SPECIAL CABLES

BUILDING RELATIONSHIPS
THROUGH PERFORMANCE

PRODUCT CATALOGUE

About Us

Special Cables serving the Industry for over three decades as one of the most reputed & reliable Cable Manufacturers

Special cables was incorporated in 1983 as a private limited company and began its business operations in 1985. Starting as a manufacturer of special purpose cables including Screened, Co-axial & Telephone cables, the company has expanded its product range to include Power cables, Control cables, Instrumentation cables, Fire Survival cables, Solar cables, Mining cables, Rubber cables, Composite cables, High Temperature Cables, Railway Power & Signalling Cables, A.B. cables, Overhead conductors, House wires, Multicore Flexible cables etc.

Special Cables is an organisation where the “Customer comes First”. Our aim is to excel in all areas of operations through continuous improvement and to create a congenial working environment to ensure long lasting and cordial business relationship with our stakeholders and commitment to environmental issues and society as a whole. Over the years, we have strengthened our brand name and reputation in the market and are proud to be the preferred vendor to many leading organisations and industrial houses.

The company is managed by an enterprising team of highly professional, technically qualified and well experienced personnel having proven expertise in the cable industry and management experts from reputed organisations.

Innovation has been the driving force at Special Cables. We have been constantly developing specialised products and also innovating in processes and systems.

We have the vision, the commitment and the expertise to be the market leader. For us, leadership does not mean the biggest, but the best in terms of quality of our products, timely delivery, value advantage, all round satisfaction and trust for our customers.

Quality Assurance and Timely Delivery continue to be the driving force at Special Cables. In the changing world, our focus remains on supplying high quality products at very competitive prices. Our mission is to continue to remain the preferred supplier to our valued customers and to strive for growth in existing and new markets and build long term relationship with our associates, customers, employees and suppliers. Our quality has been recognised and we have received several accolades from large corporations, industrial houses and government agencies. Over the years and our long standing relationship with our customers motivates us to constantly keep improving in the future.

MANUFACTURING FACILITIES









Production & Quality

Our manufacturing facilities located in Rudrapur, Uttarakhand is focused on achieving high production capacities through new & energy efficient technologies and process improvements. The current production floor is spread over 120,000 sq. ft. with continuous power, back-up generators and UPS systems providing uninterrupted power supply. The unit has installed capacity to manufacture wires, cables & conductors upto ₹3800 million/annum and provides employment to over 250 workmen.

Our unit has state of the art manufacturing facilities with machinery from reputed domestic and international manufacturers including complete wire drawing facilities, stranding machines, bunchers, taping machines, high speed extruders, laying machines, drum twisters, armouring & braiding machines and rewinding lines.

Quality is an all-encompassing philosophy at Special Cables. We always strive to maintain the highest quality standards and ensure continuous quality improvement, thereby delivering our mission to provide world-class materials and services, to serve our customers better and better.

Our testing laboratories are equipped with modern and computerized testing equipment. Our quality Management System ensures the quality product through stringent controls right from incoming material inspection through each stage of manufacture till finished goods production.

Regular inspections are carried out directly by customers and through reputed third party inspection agencies including TUV, Tata Projects, SGS, Bureau Veritas, QUEST, IRCLASS, IQRA, OCA Global, Intertek and many others.

Certification

- We are ISO 9001 : 2015, ISO 14001: 2015 and ISO 45001: 2018 certified.
- Approvals from various National and International Organizations.
- Holding valid BIS licenses i.e. IS:694, IS:1554 (Pt-1), IS:7098 (Pt-1 & 2), IS: 9968 (Pt-1) & IS:14225. Type Tests on various cables have been conducted at CPRI, ERDA, NABL and various government labs.
- Designing and manufacturing cables as per IEC, British Standards, Australian Standards, UL, VDE, SABS etc.


TÜV NORD

CERTIFICATE

Management system as per
ISO 45001 : 2018

SPECIAL CABLES PVT. LTD.
Plot No. 60 - 65, Sector-3, SIDCUL,
IIE Pant Nagar, Rudrapur,
Dist. U.S. Nagar - 263 153,
Uttarakhand,
India.
with the locations according to the annex

Design, Development, Manufacture and Supply of Power Cables, Control Cables, Instrumentation Cables, Aerial Bunched Cables, Railway Signaling Cables, Solar Cables, Fire Survival Cables, House Wiring Cables, Quad Cables, Telecom Cables, Rubber Cables, Railway Power Cables and Overhead Conductors.


TÜV NORD

CERTIFICATE

Management system as per
ISO 9001 : 2015

SPECIAL CABLES PVT. LTD.
Plot No. 60 - 65, Sector-3, SIDCUL,
IIE Pant Nagar, Rudrapur,
Dist. U.S. Nagar - 263 153,
Uttarakhand,
India.
with the locations according to the annex

Design, Development, Manufacture and Supply of Power Cables, Control Cables, Instrumentation Cables, Aerial Bunched Cables, Railway Signaling Cables, Solar Cables, Fire Survival Cables, House Wiring Cables, Quad Cables, Telecom Cables, Rubber Cables, Railway Power Cables and Overhead Conductors.

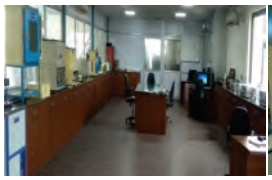

TÜV NORD

CERTIFICATE

Management system as per
ISO 14001 : 2015

SPECIAL CABLES PVT. LTD.
Plot No. 60 - 65, Sector-3, SIDCUL,
IIE Pant Nagar, Rudrapur,
Dist. U.S. Nagar - 263 153,
Uttarakhand,
India
with the locations according to the annex

Design, Development, Manufacture and Supply of Power Cables, Control Cables, Instrumentation Cables, Aerial Bunched Cables, Railway Signaling Cables, Solar Cables, Fire Survival Cables, House Wiring Cables, Quad Cables, Telecom Cables, Rubber Cables, Railway Power Cables and Overhead Conductors.





POWER CABLES

Application: Typically used in Power transmission and distribution systems (underground / overhead) for industrial, commercial, institutional and residential purposes. They are used in a wide variety of industries including thermal and nuclear power stations, renewable energy, steel, cement, defence, railways, windmills, various manufacturing industries etc.

Types and Sizes: Single core ranging from 4 sq. mm. up to 1000 sq mm. and Multi core ranging from 4 sq. mm to 630 sq. mm. with voltage grade upto 3.3 kV.

Conductor: Aluminium – Solid, Stranded (Sector/Circular) or Copper – Solid, Stranded (Sector/Circular) or Flexible

Insulation: PVC- GP/HR/FR/FRLS, PE, XLPE, Zero Halogen

Inner Sheath: PVC- GP/HR/FR/FRLS, PE, Zero Halogen

Armour: Galvanized Steel or Aluminium Round Wire / Flat Strip / Tape or GI/Tinned Copper Braiding

Outer Sheath: PVC- GP/HR/FR/FRLS, PE, Zero Halogen

Specification: Generally confirming to IS: 1554 (Pt-1 & 2), IS: 7098 (Pt-1 & 2), IEC: 60502-1, BS: 5467, BS: 6346, AS/NZS 5000.1 and designed to meet customer's requirements.

Technical Data for XLPE Power Cables

Note:

- Technical Data provided is for reference only and maybe revised without notice. Other details can be provided on request.
- Current ratings are given for standard conditions (Ambient Air Temperature @ 40°C, C, Ambient Ground /Duct Temperature @ 30°C, Thermal resistivity of soil 1.5 K.m/W, Depth of laying 900 mm) and may vary if site conditions are different.

ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED, UNARMOURED (A2XY)/ARMOURED (A2XWaY, A2XFaY) CABLE-650/1100 VOLTS AS PER IS: 7098 (Pt-I)- 1988

Cross Sectional Area	UNARMOURED		ARMOURED		Max. D.C Conductor Resistance at 20° C	Short Circuit Rating For 1 Sec Duration	A.C CURRENT RATING			UNARMOURED		ARMOURED	
	Thickness of XLPE Insulation	Overall Dia	Thickness of XLPE Insulation	Overall Dia			In Air	Direct In Ground	In Duct	Reactance of cable at 50 Hz	Capacitance of cable	Reactance of cable at 50 Hz	Capacitance of cable
(Nom.)	(Nom.)	(Approx.)	(Nom.)	(Approx.)			(For information only)			(Approx.)		(Approx.)	
(sq. mm.)	(mm)	(mm)	(mm)	(mm)	(Ω/km)	(kA)	(Amps.)			(Ω/km)	(μf/km)	(Ω/km)	(μf/km)
SINGLE CORE													
4	0.7	7.0	1.0	10	7.41	0.376	38	43	36	0.136	0.29	0.152	0.22
6	0.7	8.0	1.0	11	4.61	0.564	50	55	47	0.128	0.34	0.144	0.26
10	0.7	9.0	1.0	12	3.08	0.940	64	69	58	0.118	0.42	0.133	0.31
16	0.7	10.0	1.0	12.5	1.91	1.50	84	89	75	0.108	0.50	0.122	0.40
25	0.9	11.5	1.2	14	1.20	2.40	112	115	96	0.102	0.52	0.116	0.40
35	0.9	12.5	1.2	15	0.868	3.30	137	137	115	0.097	0.60	0.110	0.47
50	1.0	14.5	1.3	17	0.641	4.70	165	161	135	0.092	0.63	0.103	0.50
70	1.1	16.0	1.4	18.5	0.443	6.60	209	198	165	0.088	0.68	0.099	0.55
95	1.1	18.0	1.4	21	0.320	9.00	264	243	199	0.085	0.79	0.097	0.64
120	1.2	19.5	1.5	22.5	0.253	11.30	308	276	226	0.082	0.79	0.093	0.67
150	1.4	21.5	1.7	24.5	0.206	14.20	350	308	252	0.082	0.79	0.091	0.67
185	1.6	24.0	1.9	27	0.164	17.50	406	349	285	0.082	0.79	0.090	0.67
240	1.7	26.0	2.0	29	0.125	22.60	480	404	329	0.079	0.84	0.086	0.72
300	1.8	29.0	2.1	32	0.100	28.30	551	454	369	0.078	0.86	0.085	0.75
400	2.0	32.5	2.4	36.5	0.0778	37.70	647	518	421	0.077	0.88	0.085	0.75
500	2.2	36.0	2.6	39.5	0.0605	47.00	751	588	476	0.076	0.90	0.083	0.77
630	2.4	39.5	2.8	43.5	0.0469	59.22	868	663	536	0.075	0.94	0.082	0.81
800	2.6	44.5	3.1	49	0.0367	75.20	992	740	596	0.075	0.97	0.081	0.88
1000	2.8	49.5	3.3	55	0.0291	94.00	1117	812	652	0.068	1.01	0.081	0.88

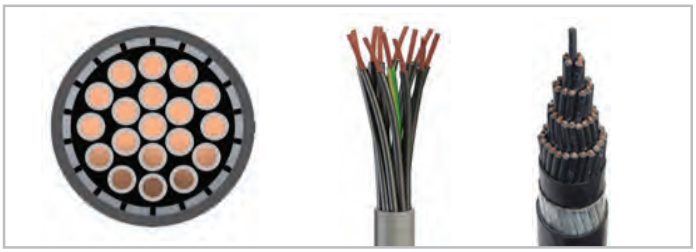
ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED, UNARMOURED (A2XY)/ARMOURED (A2XWY, A2XFY) CABLE-650/1100 VOLTS AS PER IS: 7098 (Pt-I)-1988

Cross Sectional Area	Thickness of XLPE Insulation	UNAR-MOURED	AR-MOURED	Max. D.C Conductor Resistance at 20° C	Short Circuit Rating For 1 Sec Duration	A.C Current Rating			Reactance of cable at 50 Hz	Capaci-tance of cable
		Overall Dia	Overall Dia			In Air	Direct In Ground	In Duct		
(Nom.)	(Nom.)	(Approx.)	(Approx.)			(For reference only)			(Approx.)	(Approx.)
(sq. mm.)	(mm)	(mm)	(mm)	(Ω/km)	(kA)	(Amps.)			(Ω/km)	(μf/km)
TWO CORE										
4	0.7	13.0	15.0	7.41	0.376	38	42	36	0.098	0.11
6	0.7	15.0	16.5	4.61	0.564	50	55	46	0.090	0.13
10	0.7	16.0	18.0	3.08	0.94	64	68	57	0.084	0.16
16	0.7	15.5	17.5	1.91	1.5	83	89	74	0.080	0.18
25	0.9	18.5	19.0	1.2	2.4	109	114	95	0.080	0.20
35	0.9	20.0	20.5	0.868	3.3	133	136	113	0.080	0.23
50	1	22.5	23.5	0.641	4.7	162	161	134	0.078	0.24
70	1.1	25.5	26.5	0.443	6.6	204	197	164	0.077	0.26
95	1.1	29.0	29.5	0.32	9.0	251	235	196	0.074	0.29
120	1.2	31.5	32.0	0.253	11.3	287	266	222	0.072	0.29
150	1.4	34.5	35.5	0.206	14.2	328	296	248	0.072	0.29
185	1.6	38.5	39.5	0.164	17.5	379	335	281	0.072	0.29
240	1.7	42.5	43.0	0.125	22.6	448	385	324	0.072	0.31
300	1.8	47.0	47.5	0.100	28.3	513	432	364	0.071	0.33
400	2	53.0	53.5	0.0778	37.7	593	487	412	0.070	0.33
500	2.2	54.0	54.5	0.0605	47.0	683	548	463	0.070	0.34
630	2.4	59.0	60.0	0.0469	59.22	784	612	518	0.069	0.36
THREE CORE										
4	0.7	13.5	15.5	7.41	0.376	32	35	30	0.098	0.11
6	0.7	14.5	17.0	4.61	0.564	42	46	38	0.090	0.13
10	0.7	17.0	19.0	3.08	0.940	54	57	48	0.084	0.16
16	0.7	17.5	18.0	1.91	1.50	69	74	61	0.080	0.18
25	0.9	21.0	21.5	1.20	2.40	93	95	79	0.080	0.20
35	0.9	23.0	24.0	0.868	3.30	114	114	94	0.080	0.23
50	1.0	26.5	27.0	0.641	4.70	138	134	112	0.078	0.24
70	1.1	30.0	30.5	0.443	6.60	175	164	137	0.077	0.26
95	1.1	33.5	34.5	0.320	9.00	216	197	164	0.074	0.29
120	1.2	37.0	37.5	0.253	11.30	249	223	187	0.072	0.29
150	1.4	41.0	41.5	0.206	14.20	284	249	209	0.072	0.29
185	1.6	46.0	46.5	0.164	17.50	329	282	238	0.072	0.29
240	1.7	50.5	51.5	0.125	22.60	392	327	276	0.072	0.31
300	1.8	56.0	56.5	0.100	28.30	452	369	213	0.071	0.33
400	2.0	63.5	64.0	0.0778	37.70	526	420	356	0.070	0.33
500	2.2	65.0	65.5	0.0605	47.00	612	478	412	0.070	0.34
630	2.4	73.0	74.0	0.0469	59.22	712	542	468	0.069	0.36

ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED,UNARMOURED (A2XY)/ARMOURED (A2XWY & A2XFY) CABLE- 650/1100 VOLTS AS PER IS: 7098(Pt-I)/1988

Cross Sectional Area	Thickness of XLPE Insulation	UNAR-MOURED	AR-MOURED	Max. D.C Conductor Resistance at 20° C	Short Circuit Rating For 1 Sec Duration	A.C Current Rating			Reactance of cable at 50 Hz	Capaci-tance of cable
		Overall Dia	Overall Dia			In Air	Direct In Ground	In Duct		
(Nom.)	(Nom.)	(Approx.)	(Approx.)			(For reference only)			(Approx.)	(Approx.)
(sq. mm.)	(mm)	(mm)	(mm)	(Ω/km)	(kA)	(Amps.)			(Ω/km)	(μf/km)
THREE AND HALF CORE										
25/16	0.9/0.7	21.5	22.5	1.20	2.40	93	95	79	0.080	0.20
35/16	0.9/0.7	23.5	24.0	0.868	3.30	114	114	94	0.080	0.23
50/25	1.0/0.9	27.0	27.5	0.641	4.70	138	134	112	0.078	0.24
70/35	1.1/0.9	31.0	31.5	0.443	6.60	175	164	137	0.077	0.26
95/50	1.1/1.0	35.0	35.5	0.320	9.00	216	197	164	0.074	0.29
120/70	1.2/1.1	38.5	39.5	0.253	11.30	249	223	187	0.072	0.29
150/70	1.4/1.1	42.0	42.5	0.206	14.20	284	249	209	0.072	0.29
185/95	1.6/1.1	47.0	47.5	0.164	17.50	329	282	238	0.072	0.29
240/120	1.7/1.2	52.0	52.5	0.125	22.60	392	327	276	0.072	0.31
300/150	1.8/1.4	58.0	58.5	0.100	28.30	452	369	312	0.071	0.33
400/185	2.0/1.6	65.5	66.0	0.0778	37.70	526	420	356	0.070	0.33
500/240	2.2/1.7	72.0	72.5	0.0605	47.00	612	478	412	0.070	0.34
630/300	2.4/1.8	80.0	80.5	0.0469	59.22	712	542	468	0.069	0.36
FOUR CORE										
4	0.7	15.0	16.5	7.41	0.376	32	35	30	0.098	0.11
6	0.7	16.5	18.0	4.61	0.564	42	46	38	0.090	0.13
10	0.7	18.5	20.0	3.08	0.940	54	57	48	0.084	0.16
16	0.7	19.0	20.5	1.91	1.50	69	74	61	0.080	0.18
25	0.9	23.0	23.5	1.20	2.40	93	95	79	0.080	0.20
35	0.9	25.5	26.0	0.868	3.30	114	114	94	0.080	0.23
50	1.0	29.0	30.0	0.641	4.70	138	134	112	0.078	0.24
70	1.1	33.0	33.5	0.443	6.60	175	164	137	0.077	0.26
95	1.1	37.0	37.5	0.320	9.00	216	197	164	0.074	0.29
120	1.2	41.0	41.5	0.253	11.30	249	223	187	0.072	0.29
150	1.4	45.5	46.0	0.206	14.20	284	249	209	0.072	0.29
185	1.6	51.0	51.5	0.164	17.50	329	282	238	0.072	0.29
240	1.7	56.5	57.0	0.125	22.60	392	327	276	0.072	0.31
300	1.8	62.5	62.5	0.100	28.30	452	369	312	0.071	0.33
400	2.0	70.5	70.5	0.0778	37.70	526	420	356	0.070	0.33
500	2.2	75.0	75.5	0.0605	47.00	612	478	412	0.070	0.34
630	2.4	84.0	84.5	0.0469	59.22	712	542	468	0.069	0.36

CONTROL CABLES



Application: Mainly used for interconnections for control circuits, communication systems, electrical panels, machine tools as well as lighting at lower loads.

Types and Sizes: Typically upto 61 cores from 1.0 sq. mm to 2.5 sq. mm with voltage grade upto 1.1 kV

Conductor: Copper – Solid, Stranded (Circular) or Flexible – Bare or Tinned

Insulation: PVC- GP/HR/FR/FRLS, PE, XLPE, Zero Halogen or EPR Rubber.

Screening: Aluminium Mylar Tape, with Copper Drain Wire, Copper Tape/ Tinned Copper Braiding (if required)

Inner Sheath: PVC - GP/HR/FR/FRLS, PE, Zero Halogen or Rubber – FR/HOFR

Armour: Galvanized Steel or Aluminium Round Wire / Flat Strip / Tape or GI / Tinned Copper Braiding

Outer Sheath: PVC - GP/HR/FR/FRLS, PE, Zero Halogen or Rubber- FR/HOFR/TRS.

Special Features: Multi layer inner sheath of Aluminium Mylar tape/HDPE/PA (nylon) to provide high chemical resistance.

Specification: Generally confirming to IS: 694, IS: 1554 (Pt-I), IS: 7098 (Pt-I), IEC: 60502-1, BS: 5467, BS: 6346, AS/NZS 5000.1 and designed to meet customer's requirements

Technical Data for PVC Control Cables

Note:

- Technical Data provided is for stranded (Class 2) conductor and PVC-GP (General Purpose). Details given are for reference only and may be revised without notice. Other details can be provided on request.
- Max. Conductor D.C. Resistance at 20°C - Conductor Size : 1.5 sq.mm - 12.1 Ohm / km (Bare), 12.2 Ohm / km (Tinned) and 2.5 sq.mm - 7.41 Ohm / km (Bare), 7.56 Ohm / km (Tinned)
- Current ratings are given for standard conditions (Ambient Air Temperature @ 40 C, Ambient Ground /Duct Temperature @ 30°C, Thermal resistivity of soil 1.5 K.m/W, Depth of laying 900 mm) and may vary if site conditions are different.

1.1 kV CONTROL CABLES WITH PVC INSULATION & SHEATHING AS PER IS : 1554 (PT - I) - 1988

No. of Cores & Cross Sectional Area	Thickness of PVC Insulation	Thickness of Inner sheath (Extruded)	Unarmoured		Flat Strip Armoured		Round Wire Armoured		Current Rating		Reac-tance of cable at 50 Hz	Capaci-tance of cable
			Thickness of Outer sheath	Outer Dia	Thickness of Outer sheath	Outer Dia	Thickness of Outer sheath	Outer Dia	Direct in Ground	In Air/ Duct		
No. X	(Nom.)	(Min.)	(Nom.)	(Approx.)	(Min.)	(Approx.)	(Min.)	(Approx.)			(Approx.)	(Approx.)
sq. mm	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(Amps)	(Amps)	(Ω/km)	(μf/km)
2 x 1.5	0.8	0.3	1.8	11.5	—	—	1.24	13.0	23	20	0.112	0.20
3 x 1.5	0.8	0.3	1.8	12.0	—	—	1.24	13.5	21	17	0.112	0.20
4 x 1.5	0.8	0.3	1.8	12.5	—	—	1.24	14.5	21	17	0.112	0.20
5 x 1.5	0.8	0.3	1.8	13.5	—	—	1.24	15.5	21	17	0.112	0.20
6 x 1.5	0.8	0.3	1.8	14.6	—	—	1.24	16.5	15	13	0.112	0.20
7 x 1.5	0.8	0.3	1.8	14.5	—	—	1.24	16.5	14	13	0.112	0.20
10 x 1.5	0.8	0.3	1.8	18.0	—	—	1.40	20.0	13	11	0.112	0.20
12 x 1.5	0.8	0.3	1.8	18.5	1.24	19.5	1.40	21.0	12	10	0.112	0.20
14 x 1.5	0.8	0.3	1.8	19.0	1.40	20.5	1.40	22.0	11	10	0.112	0.20
16 x 1.5	0.8	0.3	1.8	20.0	1.40	21.0	1.40	22.5	11	9	0.112	0.20
19 x 1.5	0.8	0.3	2.0	21.5	1.40	22.0	1.40	23.5	10	9	0.112	0.20
24 x 1.5	0.8	0.3	2.0	24.5	1.40	25.5	1.40	27.0	9	8	0.112	0.20
27 x 1.5	0.8	0.3	2.0	25.0	1.40	26.0	1.40	27.5	9	8	0.112	0.20
30 x 1.5	0.8	0.3	2.0	26.0	1.40	26.5	1.40	28.0	9	7	0.112	0.20
37 x 1.5	0.8	0.3	2.0	28.0	1.40	28.5	1.40	30.0	8	7	0.112	0.20
61 x 1.5	0.8	0.4	2.2	35.0	1.56	35.0	1.56	38.0	6	6	0.112	0.20
2 x 2.5	0.9	0.3	1.8	12.5	—	—	1.24	14.5	32	27	0.107	0.22
3 x 2.5	0.9	0.3	1.8	13.0	—	—	1.24	15.0	27	24	0.107	0.22
4 x 2.5	0.9	0.3	1.8	14.0	—	—	1.24	16.0	27	24	0.107	0.22
5 x 2.5	0.9	0.3	1.8	15.0	—	—	1.24	17.0	23	19	0.107	0.22
6 x 2.5	0.9	0.3	1.8	16.5	—	—	1.24	18.5	21	18	0.107	0.22
7 x 2.5	0.9	0.3	1.8	16.5	—	—	1.24	18.5	20	17	0.107	0.22
10 x 2.5	0.9	0.3	1.8	20.5	1.40	21.5	1.40	23.0	18	15	0.107	0.22
12 x 2.5	0.9	0.3	2.0	21.5	1.40	22.0	1.40	23.5	17	14	0.107	0.22
14 x 2.5	0.9	0.3	2.0	22.5	1.40	23.0	1.40	24.5	16	13	0.107	0.22
16 x 2.5	0.9	0.3	2.0	23.5	1.40	24.0	1.40	25.5	15	13	0.107	0.22
19 x 2.5	0.9	0.3	2.0	24.5	1.40	25.0	1.40	26.5	14	12	0.107	0.22
24 x 2.5	0.9	0.3	2.0	28.5	1.40	29.0	1.56	31.0	13	11	0.107	0.22
27 x 2.5	0.9	0.3	2.0	29.0	1.40	29.5	1.56	31.5	12	10	0.107	0.22
30 x 2.5	0.9	0.3	2.0	30.0	1.56	30.5	1.56	32.5	12	10	0.107	0.22
37 x 2.5	0.9	0.4	2.2	32.5	1.56	33.5	1.56	36.0	11	9	0.107	0.22
61 x 2.5	0.9	0.4	2.2	41.0	1.56	41.0	1.72	44.0	8	8	0.107	0.22

INSTRUMENTATION & SIGNAL CABLES

Application: These cables find wide application in measurement, control and supervision in process instruments and equipments, various communication and data acquisition systems, computer systems, digital control & measurement systems etc. and are designed to transmit signal without interference.

Types and Sizes: Typically in pair/traid formation (upto 50 Pairs, Triads) from 0.50 sq.mm to 2.50 sq.mm with screening for voltage grade upto 1.1 kV

Conductor: Copper – Solid, Stranded (Circular) or Flexible – Bare or Tinned

Insulation: PVC- GP/HR/FR/FRLS, PE, XLPE, Zero Halogen or EPR Rubber

Screening: Individual & Overall or Overall screening - Polyester Tape, Aluminium Mylar Tape, with Copper Drain Wire, Copper Tape or Tinned Copper Braiding

Inner Sheath: PVC - GP/HR/FR/FRLS, PE, Zero Halogen or Rubber – FR/HOFR

Armour: Galvanized Steel Round Wire / Flat Strip / Tape or GI / Tinned Copper Braiding

Outer Sheath: PVC - GP/HR/FR/FRLS, PE, Zero Halogen or Rubber- FR/HOFR/TRS.

Special Features: Multi layer inner sheath of Aluminium Mylar tape/HDPE/PA (nylon) to provide high chemical resistance.

Specification: Generally confirming to IS:1554 (Pt-1), BS: 5308 (Pt-1 & 2), IEC: 189 (Pt 1 & 2), IEC: 60227, VDE: 0815 & 0816, BS EN: 50288-7.

Technical Data for PVC Instrumentation Cables

Note:

- Technical Data provided is for Solid (Class 1) conductor and PVC-GP (General purpose). Details given are for reference only and may be revised without notice.
- Other details can be provided on request.

500 Volts, PVC insulated, Instrumentation cables conforming to EN:50288-7

Individual pair screened & overall screened

0.5 Sq.mm

No. of pair	2		4		8		12	
Cable Type	Unarmd.	Armd.	Unarmd.	Armd.	Unarmd.	Armd.	Unarmd.	Armd.
Conductor Diameter (mm)	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Insulation thickness (min.) (mm)	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
Thickness of sheath / bedding (Nom.)(mm)	-	1.0	-	1.0	-	1.2	-	1.3
Thickness of outer sheath (Nom.) (mm)	1.0	1.4	1.0	1.4	1.2	1.6	1.3	1.6
Overall diameter (For reference only) (mm)	9.0	14.0	10.5	15.5	14.5	19.5	17.0	22.5

1.0 Sq.mm

No. of pair	2		4		8		12	
Cable Type	Unarmd.	Armd.	Unarmd.	Armd.	Unarmd.	Armd.	Unarmd.	Armd.
Conductor Diameter (mm)	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Insulation thickness (min.) (mm)	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
Thickness of sheath / bedding (Nom.)(mm)	-	1.0	-	1.1	-	1.3	-	1.4
Thickness of outer sheath (Nom.) (mm)	1.0	1.4	1.1	1.5	1.3	1.6	1.4	1.7
Overall diameter (For reference only) (mm)	10.5	15.0	12.0	17.0	16.5	22.0	19.5	25.5

1.5 Sq.mm

No. of pair	2		4		8		12	
Cable Type	Unarmd.	Armd.	Unarmd.	Armd.	Unarmd.	Armd.	Unarmd.	Armd.
Conductor Diameter (mm)	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Insulation thickness (min.) (mm)	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
Thickness of sheath / bedding (Nom.)(mm)	-	1.1	-	1.1	-	1.3	-	1.5
Thickness of outer sheath (Nom.) (mm)	1.1	1.5	1.1	1.5	1.3	1.7	1.5	1.8
Overall diameter (For reference only) (mm)	11.5	16.0	13.5	18.5	18.5	24.0	22.0	28.0

Overall screened

0.5 Sq.mm

No. of pair	2		4		8		12	
Cable Type	Unarmd.	Armd.	Unarmd.	Armd.	Unarmd.	Armd.	Unarmd.	Armd.
Conductor Diameter (mm)	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Insulation thickness (min.) (mm)	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
Thickness of sheath / bedding (Nom.)(mm)	-	0.9	-	1.0	-	1.1	-	1.2
Thickness of outer sheath (Nom.) (mm)	0.9	1.4	1.0	1.4	1.1	1.5	1.2	1.6
Overall diameter (For reference only) (mm)	8.0	12.5	9.0	14.0	12.0	17.0	14.5	19.0

500 Volts, PVC insulated, Instrumentation cables conforming to EN:50288-7								
Overall screened								
1.0 Sq.mm								
No. of pair	2		4		8		12	
Cable Type	Unarmd.	Armd.	Unarmd.	Armd.	Unarmd.	Armd.	Unarmd.	Armd.
Conductor Diameter (mm)	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Insulation thickness (min.) (mm)	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
Thickness of sheath / bedding (Nom.)(mm)	-	1.0	-	1.0	-	1.2	-	1.3
Thickness of outer sheath (Nom.) (mm)	1.0	1.4	1.0	1.4	1.2	1.5	1.3	1.6
Overall diameter (For reference only) (mm)	9.0	13.5	10.5	15.0	14.0	19.0	16.5	22.5
1.5 Sq.mm								
No. of pair	2		4		8		12	
Cable Type	Unarmd.	Armd.	Unarmd.	Armd.	Unarmd.	Armd.	Unarmd.	Armd.
Conductor Diameter (mm)	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Insulation thickness (min.) (mm)	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
Thickness of sheath / bedding (Nom.)(mm)	-	1.0	-	1.1	-	1.2	-	1.3
Thickness of outer sheath (Nom.) (mm)	1.0	1.4	1.1	1.5	1.2	1.6	1.3	1.7
Overall diameter (For reference only) (mm)	10.0	14.5	11.5	16.5	16.0	21.5	18.5	24.5

GENERAL ELECTRICAL CHARACTERSTICS				
Particular	**Units**	**0.5 SQMM**	**1.0 SQMM**	**1.5 SQMM**
Maximum D.C. Resistance of Bare copper conductor at 20 Deg C	Ω/km	36.5	18.1	12.1
Maximum D.C. Resistance of Tinned copper conductor at 20 Deg C	Ω/km	37.2	18.2	12.2
Min. Insulation resistance (PVC Insulated cables)	MΩ/km	10	10	10
Maximum mutual capacitance (PVC insulated cables)	nF/km	250	250	250
L/R ratio maximum	μH/ohm	25	25	40

THERMOCOUPLE EXTENSION / COMPENSATING CABLES

Application: Designed for interconnection between Thermocouple probes and Reference units and used for process temperature measurement and connected to pyrometers for indication and control.

Types and Sizes: KX, JX, TX, EX, SX/RX typically 16, 18 & 20 AWG

Conductor: Chromal Alumel/Iron/Copper Nickel Alloy / Copper Constantan Alloy -Solid / Stranded

Insulation: PVC- HR/FR/FRLS, PE, XLPE, Zero Halogen or EPR Rubber

Screening: Individual & Overall or Overall screening - Polyester Tape, Aluminium Mylar Tape, Copper Tape, Copper Braiding

Inner Sheath: PVC - HR/FR/FRLS, PE, Zero Halogen or Rubber – FR/HOFR/TRS

Armouring: Galvanized Steel Round Wire / Flat Strip / Braiding

Outer Sheath: PVC - HR/FR/FRLS, PE, Zero Halogen or Rubber – FR/HOFR/TRS

Specification: ANSI: MC 96.1, IS: 8784, BS: 4937, IEC: 584, DIN, JIS and designed to meet customer requirements.

MAXIMUM D.C LOOP RESISTANCE FOR THERMOCOUPLE CONDUCTORS AT 200C Ω/KM					
CONDUCTOR SIZE	**Kx**	**Ex**	**Tx**	**Jx**	**Rx / Sx**
16 AWG (1.29mm)	746	905	385	475	110
18 AWG (1.02mm)	1210	1470	623	770	175
20 AWG (0.81mm)	1910	2311	980	1212	280

RUBBER & SILICON CABLES

Application: These cables find application in a wide variety of industries ranging from nuclear and thermal power stations, defence, windmills, mining, marine & offshore applications, railways, cranes & reeling applications, lifts and other heavy duty equipment.

Types and Sizes: Single & multi core from 0.50 sq.mm to 630 sq. mm for voltage grade upto 3.3 kV (Unscreened)

Conductor: Copper – Solid, Stranded (Circular) or Flexible – Bare or Tinned

Separator: Polyester tape, Fibre Glass Tape, or any other suitable material tape is applied over conductor

Insulation: General purpose compound Type IE1, Heat resisting compound Type IE2/IE3, flame retardant compound Type IE4, Silicon Rubber Type IE 5. For identification of cores, coloured insulation / numbered printing / numbered polyester tape / coloured proofed RC tape is used

Inner Sheath: General purpose compound Type SE1 / SE2, Heat resisting compound Type SE3/SE4/SE6 (HOFR), Silicon Rubber Type SE-5

Armour: Copper Wire / Stainless Steel Braiding

Outer Sheath: General purpose compound Type SE1/SE2, Heat resisting compound Type SE3/SE4/SE6 (HOFR), Silicon Rubber Type SE-5.

Specification: IS: 9968 (Pt-1), IS 9857, BS: 6500, BS: 7919, IEC: 60502 and designed to meet customer's requirements.

Working temperature for commonly used Elastomeric Insulatiion & Sheathing compounds

Type of Material	Minimum working temperature (˚C)	Maximum temperature for continuous operation (˚C)	Maximum temperature for for short operation (˚C)
Natural Rubber (TRS)	-55	60	200
Ethylene Propylene Rubber (EPR)	-50	90	250
Polychloroprene (PCP)	-40	90	200
Chloro-sulphanated Polyethylene (CSP)	-35	90	250
Silicone Rubber	-55	150/180	350

CRD AND TRAILING CABLES

Application: Reeling & Trailing cables are used in conveyor machinery such as transfer cars, boomstackers, side arm chargers, bulk materials conveyors etc. They find application in almost every industry segment like Steel Mills, Cement plants, Docks, Power Plants, Automobile Industries & Refineries and Petrochemicals.

Types and Sizes: Multicore cables for voltage grade upto 3.3 kV

Conductor: Copper - Flexible – Bare or Tinned

Insulation: Rubber - HOFR/HR

Inner Sheath: Rubber - HOFR/HR

Braid: Anti –twisting Textile yarn braiding between inner and outer sheath, if required.

Outer Sheath: Rubber - HOFR/HR

Specification: All cables are designed to meet customer's requirements and generally confirming to IS, IEC, VDE standards.

FIRE ALARM CABLES

Application: For Fire detection and fire alarm systems, emergency and escape lighting, control circuits and fire fighting systems.

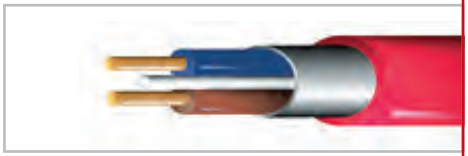
Conductor: Bare Copper – Solid, Stranded

Insulation: EI5/ Silicon

Screening: Aluminium Mylar Tape with Copper Drain Wire

Inner Sheath: Special Zero Halogen compound

Specification: All cables are designed to meet BS EN 50200 (PH30, PH60, PH120, Annex E) and BS 6387 (CWZ)



SOLAR CABLES

Application: Solar cables are used for interconnections between solar panels and other electrical components of D.C. system.

Types & Sizes: Typically Single core cables upto 630 sq. mm for voltage grade upto 3.3 kV

Conductor: Aluminium – Stranded (Circular) or Copper – Stranded or Flexible (Circular, Compacted, Sector)

Insulation: XLPE, XLPO, LSZH

Outer Sheath: PVC – GP/HR/FR/FRLS, HDPE, LSZH

Specifications: Generally confirming to EN 50618, TUV 2 pfg 1169/08.2007 and customer's requirements.

Key features:

(a) UV resistant, water resistant.

(b) Weather and ozone resistant.

(c) Long life expectancy under tough conditions.

Technical Data

Note: Technical Data given is for reference only and may be revised without notice. Current ratings are given for standard conditions (Ambient Air Temperature @ 40 C, Ambient Ground /Duct Temperature @ 30°C, Thermal resistivity of soil 1.5 K.m/W, Depth of laying 900 mm) and may vary if site conditions are different.

SINGLE CORE, ALUMINIUM CONDUCTOR, XLPE INSULATED, HDPE / PVC / LSZH SHEATHED, UNARMOURED CABLE AS PER IS: 7098 (PT-I & II)

Cross Sectional Area	1.1 kV		3.3 kV		Max. D.C Conductor Resistance at 20° C	Short Circuit Rating For 1 Sec Duration	A.C Current Rating						1.1 kV		3.3 kV	
	Thickness of XLPE Insulation	Overall Dia	Thickness of XLPE Insulation	Overall Dia			1.1 kV			3.3 kV			Reactance of cable at 50 Hz	Capacitance of cable	Reactance of cable at 50 Hz	Capacitance of cable
							In Air	Direct In Ground	In Duct	In Air	Direct In Ground	In Duct				
(Nom.)	(Nom.)	(Approx.)	(Nom.)	(Approx.)			(For reference only)			(For reference only)			(Approx.)		(Approx.)	(Approx.)
(sq. mm.)	(mm)	(mm)	(mm)	(mm)	(Ω/km)	(kA)	(Amps.)	(Amps.)	(Amps.)	(Amps.)	(Amps.)	(Amps.)	(Ω/km)	(μf/km)	(Ω/km)	(μf/km)
10	0.7	9.0	-	-	3.08	0.940	64	69	58	-	-	-	0.118	0.42	-	-
16	0.7	10.0	-	-	1.91	1.50	84	89	75	-	-	-	0.108	0.50	-	-
25	0.9	11.5	2.2	14.0	1.20	2.40	112	115	96	110	100	91	0.102	0.52	0.117	0.23
35	0.9	12.5	2.2	15.5	0.868	3.30	137	137	115	135	120	110	0.097	0.60	0.111	0.27
50	1.0	14.5	2.2	17.0	0.641	4.70	165	161	135	165	140	125	0.092	0.63	0.1040	0.300
70	1.1	16.0	2.2	18.5	0.443	6.60	209	198	165	210	175	155	0.088	0.68	0.0988	0.34
95	1.1	18.0	2.2	20.0	0.320	9.00	264	243	199	255	205	185	0.085	0.79	0.0957	0.39
120	1.2	19.5	2.2	21.5	0.253	11.30	308	276	226	295	235	210	0.082	0.79	0.0920	0.43
150	1.4	21.5	2.2	23.5	0.206	14.20	350	308	252	335	260	230	0.082	0.79	0.0887	0.49
185	1.6	24.0	2.2	25.0	0.164	17.50	406	349	285	390	295	260	0.082	0.79	0.0871	0.52
240	1.7	26.0	2.2	27.0	0.125	22.60	480	404	329	460	340	300	0.079	0.84	0.0840	0.59
300	1.8	29.0	2.2	29.5	0.100	28.30	551	454	369	530	385	335	0.078	0.86	0.0815	0.67
400	2	32.5	2.2	33.0	0.0778	37.70	647	518	421	620	440	380	0.077	0.88	0.0797	0.76
500	2.2	36.0	2.4	36.5	0.0605	47.00	751	588	476	730	495	430	0.076	0.90	0.0788	0.77
630	2.4	39.5	2.6	39.5	0.0469	59.22	868	663	536	840	560	485	0.075	0.94	0.0744	0.81

FIRE SURVIVAL CABLES

Application: Designed to maintain circuit integrity during fire and ensure maximum time for evacuation in case of emergency. Typically used in fire alarm systems, emergency lighting, critical circuits and other safety equipment.

Types and Sizes: Single core up to 1000 sq. mm and multicore up to 400 sq. mm

Conductor: Aluminium – Solid, Stranded (Sector/Circular) or Copper – Solid, Stranded (Sector/Circular) or Flexible - Bare or Tinned

Fire Barrier: Layers of Glass Mica Tape over Conductor as per requirement.

Insulation: PVC, XLPE, EPR with Additional taping or screening if required

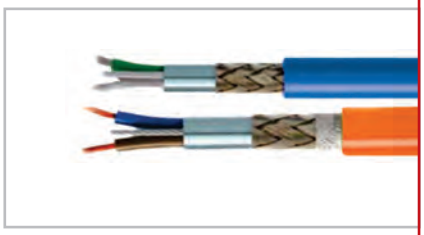
Inner Sheath: PVC - FR/FRLS, PE, Zero Halogen or Rubber – FR/HOFR.

Armouring: Galvanised Steel Wire / Strip / Braided.

Outer Sheath: PVC - FR/FRLS, PE, Zero Halogen or Rubber – FR/HOFR.

Specification: BS: 7846 or equivalent BS: 6387 Category (CWZ), IEC: 60331 BSEN 50200 (PH30, PH60, PH120 & Annex E) and designed to meet customer requirements.

FOUNDATION FIELDBUS / PROFIBUS CABLES



Application: For Bi-directional communications protocol used for communications amongst field devices and control system. Installed in refining, petrochemicals, power generation, food & beverage, pharmaceuticals and nuclear applications.

Types & Sizes: Typically manufactured in single and multiple pairs with sizes 20 AWG / 18 AWG / 16 AWG / 14 AWG for voltage grade 300/600 V.

Conductor: Bare / Tinned copper (up to 150° C), Silver plated copper (up to 200° C), Nickel plated conductor (up to 260° C).

Insulation: Polyethylene, XLPE, PFA (higher temperatures)

Screening: Individual & Overall or Overall screening - Aluminium Mylar Tape with Tinned Copper Drain Wire, Copper Tape or Braiding

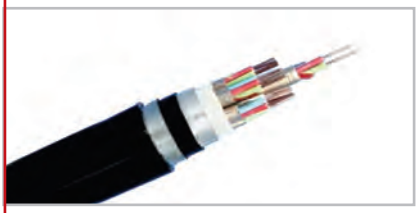
Inner Sheath: PVC-HR/FR/FRLS, Zero Halogen, PA

Armour: Galvanized Steel Round Wire/ Flat Strip/ Steel Wire Braiding, Steel Tape

Outer Sheath: PVC-HR/FR/FRLS, Zero Halogen, PA

Specification: Foundation Fieldbus FF-844H1, EN50288-7, BS: 5308 (Pt-1), IEC 60332, JIS and designed to meet customer requirements.

RAILWAY POWER & SIGNALLING CABLES



Application: Used in various types of railway applications including distribution & transmission of energy, light switching, track changing and communication etc.

Types and Sizes: Control cables upto 37 Cores for 1.5 sq mm & 2.5 sq mm. and Multicore power cables upto 50 sq.mm. for voltage grade upto 1.1 kV.

Conductor: Aluminium - Solid, Stranded or Copper – Solid Circular Conductor

Insulation: High quality PVC insulation material to meet stringent IRS Properties.

Inner Sheath: High quality PVC sheathing material to meet stringent IRS Properties.

Armour: Galvanised Round Wire / Flat Strip / Double Steel Tape.

Outer Sheath: High quality PVC sheathing material to meet stringent IRS Properties.

Specifications: Indian Railway Specifications: S-63/2014 & IS: 1554 (Pt-1)

HIGH TEMPERATURE CABLES

Application: Used for very high temperature applications in steel, chemical & metallurgical industry, nuclear power plants, oil exploration & oil rigs, military & defence equipments, aircraft & aerospace vehicle wiring, auto wiring, electrical appliances etc.

Types & Sizes: Starting from single core 0.50 sq mm and up to higher sizes depending on customer requirement.

Conductor: Bare / Tinned copper (up to 150° C), Silver plated copper (up to 200° C), Nickel plated conductor (up to 260° C) or Thermocouples depending on customer requirements.

Insulation: PTFE, ETFE, FEP, PFA, PEEK, Silicon and other special compounds.

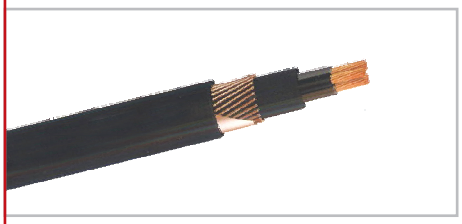
Screening: Individual & Overall or Overall screening - Aluminium Mylar Tape with copper drain wire.

Armouring: Galvanized steel wire / stainless steel wire or Braiding with bare / tinned / nickel plated / silver plated copper wire or fibre glass.

Outer Sheath: FEP, PFA, PEEK, Silicon and other special compounds.

Specification: JSS 51034, JSS 51037, JSS 51038, IS:8130 and meeting customer requirements.

CONCENTRIC CABLES



Application: Provide final connections to residential properties indoor, outdoor and underground. Also suitable for sub main distribution and within high – rise buildings and street lighting systems.

Types & Sizes: Concentric & Split Concentric cables for voltage upto 1.1 kV.

Conductor: Aluminium, Copper - Solid / Stranded.

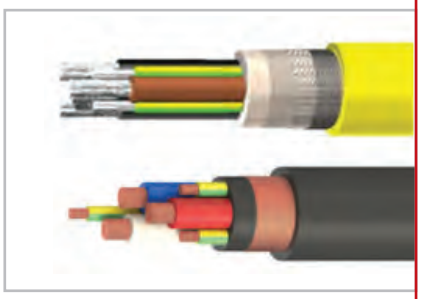
Insulation: PVC- HR/FR/FRLS, PE, XLPE, Zero Halogen.

Armour: Concentric Copper / Aluminium Conductor (with insulation) and Copper / Aluminium Tape.

Outer Sheath: PVC- HR/FR/FRLS, Zero Halogen.

Specification: BS: 7870, BS EN 60228, and designed to meet customer requirements.

VFD / VSD CABLES



Application: Specially designed for connecting motors to the control drives where there is an electromagnetic compatibility (EMC) requirement. Used in automation, oil & gas, mining, chemical,marine & offshore, cement & other industrial sectors.

Types & Sizes: Power cables generally designed in 3+3 cores (3 main phase & 3 reduced size earth conductors) or 4 cores for voltage grade upto 1.1 kV.

Conductor: Aluminium, Copper - Solid /Stranded/ Flexible

Insulation: XLPE, Zero Halogen.

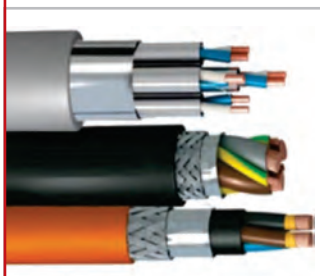
Inner Sheath: PVC, Zero Halogen.

Screening: Individual & Overall or Overall screening – Polyester tape, Aluminium Mylar Tape, Copper tape, Tinned Copper Braiding.

Outer Sheath: PVC- HR/FR/FRLS, Zero Halogen.

Specification: Generally confirming to IS: 7098 (Pt-1), IEC: 60502-1, BS: 5467, BS: 6346, AS/NZS 5000.1 and designed to meet customer's requirements.

MARINE & OFFSHORE CABLES



Application: Used in defence shipyards & private shipyards in varied applications.

Type & Sizes: Complete range including power, control, instrumentation, thermo-couple, fire resistant & high temperature cables. Single and multicores upto 1000 sq.mm. for voltage grade upto 3.3 kV.

Conductor: Copper – Solid. Stranded or Flexible – Bare or Tinned. For Thermocouple – KX, JX, TX, EX, SX/RX

Fire Barrier: Layers of Glass Mica Tape (if required).

Insulation: PVC, HR PVC, FR, FRLS, PE, XLPE, EPR, Zero Halogen or EVA Rubber.

Screening: Individual & Overall or Overall screening - Polyester Tape, Aluminium Mylar Tape, Copper Tape, Braiding with Copper Drain Wire if required.

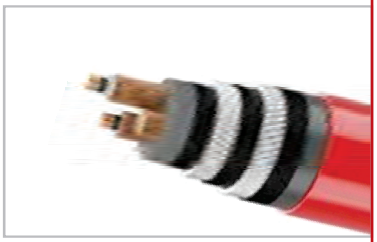
Inner Sheath: SHF1, SHF2 or other polymeric compounds.

Armour: Copper wire – Bare or tinned, GI, SS or Bronze Wire.

Outer Sheath: SHF1, SHF2 or other polymeric compounds.

Specification: IEC 60092, NEK 606 standards & meeting customer requirements.

MINING CABLES



Application: Used across various mining operations in tunnelling, drilling, loading machines, shuttle cars, roof bolters, power feeds, open pits, mining pumps etc. Subject to extremely harsh working conditions with extensive vibrations, impact and tension.

Types and Sizes: Include power, control cables etc. in single and multicores starting from 1.5 sq mm. upto 630 sq.mm. for voltage grade upto 3.3 kV.

Conductor: Aluminium – Stranded (Sector/Circular) or Copper – Stranded (Sector/Circular) or Flexible.

Insulation: PVC-HR/FR/FRLS, XLPE, Zero Halogen or EPR / HEPR Rubber

Inner Sheath: PVC-HR/FR/FRLS, XLPE, Zero Halogen or EPR / HEPR Rubber

Armour: Single / double wire/strip armour along with tinned copper to meet conductivity requirements of atleast 50% of phase conductor. Tinned Copper Braiding can also be provided.

Outer Sheath: PVC- HR/FR/FRLS, Zero Halogen or Rubber-TRS/HR/HOFR.

Specification: Generally confirming to IS: 1554 (Pt-1 & 2), IS: 7098 (Pt-1 & 2), IS -14994, IEC: 60502-1, BS: 5467, BS: 6346

DOMESTIC WIRE

Application: Widely used in residential buildings, commercial buildings, multiplexes, institutions and also in a wide variety of industries in machineries, tools, appliances and control panels.

Types & Sizes: Single core double or triple insulated cables ranging 0.5 to 300 sq mm. for voltage grade 1.1kV.

Conductor: Copper – Solid, Stranded (Circular) or Flexible – Bare or Tinned

Insulation with Dual Extrusion: PVC HR/FR/FRLS, Zero Halogen

Specifications: IS: 694, BS: 6500, IEC 60227 and meeting customer requirements

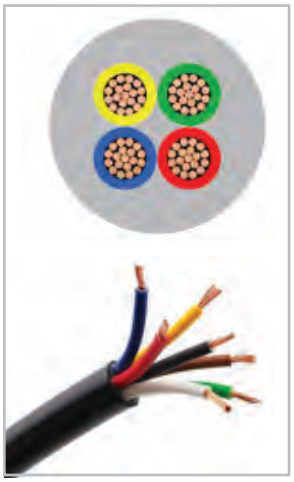
Technical Data for Domestic Wire

Note:

- All Conductors are Class V confirming to IS: 8130.
- Details given are for reference only and may be revised without notice.
- Other details can be provided on request.

Single Core Unsheathed Flexible Cables conforming to IS: 694-2010 for 1100 Volts					
Cross section area of conductor	Number X Diameter of Strand (before stranding)	Thickness of Insulation	Overall Dia.	Max. Plain Copper Conductor Resistance per KM at 20 ˚C	Current Carrying Capacity
(Nom.)	(Approx.)	(Nom.)	(Approx.)		(For information only)
(sq. mm.)	No. / (mm)	(mm)	(mm)	(Ω/km)	(Amps.)
0.5	16/0.2	0.6	2.6	39	4
0.75	24/0.2	0.6	2.8	26	7
1	32/0.2	0.6	3.0	19.5	11
1.5	30/0.25	0.6	3.4	13.3	14
2.5	50/0.25	0.7	4.1	7.98	19
4	56/0.3	0.8	4.8	4.95	26
6	84/0.3	0.8	5.3	3.3	31
10	80/0.4	1.0	7.0	1.91	51
16	126/0.4	1.0	8.1	1.21	69
25	196/0.4	1.2	10.2	0.78	89
35	276/0.4	1.2	11.7	0.554	113
50	396/0.4	1.4	14.5	0.386	153
70	360/0.5	1.4	16.0	0.272	238
95	475/0.5	1.6	18.2	0.206	289
120	608/0.5	1.6	20.2	0.161	339
150	756/0.5	1.8	22.5	0.129	394
185	925/0.5	2.0	24.9	0.106	461
240	1221/0.5	2.2	28.4	0.0801	555
300	1525/0.5	2.4	31.0	0.0641	649

FLEXIBLE MULTICORE CABLES



Application: These cables are used mostly in residential buildings, commercial buildings, multiplexes, institutions as well as in a wide variety of industries in machineries, tools, appliances and control panels.

Type & Sizes: Multi core cables from 0.50 to 6 sq. mm for voltage grade upto 1.1 kV

Conductor: Copper – Flexible or extra flexible – Bare or Tinned

Insulation: PVC-GP/HR/FR/FRLS, Zero Halogen

Sheath: PVC-HR/FR/FRLS, Zero Halogen

Specification: IS: 694, BS: 6500 and meeting customer's requirements

Note:

- All Conductors are Class V confirming to IS: 8130.
- Details given are for reference only and may be revised without notice.
- Other details can be provided on request.

Multi Core Flexible PVC Insulated and Sheathed Cables conforming to IS: 694-2010 for 1100 Volts

Cross sectional area of conductor	Thickness of Insulation	Thickness of Sheath			Overall Diameter			Max. Copper Conductor Resistance / KM at 20 °C	Current Rating AC (For information only)
		No. of Cores			No. of Cores				
		Two	Three	Four	Two	Three	Four		
(Nominal)	(Nom.)	(Nom.)			(Max.)				
(sq.mm.)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(Ω/km)	(Amps.)
0.5 (16/0.2)	0.6	0.9	0.9	0.9	6.9	7.3	8.0	39	4
0.75 (24/0.2)	0.6	0.9	0.9	0.9	7.3	7.7	8.4	26	7
1.0 (32/0.2)	0.6	0.9	0.9	0.9	7.6	8.1	8.8	19.5	11
1.5 (30/0.25)	0.6	0.9	0.9	1.0	8.9	9.4	10.4	13.3	14
2.5 (50/0.25)	0.7	1.0	1.0	1.0	10.3	10.9	12.0	7.98	19
4 (56/0.3)	0.8	1.0	1.0	1.0	11.6	12.4	13.6	4.95	26
6 (84/0.30)	0.8	1.1	1.2	1.2	13	13.8	15.47	3.3	31
10 (80/0.4)	1	1.3	1.4	1.4	16.5	17.7	19.5	1.91	51
16 (126/0.4)	1	1.4	1.4	1.4	19.4	20.6	23.0	1.21	69
25 (196/0.4)	1.2	1.4	1.5	1.6	23.8	25.6	28.5	0.78	89
35 (276/0.40)	1.2	1.6	1.6	1.7	27.2	29.3	32.7	0.554	113
50 (396/0.5)	1.4	2.0	2.0	2.0	32.0	34.6	38.6	0.386	153
70 (360/0.5)	1.4	2.2	2.2	2.2	36.8	39.6	44.3	0.272	238
95 (475/0.5)	1.6	2.4	2.4	2.4	41.8	47.0	50.2	0.206	289
120 (608/0.5)	1.6	2.5	2.5	2.5	46.2	51.0	55.7	0.161	339

PVC Insulated Circular Sheathed Cables for Fixed Wiring conforming to IS: 694-2010 for 1100 Volts

Cross section area of conductor	Thickness of Insulation	Thickness of Sheath				Overall Dia.				Max. Copper Conductor Resistance per KM at 20 °C
		Single Core	Two Core	Three Core	Four Core	Single Core	Two Core	Three Core	Four Core	
(Nom.)	(Nom.)	(Nom.)				(Max.)				
(sq. mm.)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(Ω/km)
1	0.6	1.1	1.2	1.2	1.2	5.3	8.2	8.8	9.9	18.1
1.5	0.7	1.1	1.2	1.2	1.3	5.9	9.4	10.2	11.5	12.1
2.5	0.8	1.1	1.3	1.3	1.3	6.7	10.9	11.8	13.3	7.41
4	0.8	1.2	1.3	1.3	1.4	7.2	12	13	14.6	4.61
6	0.8	1.2	1.4	1.4	1.4	8.1	13.7	14.8	16.7	3.08
10	1.0	1.2	1.5	1.5	1.6	9.5	16.5	17.8	20.0	1.83
16	1.0	1.3	1.5	1.6	1.6	10.6	18.9	20.4	22.9	1.15
25	1.2	1.3	1.6	1.7	1.8	12.2	22.1	23.8	26.8	0.727
35	1.2	1.4	1.7	1.8	1.9	13.6	24.9	26.8	30.1	0.524
50	1.4	1.4	1.9	1.9	2.0	15.6	28.7	31.0	34.8	0.387
70	1.4	1.5	2.0	2.0	2.2	17.3	-	34.7	38.9	0.268
95	1.6	1.5	2.1	2.2	2.3	19.2	-	38.9	43.6	0.193
120	1.6	1.6	2.2	2.3	2.4	20.7	-	42.1	47.2	0.153

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