resistance at 20°C	A.c. current rating (amps.)			
		app. Overall dia	app. Overall weight	Nominal steel armour size mm		app. Overall dia	app. Wieght		in air		In ground	
sq.mm	mm	mm	kg/km	W	F	mm	kg/km	ohm/km	GPPVC insulation Amps.	HRPVC insulatio Amps.	GPPVC insulation Amps.	HRPVC insulatio Amps.
2.5	0.9	14	230	1.4	-	17	560	12.1	18	22	21	24
4	1	16.6	320	1.4	-	19	700	7.41	23	28	28	32
6	1	18	350	1.4	-	20.5	800	4.61	30	38	35	41
10	1	20	450	-	4x0.8	21	810	3.08	40	49	46	54
16	1	23	650	-	4x0.8	23.5	1000	1.91	51	63	60	69
25	1.2	25.5	765	-	4x0.8	26	1210	1.2	70	86	76	89
35	1.2	28	930	-	4x0.8	28.5	1420	0.868	86	105	92	108
50	1.4	32.9	1250	-	4x0.8	34	1800	0.641	105	127	110	129
70	1.4	36.4	1600	-	4x0.8	37.5	2220	0.443	130	159	135	157
95	1.6	41.3	2180	-	4x0.8	42.5	2830	0.32	155	190	165	193
120	1.6	44.8	2560	-	4x0.8	45	3250	0.253	180	218	185	215
150	1.8	49.7	3120	-	4x0.8	51	3820	0.206	205	251	210	246
185	2	54.6	3700	-	4x0.8	56.2	4550	0.164	240	294	235	276
240	2.2	61	4760	-	4x0.8	63	5930	0.125	280	340	275	322
300	2.4	67	5900	-	4x0.8	68.5	6970	0.1	315	386	305	358
400	2.6	76.2	7425	-	4x0.8	78	8800	0.0778	375	445	335	390

Cables with conductor area upto 10 Sq.mm can be substituted with copper conductor of one size lower.

1.1 KV copper conductor, PVC insulated & sheathed, armoured/unarmoured cable conformed to IS: 1554(pt-1)

No. of core	Nominal area of conductor	Nominal thickness of insulation	Unarmoured		Armoured			Max. D.C. conductor resistance at	A.C. curret rating			
			AYY		AYWY				In air at 40°C		In ground at 30°C	
	sq.mm	mm	App. Overall dia of cable (mm)	App. Weight of cable (kg/km)	Nominal armour size (mm)	App. Overall dia (mm)	app. Weight (kg/km)	ohm/km	PVC insulation (Amps.)	HR PVC insulation (Amps.)	PVC insulation (Amps.)	HR PVC insulation (Amps.)
2core	4	1	14	235	1.4	16	510	4.61	35	42	41	47
	6	1	15	290	1.4	17	600	3.06	45	54	50	57
	10	1	18	430	1.4	20	785	1.86	60	72	70	80
	16	1	20	580	4x0.8	21	800	1.15	48	94	90	103
3core	4	1	15	290	1.4	17	580	4.61	30	36	36	41
	6	1	16	365	1.4	18	695	3.08	39	47	45	51
	10	1	18	565	1.4	20	980	1.83	52	62	60	68
	16	1	19	660	4x0.8	21	955	1.15	66	79	77	88
4 core	4	1	16	370	1.4	18	680	4.61	30	36	36	41
	6	1	17	470	1.4	19	870	3.08	39	47	45	51
	10	1	20	720	4x0.8	22	950	1.83	52	35	60	68
	16	1	21	850	4x0.8	22	1140	1.15	66	79	77	88

Cables with conductor area upto 10 Sq.mm can be substituted with copper conductor of one size lower.

LT (PVC) POWER CABLE

PRIMECAB | Renufo

Basic assumption for current rating for PVC Cables

Max conductor Temparature	70° C	
Ambent air temparature	40°C	
Ground temparature	30° C	
Thermal resistivity of soil	150°C	cm/W
Thermal resistivity of Insulation	650°C	cm/W
Depth of laying (directly in ground)	75cm	
Max conductor temparature	160°C	

Rating factors for variation in ambient air temperature

Air Temparature °C	15	20	25	30	35	40	45	50	55	60
Rating Factor	1.4	1.32	1.25	1.16	1.09	1	0.9	0.81	0.7	0.57

Rating factors for soil temparature for cable in ground

ground Temparature °C	15	20	25	30	35	40	45	50	55
Rating Factor	1.17	1.12	1.6	1	0.94	0.87	0.79	0.7	0.61

Rating factors for variation in depth of laying ground

Depth of laying (cms)	75	90	105	120	150	180 & above
Rating Factor up to 25 sqmm	1	0.99	0.98	0.97	0.96	0.95

CONTROL CABLE

Cables for control circuits in power plants and other similar industrial installation and signaling network of railways, with or withour FR/FRLS properties in sizes normally upto 61 cores. Voltage grade 650/1100 Volts (U/U). Conforming to standard specifications like IS 1554(pt1), Bs 6346, IEC227-I, III, IRS 63/89.

Configuration:- Multi Core/ Multi-pair.

Construction

- Conductor :-
  solid/ stranded, circular annealed, bare/tinned copper wire of 1.5 sq. mm, 2.5sq.mm, 4.0sq.mm, 6.0sq.mm.

- Insulation:-
  PVC fully color coded cores. Core identification by printed numerals / letters also available on request.

- Screen(if desired) :-
  Screening by copper braid or aluminium mylar tape or aluminium wire for reinforced armour types.

- Drain Wire (if desired) :-
  Drain wire of solid / stranded, bare/tinned copper wire normally provided for screened cables.

- Machenical Protection:-
  Galvanized steel wire or strip or double helical steel tape armour.

- Inner & Outer Sheath :-
  PVC black/grey.

CONTROL CABLE

PRIMECAB | Renufo

1.5 sq.mm. solid (1/1.38mm) conductor multicore control cable-1.1 KV Grade as per IS: 1554 (Pt-1)88

No. of cores	Unarmoured const.		Round wire armoured onst.		Flat strip armoured const.		current rating in air D.C.		current rating in air A.C.	
	O.D. app. In mm	Net Wt. app. Kg/km	O.D. app in mm	Net Wt. app. In kg/km	O.D. app. In mm	Net Wt. app. In kg/km	amp. Armoured	Amp. Unarmoured	amp. Armoured	Amp. Unarmoured
2	13.1	150	15.35	390	-	-	21	20	19	18
3	13.5	180	15.8	430	-	-	20	18	18	16
4	14.3	205	16.6	465	-	-	18	17	17	16
5	15.2	240	17.5	520	-	-	18	16	16	15
6	16.5	280	18.45	585	-	-	17	16	16	15
7	16.5	290	18.45	595	-	-	16	15	15	14
8	17.4	330	19.7	670	-	-	16	15	15	13
9	18	370	20.5	730	-	-	16	15	14	13
10	19.2	400	21.7	800	-	-	15	15	14	13
12	19.7	440	22.2	850	21	740	15	14	13	12
14	21.35	530	23.85	1025	22.25	810	14	13	13	11
15	21.8	560	24.3	1055	22	840	14	13	13	11
16	22.3	590	24.8	1100	23.2	895	13	12	12	11
18	23.6	650	26.1	1190	24.5	965	13	12	12	11
19	23.6	670	26.1	1225	24.5	995	13	12	11	11
20	24.05	710	26.55	1280	24.95	1040	13	11	11	11
21	24.45	725	26.95	1295	25.35	1050	13	11	11	10
24	25.6	805	28.1	1420	26.5	1150	12	11	11	10
27	26.7	885	29.2	1530	27.6	1260	12	11	11	10
29	27.4	940	29.9	1600	28.3	1330	11	11	11	10
30	28.75	965	30.25	1640	28.65	1360	11	11	10	10
37	30	1150	32.7	1900	31.1	1610	11	10	10	9
40	28.9	1230	33.6	1925	32	1680	11	10	10	9
42	31.95	1315	34.15	2075	32.55	1760	10	10	10	8
44	32.5	1370	34.7	2140	33.1	1810	10	9	10	8
52	34.85	1595	37.85	2650	35.45	2080	10	9	9	8
61	37.1	1825	40.1	2980	37.7	2330	9	8	8	8

1.5 sq.mm. (7/0.53mm) multistrand conductor multicore control cable-1.1KV grade as per IS:1554(pt-1)88

No. of cores	Unarmoured const.		Round wire armoured		Flat strip armoured const.		Current rating in air D.C.		Current rating in air A.C.	
	O.D. app. In mm	Net Wt. app. Kg/km	O.D. app in mm	Net Wt. app. In kg/km	O.D. app. In mm	Net Wt. app. In kg/km	amp. Armoured	Amp. Unarmoured	amp. Armoured	Amp. Unarmoured
2	13.4	160	15.7	410	-	-	23	21	21	19
3	13.9	190	16.2	450	-	-	21	19	19	18
4	14.8	210	17.5	480	-	-	16	18	18	16
5	15.7	250	18	540	-	-	16	18	17	16
6	16.7	290	19	620	-	-	18	17	17	16
7	16.7	300	19	630	-	-	8	16	16	14
8	18	340	20.5	700	-	-	17	16	16	14
9	18.65	380	21.15	770	-	-	16	16	15	14
10	20.15	430	23.05	910	-	-	16	15	15	14
12	20.65	470	23.55	970	21.95	770	16	14	14	13
14	22.15	550	24.65	1060	23.05	850	15	14	13	13
15	22.65	580	25.15	1100	23.55	880	14	13	13	12
16	23.15	610	25.65	1150	24.05	910	14	13	13	12
18	24.55	670	27.05	1230	25.45	1010	14	13	13	12
19	24.55	690	27.05	1270	25.45	1020	14	13	13	11
20	25	740	27.5	1300	25.9	1090	14	13	13	11
21	25.45	750	27.95	1350	26.35	1100	14	13	13	11
24	26.65	830	29.15	1480	27.55	1200	13	12	12	11
27	27.85	910	30.35	1590	28.7	1310	13	12	11	11
29	28.6	970	31.3	1670	29.5	1360	13	11	11	11
30	28.95	1000	31.65	1720	29.8	1420	12	11	11	10
37	31.8	1220	34	1970	32.4	1670	11	11	11	9
40	32.75	1310	34.95	2080	33.35	1750	11	10	10	9
42	33.55	1380	36.55	2390	34.15	1840	11	10	10	9
44	3415	1430	37.15	2470	34.75	1890	11	10	10	9
52	36.4	1650	39.4	2780	37	2150	11	9	9	9
61	38.75	1890	42.15	3120	39.35	2440	10	9	9	8

CONTROL CABLE

2.5 sq.mm.(1/1.78mm) solid conductor multicore control cable - 1.1 KV grade as per IS: 1554 (pt-I)88

No. of cores	UNARMOURED CONST.		ROUND WIRE ARMOURED CONST.		FLAT STRIP ARMOURED CONST.		CURRENT RATING IN AIR (D.C.)		CURRENT RATING N AIR (A.C.)	
	O.D. app in mm	Net. Wt. app. Kg/km	O.D. App in mm	Net wt. app. Kg/km.	O.D. App in mm	Net wt. app. Kg/km.	Amp. Armoured	Amp. Unarmoured	Amp. Armoured	Amp. Unarmoured
2	14.15	190	16.45	450	-	-	28	26	25	24
3	14.7	230	17	500	-	-	26	24	23	22
4	15.65	270	17.95	560	-	-	24	23	23	21
5	16.7	320	19	640	-	-	24	23	21	20
6	17.7	370	20.1	720	-	-	23	22	21	19
7	17.7	390	20.1	740	-	-	22	21	20	19
8	19.25	450	21.7	840	20.55	640	21	21	19	18
9	20.2	510	23.05	1000	21.45	790	21	20	19	18
10	22	580	24.5	1090	22.9	880	21	19	19	18
12	22.6	640	25.1	1160	23.5	940	20	18	18	16
14	23.8	730	26.3	1280	24.7	1050	19	18	17	16
15	24.4	770	26.85	1340	25.25	1100	19	18	17	16
16	24.9	810	27.4	1400	25.8	1160	19	17	17	16
18	26.5	900	29	1520	27.4	1280	19	17	16	15
19	26.5	930	29	1560	27.4	1300	18	16	16	15
20	27	990	29.45	1640	27.9	1360	18	16	16	15
21	27.45	1010	29.95	1670	28.35	1410	18	16	16	14
24	28.85	1130	31.5	1850	29.75	1550	17	16	15	14
27	30.1	1250	32.8	2000	31.2	1700	16	15	14	14
29	30.95	1330	33.65	2100	32.05	1780	16	15	14	14
30	31.85	1400	34.05	2140	32.45	1850	16	14	14	13
37	34.7	1690	37.7	2750	35.3	2180	15	14	13	13
40	35.75	1810	38.75	2920	36.35	2300	15	13	13	12
42	36.4	1890	39.4	3020	37	2400	14	13	13	12
44	37.1	1970	40.1	3120	37.7	2480	14	13	13	12
52	39.6	2280	43	3560	40.2	2830	14	13	12	11
61	40.6	2660	45.6	3980	43.2	3260	13	12	11	11

2.5 sq.mm.(7/0.67mm) multistrand conductor multicore control cable - 1.1 KV grade as per IS: 1554 (pt-I)88

NO. OF CORES	UNARMOURED CONST.		ROUND WIRE ARMOURED CONST.		FLAT STRIP ARMOURED CONST.		CURRENT RATING IN AIR (D.C.)		CURRENT RATING IN AIR (A.C.)	
	O.D. APP IN MM	NET. WT. APP. KG/KM	O.D. APP IN MM	NET WT. APP. KG/KM.	O.D. APP IN MM	NET WT. APP. KG/KM.	AMP. ARMOURED	AMP. UNARMOURED	AMP. ARMOURED	AMP. UNARMOURED
2	14.6	200	16.9	470	-	-	29	27	26	24
3	15.2	240	17.5	520	-	-	27	25	24	23
4	16.2	280	18.5	590	-	-	25	24	23	21
5	17.3	330	19.6	670	-	-	24	23	22	20
6	18.45	390	21	760	-	-	23	22	21	19
7	18.45	400	21	7800	-	-	22	21	20	19
8	20.2	470	23.1	960	21.5	750	22	21	19	18
9	21.4	550	23.9	1050	2.3	830	21	20	19	18
10	22.9	600	25.45	1140	23.85	900	20	19	19	18
12	23.55	660	26.05	1220	24.45	990	20	19	18	16
14	24.8	750	27.3	1340	25.7	1100	19	18	18	16
15	25.4	800	27.95	1400	26.35	1150	19	18	17	16
16	26	840	28.5	1450	26.9	1210	19	18	17	16
18	27.7	940	30.2	1580	28.6	1300	18	17	16	15
19	27.7	960	30.2	1620	28.6	1360	18	17	16	15
20	28.2	1030	30.9	1720	29.1	1420	18	17	16	15
21	28.7	1040	31.4	1750	29.6	1460	17	16	16	14
24	30.2	1160	32.9	1910	31.3	1620	17	16	15	14
27	32.05	1320	34.3	2080	32.65	1770	16	15	15	13
29	32.95	1410	35.95	2420	33.55	1850	16	15	14	13
30	33.55	1460	36.6	2480	34.2	1930	15	14	14	13
37	36.4	1750	39.35	2880	37	2260	15	14	14	13
40	37.5	1870	40.5	3020	38.1	2400	15	14	13	12
42	38.2	1950	41.6	3160	38.8	2480	15	14	13	12
44	38.9	2030	42.3	3260	39.5	2480	14	13	13	12
52	41.6	2350	45	3700	42.6	2980	14	13	12	11
61	45	2760	48.35	4230	45.6	3400	13	12	11	11

CONTROL CABLE

1. Insulation thickness (nom)- 0.8mm for 1.5 sq. mm & 0.9mm for 2.5 sq.mm
2. Thickness of inner sheath (minimum)
   0.3mm upto including 48 cores & 0.4mm above 48 cores for table 1
   0.3mm upto including 43 cores & 0.4mm above 43 cores for table 2
   0.3mm upto including 33 cores & 0.4mm above 33 cores for table 3
   0.3mm upto including 29 cores & 0.4mm above 29 cores for table 4
3. Standard drum lenth -500/1000mtrs+/-5% upto & including 19 cores & 500 mtrs.+/-5% above 19 cores
4. Maximum DC resistance of condr. at 20° C in ohm/km-12.1 for 1.5 sq.mm & 7.41 for 2.5sq.mm
5. Maximum AC resistance of condr. at 70°C in ohm/km-17.42 for 1.5 sq.mm. & 10.67 for 2.5sq.mm
6. Maximum mutual capacitance between core to core in nF/km-100 at 0.8khz.
7. Short circuit current in amp. for 1 sec. duration-176 for 1.5sq. mm & 287 for 2.5 sq.mm.
8. Minimum bending radius for unarmoured cable in mm=10x cable dia in mm.

Rating factor for variation in ground temparature (for cable laid direct in the ground)

GROUND TEMPARATURE °	15	20	25	30	35	40	45
RATING FACTOR	1.17	1.12	1.06	1	0.94	0.87	0.79

Rating factor for variation in ground temparature (for cable laid direct in the duct)

GROUND TEMPARATURE °	15	20	25	30	35	40	45
RATING FACTOR	1.17	1.12	1.06	1	0.91	0.87	0.79

Rating factor for variation in ambient air temparature

GROUND TEMPARATURE °	25	30	35	40	45
RATING FACTOR	1.25	1.16	1.09	1	0.9

Rating factor for multicore cable laid in air (spacing between cales equal to dia of the cable)

NO. OF RACKS	NO. OF CABLES PER PACK				
	1	2	3	6	9
1	1	0.98	0.96	0.93	0.92
2	1	0.95	0.93	0.9	0.89
3	1	0.94	0.92	0.89	0.88
4	1	0.93	0.9	0.87	0.86

Rating factor for multicore cable laid on racks in air (with cable touching)

NO. OF RACKS	NO. OF CABLES PER PACK				
-	1	2	3	6	9
1	1	0.84	0.8	0.75	0.73
2	1	0.8	0.76	0.71	0.69
3	1	0.78	0.74	0.7	0.68
6	1	0.76	0.72		0.66

AERIAL BUNCHED CABLES

INTRODUCTION

Aerial Bunched Cable (ABC) is a good concept for over head power distribution. When compared to the conventional bare conductor over head distribution system ABC provides reliability and higher safety. Lowers power losses and ultimate system economy by reducing installation, maintenance and operative cost. This system is ideal for rural distribution and specially attractive for installation in difficult places such as hilly areas, forest ares, coastal areas etc.

CONSTRUCTION OF ABC

XLPE/HDPE insulated power conductors of aluminium (neutral conductor and street lighting conductors if and when necessary) are laid together (twisted) around a high tensile stranded and aluminum alloy with insulated or bare messenger wire to form the aerial bunched cable. This assembly is directly strung on to distribution pole/towers by mean of standard hardwares available in the market but care shall be taken to render the messenger wire completely insulated from earthing at any point of distribution in case of HT ABC. The XLPE (cross-linked polyethelene) insulation is black in colour and its stabilizer against deterioration caused by exposure to direct sunlight and ultraviolet radiation. XLPE is cross-linkable low density polyethylene which Is made thermoset by special formation from base polymer of thermoplastic low density polyethylene. XLPE combines the best electrical properties of LDPE and superior thermo mechanical properties.

MATERIALS

- Aluminum conductors conform to IS:8130(class-2)
- Stranded high tensile AI Alloy messenger wire conforms to IS:398(part-4). Alternatively Galvanized steel wire conforms to IS:398(part-2)
- XLPE and HDPE insulation of power conductors conforms to IS:7098(part-I & II) and IS:6474 respectively. Since, the tension-from the curret carrying conductor is totally removed by introduction of messenger. Wire the operating temperature of the conductor is 90° C as against 75°C of the bare conductor of the same size.

STRINGING

No difficulty is envisaged during stringing of ABC in the conventional method but care shall be taken that insulated conductors do not get damaged during installation.
Dragging the ABC on the ground is to be avoided. Tension to be applied during stringing shall be 25% of the breaking load of the messenger wires. This will Allow line to have sag withing specified limit of 1.5% of the span at the lowest ambient temperature.

AERIAL BUNCHED CABLES

JOINTING

While mid-span jointing permissible for LT ABC system by conventional technique, our recommendation will be to draw the line in such a way as to bring the joints at the supports. Mid-span jointing is not at all recommended in the case of HT lines our recommendation is for outdoor type HY terminations only. Under unavoidable circumstances, line tapping at the support points may be allowed through suitably designed clamp connectors/PG clamp. semi-conducting screen continuity shall be maintained at all joints as far as possible to avoid fluctuations during system disturbances. The 3 phase screens may be shorted and earthed through suitable non-linear surge arrestor.

RELIABILITY, SAFETY AND FLEXIBILITY:

ABC Cables are highly reliable and insulation has been developed to with stand heat, cold and intense sunlight. Disturbance and faults occur five to ten times more often in open wire lines than in ABC lines. There is no risk in touching the live cable and the insulation reduces the number of short circuits and over-voltages in overhead cables during thunder-storms. Few hardware accessories are needed as each one can be used with many different sizes of cable. This makes installation and storage easier. Streets can easily be get l it at little extra cost by using the ABC cables that have an extra conductor for lighting. The cable can be supplied with one or two insulated conductors for street lighting.
The hardware and accessories for AB cables are made by various reputed manufacturer and is easily available in India. They are similar to the standard hardware available for Bare conductor overhead distribution lines.

SCOPE

This specification covers design , engineering, manufacture, assembly, stage testing, inspection and testing before supply and delivery at site of XLPE. Insulated Aluminum cables twisted over central bare/insulate aluminum messenger wire.

STANDARDS

The materials shall conform in all respects to the relevant Indian Standard Specifications with latest amendments thereto, IS- 14255/95 Indian Title International & Standard Internationally recognized standard

IS - 8130/ I 984 Aluminum conductors for Insulated electric cables
IS - 6474/ 1 984 Polyethylene Insulation for IS 7098 Part- I XLPE Insulation
Cables for voltage upto and including IOOOV
IS-398/Part-IV/ All Aluminum Alloy IEC - 228/ 1978
1994 Conductors (AAAC) for
Overhead Transmission purposes Conductors of Insulated Cables
IS I0418/ 1982 Drums for electric cables
IS - 656/ 1988 Specification for logs for BSI48/ASTMD plywood I275, D1533,
D 1934,IEC
PUB 296-1969

SI. NO.	DESCRIPTION
1	Aluminum conductor (power)
2	XLPE Insulation
3	Aluminum Conductor (lighting)
4	Bare 'AI -alloy' co nductor (messenger)

AERIAL BUNCHED CABLES

1.1KV grade stranded & compacted aluminium phase conductor and stranded messenger conductor with all aluminium alloy, phase conductor is insulated with XLPE compound, messenger is either insulated or bare with lighting conductor of 16mm2 reffered specification IS: 14255-1995 up to the latest amendment.

Despcription & type of cable	No. of wires		Thickness of XLPE insulation		App. Overall dia.	App. Weight of cable	Breaking load of messenger	Max. D.C. resistance		A.C. current rating Amps.
	Phase	Messenger	Phase	Messenger				ohms/km		in air at 40°C
			mm	mm	mm	kg/km	kn(min)	Phase	Messenger	
With insulated messenger conductor										
3C x 16 mm2 + 25 mm2 (insulated) + 16 mm2	7	7	1.2	1.2	23.5	369	7	1.91	1.38	62
3C x 25 mm2 + 25 mm2 (insulated) + 16 mm2	7	7	1.2	1.2	25	457	7	1.2	1.38	82
3C x 35 mm2 + 25 mm2 (insulated) + 16 mm2	7	7	1.2	1.2	27.5	554	7	0.868	1.38	103
3C x 35 mm2 + 35 mm2 (insulated) + 16 mm2	7	7	1.2	1.2	28.4	586	10.1	0.868	0.986	103
3C x 50 mm2 + 35 mm2 (insulated) + 16 mm2	7	7	1.5	1.2	32.5	760	10.1	0.641	0.986	127
3C x 70 mm2 + 50 mm2 (insulated) + 16 mm2	7	7	1.5	1.5	37.5	1007	14	0.443	0.689	154
3C x 70 mm2 + 70 mm2 (insulated) + 16 mm2	7	7	1.5	1.5	39.5	1070	19.7	0.443	0.492	154
3C x 95 mm2 + 70 mm2 (insulated) + 16 mm2	19	7	1.5	1.5	42.5	1304	19.7	0.32	0.492	188
3C x 120 mm2 + 70 mm2 (insulated) + 16 mm2	19	7	1.6	1.5	46.8	1550	19.7	0.253	0.492	218
3C x 150 mm2 + 70 mm2 (insulated) + 16 mm2	19	7	1.8	1.5	50.8	1860	19.7	0.206	0.492	248
With bare messenger conductor										
3C x 16 mm2 + 25 mm2 (bare) + 16 mm2	7	7	1.2	N.A*	19.5	340	7	1.91	1.38	62
3C x 25 mm2 + 25 mm2 (bare) + 16 mm2	7	7	1.2	N.A*	20.5	429	7	1200	1.38	82
3C x 35 mm2 + 25 mm2 (bare) + 16 mm2	7	7	1.2	N.A*	23.5	526	7	0.868	1.38	103
3C x 35 mm2 + 35 mm2 (bare) + 16 mm2	7	7	1.2	N.A*	25	553	10.1	0.868	0.986	103
3C x 50 mm2 + 35 mm2 (bare) + 16 mm2	7	7	1.5	N.A*	26.8	727	10.1	0.641	0.986	127
3C x 70 mm2 + 50 mm2 (bare) + 16 mm2	7	7	1.5	N.A*	31.5	958	14	0.443	0.689	154
3C x 70 mm2 + 70 mm2 (bare) + 16 mm2	7	7	1.5	N.A*	34.5	1013	19.7	0.443	0.492	154
3C x 95 mm2 + 70 mm2 (bare) + 16 mm2	19	7	1.5	N.A*	37	1248	19.7	0.32	0.492	188
3C x 120 mm2 + 70 mm2 (bare) + 16 mm2	19	7	1.6	N.A*	39	1493	19.7	0.253	0.492	218
3C x 150 mm2 + 70 mm2 (bare) + 16 mm2	19	7	1.8	N.A*	40	1803	19.7	0.206	0.492	248

Note:

Insulation thickness of 16 mm2 for lighting	1.20 mm
Current rating of 16 mm2 lighting conductor	62 Amps.
Conductor operating temparature	90°C
Short circuit temparature for one sec.	250°C

Ambient Air Temperature is 40°C

AERIAL BUNCHED CABLES

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1.1 KV grade stranded & conpacted aluminium alloy, phase conductor and stranded messenger conductor with all aluminium alloy , phase cojnductor is insulated with XLPE compound, messenger is either insulated or bare with lighting conductor of 16 mm2 reffered specification IS : 14255-1995 up to latest amendment.

Despcription & type of cable	No. of wires		Thickness of XLPE insulation		App. Overall dia.	App. Weight of cable	Breaking load of messenger	Max. D.C. resistance ohms/km		A.C. current rating Amps. in air at 40°C
	phase	messenger	phase	messenger						
			mm	mm	mm	kg/km	kn(min)	phase	messenger	
With insulated messenger conductor										
1C x 16 mm2 + 25 mm2 (insulated)	7	7	1.2	1.2	20	165	7	1.91	1.38	72
3C x 16 mm2 + 25 mm2 (insulated	7	7	1.2	1.2	22	301	7	1.91	1.38	64
1C x 25 mm2 + 25 mm2 (insulated)	7	7	1.2	1.2	22.4	195	7	1.2	1.38	99
3C x 25 mm2 + 25 mm2 (insulated	7	7	1.2	1.2	25	390	7	1.2	1.38	84
1C x 35 mm2 + 25 mm2 (insulated)	7	7	1.2	1.2	27.3	227	7	0.868	1.38	120
3C x 35 mm2 + 35 mm2 (insulated	7	7	1.2	1.2	27.4	486	7	0.868	1.38	105
1C x 35 mm2 + 35 mm2 (insulated)	7	7	1.2	1.2	28	259	10.1	0.868	0.986	120
3C x 35 mm2 + 25 mm2 (insulated	7	7	1.2	1.2	28.4	518	10.1	0.868	0.986	105
1C x 50 mm2 + 35 mm2 (insulated)	7	7	1.5	1.2	29	317	10.1	0.641	0.986	150
3C x 50 mm2 + 35 mm2 (insulated	7	7	1.5	1.2	32.3	692	10.1	0.641	0.986	130
3C x 70 mm2 + 50 mm2 (insulated	7	7	1.5	1.5	37.5	939	14	0.443	0.689	155
3C x 70 mm2 + 70 mm2 (insulated	7	7	1.5	1.5	39	1002	19.7	0.443	0.492	155
3C x 95 mm2 + 70 mm2 (insulated	19	7	1.5	1.5	42.7	1237	19.7	0.32	0.492	190
3C x 120 mm2 + 70 mm2 (insulated	19	7	16	1.5	46	1482	19.7	0.253	0.492	220
3C x 150 mm2 + 70 mm2 (insulated	19	7	1.8	1.5	50	1791	19.7	0.206	0.492	250

With bare messenger conductor

Despcription & type of cable	No. of wires		Thickness of XLPE insulation		App. Overall dia.	App. Weight of cable	Breaking load of messenger	Max. D.C. resistance ohms/km		A.C. current rating Amps. in air at 40°C
	phase	messenger	phase	messenger						
			mm	mm	mm	kg/km	kn(min)	Phase	Messenger	
1C x 16 mm2 + 25 mm2 (bare)	7	7	1.2	N.A*	18.5	137	7	1.91	1.38	72
3C x 16 mm2 + 25 mm2 (bare)	7	7	1.2	N.A*	19.3	272	7	1.91	1.38	64
1C x 25 mm2 + 25 mm2 (bare)	7	7	1.2	N.A*	19.5	167	7	1.2	1.38	99
3C x 25 mm2 + 25 mm2 (bare	7	7	1.2	N.A*	20.5	362	7	1.2	1.38	84
1C x 35 mm2 + 25 mm2 (bare)	7	7	1.2	N.A*	22	199	7	0.868	1.38	120
3C x 35 mm2 + 35 mm2 (bare	7	7	1.2	N.A*	23.5	458	7	0.868	1.38	105
1C x 35 mm2 + 35 mm2 (bare)	7	7	1.2	N.A*	24.6	226	10.1	0.868	0.986	120
3C x 35 mm2 + 25 mm2 (bare	7	7	1.2	N.A*	25	485	10.1	0.868	0.986	105
1C x 50 mm2 + 35 mm2 (bare)	7	7	1.5	N.A*	26.6	284	10.1	0.641	0.986	150
3C x 50 mm2 + 35 mm2 (bare	7	7	1.5	N.A*	26.8	659	10.1	0.641	0.986	130
3C x 70 mm2 + 50 mm2 (bare	7	7	1.5	N.A*	31.2	890	14	0.443	0.689	155
3C x 70 mm2 + 70 mm2 (bare	19	7	1.5	N.A*	34.4	946	19.7	0.443	0.492	155
3C x 95 mm2 + 70 mm2 (bare	19	7	1.5	N.A*	36	1179	19.7	0.32	0.492	190
3C x 120 mm2 + 70 mm2 (bare	19	7	1.6	N.A*	38	1425	19.7	0.253	0.492	220
3C x 150 mm2 + 70 mm2 (bare	19	7	1.8	N.A*	40	1735	19.7	0.206	0.492	250

Rating factor for variation in air temperature:

Air Temperature °C	20	25	30	35	40	49	50
Rating Factor	1.32	1.25	1.16	1.09	1	0.9	0.81

*Not Applicable

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Wires & Cables

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25 YEARS OF EXCELLENCE

POWERING INDIA SINCE 1997

Panel & House Wires

PRIMECAB™

It's all about excellence

PROFILE

Prime Cable Industries has been manufacturing all types of quality cables since 1997. We have a diversified product range to meet the requirements of different economic sectors like Infrastructure, Industry, Power Distribution, Power Generation, Power Transmission Information Technology, Petrochemicals, Shipping Companies, Iron & Steel Industries. Manufacturing plant is situated at Delhi & Bhiwadi with state-of-art machinery.
In our endeavour to give the quality products to our clients. We have the works equipped with the most modern testing equipments enabling us to meet different national and international standards.

RENUFO WIRE'S DISTINCT FEATURES MAKE IT A ONE-OF-A-KIND PRODUCT:

Eco-friendly:

Manufactured using improved grade raw materials that can be recycled & ensure low carbon emission

Low smoke density:

This, along with reduced toxic fumes ensures better visibility, thus enabling faster evacuation in the case of an electric fire

Extra safe:

Its excellent flame retardant properties make it a life-saver

High thermal stability:

Leads to high heat resistance and a longer product lifetime

20%

Higher current carrying capacity:

Compared to Conventational Wires, superior grade raw materials are used that ensure higher current carrying capacity and greatly enhance the power efficiency

Longer life:

Advanced raw materials ensure greater product stability and long lifetime

Manufactured inside a green zone:

To avoid external contamination

Test	Specification	Specified Values
Critical Oxygen Index	ASTM-D 2863	Minimum 29%
Temperature Index	ASTM-D 2863	Minimum 250°C
Acid Gas Generation	IEC 60754-I	Minimum 20%
Smoke Density Rating	ASTM-D 2843	Minimum 60%

Packing Length = 90 / 100 / 180 mtrs

RENUFO, SINGLE CORE, HEAT RESISTANT, FLAME RETARDANT, LOW SMOKE & HALOGEN PVC INSULATED INDUSTRIAL CABLE IN 1100 VOLTAGE GRADE

Nominal area of conductor	No. of strands/Maximum diameter of each strand	Thickness of Insulation	Approx. overall diameter	Current carrying Capacity rating	Resistance (Max.) per km. @ 20° C
Sq. mm	Nos. / mm	mm	mm	Amps	Ohms
0.50	16/0.2	0.6	2.1	4.00	39.0
0.75	24/0.2	0.6	2.25	8.54	26.0
1	14/0.2	0.6	2.85	14.64	19.5
1.5	30/0.25	0.7	3.5	19.52	13.3
2.5	50/0.25	0.8	3.95	26.84	7.98
4	56/0.3	0.8	4.45	34.80	4.95
6	84/0.3	0.8	5.80	44.40	3.30
10	80/0.40	1.0	5.80	61.20	1.91
16	126/0.40	1.0	6.90	81.60	1.21

HOUSE WIRING & FLEXIBLE CORD

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No. & dia of wire, No./inch	No. & dia of wire, No./SWG	No. & dia of wire, No./mm	Thickness		Appr. Overall dia. mm	appr. Weight of cable mm	current rating Amps.	Standard length of coil mtrs.
			PV insulation mm	PVC outersheath mm				
Single core unsheathed								
1/0.044	1/18	1/1.2	1	-	3.2	18.1	19	91.44
3/0.029	3/32	3/0.73	1	-	3.7	23.5	22	91.44
3/0.036	3/20	3/0.91	1	-	4.12	31.2	28	91.44
7/0.029	7/22	7/0.73	1.1	-	4.5	41.5	38	91.44
7/0.036	7/20	7/0.91	1.2	-	5.2	60	46	91.44
7/0.044	7/18	7/1.12	1.2	-	5.8	81.5	57	91.44
7/0.052	-	7/1.32	1.2	-	6.4	108	70	91.44
7/0.064	7/16	7/1.62	1.3	-	7.5	156	88	91.44
19/0.044	19/18	19/1.12	1.3	-	8.3	197	110	91.44
19/0.025	-	19/1.42	1.3	-	9.3	365	127	91.44
19/0.064	19/16	19/1.62	1.4	-	11	390	160	91.44
19/0.083	19/14	19/2.11	1.4	-	13.4	640	220	91.44
37/0.064	37/16	37/1.64	1.5	-	14.5	725	245	91.44
37/0.083	37/14	37/2.11	1.5	-	17.9	1210	320	91.44
Single core Sheathed								
1/0.044	1/18	1/1.12	1	0.7	4.7	30	19	91.44
3/0.029	3/32	3/0.73	1	0.7	5.2	37	22	91.44
3/0.036	3/20	3/0.91	1	0.7	5.6	45.5	28	91.44
7/0.029	7/22	7/0.073	1.1	0.7	6	58	38	91.44
7/0.036	7/20	7/0.91	1.2	0.7	6.6	74	46	91.44
7/0.044	7/18	7/1.12	1.2	0.7	7.2	100.5	57	91.41
Two Core Flat								
1/0.044	1/18	1/1.12	1	0.9	5.10x8.40	71	14	91.44
3/0.029	3/32	3/0.73	1	0.9	5.60x9.40	87	18	91.44
3/0.036	3/20	3/0.91	1	1	6.20x10.40	113	24	91.44
7/0.029	7/22	7/0.073	1.1	1	6.60x1120	140	31	91.44
7/0.036	7/20	7/0.91	1.2	1	7.20c12.40	182	37	91.44
7/0.044	7/18	7/1.12	1.2	1	8.00x13.80	239	46	91.41

HOUSE WIRING & FLEXIBLE CORD

Nominal cross sectional area sq.mm	Thickness of PVC insulation mm	THICKNESS		Apprax. Overall diameter mm	Apprax. Weight of cable mm	Current rating Amps.	Standard length of coil meters
		PVC insulation mm	PVC Outer sheath mm				
SINGLE CORE UNSHEATHED							
0.5	16/0.20	0.6	-	2.1	8.7	3	100
0.75	24/0.20	0.6	-	2.25	11.4	6	100
1	32/0.20	0.6	-	2.45	14.3	10	100
1.5	48/2	0.6	-	2.8	20.2	15	100
2.5	80/0.20	0.7	-	3.35	31.7	20	100
4	128/0.20	0.8	-	4	48.5	25	100
6	84/0.30	0.8	-	4.55	69	32	100
10	140/0.30	1	-	6	117	43	100
16	126/0.40	1	-	7	177	58	100
25	196/0.40	1.2	-	8.5	270	78	100
35	276/0.40	1.2	-	9.6	370	95	100
50	396/0.40	1.4	-	11.6	540	120	100
TWO CORE TWISTED							
0.5	16/0.20	0.6			17.7	3	100
0.75	24/0.20	0.6			23.2	6	100
1	32/0.20	0.6			29	10	100
1.5	48/0.20	0.6			41	15	100
2.5	80/0.20	0.7			64	20	100
4	128/0.20	0.8			98	25	100
TWO CORE ROUND							
0.5	16/0.20	0.6	0.9	6.1	49	3	100
0.75	24/0.20	0.6	0.9	6.4	59.2	6	100
1	32/0.20	0.6	0.9	6.8	66.7	10	100
1.5	48/0.20	0.6	0.9	7.5	85.6	15	100
2.5	80/0.20	0.7	1	8.8	125	20	100
4	128/0.20	0.8	1	10.1	175	25	100
THREE CORE ROUND							
0.5	16/0.20	0.6	0.9	6.5	58	3	100
0.75	24/0.20	0.6	0.9	6.8	68	6	100
1	32/0.20	0.6	0.9	7.2	80	10	100
1.5	48/0.20	0.6	0.9	8	106	15	100
2.5	80/0.20	0.7	1	9.4	155	20	100
4	128/0.20	0.8	1	10.7	220	25	100
6	85/0.30	0.8	1.1	12.1	300	32	100
10	141/0.30	1	1.2	15.14	495	43	100
16	126/0.40	1	1.3	17.8	725	58	100
25	196/0.40	1.2	1.5	21.5	1090	78	100
35	276/0.40	1.2	1.6	24	1435	95	100
50	396/0.40	1.4	1.7	28.5	2070	120	100
FOUR CORE ROUND							
0.5	16/0.20	0.6	0.9	7.1	70	3	100
0.75	24/0.20	0.6	0.9	7.5	85	6	100
1	32/0.20	0.6	0.9	8	102	10	100
1.5	48/0.20	0.6	1	9	136	15	100
2.5	80/0.20	0.7	1	10.3	195	20	100
4	128/0.20	0.8	1	11.9	280	25	100

A. CABLE INSPECTION

Inspect every cable reel for damage before accepting the shipment. Be particularly alert for cable damage if:

1. A reel is lying flat on its side
2. Serveral reels are stacked
3. Other freight is stacked on a reel
4. Nails have been driven into reel flanges to secure shipping blocks
5. A reel flange is damaged
6. A cable covering is removed, stained ordamaged
7. A cable end seal is removed or damaged. A reel has been dropped (hidden damage likely)

B. CABLE HANDLING & STORAGE

Damage to cables can occur due to the incorrect handling to which the drums and cables may be subjected; causing breakdown of the drum flanges and in exceptional cases, movement of the drum barrel takes place. Once this breakdown of the drum occurs, the cable is immediately exposed to damage. Cables damaged during handling & storage can cause service failures when the subject cable is put to use.

Thus the following is a list of Do's and Don'ts that should be followed while handling and storing the cables before it is put to use.

DO'S

When off loading reels from a truck, lower reels carefully using a hydraulic gate, hoist or forklift truck.

If a fork lift is used, approach the reel from the flange size. Position the forks such that the reel is lifted by both reel flanges. Also Consideration should be given to, Traffic Patterns during off-loading & damage during the time in storage

When using a hoist, install a mancrel through the reel arbor holes and attach a sling. Use a spreader bar approximately 6 inches longer than the overall reel width placed between the sling ends just above the reel flanges,

Cable reels should be stored on hard surfaces resting on the flanges edge (flanges vertical). Align reels flange to flange and, if possible, arrange so that first in is first out.

DON'TS

Never drop reels. If reels must be rolled, roll in opposite direction of the cable wraps to keep cable from loosening on the reel.

Do not allow the lift forks to contact the cable. Care must be taken by the fork lift operator not to make sudden turns or stops.

This may lead to the bending of the reel flanges and mashing the cable.

Multiple reels stacked on top of each other ("Pancake" storage) is not recommended for cable drums. The weight of the stack can total thousands of kgs. creating an enormous load on the bottom reels. Also, damage to the reel and/ or cable will likely occur when the reel is flipped for transit. A concentration of stress on the reel flange may cause it to break and subsequently damage the cable.

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