



## SINGLE CORE, MULTI CORE INDUSTRIAL CABLES

### Single Core Switchgear Wires (Flexible / Stranded Copper)

Zenium Cables PVC Insulated single core cables with flexible/stranded conductors are manufactured with most stringent quality control to ensure total safety, prevention of shock hazards, less possibility of fires and complete assurance for a perfect system. These are used for indoor fixed installations in dry locations where particular flexibility is required. For building installations they can be laid in conduits over or under the walls as well as in steel brackets. These wires are ideal for any industrial/ Equipment / appliances application. The flexible cords with copper conductors for electric power and lighting including **WEATHERPROOF** cables upto 1100 volts are also manufactured here.

**TABLE 2.1**

**SINGLE CORE FLEXIBLE SWITCHGEAR WIRES AS PER IS 694 : 2010**

Conductor Area	No. of Strand	Thickness of PVC Insulation	Approx Overall Diameter	Max DC Resistance at 20° C	Current Carrying Capacity	Conductor Area	No. of Strand	Thickness of PVC Insulation	Approx Overall Resistance Diameter	Max DC Resistance at 20° C	Current Carrying Capacity
Sq. mm	Nos	mm	mm	Ohm/Km	Amps	Sq. mm	Nos	mm	mm	Ohm/Km	Amps
0.5	16	0.6	2.20	39	4	35	276	1.2	10.8	0.554	102
0.75	24	0.6	2.40	26	7	50	396	1.4	12.9	0.386	138
1	32	0.6	2.55	19.5	12	70	354	1.4	14.9	0.272	170
1.5	48	0.6	3.10	13.3	15	95	484	1.6	17.25	0.206	210
2.5	80	0.7	3.60	7.98	20	120	608	1.6	18.95	0.161	235
4	56	0.8	4.00	4.95	23	150	750	1.8	21.1	0.129	295
6	84	0.8	4.70	3.3	35	185	925	2.0	23.8	0.106	330
10	80	1.0	6.40	1.91	46	240	1221	2.2	27.15	0.0801	400
16	126	1.0	7.10	1.21	62	300	1525	2.4	30.2	0.0641	475
25	196	1.2	9.55	0.78	80	400	2013	2.6	34.35	0.0486	550

**SINGLE CORE STRANDED SWITCHGEAR WIRES AS PER IS 694 : 2010**

Conductor Area	No. of Strand	Thickness of PVC Insulation	Approx Overall Diameter	Max DC Resistance at 20° C	Current Carrying Capacity	Conductor Area	No. of Strand	Thickness of PVC Insulation	Approx Overall Resistance Diameter	Max DC Resistance at 20° C	Current Carrying Capacity
Sq. mm	Nos	mm	mm	Ohm/Km	Amps	Sq. mm	Nos	mm	mm	Ohm/Km	Amps
1.0	7	0.6	2.65	18.10	12	50	19	1.4	12.10	0.387	138
1.5	7	0.7	3.10	12.10	15	70	19	1.4	13.80	0.268	170
2.5	7	0.8	3.70	7.41	20	95	19	1.6	16.00	0.193	210
4.0	7	0.8	4.25	4.61	23	120	37	1.6	17.60	0.153	236
6.0	7	0.8	4.85	3.08	35	150	37	1.8	19.65	0.124	295
10	7	1.0	6.15	1.83	46	185	37	2.0	21.80	0.0991	330
16	7	1.0	7.20	1.15	62	240	61	2.2	24.70	0.0754	400
25	7	1.2	8.95	0.727	80	300	61	2.4	27.45	0.0601	475
35	7	1.2	11.0	0.524	102	400	61	2.6	31.60	0.0470	550

The above data is approximate and subject to manufacturing tolerance



## Single Core Switchgear Wires (Flexible / Stranded Copper)

TABLE 2.2

### ZENIUM PVC INSULATED SINGLE CORE INDUSTRIAL FLEXIBLE CABLES 1100 V.

Zenium PVC insulated Single Core Cables with flexible / stranded conductors are manufactured with most stringent quality control to ensure total safety, prevention of shock hazards. These are used for indoor fixed installations in dry locations where flexibility of cable is the key factor. These cables are ideal for Industrial / Equipments / Appliances . These cables being manufactured as per IS 694 : 2010.

Conductor Area	No. & Size of each Strand	Thickness of PVC Insulation	Approx Overall Diameter	Max DC Resistance at 20°C	Current Carrying Capacity	Conductor Area	No. & Size of each Strand	Thickness of PVC Insulation	Approx Overall Diameter	Max DC Resistance at 20°C	Current Carrying Capacity
Sq. mm	Nos/Dia	mm	mm	Ohm/Km	Amps	Sq. mm	Nos/Dia	mm	mm	Ohm/Km	Amps
0.5	16/0.2	0.6	2.1	39	4	35	276/0.4	1.2	9.67	0.554	110
0.75	24/0.2	0.6	2.27	26	7	50	396/0.4	1.4	11.44	0.386	145
1	32/0.2	0.6	2.44	19.5	12	70	360/0.5	1.4	13.44	0.272	215
1.5	*30/0.25	0.6	2.66	13.3	16	95	475/0.5	1.6	15.46	0.206	260
2.5	**50/0.25	0.7	3.27	7.98	22	120	608/0.5	1.6	17.16	0.161	305
4	56/0.3	0.8	3.99	4.95	29	150	750/0.5	1.8	19.08	0.129	355
6	84/0.3	0.8	4.52	3.3	37	185	925/0.5	2.0	21.2	0.106	415
10	80/0.4	1.0	5.9	1.91	51	240	1210/0.5	2.2	24.12	0.0801	500
16	126/0.4	1.0	7	1.21	68	300	1527/0.5	2.4	27.04	0.0641	585
25	196/0.4	1.2	8.77	0.78	86	400	2013/0.5	2.6	30.5	0.0486	695

\*This size can be supplied in 48/0.2 Construction.

\*\*This size can be supplied in 80/0.2 Construction.

TABLE 2.3

### ZENIUM PVC INSULATED AND SHEATHED MULTICORE FLEXIBLE CABLES, 450 / 750 V.

Conductor Area	No. & Size of each Strand	Thickness of PVC Insulation	Max DC Resist. at 20°C	Thickness of PVC Outer Sheath (mm)			Approximate Overall Diameter (mm)			Current Ratings in Amps		
				2 Core	3 Core	4 Core	2 Core	3 Core	4 Core	2 Core	3 Core	4 Core
Sq.mm	Nos/Dia	mm	Ohm/Km	2 Core	3 Core	4 Core	2 Core	3 Core	4 Core	2 Core	3 Core	4 Core
0.5	16/0.2	0.6	39	0.9	0.9	0.9	6.08	6.40	6.96	4	3	3
0.75	24/0.2	0.6	26	0.9	0.9	0.9	6.44	6.8	7.39	7	6	6
1	32/0.2	0.6	19.5	0.9	0.9	0.9	6.78	7.17	7.8	12	10	10
1.5	*30/0.25	0.6	13.3	0.9	0.9	1.0	7.22	7.65	8.34	16	14	14
2.5	**50/0.25	0.7	7.98	1.0	1.0	1.0	8.64	9.16	10.01	20	18	18
4	56/0.3	0.8	4.95	1.0	1.0	1.0	10.08	10.85	11.98	27	24	24
6	84/0.3	0.8	3.30	1.1	1.1	1.2	11.36	12.20	13.46	34	30	30
10	80/0.4	1.0	1.91	1.2	1.2	1.3	14.5	15.30	17.25	44	39	39
16	126/0.4	1.0	1.21	1.3	1.3	1.4	16.84	17.70	19.88	61	55	55
25	196/0.4	1.2	0.78	1.4	1.5	1.6	21.48	22.1	24.58	69	60	60
35	276/0.4	1.2	0.554	1.5	1.6	1.7	22.07	24.85	26.98	88	77	77
50	396/0.4	1.4	0.386	1.6	1.7	1.8	27.04	28.89	31.86	116	102	102
70	360/0.5	1.4	0.272	2.2	2.2	2.2	31.48	33.65	37.15	155	140	140
95	475/0.5	1.6	0.206	2.4	2.4	2.4	35.94	38.43	42.45	190	165	165

\*This size can be supplied in 48/0.2 Construction. The above data is approximate and subject to manufacturing tolerance \*\*This size can be supplied in 80/0.2 Construction.

## Multicore Flexible Copper Cables

TABLE 2.4

### ZENIUM PVC INSULATED FLEXIBLE WIRES & CABLES

ZENIUM MULTICORE ROUND FLEXIBLE CABLES (6 Cores to 30 Cores ) Generally as per IS : 694/2010

Area in Sq. mm	0.5	0.75	1.0	1.5	2.5	4.0
General Construction No./Dia	16/0.2	24/0.2	32/0.2	*30/0.25	**50/0.25	56/0.3
Conductor Dia in mm	0.94	1.2	1.34	1.64	2.08	2.61
Avg Insu. Thickness in mm	0.6	0.6	0.6	0.6	0.7	0.8
Core Dia in mm	2.2	2.5	2.6	2.9	3.5	4.3

#### No. of Cores

6	Avg Sheath Thickness in mm	0.9	1.0	1.0	1.0	1.1	1.2
	App. Overall Dia in mm	8.17	8.91	9.42	10.8	12.13	14.5
7	Avg Sheath Thickness in mm	0.9	1.0	1.0	1.0	1.1	1.2
	App. Overall Dia in mm	8.17	8.91	9.42	10.8	12.13	14.71
8	Avg Sheath Thickness in mm	1.0	1.0	1.0	1.1	1.2	1.3
	App. Overall Dia in mm	9.01	9.82	10.38	11.11	13.55	15.93
10	Avg Sheath Thickness in mm	1.0	1.1	1.1	1.1	1.3	1.4
	App. Overall Dia in mm	10.46	11.4	12.8	12.96	15.82	18.9
12	Avg Sheath Thickness in mm	1.0	1.1	1.1	1.1	1.3	1.4
	App. Overall Dia in mm	10.79	11.76	12.47	13.39	16.14	19.54
14	Avg Sheath Thickness in mm	1.1	1.1	1.1	1.2	1.3	1.4
	App. Overall Dia in mm	11.74	12.33	13.8	14.25	17.16	20.76
16	Avg Sheath Thickness in mm	1.1	1.2	1.2	1.2	1.4	1.5
	App. Overall Dia in mm	12.14	13.19	14	15.02	18.31	21.91
19	Avg Sheath Thickness in mm	1.1	1.2	1.3	1.3	1.4	1.5
	App. Overall Dia in mm	12.77	13.87	14.94	16.4	19.29	23.11
24	Avg Sheath Thickness in mm	1.2	1.3	1.3	1.4	1.4	1.5
	App. Overall Dia in mm	15.06	16.36	17.58	18.9	22.98	27.2
30	Avg Sheath Thickness in mm	1.3	1.3	1.3	1.4	1.4	1.5
	App. Overall Dia in mm	16.17	17.29	18.38	19.99	23.9	28.94
Max Conductor Resistance in Ohm/Km at 20°C		39	26	19.5	13.3	7.98	4.95
Recommended Current Rating in Amps		4	7	12	16	22	29

\* This size can be supplied in 48/0.2 Construction.

\*\* This size can be supplied in 80/0.2 Constructions

The above data is approximate and subject to manufacturing tolerance