POLYCAB WIRES PVT LTD

TECHNICAL DETAILS

LT XLPE CABLES

POLYCAB 650 / 1100 VOLTS XLPE CABLES

C O N T E N T S.

INTRODUCTION

POLYCAB has established its name in India and abroad for its quality and commitment to customer satisfaction .

To meet ever increasing demand of POLYCAB cables, POLYCAB has put up a new state of the art manufacturing unit at Daman (U.T.) . The manufacturing of XLPE insulated heavy duty cables is by adoption of latest technology . The XLPE cables are manufactured as per IS-7098 Part-1 & Part-2 and also manufactured to meet the requirements of international cables standards such as BS – 5467 and IEC-60502.

The XLPE compound used is from reputed international sources meeting the requirements of the above. The cables are manufactured in highly quality conscious environment with testing and inspection from raw-material to finished cable stage . The assurance to the quality is further ensured by ISI certification on cables and ISO-9001 -2000 certification by U_L , USA.

XLPE CABLES

The XLPE insulated heavy duty cables are introduced worldwide in mid sixties. These cables have overcome the limitations of PVC Insulated Cables such as thermal degradation, poor moisture resistant and thermoplastic in nature.

The advantages of XLPE Insulated cables in comparison to PVC insulated cables are as under :-

(A).Technical Advantages :-

(1). Higher current rating, higher short Circuit Rating.Approx.1.2 times that of PVC.
(2). Thermosetting in nature.
(3). Higher insulation resistance, 1000 times more than PVC cables.
(4). Higher resistance to moisture.
(5). Better Resistance to surge currents.
(6). Low Dielectric Losses.
(7). Better resistance to chemicals.
(8). Longer service life.
(9). Comparatively higher cable operation temperature 90^{o}C and short circuit temperature 250^{o}C .

(B). Commercial Advantages:-

(1). Lower laying cost because of comparatively smaller diameter of cable and lighter weight*.
(2). Lower installation charges as the diameter of cable is comparatively lesser with smaller bending radius, requiring less space requirement for laying of cables.
(3). ** One size lower cable can be used as compared to PVC insulated cable.

* Density of XLPE is lower than PVC
** For longer cable length voltage drop shall be considered.

Selection Of Power Cables.

Power cables are generally selected considering the application. However following factors are important for selection of suitable cable construction required to transport electrical energy from one end to the other.

(1). Maximum operating voltage.
(2). Insulation level.
(3). Frequency.
(4). Load to be carried.
(5). Possible overloading duration & magnitude .
(6). Route length and voltage drop.
(7). Mode of installation considering installation environment such as ambient & ground temperature chemical & physical properties of soil.
(8). Flame retardant properties.

All sizes of POLYCAB XLPE cables are designed to standard operating conditions in India and abroad . The standards adopted are considering the geographical / climatical conditions and general applications of power for utilities , distribution and generation purposes.

The cables are manufactured conforming to Indian & International cables specifications for XLPE Insulated cables. Customer specific requirements can also be met.

Polycab is manufacturing wide range of cables , so it is important that while placing enquiries or orders, as much information as possible shall be given to Polycab , so that the enquiries and orders are dealt quickly and efficiently .

Polycab guidelines for the same is as under:-

(1). Voltage Grade – 650/1100 Volts
(2). Relevant Indian Standard – IS-7098 (Part-1) – 1988 or International standard – IEC-60502 & BS-5467.
(3). Number of cores. – Single, Two , Three , Three & Half or Four Cores.
(4). Conductor – Size , wherever applicable size of reduced neutral conductor
(5). Conductor Material- Copper/Aluminium
(6). Type of Insulation – XLPE
(7). Type of Inner Sheathing – PVC Wrapped/PVC Extruded.
(8). Type of Armour – Unarmoured/Strip Armoured/Wire Armoured.
(9). Type of Outer Sheath –PVC/Flame Retardant/Flame Retardant Low Smoke / Zero Halogen (LSOH).
(10). Length of cable required and drum length.

The various details to the above guidelines are tabulated in various tables.

Table –1

**Conductor Technical Information for Single Core and Multicore cables conforming to IS-8130/'1984 (Stranded –Class-2) Copper & Aluminium Conductors.

Nominal Size of Conductor	Minimum No.of wires				Max. D.C. Resistance at 20°C		A.C. Resistance at 90°C	
	Non Compacted		Compacted Round /Shaped		Plain Copper	Aluminium	Plain Copper	Aluminium
Sq.mm	CU.	ALU.	CU.	ALU.	Ohm/Km	Ohm/Km	Ohm/Km	Ohm/Km
1.5 *	3	3	-	-	12.1	18.1	15.5	23.17
2.5 *	3	3	-	-	7.41	12.1	9.48	15.5
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	6	-	1.83	3.08	2.34	3.94
16	7	7	6	6	1.15	1.91	1.47	2.44
25	7	7	6	6	0.727	1.20	0.930	1.54
35	7	7	6	6	0.524	0.868	0.671	1.11
50	19	19	6	6	0.387	0.641	0.495	0.82
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	15	0.153	0.253	0.196	0.324
150	37	37	18	15	0.124	0.206	0.159	0.264
185	37	37	30	30	0.0991	0.164	0.127	0.210
240	61	37	34	30	0.0754	0.125	0.0965	0.160
300	61	61	34	30	0.0601	0.100	0.0769	0.128
400	61	61	53	53	0.0470	0.0778	0.0602	0.10
500	61	61	53	53	0.0366	0.0605	0.0468	0.0774
630	91	91	53	53	0.0283	0.0469	0.0362	0.060
800	91	91	53	53	0.0221	0.0367	0.0283	0.0470
1000	91	91	53	53	0.0176	0.0291	0.0225	0.0372

* These sizes can be manufactured with solid conductor having single strand.
** Conductor meeting requirements of IEC-228 and BS 6360 can also be manufactured.

Table-2

Comparative Current Ratings of 650/1100 Volts Multicore heavy duty PVC Insulated Cables & XLPE Insulated Cables. (3 , 3.5 & 4 Core Unarmoured / Armoured PVC Sheathed Cables with Aluminium Conductor.

Nominal Size Of Cable	3,3.5&4 Core PVC Insulated & Sheathed cables as per IS-1554(Part-1)1988			3,3.5&4 Core XLPE Insulated & Sheathed cables as per IS-7098 (Part-1)1988		
	In Ground	In Air	Approx Voltage Drop	In Ground	In Air	Approx Voltage Drop
Sq.mm	Amp	Amp	mv/amp / mtr	Amp	Amp	Mv/amp/ mtr
16	60	51	4	73	70	4.2
25	76	70	2.5	94	96	2.7
35	92	86	1.8	113	117	1.9
50	110	105	1.3	133	142	1.4
70	135	130	0.93	164	179	0.99
95	165	155	0.68	196	221	0.72
120	185	180	0.54	223	257	0.58
150	210	205	0.46	249	292	0.48
185	235	240	0.38	282	337	0.39
240	275	280	0.28	326	399	0.31
300	305	315	0.25	367	455	0.26
400	335	375	0.20	420	530	0.21

Table-3

Comparison of Short Circuit Rating for 1 Second duration for * PVC & XLPE Insulated Cables ** with Copper and Aluminium Conductors.(Current in kAmps)

Nominal Size	PVC Insulated		XLPE Insulated	
Sq.mm	Copper	Aluminium	Copper	Aluminium
1.5	0.173	-	0.21	-
2.5	0.283	-	0.36	-
4	0.46	0.303	0.57	0.38
6	0.690	0.455	0.86	0.57
10	1.15	0.758	1.40	0.94
16	1.84	1.21	2.30	1.5
25	2.88	1.90	3.60	2.40
35	4.03	2.65	5.0	3.3
50	5.75	3.79	7.10	4.70
70	8.05	5.31	10.0	6.6
95	10.90	7.2	13.6	9.0
120	13.80	9.10	17.10	11.30
150	17.3	11.40	21.40	14.2
185	21.3	14.02	26.40	17.50
240	27.6	18.20	34.3	22.6
300	34.5	22.80	42.90	28.3
400	46.00	30.40	57.10	37.7
500	57.5	38	71.4	47.2
630	72.5	47.25	90	59.4
800	92.0	60.0	114.3	75.5
1000	115.0	75	142.9	94.3

* PVC Type 'A' Insulation as per IS-5831/'84.

** PVC Cables as per IS-1554 (Part-1)-1988.

** XLPE Cables as per IS-7098 (Part-1)-1988.

1). Max. Conductor Temperature during operation PVC 70°C XLPE 90°C

2).Max.Conductor Temperature During Short circuit. 160°C 250°C

Formula relating Short Circuit Rating with duration

$It = \frac{I sh}{\sqrt{t}}$ Where

It = Short Circuit Rating for t Seconds.

t = duration in seconds

Ish = Short Circuit rating for 1 second.

Table - 4

CAPACITANCE

Approximate Capacitance (Microfarads/km) 1.1 kV XLPE Cables.

Nominal Area of Conductor in sq.mm	Single Core		Two Core	Three , Three & Half and Four Core
	Unarmoured	Armoured		
1.5	0.19	-	0.051	0.15
2.5	0.24	-	0.058	0.18
4	0.29	-	0.065	0.22
6	0.34	-	0.071	0.25
10	0.43	0.32	0.081	0.31
16	0.51	0.38	0.088	0.36
25	0.49	0.38	0.089	0.41
35	0.57	0.44	0.096	0.47
50	0.58	0.46	0.098	0.50
70	0.63	0.51	0.10	0.53
95	0.73	0.59	0.11	0.61
120	0.74	0.61	0.11	0.63
150	0.73	0.61	0.11	0.60
185	0.69	0.59	0.11	0.60
240	0.74	0.64	0.11	0.63
300	0.80	0.69	0.12	0.67
400	0.83	0.70	0.12	0.67
500	0.83	0.71	0.12	0.69
630	0.87	0.75	0.11	0.73
800	0.92	0.78	-	-
1000	0.94	0.81	-	-

Table - 5

REACTANCE

Approximate Reactance At 50 Hz (Ohms-/km) 1.1 kV XLPE Cables.

Nominal Area of Conductor in sq.mm	Single Core		Multicore
	Unarmoured	Armoured	
1.5	0.155	-	0.107
2.5	0.142	-	0.0985
4	0.132	-	0.0927
6	0.123	-	0.0884
10	0.114	0.134	0.0837
16	0.108	0.125	0.0808
25	0.103	0.120	0.0805
35	0.0986	0.114	0.0783
50	0.0937	0.108	0.0750
70	0.0900	0.102	0.0740
95	0.0865	0.100	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	-

CURRENT RATINGS

POLYCAB RECOMMENDATIONS FOR CURRENT RATINGS:

The current rating of power cable is defined by the maximum intensity of current (amperes) which can flow continuously through the cable, under permanent loading conditions, without any risk of damaging the cable or deterioration of its electrical properties.

The value given in the tables are valid for one circuit in a three phase system under conditions specified . For grouping cables rating factors must be used.

The current carrying capacities mentioned in **POLYCAB** technical data are intended as a guide , to assist operating engineers in selecting cables for safety and reliability.

Basic assumptions and conditions of installation :-

* Ambient Ground Temperature : 30 ^{o} C
* Ambient Air Temperature : 40 ^{o} C
* Depth of cable burial : 1.0 m
* Thermal resistivity of soil : 150 ^{o} C. Cm/W

Single core cables are installed as indicated in the table . Spacing between cables in flat formation is as indicated.

For three and four core cables, it is usual to assume the same current carrying capacity for four cores cables as for three core cables . Our calculated values are based actually on three cores cables. These values are suitable with enough accuracy also for four cores cables in most cases. Only for large four core cables in air the values may be found to be too conservative , due to the large cable surface and consequent high heat dissipation factor .

To obtain the maximum current carrying capacity of a cable operating at different conditions from the standard. Various rating factors are to be multiplied , as follows :-

$$I_a = K \quad I_s \quad \text{in amperes}$$

Where ;

I_a : Current rating at actual operating conditions (amperes)

I_s : Current rating at standard operating conditions (amperes)

K : Rating factor as , applicable.

RATING FACTORS

1). FOR AIR AND GROUND TEMPERATURE.

A.Rating factors for variation in ambient air temperature.						
Ambient Temp (°C)	25	30	35	40	45	50
Rating Factors	1.14	1.10	1.04	1.00	0.95	0.90
B. Rating factors for variation in ground temperature.						
Ground Temp (°C)	15	20	25	30	35	40
Rating Factors	1.12	1.08	1.03	1.00	0.96	0.91

2). FOR DEPTH OF LAYING(CABLES LAID DIRECT IN THE GROUND).

Depth of laying	Size		
Cm	Upto 25 mm²	Above 25 mm² Upto 300 mm²	Above 300 mm²
75	1.0	1.00	1.00
90	0.99	0.98	0.97
105	0.98	0.97	0.96
120	0.97	0.96	0.95
150	0.96	0.94	0.92
180 or more	0.95	0.93	0.91

3). FOR VARIATION IN THERMAL RESISTIVITY OF SOIL (TWO AND THREE AND MULTICORE CABLES LAID DIRECT IN THE GROUND).

Nominal area of conductor mm²	Two cables touching ,for values of Thermal Resistivity of soil in °C cm/W					
	100	120	150	200	250	300
1.5	1.10	1.05	1.00	0.92	0.86	0.81
2.5	1.10	1.05	1.00	0.92	0.86	0.81
4	1.10	1.05	1.00	0.92	0.86	0.81
6	1.10	1.05	1.00	0.92	0.86	0.81
10	1.10	1.06	1.00	0.92	0.85	0.80
16	1.12	1.06	1.00	0.91	0.84	0.79
25	1.14	1.08	1.00	0.91	0.84	0.78
35	1.15	1.08	1.00	0.91	0.84	0.77
50	1.15	1.08	1.00	0.91	0.84	0.77
70	1.15	1.08	1.00	0.90	0.83	0.76
95	1.15	1.08	1.00	0.90	0.83	0.76
120	1.17	1.09	1.00	0.90	0.82	0.76
150	1.17	1.09	1.00	0.90	0.82	0.75
185	1.18	1.09	1.00	0.89	0.81	0.75
240	1.18	1.09	1.00	0.89	0.81	0.75
300	1.18	1.09	1.00	0.89	0.81	0.75
400	1.19	1.10	1.00	0.89	0.81	0.75

GROUP RATING FACTORS

FOR SINGLE-CORE CABLES:-

A). Cables laid direct in the ground in horizontal formation.

No.of Trefoils in group	Distance between Trefoils			
	Touching	15 mm	30mm	45mm
2	0.78	0.81	0.85	0.88
3	0.68	0.71	0.77	0.81
4	0.61	0.65	0.72	0.76
5	0.56	0.61	0.68	0.73

B). Cables laid in ducts in horizontal formation.

No.of Trefoils in group	Distance between Trefoils		
	Touching	45 mm	60 mm
2	0.87	0.90	0.91
3	0.79	0.83	0.86
4	0.74	0.79	0.82
5	0.71	0.76	0.80

C). Cables laid on Racks/Trays in covered trench with having restricted air circulation , Trefoils are separated by two cable diameter horizontally and the trays are in tiers having 30 mm distance.

No.racks/trays in tiers	No.of Trefoils in Horizontal formation		
	1	2	3
1	0.95	0.90	0.88
2	0.90	0.85	0.83
3	0.88	0.83	0.81
6	0.86	0.81	0.79

D). As above C. but cables lad in open air.

1	1	0.98	0.96
2	1	0.95	0.93
3	1	0.94	0.92
6	1	0.93	0.90

GROUP RATING FACTORS

FOR MULTI-CORE CABLES :

A). Cables laid on cable trays exposed to air, the cables spaced by one cable diameter and trays are in tiers spaced by 300 mm. The clearance Between the wall and the cable is 25 mm.

No. of cables trays in tier	No.of cables				
	1	2	3	6	9
1	1	0.98	0.96	0.93	0.92
2	1	0.95	0.93	0.90	0.89
3	1	0.94	0.92	0.89	0.88
6	1	0.93	0.90	0.87	0.86

B).Cable laid inside concrete trench with removable covers on cable trays having restricted air circulation . The cables spaced by one cable diameter and trays are in tiers spaced by 300 mm. The clearance of the cable from the wall is 25 mm.

No. of cables trays in tier	No.of cables				
	1	2	3	6	9
1	0.95	0.90	0.88	0.85	0.84
2	0.90	0.85	0.83	0.81	0.80
3	0.88	0.83	0.81	0.79	0.78
6	0.86	0.81	0.79	0.77	0.76

C). Cables laid on cable trays exposed to air, the cables touching and trays are in tiers spaced by 300 mm. The clearance between the wall and the cable is 25 mm.

No. of cables trays.	No.of cables per tray				
	1	2	3	6	9
1	1	0.84	0.80	0.75	0.73
2	1	0.80	0.76	0.71	0.69
3	1	0.78	0.74	0.70	0.68
6	1	0.76	0.72	0.68	0.66

D). Cables laid direct in ground in horizontal formation

No. of cables in group	Distance of cables			
	Touching	15mm	30mm	45mm
2	0.79	0.82	0.87	0.90
3	0.69	0.75	0.79	0.83
4	0.62	0.69	0.74	0.79
5	0.58	0.65	0.72	0.76
6	0.54	0.61	0.69	0.75

E). Cables laid in single way ducts /pipes in horizontal formation

No. of cables in group	Distance of cables			
	Touching	30mm	45mm	60mm
2	0.88	0.90	0.92	0.94
3	0.82	0.84	0.87	0.89
4	0.77	0.80	0.84	0.87
5	0.74	0.78	0.82	0.85
6	0.71	0.76	0.81	0.84

"POLYCAB" SINGLE CORE ALUMINIUM CONDUCTOR, XLPE INSULATED,UNARMOURED & ARMOURED CABLE CONFORMING TO IS 7098 PART-1/1988

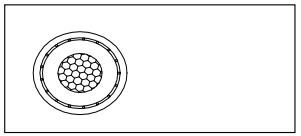


TABLE - WD 1

650/1100 VOLTS

WEIGHT & DIMENSIONS

Nominal Size of Conductor	Form of Conductor Circular ○	Nominal Thickness of XLPE Insulation for U/A	Minimum Thickness of PVC Inner Sheath	*Unarmoured Cable*			Nominal Thickness of XLPE insulation for Armoured Cable	*Formed Wire/ Strip Armoured Cable*				*Round Wire Armoured Cable*				Current Rating.		*Normal Delivery Length.
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.		Nominal Dimension of Aluminium Flat Strip.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of Aluminium Round Wire.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	In Ground.	In Air	
Sq.mm.		mm	mm	mm	mm	Kg./Km	mm	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	Amps.	Amps.	Mtrs.
4	Solid	0.7	-NA-	1.8	7.5	60	-	-	-	-	-	-	-	-	-	36	31	1000
4	Stranded	0.7	-NA-	1.8	8	65	-	-	-	-	-	-	-	-	-	36	31	1000
6	Solid	0.7	-NA-	1.8	8	70	-	-	-	-	-	-	-	-	-	44	39	1000
6	Stranded	0.7	-NA-	1.8	8.5	75	-	-	-	-	-	-	-	-	-	44	39	1000
10	Solid	0.7	-NA-	1.8	9	80	1.0	-	-	-	-	-	-	-	-	59	53	1000
10	Stranded	0.7	-NA-	1.8	9.5	90	1.0	-	-	-	-	-	-	-	-	59	53	1000
16	Stranded	0.7	-NA-	1.8	10	115	1.0	-	-	-	-	1.4	1.24	13	220	76	73	1000
25	--do--	0.9	-NA-	1.8	12	155	1.2	-	-	-	-	1.4	1.24	14	260	96	98	1000
35	--do--	0.9	-NA-	1.8	13	180	1.2	-	-	-	-	1.4	1.24	15	310	114	121	1000
50	--do--	1.0	-NA-	1.8	14	240	1.3	-	-	-	-	1.4	1.24	17	380	135	150	1000
70	--do--	1.1	-NA-	1.8	16	310	1.4	-	-	-	-	1.4	1.24	19	480	166	187	1000
95	--do--	1.1	-NA-	1.8	17.5	385	1.4	4 x 0.80	1.4	21	560	1.6	1.4	22	640	198	230	1000
120	--do--	1.2	-NA-	1.8	19	470	1.5	4 x 0.80	1.4	22	660	1.6	1.4	23.5	745	225	268	1000
150	--do--	1.4	-NA-	2.0	21.5	600	1.7	4 x 0.80	1.4	23	750	1.6	1.4	24.5	850	253	309	1000
185	--do--	1.6	-NA-	2.0	23.5	710	1.9	4 x 0.80	1.4	25	900	1.6	1.4	26.5	1000	286	360	1000
240	--do--	1.7	-NA-	2.0	26	900	2	4 x 0.80	1.4	27.5	1100	1.6	1.4	29	1215	332	433	1000
300	--do--	1.8	-NA-	2.0	28.5	1075	2.1	4 x 0.80	1.56	30	1350	1.6	1.56	31.5	1475	376	501	1000
400	--do--	2	-NA-	2.2	33	1385	2.4	4 x 0.80	1.56	34	1725	2	1.56	36.5	1925	431	596	500
500	--do--	2.2	-NA-	2.2	36	1650	2.6	4 x 0.80	1.56	37.5	2090	2	1.56	39.5	2300	490	693	500
630	--do--	2.4	-NA-	2.2	40	2100	2.8	4 x 0.80	1.72	40.5	2525	2	1.72	43	2800	557	814	500
800	--do--	2.6	-NA-	2.4	46	2730	3.1	4 x 0.80	1.72	46.5	3150	2	1.88	49.5	3450	600	890	500
1000	--do--	2.8	-NA-	2.6	52	3350	3.3	4 x 0.80	1.88	54	3963	2.5	2.04	58	4475	650	1050	500

The above data is approximate and subject to manufacturing tolerance.

* Delivery Length tolerance is ± 5 % .Length more than normal as per customer request.

"POLYCAB" SINGLE CORE COPPER CONDUCTOR, XLPE INSULATED,UNARMOURED & ARMOURED CABLE CONFORMING TO IS 7098 PART-1/1988

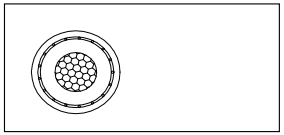


TABLE - WD 2

650/1100 VOLTS

WEIGHT & DIMENSIONS

Nominal Size of Conductor	Form of Conductor Circular ○	Nominal Thickness of XLPE Insulation for U/A	Minimum Thickness of PVC Inner Sheath	*Unarmoured Cable*			Nominal Thickness of XLPE insulation for Armoured Cable	*Formed Wire/ Strip Armoured Cable*				*Round Wire Armoured Cable*				Current Rating.		*Normal Delivery Length.
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.		Nominal Dimension of Aluminium Flat Strip.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of AluminiumRound Wire.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	In Ground.	In Air	
Sq.mm.		mm	mm	mm	mm	Kg./Km	mm	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	Amps.	Amps.	Mtrs.
4	Solid	0.7	-NA-	1.8	7.5	91	-	-	-	-	-	-	-	-	-	47	42	1000
4	Stranded	0.7	-NA-	1.8	8	95	-	-	-	-	-	-	-	-	-	47	42	1000
6	Solid	0.7	-NA-	1.8	8	115	-	-	-	-	-	-	-	-	-	59	53	1000
6	Stranded	0.7	-NA-	1.8	8.5	125	-	-	-	-	-	-	-	-	-	59	53	1000
10	Stranded	0.7	-NA-	1.8	9.5	170	1	-	-	-	-	1.4	1.24	12	245	78	72	1000
16	Stranded	0.7	-NA-	1.8	10	220	1	-	-	-	-	1.4	1.24	13	315	102	98	1000
25	Stranded	0.9	-NA-	1.8	12	325	1.2	-	-	-	-	1.4	1.24	14	415	132	132	1000
35	Stranded	0.9	-NA-	1.8	13	420	1.2	-	-	-	-	1.4	1.24	16	525	156	156	1000
50	Stranded	1.0	-NA-	1.8	14	550	1.3	-	-	-	-	1.4	1.24	17	690	186	198	1000
70	Stranded	1.1	-NA-	1.8	16	750	1.4	-	-	-	-	1.4	1.24	19	910	228	246	1000
95	Stranded	1.1	-NA-	1.8	17.5	1010	1.4	4 x 0.80	1.4	21	1150	1.6	1.4	22	1325	264	294	1000
120	Stranded	1.2	-NA-	1.8	19	1250	1.5	4 x 0.80	1.4	22	1400	1.6	1.4	23.5	1485	300	336	1000
150	Stranded	1.4	-NA-	2.0	21.5	1550	1.7	4 x 0.80	1.4	23	1680	1.6	1.4	24.5	1780	336	384	1000
185	Stranded	1.6	-NA-	2.0	23.5	1900	1.9	4 x 0.80	1.4	25	2040	1.6	1.4	26.5	2140	366	444	1000
240	Stranded	1.7	-NA-	2.0	26	2450	2	4 x 0.80	1.4	27.5	2580	1.6	1.4	29	2700	414	510	1000
300	Stranded	1.8	-NA-	2.0	28.5	3050	2.1	4 x 0.80	1.56	30	3200	1.6	1.56	31.5	3325	450	570	500
400	Stranded	2	-NA-	2.2	33	4035	2.4	4 x 0.80	1.56	34	4200	2.0	1.56	36.5	4400	480	660	500
500	Stranded	2.2	-NA-	2.2	36	5020	2.6	4 x 0.80	1.56	37.5	5180	2.0	1.56	39.5	5400	570	708	500
630	Stranded	2.4	-NA-	2.2	40	6250	2.8	4 x 0.80	1.72	40.5	6425	2.0	1.72	43	6700	564	792	500
800	Stranded	2.6	-NA-	2.4	46	7900	3.1	4 x 0.80	1.72	46.5	8100	2.0	1.88	49.5	8400	660	945	500
1000	Stranded	2.8	-NA-	2.6	52	9850	3.3	4 x 0.80	1.88	54	10150	2.5	2.04	58	10660	723	1063	500

The above data is approximate and subject to manufacturing tolerance.

* Delivery Length tolerance is ± 5 % .Length more than normal as per customer request.

"POLYCAB" TWO CORE ALUMINIUM CONDUCTOR, XLPE INSULATED,UNARMOURED & ARMOURED CABLE CONFORMING TO IS 7098 PART-1/1988

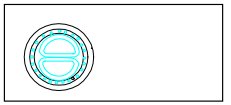


TABLE -WD 3

650/1100 VOLTS

WEIGHT AND DIMENSIONS

Nominal Size of Conductor	Form of Conductor Circular Shaped ○ / ⌓	Nominal Thickness of XLPE Insulation	Minimum Thickness of PVC Inner Sheath	*Unarmoured Cable*			*Formed Wire/ Strip Armoured Cable*				*Round Wire Armoured Cable*				Current Rating.		*Normal Delivery Length.
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Flat Strip.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Round Wire.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	In Ground.	In Air	
Sq.mm.	mm	mm	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	Amps.	Amps.	Mtrs.
4	Solid ○	0.7	0.3	1.8	12.5	140	-NA-	-NA-	-NA-	-NA-	1.4	1.24	14.5	400	43	39	1000
4	Stranded ○	0.7	0.3	1.8	13	150	-NA-	-NA-	-NA-	-NA-	1.4	1.24	15.5	430	43	39	1000
6	Solid ○	0.7	0.3	1.8	13.5	170	-NA-	-NA-	-NA-	-NA-	1.4	1.24	15.5	470	55	50	1000
6	Stranded ○	0.7	0.3	1.8	14	180	-NA-	-NA-	-NA-	-NA-	1.4	1.24	16.5	485	55	50	1000
10	Solid ○	0.7	0.3	1.8	15	205	-NA-	-NA-	-NA-	-NA-	1.4	1.24	17.0	545	71	67	1000
10	Stranded ○	0.7	0.3	1.8	16	225	-NA-	-NA-	-NA-	-NA-	1.4	1.24	18.0	565	71	67	1000
16	Stranded ⌓	0.7	0.3	1.8	14	225	-NA-	-NA-	-NA-	-NA-	1.4	1.4	17.0	570	91	88	1000
25	Stranded ⌓	0.9	0.3	2.0	17	330	4 x 0.8	1.40	18.5	600	1.6	1.4	20.0	790	120	117	1000
35	Stranded ⌓	0.9	0.3	2.0	19	410	- do-	1.40	20	690	1.6	1.4	22.0	910	143	145	1000
50	Stranded ⌓	1	0.3	2.0	21	510	- do-	1.40	22.5	820	1.6	1.4	24.0	1050	167	176	1000
70	Stranded ⌓	1.1	0.3	2.0	23	675	- do-	1.56	25.5	1050	1.6	1.56	27.0	1325	204	221	1000
95	Stranded ⌓	1.1	0.4	2.2	26.5	900	- do-	1.56	28	1300	2	1.56	30.5	1750	245	271	500
120	Stranded ⌓	1.2	0.4	2.2	28.5	1050	- do-	1.56	30.5	1500	2	1.56	33.0	2000	278	316	500
150	Stranded ⌓	1.4	0.4	2.2	32	1215	- do-	1.72	34	1750	2	1.72	36.0	2250	315	362	500
185	Stranded ⌓	1.6	0.5	2.4	35.5	1510	- do-	1.72	37	2200	2	1.88	40.0	2750	356	420	500
240	Stranded ⌓	1.7	0.5	2.6	39.5	1900	- do-	1.88	41	2600	2.5	2.04	45.0	3700	407	497	500
300	Stranded ⌓	1.8	0.6	2.8	43.5	2360	- do-	2.04	45.5	3200	2.5	2.2	49.0	4400	463	578	500
400	Stranded ⌓	2	0.6	3.0	49	3100	- do-	2.36	51	4000	2.5	2.36	54.4	5300	523	678	500
500	Stranded ⌓	2.2	0.7	3.4	55.5	4000	- do-	2.52	56.5	5000	3.15	2.68	61.5	7000	592	786	500
630	Stranded ⌓	2.4	0.7	3.6	61.5	5000	- do-	2.68	62.5	6050	3.15	2.84	67.5	8560	676	913	500

The above data is approximate and subject to manufacturing tolerance.

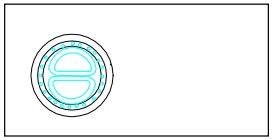
* Delivery Length tolerance is ± 5 % .Length more than normal as per customer request.

"POLYCAB" TWO CORE COPPER CONDUCTOR, XLPE INSULATED,UNARMOURED & ARMOURED CABLE CONFORMING TO IS 7098 PART-1/1988

TABLE - WD 4

650 / 1100 VOLTS

WEIGHT AND DIMENSIONS



Nominal Size of Conductor	Form of Conductor Circular Shaped ○ / ▭	Nominal Thickness of XLPE Insulation	Minimum Thickness of PVC Inner Sheath	*Unarmoured Cable*			*Formed Wire/ Strip Armoured Cable*				*Round Wire Armoured Cable*				*Current Rating.*		* Normal Delivery Length.
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Flat Strip.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Round Wire.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	In Ground.	In Air	
Sq.mm.	mm	mm	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	Amps.	Amps.	Mtrs.
4	Solid ○	0.7	0.3	1.8	12.5	165	-NA-	-NA-	-NA-	-NA-	1.4	1.24	14.5	480	49	42	1000
4	Stranded ○	0.7	0.3	1.8	13	175	-NA-	-NA-	-NA-	-NA-	1.4	1.24	15.5	525	49	42	1000
6	Solid ○	0.7	0.3	1.8	13.5	210	-NA-	-NA-	-NA-	-NA-	1.4	1.24	15.5	564	60	54	1000
6	Stranded ○	0.7	0.3	1.8	14	225	-NA-	-NA-	-NA-	-NA-	1.4	1.24	16.5	610	60	54	1000
10	Stranded ○	0.7	0.3	1.8	16	300	-NA-	-NA-	-NA-	-NA-	1.4	1.24	18	740	84	72	1000
16	Stranded ▭	0.7	0.3	1.8	14	425	-NA-	-NA-	-NA-	-NA-	1.4	1.4	17	770	108	94	1000
25	Stranded ▭	0.9	0.3	2.0	17	640	4 x 0.8	1.4	18.5	910	1.6	1.4	20	1100	138	126	1000
35	Stranded ▭	0.9	0.3	2.0	19	840	- do-	1.4	20	1025	1.6	1.4	22	1350	168	150	1000
50	Stranded ▭	1	0.3	2.0	21	1120	- do-	1.4	22.5	1435	1.6	1.4	24	1670	198	186	1000
70	Stranded ▭	1.1	0.3	2.0	23	1540	- do-	1.56	25.5	1910	1.6	1.56	27	2200	246	234	1000
95	Stranded ▭	1.1	0.4	2.2	26.5	2075	- do-	1.56	28	2475	2	1.56	30.5	2925	288	276	500
120	Stranded ▭	1.2	0.4	2.2	28.5	2535	- do-	1.56	30.5	2985	2	1.56	33	3485	330	318	500
150	Stranded ▭	1.4	0.4	2.2	32	3070	- do-	1.72	34	3600	2	1.72	36	4100	372	366	500
185	Stranded ▭	1.6	0.5	2.4	35.5	3800	- do-	1.72	37	4490	2	1.88	40	5040	420	420	500
240	Stranded ▭	1.7	0.5	2.6	39.5	4870	- do-	1.88	41	5575	2.5	2.04	45	7370	486	492	500
300	Stranded ▭	1.8	0.6	2.8	43.5	6075	- do-	2.04	45.5	6910	2.5	2.2	49	9010	540	558	500
400	Stranded ▭	2	0.6	3.0	49	8050	- do-	2.36	51	8950	2.5	2.36	54.4	10250	588	636	500

The above data is approximate and subject to manufacturing tolerance.

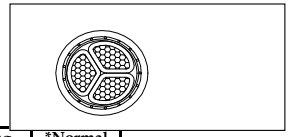
* Delivery Length tolerance is ± 5 % .Length more than normal as per customer request.

"POLYCAB" THREE CORE ALUMINIUM CONDUCTOR, XLPE INSULATED,UNARMOURED & ARMOURED CABLE CONFORMING TO IS 7098 PART-1/1988

TABLE - WD 5

650/1100 VOLTS

WEIGHT AND DIMENSIONS



Nominal Size of Conductor	Form of Conductor Circular Shaped ○ / △	Nominal Thickness of XLPE Insulation	Minimum Thickness of PVC Inner Sheath	*Unarmoured Cable*			*Formed Wire/ Strip Armoured Cable*				*Round Wire Armoured Cable*				*Current Rating.*		*Normal Delivery Length.
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Flat Strip.	MinimumThickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Round Wire.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	In Ground.	In Air	
Sq.mm.	mm	mm	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	Amps.	Amps.	Mtrs.
4	Solid ○	0.7	0.3	1.8	14	140	-NA-	-NA-	-NA-	-NA-	1.4	1.24	15.0	460	34	31	1000
4	Stranded ○	0.7	0.3	1.8	15.5	160	-NA-	-NA-	-NA-	-NA-	1.4	1.24	16.0	510	34	31	1000
6	Solid ○	0.7	0.3	1.8	15.5	170	-NA-	-NA-	-NA-	-NA-	1.4	1.24	16.0	530	43	50	1000
6	Stranded ○	0.7	0.3	1.8	16	190	-NA-	-NA-	-NA-	-NA-	1.4	1.24	17.0	580	43	50	1000
10	Solid ○	0.7	0.3	1.8	17	220	-NA-	-NA-	-NA-	-NA-	1.4	1.24	18.0	640	57	67	1000
10	Stranded ○	0.7	0.3	1.8	18	230	-NA-	-NA-	-NA-	-NA-	1.4	1.24	19.0	680	57	67	1000
16	Stranded △	0.7	0.3	1.8	18	310	4 x 0.8	1.24	18.5	530	1.6	1.4	21	750	73	70	1000
25	Stranded △	0.9	0.3	2.0	20	460	- do-	1.4	20.5	770	1.6	1.4	23	990	94	96	500
35	Stranded △	0.9	0.3	2.0	21.5	575	- do-	1.4	23	900	1.6	1.4	25	1150	113	117	500
50	Stranded △	1	0.3	2.0	24.5	700	- do-	1.4	25.5	1100	1.6	1.56	27.5	1400	133	142	500
70	Stranded △	1.1	0.4	2.2	29	990	- do-	1.56	30	1425	2	1.56	32	1950	164	179	500
95	Stranded △	1.1	0.4	2.2	32.5	1250	- do-	1.56	33.5	1735	2	1.56	37.5	2300	196	221	500
120	Stranded △	1.2	0.4	2.2	34.5	1525	- do-	1.56	35.5	2050	2	1.72	39.5	2700	223	257	500
150	Stranded △	1.4	0.5	2.4	38.5	1900	- do-	1.72	40.5	2100	2	1.88	43.5	3200	249	292	500
185	Stranded △	1.6	0.5	2.6	43.5	2380	- do-	1.88	44.5	2500	2.5	2.04	48.5	4200	282	337	500
240	Stranded △	1.7	0.6	2.8	48.5	3000	- do-	2.04	49.0	3700	2.5	2.2	53	5100	326	399	500
300	Stranded △	1.8	0.6	3.0	51.5	3750	- do-	2.2	53.0	4500	2.5	2.36	57.5	5900	367	455	500
400	Stranded △	2	0.7	3.2	59.5	4760	- do-	2.52	58.5	5700	3.15	2.68	65	7900	418	530	250
500	Stranded △	2.2	0.7	3.6	66	6000	- do-	2.68	67.0	6900	3.15	2.84	73	9550	470	612	250
630	Stranded △	2.4	0.7	3.8	72	7550	- do-	2.84	73.0	8700	4.00	3.00	78	12500	529	707	250

The above data is approximate and subject to manufacturing tolerance.

* Delivery Length tolerance is ± 5 % .Length more than normal as per customer request.

"POLYCAB" THREE CORE COPPER CONDUCTOR, XLPE INSULATED,UNARMOURED & ARMOURED CABLE CONFORMING TO IS 7098 PART-1/1988

TABLE - WD 6

650/1100 VOLTS

WEIGHT AND DIMENSIONS

Nominal Size of Conductor	Form of Conductor Circular Shaped ○ / △	Nominal Thickness of XLPE Insulation	Minimum Thickness of PVC Inner Sheath	*Unarmoured Cable*			*Formed Wire/ Strip Armoured Cable*				*Round Wire Armoured Cable*				Current Rating.		*Normal Delivery Length.
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Flat Strip.	MinimumThickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Round Wire.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	In Ground.	In Air	
Sq.mm.	mm	mm	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	Amps.	Amps.	Mtrs.
4	Solid ○	0.7	0.3	1.8	14	210	-NA-	-NA-	-NA-	-NA-	1.4	1.24	15.0	530	43	36	1000
4	Stranded ○	0.7	0.3	1.8	15.5	235	-NA-	-NA-	-NA-	-NA-	1.4	1.24	16.0	580	43	36	1000
6	Solid ○	0.7	0.3	1.8	15.5	280	-NA-	-NA-	-NA-	-NA-	1.4	1.24	16.0	640	54	47	1000
6	Stranded ○	0.7	0.3	1.8	16	300	-NA-	-NA-	-NA-	-NA-	1.4	1.24	17.0	680	54	47	1000
10	Stranded ○	0.7	0.3	1.8	18	415	-NA-	-NA-	-NA-	-NA-	1.4	1.24	19.0	865	72	62	1000
16	Stranded △	0.7	0.3	1.8	18	425	4 x 0.8	1.24	18.5	825	1.6	1.4	21.0	1040	92	79	1000
25	Stranded △	0.9	0.3	2.0	20	920	- do-	1.4	20.5	1235	1.6	1.4	23.0	1450	119	108	500
35	Stranded △	0.9	0.3	2.0	21.5	1225	- do-	1.4	23	1550	1.6	1.4	25.0	1800	144	132	500
50	Stranded △	1	0.3	2.0	24.5	1620	- do-	1.4	25.5	2020	1.6	1.56	27.5	2320	174	162	500
70	Stranded △	1.1	0.4	2.2	29	2290	- do-	1.56	30	2720	2	1.56	32.0	3250	210	198	500
95	Stranded △	1.1	0.4	2.2	32.5	3010	- do-	1.56	33.5	3500	2	1.56	37.5	4060	252	240	500
120	Stranded △	1.2	0.4	2.2	34.5	3750	- do-	1.56	35.5	4320	2	1.72	39.5	4920	288	276	500
150	Stranded △	1.4	0.5	2.4	38.5	4760	- do-	1.72	40.5	5280	2	1.88	43.5	5980	324	318	500
185	Stranded △	1.6	0.5	2.6	43.5	5810	- do-	1.88	44.5	6385	2.5	2.04	48.5	7630	360	366	500
240	Stranded △	1.7	0.6	2.8	48.5	7450	- do-	2.04	49	8150	2.5	2.2	53.0	9550	414	426	500
300	Stranded △	1.8	0.6	3.0	51.5	9310	- do-	2.2	53	10060	2.5	2.36	57.5	11460	462	480	500
400	Stranded △	2	0.7	3.2	59.5	12200	- do-	2.52	58.5	13125	3.15	2.68	65.0	15320	510	546	250

The above data is approximate and subject to manufacturing tolerance.

* Delivery Length tolerance is ± 5 % .Length more than normal as per customer request.

"POLYCAB" THREE AND HALF CORE ALUMINIUM CONDUCTOR, XLPE INSULATED,UNARMOURED & ARMOURED CABLE CONFORMING TO IS 7098 PART-1/1988

TABLE - WD 7

650/1100 VOLTS

WEIGHT AND DIMENSIONS

Nominal Size of Conductors	Form of Conductor Shaped	Nominal Thickness of XLPE Insulation Main / Neutral		Minimum Thickness of PVC Inner Sheath	*Unarmoured Cable*			*Formed Wire/ Strip Armoured Cable*				*Round Wire Armoured Cable*				Current Rating.		*Normal Delivery Length.
					Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Flat Strip.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Round Wire.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	In Ground	In Air	
Sq.mm.	mm	mm	mm	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	Amps.	Amps.	Mtrs.
25/16	Stranded ⏢	0.9	0.7	0.3	2.0	22	525	4 x 0.80	1.4	23	850	1.6	1.4	25.5	1050	94	96	500
35/16	Stranded ⏢	0.9	0.7	0.3	2.0	24	625	- do-	1.4	25	980	1.6	1.4	26.5	1200	113	117	-do-
50/25	Stranded ⏢	1	0.9	0.3	2.0	27.5	800	- do-	1.4	28	1240	1.6	1.56	29.5	1500	133	142	-do-
70/35	Stranded ⏢	1.1	0.9	0.4	2.2	31	1100	- do-	1.56	32	1600	2	1.56	34	2050	164	179	-do-
95/50	Stranded ⏢	1.1	1	0.4	2.2	35	1400	- do-	1.56	36	1900	2	1.56	38	2450	196	221	-do-
120/70	Stranded ⏢	1.2	1.1	0.4	2.2	37.5	1650	- do-	1.72	39	2300	2	1.72	41	2800	223	257	-do-
150/70	Stranded ⏢	1.4	1.1	0.5	2.4	41	2000	- do-	1.72	42	2650	2	1.88	45	3350	249	292	-do-
185/95	Stranded ⏢	1.6	1.1	0.5	2.6	46.5	2550	- do-	1.88	47.5	3250	2.5	2.04	50	4500	282	337	-do-
240/120	Stranded ⏢	1.7	1.2	0.6	2.8	52.5	3200	- do-	2.04	53.5	4100	2.5	2.2	56	5450	326	399	-do-
300/150	Stranded ⏢	1.8	1.4	0.6	3.0	56	4000	- do-	2.2	57	4950	2.5	2.36	61	6400	367	455	-do-
400/185	Stranded ⏢	2	1.6	0.7	3.4	64	5250	- do-	2.52	65	6150	3.15	2.68	70	8300	418	530	-do-
500/240	Stranded ⏢	2.2	1.7	0.7	3.6	72.5	6500	- do-	2.68	73.5	7600	3.15	2.84	77	10000	470	612	250

The above data is approximate and subject to manufacturing tolerance.

* Delivery Length tolerance is ± 5 % .Length more than normal as per customer request.

"POLYCAB" THREE AND HALF CORE COPPER CONDUCTOR, XLPE INSULATED,UNARMOURED & ARMOURED CABLE CONFORMING TO IS 7098 PART-1/1988

TABLE - WD 8

650/1100 VOLTS

WEIGHT AND DIMENSIONS

Nominal Size of Conductors	Form of Conductor Shaped	Nominal Thickness of XLPE Insulation Main / Neutral		Minimum Thickness of PVC Inner Sheath	*Unarmoured Cable*			*Formed Wire/ Strip Armoured Cable*				*Round Wire Armoured Cable*				Current Rating.		* Normal Delivery Length.
					Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Flat Strip.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Round Wire.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	In Ground	In Air	
Sq.mm.	mm	mm	mm	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	Amps.	Amps.	Mtrs.
25/16	Stranded	0.9	0.7	0.3	2.0	22	1080	4 x 0.80	1.4	23	1410	1.6	1.4	24	1610	119	108	500
35/16	Stranded	0.9	0.7	0.3	2.0	24	1370	- do-	1.4	25	1725	1.6	1.4	26	1950	144	132	-do-
50/25	Stranded	1	0.9	0.3	2.0	27.5	1875	- do-	1.4	28	2325	1.6	1.56	29	2580	174	162	-do-
70/35	Stranded	1.1	0.9	0.4	2.2	31	2620	- do-	1.56	32	3110	2	1.56	34	3560	210	198	-do-
95/50	Stranded	1.1	1	0.4	2.2	35	3475	- do-	1.56	36	8975	2	1.56	37.5	4525	252	240	-do-
120/70	Stranded	1.2	1.1	0.4	2.2	39	4315	- do-	1.72	40	4960	2	1.72	41	5460	288	276	-do-
150/70	Stranded	1.4	1.1	0.5	2.4	43	5220	- do-	1.72	44	5870	2	1.88	45	6570	324	318	-do-
185/95	Stranded	1.6	1.1	0.5	2.6	48	6575	- do-	1.88	50	7275	2.5	2.04	50	8520	360	366	-do-
240/120	Stranded	1.7	1.2	0.6	2.8	54	8400	- do-	2.04	55	9300	2.5	2.2	56	10650	414	426	-do-
300/150	Stranded	1.8	1.4	0.6	3.0	57	10500	- do-	2.2	58	11500	2.5	2.36	61	12400	462	480	-do-
400/185	Stranded	2	1.6	0.7	3.4	65	13820	- do-	2.52	66	14720	3.15	2.68	70	16875	510	546	-do-

The above data is approximate and subject to manufacturing tolerance.

* Delivery Length tolerance is ± 5 % .Length more than normal as per customer request.

"POLYCAB" FOUR CORE ALUMINIUM CONDUCTOR, XLPE INSULATED,UNARMOURED & ARMOURED CABLE CONFORMING TO IS 7098 PART-1/1988

TABLE - WD 9

650/1100 VOLTS

WEIGHT AND DIMENSIONS

Nominal Size of Conductor	Form of Conductor Circular Shaped ○ / ⏢	Nominal Thickness of XLPE Insulation	Minimum Thickness of PVC Inner Sheath	*Unarmoured Cable*			*Formed Wire/ Strip Armoured Cable*				*Round Wire Armoured Cable*				Current Rating.		*Normal Delivery Length.
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Flat Strip.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GIRound Wire.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	In Ground.	In Air	
Sq.mm.	mm	mm	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	Amps.	Amps.	Mtrs.
4	Solid ○	0.7	0.3	1.8	15	160	-NA-	-NA-	-NA-	-NA-	1.4	1.24	16.5	510	34	31	500
4	Stranded ○	0.7	0.3	1.8	16	180	-NA-	-NA-	-NA-	-NA-	1.4	1.24	17.5	560	34	31	-do-
6	Solid ○	0.7	0.3	1.8	16.5	200	-NA-	-NA-	-NA-	-NA-	1.4	1.24	17.5	580	43	50	-do-
6	Stranded ○	0.7	0.3	1.8	17.5	215	-NA-	-NA-	-NA-	-NA-	1.4	1.24	18.5	625	43	50	-do-
10	Solid ○	0.7	0.3	1.8	18	250	-NA-	-NA-	-NA-	-NA-	1.4	1.4	19	700	57	67	-do-
10	Stranded ○	0.7	0.3	1.8	18.5	260	-NA-	-NA-	-NA-	-NA-	1.4	1.4	20.5	765	57	67	-do-
16	Stranded⏢	0.7	0.3	1.8	17.5	350	4 x 0.8	1.4	20	715	1.6	1.4	21	895	73	70	-do-
25	Stranded⏢	0.9	0.3	2.0	21	550	- do-	1.4	23	940	1.6	1.4	25	1150	94	96	-do-
35	Stranded⏢	0.9	0.3	2.0	23.5	680	- do-	1.4	25	1050	1.6	1.4	26.5	1325	113	117	-do-
50	Stranded⏢	1	0.3	2.0	26	875	- do-	1.56	28	1280	1.6	1.56	29.5	1640	133	142	-do-
70	Stranded⏢	1.1	0.4	2.2	30.5	1200	- do-	1.56	32	1700	2.0	1.56	34	2175	164	179	-do-
95	Stranded⏢	1.1	0.4	2.2	33.5	1530	- do-	1.56	35	2100	2.0	1.72	38	2775	196	221	-do-
120	Stranded⏢	1.2	0.5	2.4	37.5	1850	- do-	1.72	39	2600	2.0	1.88	42	3250	223	257	-do-
150	Stranded⏢	1.4	0.5	2.6	42	2280	- do-	1.88	43.5	3000	2.5	2.04	47	4175	249	292	-do-
185	Stranded⏢	1.6	0.5	2.8	46.5	2800	- do-	2.04	48	3650	2.5	2.2	52	5000	282	337	-do-
240	Stranded⏢	1.7	0.6	3	52.5	3700	- do-	2.2	54	4700	2.5	2.36	57.5	6050	326	399	-do-
300	Stranded⏢	1.8	0.7	3.2	58	4600	- do-	2.36	59.5	5600	3.15	2.52	64.5	7850	367	455	250
400	Stranded⏢	2	0.7	3.6	65.5	6000	- do-	2.68	66.5	7000	3.15	2.84	71.5	9500	418	530	-do-

The above data is approximate and subject to manufacturing tolerance.

* Delivery Length tolerance is ± 5 % .Length more than normal as per customer request.

"POLYCAB" FOUR CORE COPPER CONDUCTOR, XLPE INSULATED,UNARMOURED & ARMOURED CABLE CONFORMING TO IS 7098 PART-1/1988

TABLE - WD 10

650/1100 VOLTS

WEIGHT AND DIMENSIONS

Nominal Size of Conductor	Form of Conductor Circular Shaped ○ / ⏢	Nominal Thickness of XLPE Insulation	Minimum Thickness of PVC Inner Sheath	*Unarmoured Cable*			*Formed Wire/ Strip Armoured Cable*				*Round Wire Armoured Cable*				Current Rating.		*NormalDelivery Length.
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Flat Strip.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Round Wire.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	In Ground.	In Air	
Sq.mm.	mm	mm	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	Amps.	Amps.	Mtrs.
4	Solid ○	0.7	0.3	1.8	15	260	-NA-	-NA-	-NA-	-NA-	1.4	1.24	16.5	610	43	36	1000
4	Stranded ○	0.7	0.3	1.8	16	280	-NA-	-NA-	-NA-	-NA-	1.4	1.24	17.5	660	43	36	1000
6	Solid ○	0.7	0.3	1.8	16.5	350	-NA-	-NA-	-NA-	-NA-	1.4	1.24	17.5	730	54	47	1000
6	Stranded ○	0.7	0.3	1.8	17.5	365	-NA-	-NA-	-NA-	-NA-	1.4	1.24	18.5	775	54	47	1000
10	Stranded ○	0.7	0.3	1.8	18.5	510	-NA-	-NA-	-NA-	-NA-	1.4	1.4	20.5	1010	72	62	1000
16	Stranded ⏢	0.7	0.3	1.8	17.5	750	4 x 0.8	1.4	20	1050	1.6	1.4	21	1275	92	79	500
25	Stranded ⏢	0.9	0.3	2.0	21	1170	- do-	1.4	23	1520	1.6	1.4	25	1770	119	108	-do-
35	Stranded ⏢	0.9	0.3	2.0	23.5	1550	- do-	1.4	25	1915	1.6	1.4	26.5	2190	144	132	-do-
50	Stranded ⏢	1	0.3	2.0	26	2110	- do-	1.56	28	2510	1.6	1.56	29.5	2875	174	162	-do-
70	Stranded ⏢	1.1	0.4	2.2	30.5	2925	- do-	1.56	32	3430	2	1.56	34	3900	210	198	-do-
95	Stranded ⏢	1.1	0.4	2.2	33.5	3880	- do-	1.56	35	4450	2	1.72	38	5125	252	240	-do-
120	Stranded ⏢	1.2	0.5	2.4	37.5	4825	- do-	1.72	39	5575	2	1.88	42	6225	288	276	-do-
150	Stranded ⏢	1.4	0.5	2.6	42	6000	- do-	1.88	43.5	6710	2.5	2.04	47	7890	324	318	-do-
185	Stranded ⏢	1.6	0.5	2.8	46.5	7380	- do-	2.04	48	8225	2.5	2.2	52	9580	360	366	-do-
240	Stranded ⏢	1.7	0.6	3	52.5	9650	- do-	2.2	54	10340	2.5	2.36	57.5	12000	414	426	250
300	Stranded ⏢	1.8	0.7	3.2	58	12025	- do-	2.36	59.5	13025	3.15	2.52	64.5	15275	462	480	250

The above data is approximate and subject to manufacturing tolerance.

* Delivery Length tolerance is ± 5 % .Length more than normal as per customer request.

"POLYCAB" FOUR CORE COPPER CONDUCTOR, XLPE INSULATED,UNARMOURED & ARMOURED CABLE CONFORMING TO IS 7098 PART-1/1988

TABLE - WD 10

650/1100 VOLTS

WEIGHT AND DIMENSIONS

Nominal Size of Conductor	Form of Conductor Circular Shaped ○ / ⏢	Nominal Thickness of XLPE Insulation	Minimum Thickness of PVC Inner Sheath	*Unarmoured Cable*			*Formed Wire/ Strip Armoured Cable*				*Round Wire Armoured Cable*				Current Rating.		*NormalDelivery Length.
				Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Flat Strip.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Round Wire.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	In Ground.	In Air	
Sq.mm.	mm	mm	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	Amps.	Amps.	Mtrs.
4	Solid ○	0.7	0.3	1.8	15	260	-NA-	-NA-	-NA-	-NA-	1.4	1.24	16.5	610	43	36	1000
4	Stranded ○	0.7	0.3	1.8	16	280	-NA-	-NA-	-NA-	-NA-	1.4	1.24	17.5	660	43	36	1000
6	Solid ○	0.7	0.3	1.8	16.5	350	-NA-	-NA-	-NA-	-NA-	1.4	1.24	17.5	730	54	47	1000
6	Stranded ○	0.7	0.3	1.8	17.5	365	-NA-	-NA-	-NA-	-NA-	1.4	1.24	18.5	775	54	47	1000
10	Stranded ○	0.7	0.3	1.8	18.5	510	-NA-	-NA-	-NA-	-NA-	1.4	1.4	20.5	1010	72	62	1000
16	Stranded ⏢	0.7	0.3	1.8	17.5	750	4 x 0.8	1.4	20	1050	1.6	1.4	21	1275	92	79	500
25	Stranded ⏢	0.9	0.3	2.0	21	1170	- do-	1.4	23	1520	1.6	1.4	25	1770	119	108	-do-
35	Stranded ⏢	0.9	0.3	2.0	23.5	1550	- do-	1.4	25	1915	1.6	1.4	26.5	2190	144	132	-do-
50	Stranded ⏢	1	0.3	2.0	26	2110	- do-	1.56	28	2510	1.6	1.56	29.5	2875	174	162	-do-
70	Stranded ⏢	1.1	0.4	2.2	30.5	2925	- do-	1.56	32	3430	2	1.56	34	3900	210	198	-do-
95	Stranded ⏢	1.1	0.4	2.2	33.5	3880	- do-	1.56	35	4450	2	1.72	38	5125	252	240	-do-
120	Stranded ⏢	1.2	0.5	2.4	37.5	4825	- do-	1.72	39	5575	2	1.88	42	6225	288	276	-do-
150	Stranded ⏢	1.4	0.5	2.6	42	6000	- do-	1.88	43.5	6710	2.5	2.04	47	7890	324	318	-do-
185	Stranded ⏢	1.6	0.5	2.8	46.5	7380	- do-	2.04	48	8225	2.5	2.2	52	9580	360	366	-do-
240	Stranded ⏢	1.7	0.6	3	52.5	9650	- do-	2.2	54	10340	2.5	2.36	57.5	12000	414	426	250
300	Stranded ⏢	1.8	0.7	3.2	58	12025	- do-	2.36	59.5	13025	3.15	2.52	64.5	15275	462	480	250

The above data is approximate and subject to manufacturing tolerance.

* Delivery Length tolerance is ± 5 % .Length more than normal as per customer request.

TABLE - WD 11

"POLYCAB" 650/1100 Volts Multicore Control Cable with Solid Copper Conductor of size 1.5 Sq.mmXLPE Insulated , Unarmoured , Armoured Cable conforming to IS 7098 PART - 1/1988

Solid & Stranded $ WEIGHT AND DIMENSIONS

Number of Cores	Nominal Thickness of XLPE Insulation	Minimum Thickness of PVC Inner Sheath	*Unarmoured Cable*			*Formed Wire/ Strip Armoured Cable*				*Round Wire Armoured Cable*				Current Rating.		*Normal Delivery Length.
			Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Flat Strip.	MinimumThickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	Nominal Dimension of GI Round Wire.	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable.	Approx. Weight of Cable.	In Ground.	In Air	
No. s	mm	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	mm	mm	mm	Kg./Km	Amps.	Amps.	Mtrs.
2	0.7	0.3	1.8	10	140	-NA-	-NA-	-NA-	-NA-	1.4	1.24	12.5	370	33	29	1000
3	-do-	0.3	1.8	10.5	160	-NA-	-NA-	-NA-	-NA-	1.4	1.24	13	390	25	22	1000
4	-do-	0.3	1.8	11.5	200	-NA-	-NA-	-NA-	-NA-	1.4	1.24	13.5	415	25	22	1000
5	-do-	0.3	1.8	12.5	225	-NA-	-NA-	-NA-	-NA-	1.4	1.24	14.5	465	24	21	1000
6	-do-	0.3	1.8	13.5	250	-NA-	-NA-	-NA-	-NA-	1.4	1.24	15.5	500	22	19	1000
7	-do-	0.3	1.8	13.5	260	-NA-	-NA-	-NA-	-NA-	1.4	1.24	15.5	520	21	18	1000
8	-do-	0.3	1.8	14.5	280	-NA-	-NA-	-NA-	-NA-	1.4	1.24	16.5	580	20	18	1000
9	-do-	0.3	1.8	15.5	315	-NA-	-NA-	-NA-	-NA-	1.4	1.24	17.5	630	19	17	1000
10	-do-	0.3	1.8	17	340	-NA-	-NA-	-NA-	-NA-	1.4	1.24	18.5	655	18	16	1000
12	-do-	0.3	1.8	17.5	390	-NA-	-NA-	-NA-	-NA-	1.4	1.24	19	720	17	15	1000
14	-do-	0.3	1.8	18	430	-NA-	-NA-	-NA-	-NA-	1.4	1.4	20	825	16	14	1000
16	-do-	0.3	1.8	18.5	475	4 x 0.80	1.4	19	750	1.6	1.4	21	925	16	14	1000
19	-do-	0.3	1.8	19.5	540	-do-	-do-	20	815	1.6	1.4	22	1010	15	13	1000
21	-do-	0.3	2.0	20.5	600	-do-	-do-	21	900	1.6	1.4	23	1150	14	12	500
24	-do-	0.3	2.0	22.5	665	-do-	-do-	23	1000	1.6	1.4	25	1250	13	12	500
27	-do-	0.3	2.0	23	750	-do-	-do-	23.5	1050	1.6	1.4	25.5	1330	13	11	500
30	-do-	0.3	2.0	23.5	820	-do-	-do-	24	1125	1.6	1.4	26	1400	12	11	500
33	-do-	0.3	2.0	24	910	- do-	-do-	25	1225	1.6	1.4	27	1475	12	10	500
37	-do-	0.3	2.0	25	975	- do-	-do-	26	1325	1.6	1.4	28	1550	11	10	500
44	-do-	0.3	2.0	28	1150	- do-	-do-	28.5	1500	1.6	1.56	30.5	1850	11	9	500
52	-do-	0.3	2.0	29	1300	- do-	1.56	30.5	1700	1.6	1.56	32	2050	10	9	500
61	-do-	0.4	2.2	31	1500	- do-	1.56	32	1950	2	1.56	34.5	2550	9	8	500

$ The Weight and Dimensions of Cables with Stranded conductor will be comparatively more than that of Solid conductor,whereas all other parameters are same..

The above data is approximate and subject to manufacturing tolerance.

* Delivery Length tolerance is ± 5 % .Length more than normal as per customer request.

HANDLING STORAGE AND LAYING OF POLYCAB XLPE CABLES.

A). HANDLING : 1). The cable with or without drum shall not be thrown or dropped on the ground from the carriers such as trucks or railway wagons , during unloading.

2). The cable drum shall be unloaded with the help of cranes or fork lifts or using a proper ramp having inclination 1:3 to 1:4 in order to avoid mechanical damage to the outer layers of cables.

3). The cable drums shall be lifted or stored with its flanges always vertical.

4). The cable drum shall be rolled in the direction of arrow only in order to avoid loosening of cable winding . The drum shall not be rolled on rocky , uneven surface and for longer distances , it may damage the drum and cable.

B).STORAGE : 1). The cables shall be stored in dry covered places having concrete / firm surface capable of bearing the load of drum.

2). The cable ends shall be sealed properly in order to prevent moisture ingress.

3). Antirodent / termite repulsion treatment shall be applied to the site where the drum are stored for very long period of time.

C). LAYING : 1). Polycab recommend the laying and installation of cables as per IS:1255/84.

2). Care shall be taken during laying to avoid sharp bending , and twisting .

3). Cable shall be un wound from the drum by lifting the drum on the center shaft supported both ends with suitable jacks / stands.

4). Under no circumstances the cable winding shall be lifted off a coil or drum lying flat at the flanges . This would cause serious twist and damages.

5). Suitable protection shall be provided to the cables against mechanical damages , it includes covers , pipes etc.

D).Recommended minimum bending radius for 650/1100 volts heavy duty cables.

Single Core - 15 x D Where D= Diameter of cable in mm
MultiCore - 12 x D "

E). Recommended safe Pulling force with stockings :-

a). For Unarmoured Cable : $P = 5 D^2$ Where P= Pulling Force
b). For Armoured Cable : $P = 9 D^2$ D= Diameter of cable in mm

F). Recommended safe pulling force when pulled with pulling eye :-

a).For Aluminium Conductors : 30 N/mm^2
b).For Copper Conductor : 50 N/mm^2

Note: All figures given in various tables are indicative only.