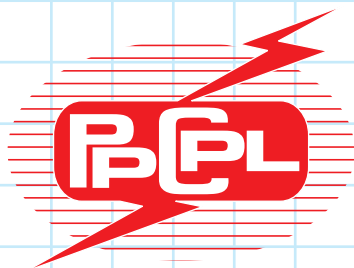


# *paragon*

## CABLES & WIRES

AN ISO 9001-2015 CO.



Paragon Group completes 60 years in  
Manufacturing of Cables & Wires



IS : 694 (2010)



IS : 1554 (PART-1) 1988



IS : 7098 (PART-1) 1988



IS : 14255 (1995)





## COMPANY PROFILE

Paragon Cables founded by our respected guardian Shri. S.N. Nagpal, has completed 50 years of service to our country. Standing on this milestone we are happy to note that Paragon today enjoys the privilege of being the largest manufacturer of cables & wire in the Small Scale Sector. Having worked for 5 decades on cables we have gained experience and expertise to supply cables & wire to the most stringent of specifications. Our cables normally made to Indian and British standards, may also be designed to satisfy the particular requirements of our customer.

Paragon Power Cable Ltd. was established and started production since 2000 under the supervision of Mr. Sudhir Nagpal. Over the past years we have supplied cables to departments including Govt. Sectors, Public Sector as well as Corporate Sectors. We have developed a nationwide network to facilitate sale in the open market. We have parallel production lines for all sizes, thus established us to cater to urgent demands efficiently.

The success of our hard work, trade ethics and constant striving towards quality makes us proud of ourselves. We have given special attention to Human Resource Development within our organization, resulting in an excellent system and today has become self-propelling. We have developed an in-house fabrication division too, which caters to our requirement of machines and maintenance.

Cables form the infrastructure of a developing economy, Our country having large resources of aluminum & Copper has been able to utilize it, thus becoming self-sufficient in cables. We are proud to be a part of this process and pledge to work with all our might to help our nation achieve its goals.

From the Desk off.....

**Sh. S.N. NAGPAL**

Chairman and Founder



### CURRENT RATINGS FOR 1.1 KV COPPER CONDUCTOR PVC INSULATED CONTROL CABLES (In Amp)

No. of Cores	General Purpose PVC Insulation				Heat Resistance PVC Insulation			
	1.5 Sqmm		2.5 Sqmm		1.5 Sqmm		2.5 Sqmm	
	In Ground	In Air	In Ground	In Air	In Ground	In Air	In Ground	In Air
2	23	20	32	27	26	24	38	32
3	21	17	27	24	24	21	30	28
4	21	17	27	24	24	21	30	28
5	21	17	27	24	24	21	30	28
6	15	13	21	18	17	16	24	21
7	14	13	20	17	16	15	22	20
10	13	11	18	15	15	13	20	16
12	12	10	17	14	14	12	19	16
14	11	10	16	13	13	12	18	15
16	11	9	15	13	13	11	17	15
19	10	9	14	12	11	11	16	14
24	9	8	13	11	10	10	14	13
27	9	8	12	10	10	10	13	12
30	9	7	12	10	10	8	13	12
37	8	7	11	9	9	8	12	10
44	7	7	10	9	8	7	11	10
52	6	6	9	8	7	7	10	10
61	6	6	8	8	7	7	9	9



**CURRENT RATINGS FOR ALUMINIUM CONDUCTOR ARMoured/UNARMoured  
PVC POWER CABLES (IN AMPS)**

Nominal Area Of Conductor Sqmm	Single Core Cables			Twin Core Cables			Multi Core Cables		
	Direct in Ground	In Ducts	In Air	Direct in Ground	In Ducts	In Air	Direct in Ground	In Ducts	In Air
1.5	17	17	15	18	16	16	16	14	13
2.5	24	24	21	25	21	21	21	18	18
4	31	30	27	32	27	27	28	23	23
6	39	37	35	40	34	34	35	30	30
10	51	51	47	55	45	47	46	39	40
16	66	65	64	70	58	59	60	50	51
25	86	84	84	90	76	78	76	63	70
35	100	100	105	110	92	99	92	77	86
50	120	115	130	135	115	125	110	95	105
70	140	135	155	160	140	150	135	115	130
95	175	155	190	190	170	165	165	140	155
120	195	170	220	210	190	210	185	155	180
150	220	190	250	240	210	240	210	175	205
185	240	210	290	275	240	275	235	200	240
240	270	225	335	320	275	325	275	235	280
300	295	245	380	355	305	365	305	260	315
400	325	275	435	365	345	420	335	290	375
500	345	295	480	-	-	-	-	-	-
630	390	320	550	-	-	-	-	-	-
800	440	350	640	-	-	-	-	-	-
1000	490	380	720	-	-	-	-	-	-

**CURRENT RATINGS FOR COPPER CONDUCTOR ARMoured/UNARMoured  
PVC POWER CABLES (IN AMPS)**

Nominal Area Of Conductor Sqmm	Single Core Cables			Twin Core Cables			Multi Core Cables		
	Direct in Ground	In Ducts	In Air	Direct in Ground	In Ducts	In Air	Direct in Ground	In Ducts	In Air
1.5	22	21	20	23	20	20	21	17	17
2.5	30	29	27	32	27	27	27	24	24
4	39	38	35	41	35	35	36	30	30
6	49	48	44	50	44	45	45	38	39
10	65	64	60	70	58	60	60	50	52
16	85	83	82	90	75	78	77	64	66
25	110	110	110	115	97	105	99	81	90
35	130	125	130	140	120	125	120	90	110
50	155	150	165	165	145	155	145	125	135
70	199	175	205	205	180	195	175	150	165
95	220	200	245	240	215	230	210	175	200
120	250	220	280	275	235	265	240	195	230
150	280	245	320	310	270	305	270	225	265
185	305	260	370	350	300	350	300	255	305
240	345	285	425	405	345	410	345	295	355
300	375	310	475	450	385	465	385	335	400
400	400	335	550	490	425	530	425	360	455
500	425	355	590	-	-	-	-	-	-
680	470	375	660	-	-	-	-	-	-

## CURRENT RATINGS OF 1.1 KV HR-PVC INSULATED ALUMINUM CONDUCTOR CABLES (In Amp)

Nominal Area Of Conductor Sqmm	Single Core		Twin Core		Multi Core	
	In Ground	In Air	In Ground	In Air	In Ground	In Air
1.5	19	18	21	19	18	16
2.5	27	25	29	25	24	22
4	35	32	36	33	32	28
6	44	42	46	40	42	36
10	58	57	63	52	57	48
16	75	77	80	58	71	62
25	98	102	103	87	94	85
35	114	127	125	105	120	104
50	136	157	154	126	151	127
70	159	188	182	154	182	157
95	199	230	217	188	224	188
120	222	266	239	211	254	218
150	251	303	274	239	290	248
185	274	351	314	258	333	290
240	308	405	365	310	393	339
300	336	460	405	348	442	381
400	371	526	439	382	508	450
500	393	581	-	-	-	-
630	445	666	-	-	-	-
800	502	726	-	-	-	-
1000	559	871	-	-	-	-



## CURRENT RATINGS OF 1.1 KV HR-PVC INSULATED COPPER CONDUCTOR CABLES (In Amp)

Nominal Area Of Conductor Sqmm	Single Core		Twin Core		Multi Core	
	In Ground	In Air	In Ground	In Air	In Ground	In Air
1.5	25	24	26	24	24	21
2.5	34	33	38	32	30	28
4	45	43	47	43	41	37
6	55	54	57	55	51	47
10	74	73	80	73	69	63
16	97	100	103	95	88	80
25	126	134	132	128	113	110
35	149	158	160	152	137	134
50	177	198	189	186	166	164
70	217	246	-	-	200	198
95	252	294	-	-	240	240
120	286	336	-	-	275	276
150	320	384	-	-	309	318
185	349	444	-	-	343	366
240	395	510	-	-	395	426
300	429	570	-	-	440	480
400	458	660	-	-	486	546
500	486	708	-	-	-	-
630	538	792	-	-	-	-
800	606	-	-	-	-	-
1000	675	-	-	-	-	-



### CAPACITANCE OF 1.1 KV GRADE PVC INSULATED CABLES

Nominal Cross Sectional Area Of Conductor Sqmm	Single Core Cable		Twin & Multicore Cable Ohm/km
	Unarmoured Ohm/km	Armoured Ohm/km	
1.5	-	-	0.14
2.5	-	-	0.15
4	0.58	0.47	0.16
6	0.68	0.56	0.19
10	0.83	0.67	0.22
16	1.01	0.81	0.29
25	1.05	0.87	0.32
35	1.22	1.00	0.37
50	1.22	1.03	0.37
70	1.43	1.21	0.44
95	1.47	1.27	0.44
120	1.62	1.42	0.49
150	1.62	1.42	0.49
185	1.62	1.44	0.49
240	1.72	1.53	0.50
300	1.74	1.56	0.52
400	1.81	1.56	0.53
500	1.76	1.57	-
630	1.77	1.57	-
800	1.98	1.75	-
1000	2.20	1.94	-

### REACTANCE OF 1.1 KV GRADE PVC INSULATED CABLES AT 50 HZ

Nominal Cross Sectional Area Of Conductor Sqmm	Single Core Cable		Twin & Multicore Cable Ohm/km
	Unarmoured Ohm/km	Armoured Ohm/km	
1.5	-	-	0.126
2.5	-	-	0.119
4	0.137	0.158	0.116
6	0.127	0.148	0.110
10	0.118	0.138	0.100
16	0.110	0.128	0.097
25	0.105	0.120	0.097
35	0.100	0.114	0.097
50	0.098	0.110	0.094
70	0.091	0.103	0.090
95	0.088	0.101	0.090
120	0.086	0.096	0.087
150	0.085	0.094	0.087
185	0.084	0.092	0.087
240	0.082	0.090	0.087
300	0.080	0.088	0.086
400	0.080	0.088	0.086
500	0.079	0.087	-
630	0.077	0.086	-
800	0.077	0.083	-
1000	0.076	0.082	-

## SHORT CIRCUIT RATING OF 1.1 KV GRADE PVC INSULATED CABLES (FOR DURATION OF ONE SECOND)

Nominal Cross Sectional Area of Conductor Sqmm	Aluminium Conductor		Copper Conductor	
	With General Purpose Insulation K Amps	With Heat Resisting Insulation K Amps	With General Purpose Insulation K Amps	With Heat Resisting Insulation K Amps
1.5	0.114	0.103	0.173	0.156
2.5	0.190	0.172	0.288	0.260
4	0.304	0.274	0.460	0.416
6	0.456	0.412	0.690	0.624
10	0.760	0.686	1.150	1.040
16	1.216	1.098	1.840	1.664
25	1.900	1.715	2.875	2.600
35	2.660	2.401	4.025	3.640
50	3.800	3.430	5.750	5.200
70	5.320	4.802	8.050	7.280
95	7.220	6.517	10.925	9.880
120	9.120	8.232	13.800	12.480
150	11.400	10.290	17.250	15.600
185	14.060	12.691	21.275	19.240
240	18.240	16.464	27.600	24.960
300	22.800	20.580	34.500	31.200
400	30.400	27.440	48.000	41.600
500	38.000	34.300	57.500	52.000
630	47.880	43.218	72.450	65.520
800	60.800	54.880	92.000	83.200
1000	76.000	68.600	115.000	104.000

## MAXIMUM D.C./A.C RESISTANCE OF CONDUCTOR FOR PVC CABLES IN OHM/KM

Nominal Cross Sectional Area of Conductor Sqmm	Max. D.C./A.C. Resistance At 20°C/70°C Deg. C		Max. D.C./A.C. Resistance At LOT No. 20°C/70°C	
	Plain Copper Conductor		Aluminium Conductor	
	D.C. Ohm/Km	A.C. Ohm/Km	D.C. Ohm/Km	A.C. Ohm/Km
1.5	12.1	14.52	18.1	21.72
2.5	7.41	8.89	12.1	14.52
4	4.61	5.53	7.41	8.89
6	3.08	3.70	4.61	5.53
10	1.83	2.20	3.08	3.70
16	1.15	1.38	1.91	2.29
25	0.727	0.872	1.20	1.440
35	0.524	0.629	0.868	1.042
50	0.387	0.464	0.641	0.769
70	0.268	0.322	0.443	0.532
95	0.193	0.232	0.320	0.384
120	0.153	0.184	0.253	0.304
150	0.124	0.149	0.206	0.247
185	0.0991	0.1189	0.1640	0.1968
240	0.0754	0.0905	0.1250	0.1500
300	0.0601	0.0721	0.1000	0.1200
400	0.0470	0.0564	0.0778	0.0934
500	0.0366	0.0439	0.0605	0.0726
630	0.0283	0.0340	0.0469	0.0563
800	0.0221	0.0265	0.0367	0.0440
1000	0.0176	0.0211	0.0291	0.0349



### The Current Rating mentioned in the previous pages are under Operating Conditions :

Maximum continuous operating conductor temperature = 70°C

Standard ground temperature = 30°C

Ambient air temperature = 40°C

Thermal Resistivity of soil = 150°C em/watt

Thermal Resistivity of PVC = 650°C em/watt

Depth of laying (for cables laid direct in ground) = 75 ems



#### Method of Installation:

These core cables install independently.

#### Single Core Cables :

Three cables in a trefoil touching each other

#### Rating factors for variation in ambient air temperature :

Air Temperature - °C	20	25	30	35	40	45	50
Rating Factors	1.33	1.25	1.16	1.09	1.00	0.90	0.83

#### Rating factors for variation in ground temperature for cables laid direct in the ground & in ducts

Ground Temperature - °C	15	20	25	30	35	40	45
Rating Factors	1.17	1.12	1.06	1.00	0.94	0.87	0.79

#### Rating factors for depth of laying for Cables

Depth of laying (cm)	75	90	105	120	150	180 or more
Upto 25 Sqmm	1.00	0.99	0.98	0.97	0.96	0.95
Upto 25 Sqmm upto 300 Sqmm	1.00	0.98	0.97	0.96	0.94	0.93
Above 300 Sqmm	1.00	0.97	0.96	0.95	0.92	0.91

Rating factors for depth of laying (Twin & multicore cables in single way ducts)

Depth of laying (cm)	Rating Factor
75	1
90	0.99
105	0.98
120	0.97
150	0.96
180	0.95
270	0.92
360	0.91
450	0.9
540 or more	0.89

Rating factors for the single core cables (AC) in flat formation in air (to be applied to the corresponding ratings for trefoil groups in air)

Nominal area of conductor (Sqmm)	Rating Factor
Upto & including 185	1.07
240	1.1
300	1.08
400	1.04
500	1
630	1

### PVC INSULATED ARMoured/UNARMoured CONTROL CABLES 1.5 SQ.MM

No. of Cores & cross of sectional area	Min. Thickness of PVC	ARMoured							UNARMoured		
		YWY(WIRE ARMoured)				YFY(STRIP ARMoured)			YY		
		Nominal Dimensions of Armour inner sheath	Min. Thickness of PVC Outer Wire	Overall Diameter (Approx.) Sheath	Approx. Net Wt. Of Cable	Min. Thickness of PVC Outer	Overall Diameter (Approx.) Sheath	Approx. New Wt. of Cable	Nom. Thickness of PVC Outer	Overall Diameter PVC Outer	Approx. Net Wt. Cable
mm	mm	mm	mm	Kg/Km	mm	mm	Kg/Km	mm	mm	Kg/Km	
2CX1.5	0.3	1.40	1.24	14	425	-	-	-	1.80	12.5	185
3CX1.5	0.3	4.40	1.24	14.5	460	-	-	-	1.80	13.0	190
4CX1.5	0.3	1.40	1.24	15	520	-	-	-	1.80	13.5	225
5CX1.5	0.3	1.40	1.24	16	530	-	-	-	1.80	14.0	260
6CX1.5	0.3	1.40	1.24	17	590	-	-	-	1.80	15.0	295
7CX1.5	0.3	1.40	1.24	17	610	-	-	-	1.80	15.0	315
10CX1.5	0.3	1.40	1.40	21	820	-	-	-	1.80	18.5	425
12CX1.5	0.3	1.60	1.40	21.5	930	1.24	19.5	740	1.80	19.0	480
14CX1.5	0.3	1.60	1.40	22.5	1020	1.40	21	820	1.80	20.0	535
16CX1.5	0.3	1.60	1.40	23.5	1100	1.40	22	890	1.80	21.0	595
19CX1.5	0.3	1.60	1.40	25	1230	1.40	23	1020	2.00	22.5	720
24CX1.5	0.3	1.60	1.40	28	1480	1.40	26.5	1220	2.00	26.0	880
27CX1.5	0.3	1.60	1.40	28.5	1570	1.40	27	1320	2.00	26.5	960
30CX1.5	0.3	1.60	1.40	29.5	1660	1.40	28	1400	2.00	27.5	1040
37CX1.5	0.3	1.60	1.40	31.5	1910	1.40	30	1630	2.00	29.00	1230

1. Insulation Thickness is 0.8 mm (Nom) for all cables.

2.Strip Armouring is of 4X0.8 mm.

### COPPER CONDUCTOR PVC INSULATED ARMoured/UNARMoured CONTROL CABLES 2.5 SQ.MM

Nominal Dimensions of Armour inner sheath	Min. Thickness of PVC Outer Wire	ARMoured							UNARMoured		
		YWY(WIRE ARMoured)				YFY(STRIP ARMoured)			YY		
		Nominal Dimensions of Armour Wire	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable	Nom. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. Cable
mm	mm	mm	mm	mm	Kg/Km	mm	mm	Kg/Km	mm	mm	Kg/Km
2CX2.5	0.3	1.40	1.24	15.5	495	-	-	-	1.80	13.5	230
3CX2.5	0.3	1.40	1.24	16	550	-	-	-	1.80	14.0	240
4CX2.5	0.3	1.40	1.24	17	620	-	-	-	1.80	15.0	290
5CX2.5	0.3	1.40	1.24	17.5	640	-	-	-	1.80	16.0	335
6CX2.5	0.3	1.40	1.24	19	720	-	-	-	1.80	17.0	385
7CX2.5	0.3	1.40	1.24	19	760	-	-	-	1.80	17.0	420
10CX2.5	0.3	1.60	1.40	23.5	1110	1.40	21	900	1.80	21.0	570
12CX2.5	0.3	1.60	1.40	24.5	1240	1.40	22	1000	2.00	22.5	690
14CX2.5	0.3	1.60	1.40	25.5	1340	1.40	24	1100	2.00	23.5	775
16CX2.5	0.3	1.60	1.40	26.5	1455	1.40	25	1200	2.00	24.5	860
19CX2.5	0.3	1.60	1.40	27.5	1605	1.40	26	1320	2.00	25.5	985
24CX2.5	0.3	1.60	1.56	31	1970	1.40	30	1600	2.00	29.5	1215
27CX2.5	0.3	1.60	1.56	32	2100	1.40	31	1720	2.00	30.0	1330
30CX2.5	0.3	1.60	1.56	33.5	2250	1.56	32	1900	2.00	31.0	1450
37CX2.5	0.4	2.00	1.56	37	2900	1.56	35	2300	2.20	34.00	1790

1. Insulation Thickness is 0.8 mm (Nom) for all cables.

2.Strip Armouring is of 4X0.8 mm.



### 1 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED ARMoured POWER CABLES

No. of Cores & Cross sectional area	ARMoured										
	Thickness of Insulation (Nom.)	Nominal Dimensions of Armour Wire	YWY(WIRE ARMoured)					YFY(STRIP ARMoured)			
			Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimensions of Armour Strip Sheath	Min. Thickness of PVC Outer	Overall Diameter (Approx.)	Approx. Net Wt. Of Cable with Aluminium Conductor	Approx. Net Wt. Of Cable with Copper Conductor
mm	mm	mm	mm	Kg/km	Kg/km	mm	mm	mm	Kg/km	Kg/km	
1CX6	1.30	1.40	1.24	12	170	215	-	-	-	-	-
1CX10	1.30	1.40	1.24	13	200	255	-	-	-	-	-
1CX16	1.30	1.40	1.24	14	230	330	-	-	-	-	-
1CX25	1.50	1.40	1.24	15	300	440	-	-	-	-	-
1CX35	1.50	1.40	1.24	16	340	550	-	-	-	-	-
1CX50	1.70	1.40	1.24	18	420	720	-	-	-	-	-
1CX70	1.70	1.40	1.40	20	530	970	-	-	-	-	-
1CX95	1.90	1.60	1.40	22	690	1280	4X0.8	1.4	21	640	1220
1CX120	1.90	1.60	1.40	24	790	1540	4X0.8	1.4	23	750	1490
1CX150	2.10	1.60	1.40	26.5	930	1860	4X0.8	1.4	24	870	1810
1CX185	2.30	1.60	1.40	28.5	1100	2230	4X0.8	1.4	27	1040	2180
1CX240	2.50	1.60	1.56	31.5	1370	2850	4X0.8	1.4	30	1280	2780
1CX300	2.70	1.60	1.56	34	1620	3480	4X0.8	1.56	32	1560	3420
1CX400	3.00	2.00	1.56	39	2080	4560	4X0.8	1.56	37	1920	4380
1CX500	3.40	2.00	1.72	41	2600	5700	4X0.8	1.56	40	2370	5480
1CX630	3.90	2.00	1.88	48	3270	7150	4X0.8	1.72	45	3020	6950
1CX800	3.90	2.00	1.88	52	3910	8930	4X0.8	1.88	49	3680	8620
1CX1000	3.90	2.50	2.04	58	4830	10050	4X0.8	2.04	55	4430	10600

### 1 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED UNARMoured

No. of Cores & Cross sectional area	UNARMoured				
	YY				
	Thickness of insulation (Nom)	Nom-Thickness of PVC Outer Sheath	Overall Diameter (Approxe.)	Approx. Net Wt. of Cable With Aluminium Conductor	Approx. Net Wt. of Cable With Copper Conductor
	mm	mm	mm	Kg/Km	Kg/Km
1CX6	1.00	1.80	9	110	130
1CX10	1.00	1.80	10	130	190
1CX16	1.00	1.80	11	160	260
1CX25	1.20	1.80	12	220	360
1CX35	1.20	1.80	13	260	470
1CX50	1.40	1.80	15	330	620
1CX70	1.40	1.80	17	410	840
1CX95	1.60	1.80	19	530	1060
1CX120	1.60	2.00	21	640	1300
1CX150	1.80	2.00	23	770	1680
1CX185	2.00	2.00	25	920	2050
1CX240	2.20	2.00	28	1160	2600
1CX300	2.40	2.00	30	1390	3250
1CX400	2.60	2.20	35	1760	4150
1CX500	3.00	2.20	38	2200	5230
1CX630	3.40	2.40	43	2820	6660
1CX800	3.40	2.40	48	3430	8300
1CX1000	3.40	2.60	53	4180	10300



### 2 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED ARMoured POWER CABLES

No. of Cores & Cross sectional area	Thickness of Insulation (Nom.)	Nominal Dimensions of PVC Inner Sheath	ARMoured									
			YWY(WIRE ARMoured)					YFY(STRIp ARMoured)				
			Nominal Dimensions of Armour Wire	Min Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimensions of Armour Strip Sheath	Min. Thickness of PVC Outer	Overall Diameter (Approx.)	Approx. Net Wt. Of Cable with Aluminium Conductor	Approx. Net Wt. Of Cable with Copper Conductor
mm	mm	mm	mm	mm	Kg/km	Kg/km	mm	mm	mm	Kg/km	Kg/km	
2CX4	1.00	0.3	1.40	1.24	15.0	455	505	-	-	-	-	-
2CX6	1.00	0.3	1.40	1.24	17.5	630	710	-	-	-	-	-
2CX10	1.00	0.3	1.40	1.24	19	740	860	-	-	-	-	-
2CX16	1.00	0.3	1.60	1.40	22.5	800	910	4x0.8	1.40	20.5	560	750
2CX25	1.20	0.3	1.60	1.40	23	890	1190	4x0.8	1.40	21	690	990
2CX35	1.20	0.3	1.60	1.40	24	1030	1450	4x0.8	1.40	22.5	800	1220
2CX50	1.40	0.3	1.60	1.56	27	1260	1830	4x0.8	1.40	25	980	1550
2CX70	1.40	0.3	1.60	1.56	29.5	1490	2310	4x0.8	1.56	28	1200	2030
2CX95	1.60	0.4	2.00	1.56	34	2030	3180	4x0.8	1.56	31.5	1500	2640
2CX120	1.60	0.4	2.00	1.72	36.5	2320	3760	4x0.8	1.56	33.5	1730	3170
2CX150	1.80	0.4	2.00	1.72	39.5	2650	4440	4x0.8	1.72	37	2040	3830
2CX185	2.00	0.5	2.00	1.88	43	3120	5350	4x0.8	1.88	41	2450	4680
2CX240	2.20	0.5	2.50	2.04	49	4150	7090	4x0.8	2.04	45.5	3020	5950
2CX300	2.40	0.6	2.50	2.20	53.5	4860	8550	4x0.8	2.20	50	3640	7320
2CX400	2.60	0.6	3.15	2.52	60.5	6450	11160	4x0.8	2.36	55.5	4470	9180

### 2 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED UNARMoured POWER CABLES

No. of Cores & Cross sectional area	Thickness of Insulation (Nom.)	Nominal Dimensions of PVC Inner Sheath	UNARMoured			
			YY			
			Nom. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. Of Cable with Aluminium Conductor	Approx. Net Wt. Of Cable with Copper Conductor
		mm	mm	mm	Kg/Km	Kg/Km
2CX4	1.00	0.3	1.80	13.5	190	242
2CX6	1.00	0.3	1.80	14.5	320	400
2CX10	1.00	0.3	1.80	16.0	390	520
2CX16	1.00	0.3	1.80	17.8	330	520
2CX25	1.20	0.3	2.00	18.7	460	770
2CX35	1.20	0.3	2.00	20.2	550	970
2CX50	1.40	0.3	2.00	22.7	690	1260
2CX70	1.40	0.3	2.00	25.3	850	1680
2CX95	1.60	0.4	2.20	29.0	1130	2280
2CX120	1.60	0.4	2.20	31.0	1310	2750
2CX150	1.80	0.4	2.40	34.5	1580	3370
2CX185	2.00	0.5	2.40	37.5	1910	4140
2CX240	2.20	0.5	2.60	42.5	2420	5350
2CX300	2.40	0.6	2.80	46.5	2960	6650
2CX400	2.60	0.6	3.20	52.5	3760	8470



### 3 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED ARMoured POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	ARMoured									
			YWY (WIRE ARMoured)					YFY (STRIP ARMoured)				
			Normal Dimension of Armour Wire	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimension of Armour Strip sheath	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	Kg / Km	Kg / Km	mm	mm	mm	Kg / Km	Kg / Km			
3C X 4	1.00	0.3	1.4	1.24	15.8	505	580	-	-	-	-	-
3C X 6	1.00	0.3	1.40	1.24	17.5	680	790	-	-	-	-	-
3C X 10	1.00	0.3	1.40	1.40	19.5	830	1020	-	-	-	-	-
3CX 16	1.00	0.3	1.60	1.40	21	880	1160	4 X 0.8	1.40	19.5	680	960
3C X 25	1.20	0.3	1.60	1.40	24	1110	1560	4 X 0.8	1.40	22.5	870	1320
3C X 35	1.20	0.3	1.60	1.40	25.5	1290	1920	4 X 0.8	1.40	24	1010	1640
3C X 50	1.40	0.3	1.60	1.56	29	1580	2440	4 X 0.8	1.56	27.5	1290	2150
3C X 70	1.40	0.4	2.00	1.56	33	2120	3360	4 X 0.8	1.56	30.5	1590	2830
3C X 95	1.60	0.4	2.00	1.72	37.5	2620	4330	4 X 0.8	1.56	34.5	1970	3680
3C X 120	1.60	0.4	2.00	1.72	40.5	3000	5170	4 X 0.8	1.72	38	2340	4500
3C X 150	1.80	0.5	2.00	1.88	44	3500	6180	4 X 0.8	1.88	41.5	2780	5460
3C X 185	2.00	0.5	2.50	2.04	49	4510	7860	4 X 0.8	1.88	45.5	3310	6650
3C X 240	2.20	0.6	2.50	2.20	55.5	5530	9930	4 X 0.8	2.20	52	4170	8580
3C X 300	2.40	0.6	2.50	2.36	60	6540	12080	4 X 0.8	2.36	56.5	5040	10580
3C X 400	2.60	0.7	3.15	2.68	69.5	8580	15640	4 X 0.8	2.52	64.5	6160	13220

### 3 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED UNARMoured POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	UNARMoured			
			YY			
			Nom. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	mm	Kg / Km	Kg / Km	
3C X 4	1.00	0.3	1.80	14.0	215	315
3C X 6	1.00	0.3	1.80	14.4	350	470
3C X 10	1.00	0.3	1.80	15.6	440	630
3C X 16	1.00	0.3	1.80	16.8	440	720
3C X 25	1.20	0.3	2.00	20.2	610	1060
3C X 35	1.20	0.3	2.00	21.7	730	1360
3C X 50	1.40	0.3	2.00	24.8	920	1780
3C X 70	1.40	0.4	2.20	28.5	1210	2450
3C X 95	1.60	0.4	2.20	31.6	1560	3270
3C X 120	1.60	0.4	2.20	34.7	1820	3990
3C X 150	1.80	0.5	2.40	38.9	2230	4910
3C X 185	2.00	0.5	2.60	44.5	2730	6080
3C X 240	2.20	0.6	2.80	49.0	3480	7880
3C X 300	2.40	0.6	3.00	53.5	4260	9800
3C X 400	2.60	0.7	3.40	62.0	5400	12460



### 3.5 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED ARMoured POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	ARMoured									
			YWY (WIRE ARMoured)					YFY (STRIP ARMoured)				
			Normal Dimension of Armour Wire	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimension of Armour Strip sheath	Min. Thickness of PVC Outer	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	Kg / Km	Kg / Km	mm	mm	mm	Kg / Km	Kg / Km			
3.5Cx25/16	1.2/1.0	0.3	1.60	1.40	26.5	1250	1790	4x0.8	1.40	25	980	1530
3.5Cx35/16	1.2/1.0	0.3	1.60	1.40	27.5	1430	2160	4x0.8	1.40	26	1150	1880
3.5Cx50/25	1.4/1.2	0.3	1.60	1.56	31	1780	2790	4x0.8	1.56	29.5	1450	2460
3.5Cx70/35	1.4/1.2	0.4	2.00	1.56	36	2360	3810	4x0.8	1.56	33.6	1780	3230
3.5Cx95/50	1.6/1.4	0.4	2.00	1.72	40	2970	4970	4x0.8	1.56	37.5	2270	4270
3.5Cx120/70	1.6/1.4	0.5	2.00	1.88	43	3480	6060	4x0.8	1.72	41	2700	5280
3.5Cx150/70	1.8/1.4	0.5	2.00	1.88	48	3960	7060	4x0.8	1.88	45.5	3160	6260
3.5Cx185/95	2.0/1.6	0.5	2.50	2.04	53.5	5130	9050	4x0.8	2.04	50	3830	7750
3.5Cx240/120	2.2/1.6	0.6	2.50	2.36	60	6290	11420	4x0.8	2.20	57	4750	9880
2.5Cx300/150	2.4/1.8	0.6	3.15	2.52	66	8080	14500	4x0.8	2.36	61.5	5730	12160
2.5Cx400/185	2.6/2.0	0.7	3.15	2.68	75	9740	17920	4x0.8	2.68	70	7120	15300

### 3.5 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED UNARMoured POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	UNARMoured			
			YY			
			Nom. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	Kg / Km	Kg / Km		
3.5Cx25/16	1.2/1.0	0.3	2.00	22.7	700	1250
3.5Cx35/16	1.2/1.0	0.3	2.00	24.0	830	1560
3.5Cx50/25	1.4/1.2	0.3	2.00	27.0	1060	2070
3.5Cx70/35	1.4/1.2	0.4	2.20	31.0	1380	2830
3.5Cx95/50	1.6/1.4	0.4	2.20	35.0	1790	3790
3.5Cx120/70	1.6/1.4	0.5	2.40	40.0	2190	4770
3.5Cx150/70	1.8/1.4	0.5	2.40	42.3	2550	5640
3.5Cx185/95	2.0/1.6	0.5	2.60	46.8	3150	7070
3.5Cx240/120	2.2/1.6	0.6	3.00	54.5	4050	9170
3.5Cx300/150	2.4/1.8	0.6	3.20	59.0	4940	11370
3.5Cx400/185	2.6/2.0	0.7	3.40	67.0	6200	14380



### 4 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED ARMoured POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	ARMoured									
			YWY (WIRE ARMoured)					YFY (STRIP ARMoured)				
			Normal Dimension of Armour Wire	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimension of Armour Strip sheath	Min. Thickness of PVC Outer	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	Kg / Km	Kg / Km	mm	mm	mm	Kg / Km	Kg / Km			
4Cx4	1.00	0.3	1.40	1.24	18.3	553	628	-	-	-	-	-
4Cx6	1.00	0.3	1.40	1.24	19	790	950	-	-	-	-	-
4Cx10	1.00	0.3	1.60	1.40	23	1020	1270	4x0.8	1.40	21.5	790	1040
4Cx16	1.00	0.3	1.60	1.40	25	1040	1420	4x0.8	1.40	23	820	1200
4Cx25	1.20	0.3	1.60	1.40	27	1330	1940	4x0.8	1.40	25	1060	1670
4Cx35	1.20	0.3	1.60	1.56	30	1590	2440	4x0.8	1.40	27.5	1260	2110
4Cx50	1.40	0.4	2.00	1.56	34.5	2150	3290	4x0.8	1.56	32	1590	2730
4Cx70	1.40	0.4	2.00	1.56	38	2620	4270	4x0.8	1.56	36.5	1970	3620
4Cx95	1.60	0.4	2.00	1.72	42.5	3230	5530	4x0.8	1.72	40	2510	4810
4Cx120	1.60	0.5	2.00	1.88	47	3770	6660	4x0.8	1.88	44.5	2990	5880
4Cx150	1.80	0.5	2.50	2.04	51.5	4800	8370	4x0.8	1.88	48	3520	7090
4Cx185	2.00	0.6	2.50	2.20	57	5720	10180	4x0.8	2.04	53	4260	8720
4Cx240	2.20	0.6	2.50	2.36	64	6930	12810	4x0.8	2.36	60	5370	11240
4Cx300	2.40	0.7	3.15	2.68	71	9110	16490	4x0.8	2.52	65.5	6510	13890
4Cx400	2.60	0.7	3.15	2.84	78	10840	20250	4x0.8	2.84	73	8040	17450

### 4 CORE 1.1 KV ALUMINIUM/COPPER PVC INSULATED UNARMoured POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	UNAMoured			
			YY			
			Nom. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	Kg / Km	Kg / Km		
4Cx4	1.00	0.3	1.80	15.8	225	300
4Cx6	1.00	0.3	1.40	16.0	420	580
4Cx10	1.00	0.3	1.80	19.0	520	770
4Cx16	1.00	0.3	2.00	21.5	550	930
4Cx25	1.20	0.3	2.00	23.0	760	1360
4Cx35	1.20	0.3	2.00	25.0	920	1760
4Cx50	1.40	0.4	2.20	29.5	1210	2350
4Cx70	1.40	0.4	2.20	34.0	1540	3190
4Cx95	1.60	0.4	2.40	37.5	2010	4310
4Cx120	1.60	0.5	2.40	41.5	2400	5290
4Cx150	1.80	0.5	2.60	45.5	2910	6470
4Cx185	2.00	0.6	2.80	50.0	3590	8060
4Cx240	2.20	0.6	3.00	57.0	4540	10420
4Cx300	2.40	0.7	3.40	63.2	5690	13070
4Cx400	2.60	0.7	3.60	70.0	7060	16480



### CURRENT RATINGS FOR 1.1 KV COPPER CONDUCTOR XLPE INSULATED CONTROL CABLES (In Amp)

No. of Cores	1.5 Sqmm		2.5 Sqmm	
	In Ground	In Air	In Ground	In Air
2	33	29	39	32
3	25	22	34	30
4	25	22	34	30
5	24	21	31	28
6	22	19	29	26
7	21	18	27	25
10	18	16	24	21
12	17	15	22	20
14	16	14	21	19
16	16	14	20	18
19	15	13	19	17
24	13	12	17	16
27	13	11	16	16
30	12	11	16	14
37	11	10	15	13
44	11	9	14	12
52	10	9	13	12
61	9	8	12	11

### CURRENT RATINGS OF 1.1 KV XLPE INSULATED ALUMINIUM CONDUCTOR CABLES (In Amp)

Nominal Area Of Conductor	Single Core		Twin Core		Multi Core	
	Sqmm	In Ground	In Air	In Ground	In Air	In Ground
6	44	39	50	44	43	50
10	59	53	69	59	57	67
16	76	73	88	74	73	70
25	95	98	112	98	94	96
35	114	121	138	124	113	117
50	135	150	169	156	133	142
70	166	187	200	188	164	179
95	198	230	238	231	196	221
120	225	268	262	262	223	257
150	253	309	300	300	249	292
185	286	360	344	344	282	337
240	332	433	400	406	326	399
300	376	501	444	456	367	455
400	431	596	481	525	418	530
500	490	693	523	678	470	612
630	557	814	592	789	529	707
800	600	890	-	-	-	-
1000	650	1050	-	-	-	-

### CURRENT RATINGS OF 1.1 KV XLPE INSULATED COPPER CONDUCTOR CABLES (In Amp)

Nominal Area of Conductor	Single Core		Twin Core		Multi Core	
	Sqmm	In Ground	In Air	In Ground	In Air	In Ground
6	59	53	63	56	54	47
10	78	72	88	75	72	62
16	102	98	113	98	92	79
25	132	132	144	131	119	108
35	156	156	175	150	144	132
50	186	198	206	194	174	162
70	228	246	256	244	210	198
95	264	294	300	288	252	240
120	300	336	344	331	288	276
150	336	384	388	381	324	318
185	366	444	438	438	360	366
240	414	510	506	512	414	426
300	450	570	562	581	462	480
400	480	660	612	662	510	546
500	570	708	-	-	-	-
630	594	825	-	-	-	-
800	660	945	-	-	-	-
1000	723	1063	-	-	-	-



### CAPACITANCE OF 1.1 KV GRADE XLPE INSULATED CABLES

Nominal Cross Sectional Area of Conductor Sqmm	Single Core Cable		Twin Core Cable	Multi Core Cable
	Unarmoured	Armoured	UF/Km	UF/Km
1.5	0.19	-	0.15	0.051
2.5	0.24	-	0.18	0.058
4	0.29	-	0.22	0.065
6	0.34	-	0.25	0.071
10	0.43	0.32	0.31	0.081
16	0.51	0.38	0.360	0.088
25	0.49	0.38	0.41	0.089
35	0.57	0.44	0.47	0.096
50	0.58	0.46	0.50	0.098
70	0.63	0.51	0.53	0.10
95	0.73	0.59	0.61	0.11
120	0.74	0.61	0.63	0.11
150	0.73	0.61	0.64	0.11
185	0.69	0.29	0.65	0.11
240	0.74	0.64	0.66	0.11
300	0.80	0.69	0.67	0.12
400	0.83	0.70	0.67	0.12
500	0.83	0.71	0.69	0.12
630	0.87	0.75	0.73	0.11
800	0.92	0.78	-	-
1000	0.94	0.81	-	-

### REACTANCE OF 1.1 KV GRADE XLPE INSULATED CABLES AT 50 HZ

Nominal Cross Sectional Area of Conductor (Sqmm)	Single Core Cable		Twin & Multicore Cable
	Unarmoured (Oh/Km)	Armoured (Oh/Km)	(Oh/Km)
1.5	0.1550	-	0.1070
2.5	0.1420	-	0.0985
4	0.1320	-	0.0927
6	0.1230	-	0.0881
10	0.1140	0.1340	0.0837
16	0.1080	0.1250	0.0808
25	0.1030	0.1200	0.0805
35	0.0986	0.1400	0.0783
50	0.0937	0.1080	0.0750
70	0.0900	0.1020	0.0740
95	0.0865	0.1000	0.0724
120	0.0841	0.0968	0.0712
150	0.0839	0.0941	0.0716
185	0.0836	0.0932	0.0718
240	0.0813	0.0900	0.0710
300	0.0795	0.0881	0.0705
400	0.0787	0.0873	0.0704
500	0.0779	0.0859	0.0702
630	0.0785	0.0843	0.0698
800	0.0755	0.0826	-
1000	0.0752	0.0825	-



### SHORT CIRCUIT RATING FOR XLPE INSULATED CABLES (FOR DURATION OF ONE SECOND)

Nominal Cross Sectional Area of Conductor	Aluminium Conductor	Copper Conductor	Nominal Cross Sectional Area of Conductor	Aluminium Conductor	Copper Conductor
Sqmm	K Amps	K Amps	Sqmm	K Amps	K Amps
1.5	0.141	0.515	120	11.28	17.16
2.5	0.235	0.358	150	14.10	21.46
4	0.376	0.572	185	17.39	34.32
6	0.564	0.858	240	22.56	42.90
10	0.940	1.430	300	28.20	42.90
16	1.504	2.288	400	37.60	57.20
25	2.350	3.575	500	47.00	71.50
35	3.29	5.01	630	59.22	90.09
50	4.70	7.15	800	75.20	114.40
70	6.58	10.01	1000	94.00	143.00
95	8.93	13.59			

### MAXIMUM A.C/D.C. RESISTANCE OF CONDUCTOR FOR XLPE CABLE IN OHM/KM

Nominal Cross Sectional Area of Conductor	Minimum No. of Wires				Max. D.C. Resistance At 20 Deg. C		Max. A.C. Resistance At 70 Deg. C	
	Circular Conductor (Non Compacted)		Compacted Circular / Shaped Conductor		Plain Copper Conductor		Aluminium Conductor	
	Copper	Aluminium	Copper	Aluminium	Ohh/Km	Ohh/Km	Ohh/Km	Ohh/Km
1.5	3	3	-	-	12.1	-	15.49	-
2.5	3	3	-	-	7.41	-	9.48	-
4	7	3	-	-	4.61	7.41	5.90	9.48
6	7	3	-	-	3.08	4.61	3.94	5.90
10	7	7	-	-	1.83	3.08	2.34	3.94
16	7	7	-	-	1.15	1.91	1.47	2.44
25	7	7	6	6	0.727	1.20	0.931	1.54
35	7	7	6	6	0.524	0.868	0.671	1.111
50	19	19	6	6	0.387	0.641	0.495	0.820
70	19	19	12	12	0.268	0.443	0.343	0.567
95	19	19	15	15	0.193	0.320	0.247	0.410
120	37	37	18	18	0.153	0.253	0.196	0.324
150	37	37	18	18	0.124	0.206	0.159	0.264
185	37	37	30	30	0.0991	0.1640	0.1268	0.2099
240	61	37	34	30	0.0754	0.1250	0.0965	0.1600
300	61	61	34	30	0.0601	0.1000	0.0769	0.1280
400	61	61	53	53	0.0470	0.0778	0.0602	0.0996
500	61	61	53	53	0.0366	0.0605	0.0468	0.0774
630	91	91	53	53	0.0283	0.0468	0.0362	0.0600
800	91	91	53	53	0.0221	0.0367	0.0283	0.0470
1000	91	91	53	53	0.0176	0.291	0.0225	0.0372



The Current Rating mentioned in the previous pages are under Operating conditions :

Maximum continuous operating conductor temperature = 90°C

Standard ground temperature = 30°C

Ambient air temperature = 40°C

Thermal Resistivity of soil = 150°C em/watt

Depth of laying (for cables laid direct in ground) = 75° ems

**Method of Installation :**

Three core cables install independently.

Single Core Cables : Three cables in a trefoil touching each other



**Rating factors for variation in ambient air temperature :**

Air Temperature -°C	20	25	30	35	40	45	50	55	60
Rating Factors Conductor Temp. 90 °C	1.18	1.14	1.10	1.05	1.00	0.95	0.89	0.84	0.78

**Rating factors for variation in ground temperature :**

Air Temperature -°C	15	20	25	30	35	40	45	50
Rating Factors Conductor Temp. 90 °C	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82

**Rating factors for depth of laying for Cables laid direct in the ground :**

Depth of laying (em)	75	90	105	120	150	180 or more
For 1.1 KV	1.00	0.98	0.96	0.94	0.92	0.90

**Rating factors for variation in thermal resistivity of soil :**

Rating factors for variation in thermal resistivity of soil :					
100	120	150	200	250	300
1.20	1.11	1.00	0.89	0.80	0.73

### 1 CORE 1.1 KV ALUMINIUM/COPPER XLPE ARMoured POWER CABLES

	Thickness of Insulation (Nom.)	Thickness Dimensions of Armour Wire	ARMoured								
			YWF (WIRE ARMoured)				YFY (STRIP ARMoured)				
			Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimension of Armour Strip	Min. Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	mm	Kg / Km	Kg / Km	mm	mm	mm	Kg / Km	Kg / Km	
1C x 25	1.2	1.4	1.24	14	250	390	-	-	-	-	-
1C X 35	1.2	1.4	1.24	15	290	490	-	-	-	-	-
1C X 50	1.3	1.4	1.24	17	350	620	-	-	-	-	-
1C X 70	1.4	1.4	1.24	19	440	830	-	-	-	-	-
1C X 95	1.4	1.6	1.40	22	580	1120	4 X 0.8	1.4	21	540	1080
1C X 120	1.5	1.6	1.40	24	680	1360	4 X 0.8	1.4	23	640	1320
1C X 150	1.7	1.6	1.40	25	790	1630	4 X 0.8	1.4	24	740	1580
1C X 185	1.9	1.6	1.40	28	950	2000	4 X 0.8	1.4	26	890	1940
1C X 240	2.0	1.6	1.40	30	1150	2530	4 X 0.8	1.4	30	1090	2470
1C X 300	2.1	1.6	1.56	33	1380	3120	4 X 0.8	1.56	32	1320	3060
1C X 400	2.4	2.0	1.56	38	1800	4020	4 X 0.8	1.56	36	1650	3870
1C X 500	2.6	2.0	1.56	41	2160	5010	4 X 0.8	1.56	39	2000	4850
1C X 630	2.8	2.0	1.72	46	2690	6380	4 X 0.8	1.72	44	2510	6200
1C X 800	3.1	2.0	1.88	51	3350	8080	4 X 0.8	1.72	48	3110	7830
1C X 1000	3.3	2.5	2.04	56	4250	10170	4 X 0.8	1.88	54	3820	9740

Note : Conductors are compacted and as per Class 2 of IS 8130

### 1 CORE 1.1 KV ALUMINIUM/COPPER XLPE UNARMoured POWER CABLES

No. of Cores & cross sectional area	Thicknes of Insulation (Nom.)	Nominal Dimensions of Armour Wire	UNARMoured				
			YY				
			Thickness of Insulation (Nom.)	Non Thickness of PVC Outer Sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	mm	mm	Kg/Km	Kg/Km	
1C X 25	1.2	1.4	0.9	1.8	12	180	330
1C X 35	1.2	1.4	0.9	1.8	13	210	420
1C X 50	1.3	1.4	1.0	1.8	15	270	550
1C X 70	1.4	1.4	1.1	1.8	16	350	760
1C X 95	1.4	1.6	1.1	1.8	18	440	1010
1C X 120	1.5	1.6	1.2	1.8	20	530	1250
1C X 150	1.7	1.6	1.4	2.0	22	650	1540
1C X 185	1.9	1.6	1.6	2.0	24	790	1900
1C X 240	2.0	1.6	1.7	2.0	27	980	2440
1C X 300	2.1	1.6	1.8	2.0	30	1180	3020
1C X 400	2.4	2.0	2.0	2.2	33	1510	3850
1C X 500	2.6	2.0	2.2	2.2	36	1870	4870
1C X 630	2.8	2.0	2.4	2.2	40	2340	6230
1C X 800	3.1	2.0	2.6	2.4	47	2950	7940
1C X 1000	3.3	2.5	2.8	2.6	51	3660	9910



### 2 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED ARMoured POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	ARMoured									
			YWF (WIRE ARMoured)					YFY (STRIP ARMoured)				
			Nominal Dimension of Armour Wire	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimension of Armour Wire	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	mm	mm	Kg / Km	Kg / Km	mm	mm	mm	Kg / Km	Kg / Km	
2C X 4	0.7	0.3	1.4	1.24	15.6	425	523	-	-	-	-	-
2C x 6	0.7	0.3	1.4	1.24	16.7	490	610	-	-	-	-	-
2C x 10	0.7	0.3	1.4	1.24	18.2	563	754	-	-	-	-	-
2C X 16	0.7	0.3	1.4	1.4	17.3	573	770	-	-	-	-	-
2C X 25	0.90	0.30	1.6	1.40	21.3	760	1040	4 X 0.8	1.4	19.7	570	860
2C X 35	0.90	0.30	1.6	1.40	22.1	880	1280	4 X 0.8	1.4	20.5	670	1070
2C X 50	1.00	0.30	1.6	1.40	24.2	1040	1580	4 X 0.8	1.4	22.8	810	1350
2C X 70	1.10	0.30	1.6	1.56	27.5	1280	2070	4 X 0.8	1.56	25.5	1020	1800
2C X 95	1.10	0.40	2.0	1.56	30.9	1710	2790	4 X 0.8	1.56	28.4	1250	2340
2C X 120	1.20	0.40	2.0	1.56	33	1990	3360	4 X 0.8	1.56	30.2	1490	2860
2C X 150	1.40	0.40	2.0	1.72	36.5	2290	3990	4 X 0.8	1.72	33.9	1740	3430
2C X 185	1.60	0.50	2.0	1.88	40	2730	4840	4 X 0.8	1.72	37.00	2090	4200
2C X 240	1.70	0.50	2.5	2.04	44.0	3580	6360	4 X 0.8	1.88	40.2	2560	5340
2C X 300	1.80	0.60	2.5	2.20	50.1	4190	7680	4 X 0.8	2.04	45.9	3050	6540
2C X 400	2.00	0.60	2.5	2.36	54.2	5040	9500	4 X 0.8	2.36	50.2	3810	8270

Note : Conductors are compacted and as per Class 2 of IS 8130

### 2 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED UNARMoured POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	UNARMoured			
			YY			
			Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	mm	Kg/Km	Kg/Km	
2C X 4	0.7	0.3	1.8	13	152	173
2C X 6	0.7	0.3	1.8	14	185	227
2C X 10	0.7	0.3	1.8	16.3	228	300
2C X 16	0.7	0.3	1.8	14.2	230	420
2C X 25	0.90	0.30	2.0	19.3	400	700
2C X 35	0.90	0.30	2.0	20.1	480	900
2C X 50	1.00	0.30	2.0	22.4	590	1160
2C X 70	1.10	0.30	2.0	24.7	750	1580
2C X 95	1.10	0.40	2.2	28.2	980	2120
2C X 120	1.20	0.40	2.2	30.1	1170	2620
2C X 150	1.40	0.40	2.2	33.3	1390	3170
2C X 185	1.60	0.50	2.4	37	1720	3950
2C X 240	1.70	0.50	2.6	40.5	2160	5090
2C X 300	1.80	0.60	2.8	45.8	2630	6320
2C X 400	2.00	0.60	3.0	49.1	3300	8010



### 3 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED ARMoured POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	ARMoured									
			YWF (WIRE ARMoured)					YFY (STRIP ARMoured)				
			Nominal Dimension of Armour Wire	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimension of Armour Wire	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	mm	mm	Kg / Km	Kg / Km	mm	mm	mm	Kg / Km	Kg / Km	
3C X 4	0.7	0.3	1.4	1.24	16.2	512	583	-	-	-	-	-
3C X 6	0.7	0.3	1.4	1.24	17.2	585	678	-	-	-	-	-
3C X 10	0.7	0.3	1.4	1.24	19.1	678	867	-	-	-	-	-
3C X 16	0.7	0.3	-	-	-	535	828	4 X 0.8	1.24	18.7	-	-
3C X 25	0.90	0.30	1.6	1.40	21.8	920	1350	4 X 0.8	1.40	20.2	720	1150
3C X 35	0.90	0.30	1.6	1.40	23.7	1090	1690	4 X 0.8	1.40	22.8	840	1440
3C X 50	1.00	0.30	1.6	1.56	26.5	1320	2140	4 X 0.8	1.40	24.7	1030	1840
3C X 70	1.10	0.40	2.0	1.56	31.2	1830	3000	4 X 0.8	1.56	28.8	1350	2530
3C X 95	1.10	0.40	2.0	1.56	33.6	2180	3800	4 X 0.8	1.56	31.1	1650	3270
3C X 120	1.20	0.40	2.0	1.72	38.5	2590	4640	4 X 0.8	1.56	35.8	1950	4010
3C X 150	1.40	0.50	2.0	1.88	42.1	3050	5590	4X 0.8	1.72	39.5	2360	4900
3C X 185	1.60	0.50	2.5	2.04	47	3950	7120	4 X 0.8	1.88	43.2	2850	6020
3C X 240	1.70	0.60	2.5	2.20	50.1	4770	8950	4 X 0.8	2.04	46.4	3520	7690
3C X 300	1.80	0.60	2.5	2.36	55.2	5640	10880	4 X 0.8	2.20	51.8	4240	9480
3C X 400	2.00	0.70	3.15	2.68	63.4	7480	14170	4 X 0.8	2.52	58.5	5270	11960

### 3 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED UNARMoured POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	UNARMoured			
			YY			
			Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	mm	Kg/Km	Kg/Km	
3C X 4	0.7	0.3	1.8	13	162	233
3C X 6	0.7	0.3	1.8	14	188	304
3C X 10	0.7	0.3	1.8	16.3	230	413
3 X 16	0.7	0.3	1.8	14.2	312	428
3C X 25	0.90	0.3	2.0	20.2	520	970
3C X 35	0.90	0.30	2.0	22.5	630	1270
3C X 50	1.00	0.30	2.0	25.1	790	1640
3C X 70	1.10	0.40	2.2	29.3	1070	2310
3C X 95	1.10	0.40	2.2	31.6	1340	3050
3C X 120	1.20	0.40	2.2	36.1	1620	3790
3C X 150	1.40	0.50	2.4	39.7	1990	4670
3C X 185	1.60	0.50	2.6	43.8	2450	5800
3C X 240	1.70	0.60	2.8	47.1	3100	7510
3C X 300	1.80	0.60	3.0	52.4	3790	9320
3C X 400	2.00	0.70	3.2	59.1	4770	11830



### 3.5 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED ARMOURED POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	ARMOURED									
			YWF (WIRE ARMOURED)					YFY (STRIP ARMOURED)				
			Nominal Dimension of Armour Wire	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimension of Armour Strip	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	mm	mm	Kg / Km	Kg / Km	mm	mm	mm	Kg / Km	Kg / Km	
3.5CX25/16	0.9/0.7	0.30	1.6	1.40	23.9	1039	1560	4 X 0.8	1.40	22.3	814	1330
3.5CX35/16	0.9/0.7	0.30	1.6	1.40	25.6	1203	1890	4 X 0.8	1.40	24	962	1650
3.5CX50/25	1.1/0.9	0.30	1.6	1.56	29	1474	2430	4 X 0.8	1.40	27	1153	2110
3.5CX70/35	1.1/0.9	0.40	2.0	1.56	34.1	2028	3410	4X0.8	1.56	31.8	1501	2880
3.5CX95/50	1.1/1.0	0.40	2.0	1.56	37.8	2447	4350	4 X 0.8	1.56	35.2	1869	3770
3.5CX120/70	1.2/1.1	0.40	2.0	1.72	40.1	2954	5400	4 X 0.8	1.72	37.9	2297	4740
3.5CX150/70	1.4/1.1	0.50	2.0	1.88	45.2	3427	6360	4 X 0.8	1.72	42.5	2656	5590
3.5C X185/95	1.6/1.1	0.50	2.5	2.04	49.9	4470	8180	4 X 0.8	1.88	45.9	3254	6970
3.5CX240/120	1.7/1.2	0.60	2.5	2.20	55.5	5386	10240	4 X 0.8	2.04	51.8	4006	8860
3.5CX300/150	1.8/1.4	0.60	2.5	2.36	59.2	6344	12430	4 X 0.8	2.20	55.7	4821	10910
3.5CX400/185	2.0/1.6	0.70	3.15	2.68	69.1	8446	16190	4 X 0.8	2.52	64.0	6042	13790

### 3.5 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED UNARMOURED POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	UNARMOURED			
			YY			
			Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	mm	Kg/Km	Kg/Km	
3.5CX25/16	0.9/0.7	0.30	2.0	22.5	595	1150
3.5CX35/16	0.9/0.7	0.30	2.0	24	710	1440
3.5CX50/25	1.0/0.9	0.30	2.0	27.4	900	1910
3.5CX70/35	1.1/0.9	0.40	2.2	31.8	1207	2660
3.5CX95/50	1.1/1.0	0.40	2.2	35.5	1534	3540
3.5CX120/70	1.2/1.1	0.40	2.2	37.9	1891	4470
3.5CX150/70	1.4/1.1	0.50	2.4	42.9	2270	5360
3.5CX185/95	1.6/1.1	0.50	2.6	46.4	2820	6740
3.5CX240/120	1.7/1.2	0.60	2.8	52.6	3560	8690
3.5CX300/150	1.8/1.4	0.60	3.0	56.5	4340	10770
3.5CX400/185	2.0/1.6	0.70	3.4	65.2	5560	13740



### 4 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED ARMoured POWER CABLES

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	ARMoured									
			YWF (WIRE ARMoured)					YFY (STRIP ARMoured)				
			Nominal Dimension of Armour Wire	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimension of Armour Strip	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	mm	mm	Kg / Km	Kg / Km	mm	mm	mm	Kg / Km	Kg / Km	
4C X 4	0.7	0.3	1.4	1.24	17.6	562	662	-	-	-	-	-
4C X 6	0.7	0.3	1.4	1.24	19.2	627	776	-	-	-	-	-
4C X 10	0.7	0.3	1.4	1.24	20.7	767	1012	-	-	-	-	-
4C X 16	0.7	0.3	-	-	-	716	1055	4 X 0.8	1.4	20.1	-	-
4C X 25	0.90	0.30	1.6	1.40	23.9	1110	1680	4 X 0.8	1.4	23.1	880	1450
4C X 35	0.90	0.30	1.6	1.40	26	1320	2120	4 X 0.8	1.4	24.5	1050	1850
4C X 50	1.00	0.30	1.6	1.56	29.6	1610	2690	4 X 0.8	1.56	28	1310	2390
4C X 70	1.10	0.40	2.0	1.56	34	2260	3820	4 X 0.8	1.56	31.6	1680	3240
4C X 95	1.10	0.40	2.0	1.72	38	2710	4880	4 X 0.8	1.56	35.1	2050	4220
4C X 120	1.20	0.50	2.0	1.88	42	3250	5990	4 X 0.8	1.72	39	2510	5250
4C X 150	1.40	0.50	2.5	2.04	46.2	4190	7570	4 X 0.8	1.88	42.6	3000	6380
4C X 185	1.60	0.50	2.5	2.20	51.5	4980	9210	4 X 0.8	2.04	47.8	3650	7880
4C X 240	1.70	0.60	2.5	2.36	57.6	6000	11560	4 X 0.8	2.2	53.9	4530	10090
4C X 300	1.80	0.70	3.15	2.52	64.5	7810	14790	4 X 0.8	2.36	59.4	5510	12500
4C X 400	2.00	0.70	3.15	2.84	72.0	9400	18320	4 X 0.8	2.68	67.0	6820	15740

Note: Conductors are compacted and as per Class 2 of IS 8130

### 4 CORE 1.1 KV ALUMINIUM/COPPER XLPE INSULATED UNARMoured POWER CABLES

No. of Cores & cross sectional area	Thicknes of Insulation (Nom.)	Min. Thickness of XLPE inner sheath	UNARMoured			
			YY			
			Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	mm	Kg/Km	Kg/Km	
4C X 4	0.7	0.3	1.8	16.0	182	282
4C X 6	0.7	0.3	1.8	17.7	217	366
4C X 10	0.7	0.3	1.8	18.5	260	512
4C X 16	0.7	0.3	1.8	17.6	355	755
4C X 25	0.90	0.30	2.0	22.5	650	1250
4C X 35	0.90	0.30	2.0	24.6	790	1640
4C X 50	1.00	0.30	2.0	27.9	990	2130
4C X 70	1.10	0.40	2.2	32.1	1350	3010
4C X 95	1.10	0.40	2.2	35.5	1700	4000
4C X 120	1.20	0.50	2.4	39.6	2140	5030
4C X 150	1.40	0.50	2.6	42.9	2600	6160
4C X 185	1.60	0.50	2.8	48.2	3200	7670
4C X 240	1.70	0.60	3.0	54.7	4050	9920
4C X 300	1.80	0.70	3.2	60.6	4990	12370
4C X 400	2.00	0.70	3.6	68.2	6320	15740



### COPPER CONDUCTOR ARMoured XLPE INSULATED CONTROL CABLES OF 1.5 SQ.MM

No. of Cores & cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	ARMoured									
			YWF (WIRE ARMoured)					YFY (STRIP ARMoured)				
			Nominal Dimension of Armour Wire	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor	Nominal Dimension of Armour Strip	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable with Aluminium Conductor	Approx. Net Wt. of Cable with Copper Conductor
mm	mm	mm	mm	mm	Kg / Km	Kg / Km	mm	mm	mm	Kg / Km	Kg / Km	
4C X 4	0.7	0.3	1.4	1.24	17.6	562	662	-	-	-	-	-
4C X 6	0.7	0.3	1.4	1.24	19.2	627	776	-	-	-	-	-
4C X 10	0.7	0.3	1.4	1.24	20.7	767	1012	-	-	-	-	-
4C X 16	0.7	0.3	-	-	-	716	1055	4 X 0.8	1.4	20.1	-	-
4C X 25	0.90	0.30	1.6	1.40	23.9	1110	1680	4 X 0.8	1.4	23.1	880	1450
4C X 35	0.90	0.30	1.6	1.40	26	1320	2120	4 X 0.8	1.4	24.5	1050	1850
4C X 50	1.00	0.30	1.6	1.56	29.6	1610	2690	4 X 0.8	1.56	28	1310	2390
4C X 70	1.10	0.40	2.0	1.56	34	2260	3820	4 X 0.8	1.56	31.6	1680	3240
4C X 95	1.10	0.40	2.0	1.72	38	2710	4880	4 X 0.8	1.56	35.1	2050	4220
4C X 120	1.20	0.50	2.0	1.88	42	3250	5990	4 X 0.8	1.72	39	2510	5250
4C X 150	1.40	0.50	2.5	2.04	46.2	4190	7570	4 X 0.8	1.88	42.6	3000	6380
4C X 185	1.60	0.50	2.5	2.20	51.5	4980	9210	4 X 0.8	2.04	47.8	3650	7880
4C X 240	1.70	0.60	2.5	2.36	57.6	6000	11560	4 X 0.8	2.2	53.9	4530	10090
4C X 300	1.80	0.70	3.15	2.52	64.5	7810	14790	4 X 0.8	2.36	59.4	5510	12500
4C X 400	2.00	0.70	3.15	2.84	72.0	9400	18320	4 X 0.8	2.68	67.0	6820	15740

### COPPER CONDUCTOR UNARMoured XLPE INSULATED CONTROL CABLES OF 1.5 SQ.MM

No. of Cores & cross sectional area	Thicknes of Insulation (Nom.)	Min. Thickness of PVC inner sheath	UNARMoured		
			YY		
			Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable
mm	mm	mm	mm	Kg/Km	
2C X 1.5	0.80	0.3	1.80	12.5	185
3C X 1.5	0.80	0.3	1.80	13.0	190
4C X 1.5	0.80	0.3	1.80	13.5	225
4C X 1.5	0.80	0.3	1.80	14.0	260
6C X 1.5	0.80	0.3	1.80	15.0	295
7C X 1.5	0.80	0.3	1.80	15.0	315
10C X 1.5	0.80	0.3	1.80	18.5	425
12C X 1.5	0.80	0.3	1.80	19.0	480
14C X 1.5	0.80	0.3	1.80	20.0	535
16C X 1.5	0.80	0.3	1.80	21.0	595
19C X 1.5	0.80	0.3	2.00	22.5	720
24C X 1.5	0.80	0.3	2.00	26.0	880
27C X 1.5	0.80	0.3	2.00	26.5	960
30C X 1.5	0.80	0.3	2.00	27.5	1040
37C X 1.5	0.80	0.3	2.00	29.0	1230



### COPPER CONDUCTOR ARMoured XLPE INSULATED CONTROL CABLES OF 2.5 SQ.MM

No. of Cores & Cross sectional area	Thickness of Insulation (Nom.)	Min. Thickness of PVC inner sheath	ARMoured							
			2XWY (WIRE ARMoured)				2XWY (STRIP ARMoured)			
			Nominal Dimension of Armour Strip	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable	Nominal Dimension of Armour Strip	Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable
	mm	mm	mm	mm	mm	Kg / Km	mm	mm	mm	Kg / Km
2C X 2.5	0.90	0.3	1.40	1.24	15.5	495	-	-	-	-
3C X 2.5	0.90	0.3	1.40	1.24	16	550	-	-	-	-
4C X 2.5	0.90	0.3	1.40	1.24	17	620	-	-	-	-
5C X 2.5	0.90	0.3	1.40	1.24	17.5	640	-	-	-	-
6C X 2.5	0.90	0.3	1.40	1.24	19	720	-	-	-	-
7C X 2.5	0.90	0.3	1.40	1.24	19	760	-	-	-	-
10C X 2.5	0.90	0.3	1.60	1.40	23.5	1110	4 X 0.8	1.40	21	900
12C X 2.5	0.90	0.3	1.60	1.40	24.5	1240	4 X 0.8	1.40	22	1000
14C X 2.5	0.90	0.3	1.60	1.40	25.5	1340	4 X 0.8	1.40	24	1100
16C X 2.5	0.90	0.3	1.60	1.40	26.5	1455	4 X 0.8	1.40	25	1200
19C X 2.5	0.90	0.3	1.60	1.40	27.5	1605	4 X 0.8	1.40	26	1320
24C X 2.5	0.90	0.3	1.60	1.56	31	1970	4 X 0.8	1.40	30	1600
27C X 2.5	0.90	0.3	1.60	1.56	32	2100	4 X 0.8	1.40	31	1720
30C X 2.5	0.90	0.3	1.60	1.56	33.5	2250	4 X 0.8	1.56	32	1900
37C X 2.5	0.90	0.4	2.00	1.56	37	2900	4 X 0.8	1.56	35	2300

### COPPER CONDUCTOR UNARMoured XLPE INSULATED CONTROL CABLES OF 2.5 SQ.MM

No. of Cores & cross sectional area	Thicknes of Insulation (Nom.)	Min. Thickness of PVC inner sheath	UNARMoured		
			YXY		
			Min. Thickness of PVC Outer sheath	Overall Diameter (Approx.)	Approx. Net Wt. of Cable
	mm	mm	mm	mm	Kg/Km
2C X 2.5	0.90	0.3	1.80	13.5	230
3C X 2.5	0.90	0.3	1.80	14.0	240
4C X 2.5	0.90	0.3	1.80	15.0	290
5C X 2.5	0.90	0.3	1.80	16.0	335
6C X 2.5	0.90	0.3	1.80	17.0	385
7C X 2.5	0.90	0.3	1.80	17.0	420
10C X 2.5	0.90	0.3	1.80	21.0	570
12C X 2.5	0.90	0.3	2.00	22.5	690
14C X 2.5	0.90	0.3	2.00	23.5	775
16C X 2.5	0.90	0.3	2.00	24.5	860
19C X 2.5	0.90	0.3	2.00	25.5	985
24C X 2.5	0.90	0.3	2.00	29.5	1215
27C X 2.5	0.90	0.3	2.00	30.0	1330
30C X 2.5	0.90	0.3	2.00	31.0	1450
37C X 2.5	0.90	0.4	2.20	34.0	1790





## SPECIFICATIONS FOR WIRE & CABLES COVERED UNDER IS: 694 (PART-1)

### CONSTRUCTION OF CONDUCTOR

NOMINAL CROSS-SECTIONAL AREA		SOLID / STRANDED	FLEXIBILITY CLASS
Copper mm <sup>2</sup>	Aluminium mm <sup>2</sup>		
Upto and including 6 mm <sup>2</sup>	Upto and including 10 mm <sup>2</sup>	Solid / Stranded	Class/1 or Class/2 of IS 8130 : 1984
Above 6mm <sup>2</sup>	Above 10 mm <sup>2</sup>	Stranded	Class 2 of IS 8130 : 1984

### SINGLE-CORE PVC INSULATED UNSHEATHED CABLES

Nominal Cross-Sectional Area of Conductor mm <sup>2</sup>	Nominal Thickness of Insulation mm	Overall Diameter, Max. mm	Nominal Cross-Sectional Area of Conductor mm <sup>2</sup>	Nominal Thickness of Insulation mm	Overall Diameter Max. mm
1*	0.7	3.2	50	1.4	13.0
1.5	0.7	3.4	70	1.4	15.0
2.5	0.8	4.2	95	1.6	17.5
4	0.8	4.8	120	1.6	19.0
6	0.8	5.6	150	1.8	21.0
10	1.0	7.0	185	2.0	23.5
16	1.0	8.2	240	2.2	26.5
25	1.2	10.0	300	2.4	29.5
35	1.2	11.5	400	2.6	33.5
			500	2.8	37.5
			630	2.8	42.0

\* For copper conductors only

### FLEXIBLE PVC INSULATED UNSHEATHED CORDS

Nominal Cross-Sectional Area of Conductor mm <sup>2</sup>	Nominal Thickness of Insulated mm	OVERALL DIMENSIONS, MAX.		
		Single Core mm	Parallel Twin mm	Twisted Twin mm
0.5	0.6	2.6	2.6 X 5.2	5.2
0.75	0.6	2.8	2.8 X 5.6	5.6
1	0.6	3.0	3.0 X 6.0	6.0
1.5	0.6	3.3	3.3 X 6.6	6.6
2.5	0.7	4.0	4.0 X 8.0	8.0
4	0.8	4.8	4.8 X 9.6	9.6

### SINGLE CORE UNSHEATHED FLEXIBLE CABLES

Nominal Cross-Sectional Area of Conductor mm <sup>2</sup>	Nominal Thickness of Insulation mm	Overall Diameter Max mm
6	0.8	6.4
10	1.0	8.0
16	1.0	9.6
25	1.2	11.5
35	1.2	13.0
50	1.4	15.0

**PVC INSULATED SHEATHED CABLES**

Nominal Cross-Sectional Area of conductor mm <sup>2</sup>	Nominal Thickness of Insulation mm	NOMINAL THICKNESS OF SHEATH				Nominal Cross-Sectional Area of ECC mm <sup>2</sup>	OVERALL DIMENSIONS Max						
		Single Core mm	Twin Core mm	Three Core mm	Four Core mm		Single Core mm	Twin Core Circular mm	Three Core Circular mm	Four Core Circular mm	Flat Twin Core with-out ECC mm	Flat Twin Core with out ECC mm	Flat Twin Core with-out ECC mm
1*	0.6	0.8	0.9	0.9	0.9	1.0	4.7	8.2	8.6	9.2	7.8 X 5.0	9.2 X 5.0	10.5 X 3.0
1.5	0.6	0.8	0.9	0.9	0.9	1.0	5.0	8.8	9.2	10.0	8.4 X 5.4	10.2 X 5.4	11.5 X 5.4
2.5	0.7	0.8	1.0	1.0	1.0	1.0	5.8	10.5	11.0	12.0	10.0 X 6.4	12.0 X 6.4	14.0 X 6.4
4	0.8	0.9	1.0	1.0	1.0	1.1	6.8	12.0	13.0	14.0	11.5 X 7.2	13.5 X 7.2	16.5 X 7.4
6	0.8	0.9	1.1	1.1	1.1	1.2	7.8	13.5	14.5	15.5	13.0 X 8.0	15.5 X 8.0	18.0 X 8.0
10	1.0	0.9	1.2	1.2	1.2	1.3	8.8	16.5	17.5	19.5	16.0 X 9.6	19.0 X 9.6	22.5 X 9.6
16	1.0	1.0	1.3	1.3	1.3	1.4	10.5	19.0	20.0	22.5	18.5 X 11.0	22.0 X 11.0	26.5 X 11.0
25	1.2	1.1	1.4	1.5	1.6	1.6	12.5	23.0	24.5	27.5	22.5 X 13.0	-	32.5 X 18.5
35	1.2	1.1	1.5	1.6	1.6	1.7	13.5	25.5	27.5	30.5	25.5 X 14.5	-	36.0 X 15.0
50	1.4	1.2	1.6	1.7	1.7	1.8	15.5	29.5	31.5	35.0	29.0 X 16.5	-	41.5 X 17.0

• For Copper conductors only.

**PVC INSULATED SHEATHED CABLES**

Nominal Cross-Sectional Area of conductor mm <sup>2</sup>	Nominal Thickness of Insulation mm	NOMINAL THICKNESS OF SHEATH					OVERALL DIMENSIONS Max					
		Single Core mm	Twin Core mm	Three Core mm	Four Core mm	Five Core mm	Single Core mm	Flat Twin mm	Circular Twin mm	Three Core Circular mm	Four Core Circular mm	Five Core Circular mm
0.5	0.6	0.9	0.9	0.9	0.9	0.9	4.5	4.9 X 7.2	7.2	7.6	8.2	9.0
0.75	0.6	0.9	0.9	0.9	0.9	0.9	4.7	5.2 X 7.8	7.8	8.2	8.8	9.6
1	0.6	0.9	0.9	0.9	0.9	1.0	4.9	5.4 X 8.0	8.0	8.6	9.4	10.5
1.5	0.6	0.9	0.9	0.9	0.9	1.0	5.4	5.6 X 8.6	8.6	9.2	10.5	11.0
2.5	0.7	1.0	1.0	1.0	1.0	1.0	6.2	6.6 X 10.5	10.5	11.0	12.0	13.0
4	0.8	1.0	1.0	1.0	1.0	1.1	7.0	7.4 X 12.0	12.0	12.5	14.0	15.5



## SPECIFICATIONS FOR WIRE & CABLES COVERED UNDER IS: 694 (PART-1)

### DOMESTIC & INDUSTRIAL WIRING COPPER CONDUCTOR WIRES CONFORMING TO BS : 2004 / 1961

Nos. & Dia of Wires  Inch	Nos. & Size of Wires  SWG	SINGLE CORE UNSHEATHED			Approx. net wt.  Per Coil	Approx. Rating  Amps.
		Diameter of wire mm	Thickness of PVC Insulation Sheath mm	Approx. Overall Diameter of Cable mm		
1/0.044	1/18	1/1.12	1.00	3.20	18.100	19
3/0.029	3/22	3/0.73	1.00	3.70	23.500	22
3/0.036	3/20	3/0.91	1.00	4.10	31.200	28
7/0.036	7/22	7/0.73	1.10	4.50	42.500	38
7/0.036	7/20	7/0.91	1.20	5.20	60.000	46
7/0.044	7/18	7/1.12	1.20	5.80	81.500	57
7/0.52	-	7/1.32	1.20	6.40	108.000	70
7/0.064	7/16	7/1.62	1.30	7.50	156.000	88
19/0.044	19/18	19/1.12	1.30	8.30	197.000	110
19/0.052	-	19/1.32	1.30	9.30	265.000	127
19/0.064	19/16	19/1.62	1.40	11.00	390.000	160
19/0.083	19/14	19/2.11	1.40	13.40	640.000	220
37/0.064	37/16	37/1.62	1.50	14.50	725.000	245
19/0.083	37/14	37/2.11	1.50	17.90	1210.000	320

Standard Length : In Coils of 100 Yards / 91-44 Mtrs.

### DOMESTIC & INDUSTRIAL WIRING COPPER CONDUCTOR SHEATHED WIRES CONFORMING TO BS : 2004 / 1961

Nos. & Dia of Wires  Inch	Nos. & Sizw of Wires  SWG	Dia of wire  mm	Thickness of PVC Insulation  mm	THICKNESS OF PVC OUTER SHEATH		APPROX. OVERALL DIAMETER		APPROX. NET WT.		CURRENT RATING	
				Single Core Sheathed mm	Twin Core flat mm	Single Core Sheathed mm	Twin Core flat mm	Single Core Sheathed Per Coil	Twin core Flat Amps.	Single Core Amps.	Twin cor Flat Amps.
1/0.044	1/18	1/1.12	1.00	0.70	0.90	4.70	5.10 X 8.40	30.000	71.000	19	14
3/0.029	3/22	3/0.73	1.00	0.70	0.90	5.20	5.60 X 9.40	37.000	87.000	22	18
3/0.036	3/20	3/0.091	1.00	0.70	1.00	5.60	6.20 X 10.40	45.500	113.00	28	24
7/0.029	7/22	7/0.73	1.10	0.70	1.00	6.00	6.60 X 11.20	58.000	140.000	38	31
7/0.036	7/20	7/0.91	1.20	0.70	1.00	6.60	7.20 X 12.40	74.000	182.000	46	37
7/0.044	7/18	7/1.12	1.20	0.70	1.10	7.20	8.00 X 13.80	100.500	239.00	57	46



## SPECIFICATIONS FOR WIRE & CABLES COVERED UNDER IS: 694 (PART-1)

### CONDUCTOR RESISTANCE OF PLAIN COPPER CONDUCTORS USED FOR HEAVY DUTY CABLES AS PER IS : 8130-1976

Size in Sq. mm	Conductor construction	Max. conductor resistance in ohm/km at 20°C	
		Single core	Multi core
1.5*	1/1.38	11.90	12.10
2.5*	1/1.78	7.14	7.28
4.0*	1/2.24	4.47	4.56
6.0*	1/2.76	2.97	3.03
10	7/1.35	1.78	1.83
16	7/1.7	1.13	1.15
25	7/2.14	0.712	0.727
35	7/2.5	0.514	0.524
50	7/3.00	0.379	0.387
	19/1.78		
70	19/2.14	0.262	0.268
95	19/2.5	0.189	0.193
120	37/2.03	0.150	0.153
150	37/2.24	0.122	0.124
185	37/2.5	0.0972	0.0991
225	37/2.76	0.0789	0.0804
240	61/2.24	0.0740	0.0754
300	61/2.5	0.0590	0.0601
400	61/2.85	0.0461	0.0470
500	61/3.2	0.0366	0.0373
630	91/3.00	0.0283	0.0289
800	127/2.83	0.0221	0.0226
1000	127/3.16	0.0176	0.0179

\* Solid Conductor

### CURRENT RATING OF COPPER ARMoured/ UNARMoured CABLES 650/1100 V GRADE IN AIR

Area Sq.mm	Twin Core Amp.	3, 3-12, 4 Core Amp.
1.5	20	17
2.5	27	24
4	35	30
6	45	39
10	60	52
16	78	66
25	105	90
35	125	110
50	155	135
70	195	165
95	230	200
120	265	235
150	305	265
185	350	305
240	410	355
300	465	400
400	530	455

E & O.E.

### ESTIMATED FULL LOAD CURRENTS FOR MOTORS

H.P.	KW	Single Phase Amp	Three Phase Amp	Recommended Cable Size Sq. mm.
0.5	0.37	3.7	1.0	1.5-Copper
0.75	0.55	5.0	1.3	1.5-Copper
1.00	0.75	6.5	1.9	1.5-Copper
1.50	1.10	11.5	2.6	1.5-Copper
2.0	1.50	-	3.7	1.5-Copper
3.0	2.20	-	4.8	1.5-Copper
5.0	3.70	-	7.8	1.5-Copper
7.5	5.50	-	11.2	1.5-Copper
10.0	7.50	-	15.5	2.5-Copper
12.5	9.30	-	19.0	2.5-Copper
15.0	11.00	-	22.0	6-Aluminium
20.0	15.00	-	29.0	10-Aluminium
25.0	18.50	-	35.0	16-Aluminium
30.0	22.00	-	40.0	16-Aluminium
35.0	26.00	-	47.0	25-Aluminium
40.0	30.00	-	53.0	25-Aluminium
50.0	37.00	-	65.0	35-Aluminium
60.0	45.00	-	80.0	50-Aluminium
75.0	55.00	-	94.0	70-Aluminium
100.0	75.00	-	127.0	95-Aluminium
125.0	90.00	-	152.0	150-Aluminium

In place of Aluminium Cable if copper cables are to be used take one size lower than size recommended for Aluminium Cable. i.e. for 75 H.P. 70 Sq. mm. Aluminium Cable is recommended. If you desire to use Copper Cable than use 50 sq. mm. Copper Cable for 75 H.P. Motor.





# PARAGON POWER CABLE PVT. LTD.

Plot No. 60, Phase-1, Sector-53  
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