

## PVC SHEATHED SWITCHBOARD CABLES

<b>Conductor</b>	Each conductor consists of a round wire of annealed high conductivity copper or tinned copper wire, smoothly drawn with uniform diameter and resistance.
<b>Insulation</b>	Hard Grade PVC with high Insulation Resistance and nominal radical thickness.
<b>Twinning/pairing</b>	Two, three or four insulated wires are twisted uniformly to form cabling element i.e. pair, triples or quads.
<b>Stranding/Laying</b>	The pairs, triples or quads are stranded in concentric layers and the cable core is wrapped with PVC/ Polyester tape.
<b>Sheath</b>	Weather resistance high quality PVC, of thickness according to the table.
<b>Armouring</b>	Galvanized steel wire/strip Armoured as per IS: 1554 (Part-1) 1988.
<b>Rip Cords</b>	A rip cord of suitable and approved quality shall be laid under the sheath for easy stripping of PVC Sheath.
<b>Electrical Data</b>	Insulation resistance of finished cables 5M.Ohms/Km at 50°C between two insulated conductors.
<b>Application</b>	Suitable for use in outdoor/indoor permanent installation telephone Exchanges and equipments, in house telephone wiring, EPBAX Systems, Industrial telecom/Intercom, satellite telecommunication systems, closed circuit security systems etc.

Maximum Conductor Resistance at 20°C	Minimum Elongation	Conductor Diameter	Tolerance
92.2 Ohms/Km.	15%	0.5 mm	± 0.0127 mm
64.0 Ohms/Km.	15%	0.6 mm	
43.7 Ohms/Km.	20%	0.7 mm	

Spark Test Voltage - 3000 Volts (RMS)

<b>Voltage Test</b>	3 Kv DC or 2 Kv RMS between each conductor and remaining conductors bunched and earthed.
<b>Sealing of Ends</b>	The end of the cables shall be sealed to prevent ingress of moisture.
<b>Packing &amp; Delivering</b>	The cable shall be delivered in 100 Meter length or as ordered. The non standard lengths on an order should be restricted to 50 % of the supply and any single length shall not be less than 20 meters.

**Sole Distributor**  
(Tamil Nadu & Maharashtra)

**DIAMOND ELECTRICALS**

Tel: +91 44 24341478/79, Fax : +91 44 42123491

E-Mail: [info@diamondelectricals.com](mailto:info@diamondelectricals.com) Web: [www.diamondelectricals.com](http://www.diamondelectricals.com)

## CORE DIMENTIONS AND RESISTANCE AS PER I.T.D SPN.

S/WS – 113 C (A,B) and 114 B (C,D and E)

Type	Nominal dia of conductor (mm)	Maximum Resistance at $^{\circ}\text{C}$ Ohm/s (mm)	Radial thickness of P C Insulation (mm)	Maximum Dia of Insulated Conductor (mm)
A.	0.50	92.20	0.20+0.05 or -0.02	1.00
B.	0.60	64.00	0.20+0.05 or -0.02	1.10
C.	0.71	43.70	0.28+0.05 or -0.02	1.37
D.	0.90	28.45	0.33+0.05 or -0.02	1.66
E.	1.12	18.64	0.41+0.05 or -0.02	2.04

## “VJ’s CABLE” TELEPHONE SWITCH BOARD CABLES

CONFIRMING TO ITD SPECIFICATION S/SW – 113C

No of pairs	Conductor Diameter				Approx wt of cable	
	Minimum thickness of sheath (mm)	Approx outer diameter (mm)	Minimum thickness of sheath (mm)	Maximum overall diameter (mm)	gs/ mm	gs/ mm
1 pair	0.50	3.50	0.50	3.50	12.00	13.00
2 pair	0.60	4.00	0.65	4.90	20.70	23.90
3 pair	0.65	4.60	0.65	6.20	27.60	32.80
4 pair	0.65	5.10	0.65	6.25	37.20	41.90
5 pair	0.65	5.50	0.65	7.10	40.80	50.20
6 pair	0.65	5.90	0.65	7.80	47.30	58.30
7 pair	0.65	6.50	0.65	8.20	53.60	66.40
8 pair	0.65	6.90	0.65	8.80	61.20	75.90
10 pair	0.75	8.00	0.75	10.00	76.90	95.20
12 pair	0.75	8.30	0.75	10.10	89.40	111.20
14 pair	0.75	8.70	0.75	10.50	101.80	127.20
16 pair	0.75	9.50	0.75	10.80	114.10	142.80
20 pair	0.75	10.20	0.75	11.40	138.40	174.00
21 pair	0.75	10.35	0.75	11.70	144.50	181.70
26 pair	0.90	11.60	0.90	12.00	174.40	220.10
30 pair	0.90	12.90	0.90	13.20	198.20	250.60
31 pair	0.90	13.00	0.90	13.50	211.70	267.50
35 pair	0.90	13.70	0.90	14.50	235.70	297.30
50 pair	1.10	16.20	1.10	18.30	346.40	436.50
60 pair	1.10	18.30	1.10	19.20	400.20	505.50
75 pair	1.10	19.60	1.30	20.80	494.90	627.20
100 pair	1.40	22.80	1.40	23.80	673.60	852.20

**Sole Distributor**

(Tamil Nadu & Maharashtra)

**DIAMOND ELECTRICALS**

Tel: +91 44 24341478/79, Fax : +91 44 42123491

E-Mail: [info@diamondelectricals.com](mailto:info@diamondelectricals.com) Web: [www.diamondelectricals.com](http://www.diamondelectricals.com)

DIAMOND ELECTRICALS

Single wire

0.5

0.4

1.3

3.1

**DIAMOND ELECTRICALS**

Tel: +91 44 24341478/79, Fax : +91 44 42123491  
E-Mail: [info@diamondelectricals.com](mailto:info@diamondelectricals.com) Web: [www.diamondelectricals.com](http://www.diamondelectricals.com)

**“ S CABLE ARMoured TELEPHONE CABLE**  
**CONFORMING TO ITD SPECIFICATION NO. S/ S- 2 C ARMO URING AS PER IS PART-I) - 88**

No of pairs	Conductor Diameter	Thickness of P C Insulation	Thickness of Inner sheath	Armouring		Minimum thickness of Outer Sheath	Maximum Diameter of Cable	Maximum weight of Cable kg/km	Standard Drum Length meters
				Round Wire	Flat Strip				
1	0.60	0.20	0.50	1.40		1.24	9.50	184.00	500
2	0.60	0.20	0.65	1.40		1.24	10.40	216.00	500
3	0.60	0.20	0.65	1.40		1.24	10.80	266.00	500
4	0.60	0.20	0.65	1.40		1.24	11.35	292.00	500
5	0.60	0.20	0.65	1.40		1.24	12.75	353.00	500
10	0.60	0.20	0.75	1.40		1.24	14.00	441.00	500
15	0.60	0.20	0.75	1.40		1.24	15.00	513.00	500
20	0.60	0.20	0.75	1.40		1.24	16.50	588.00	500
25	0.60	0.20	0.90	1.40		1.24	17.70	693.00	500
30	0.60	0.20	0.90	1.40		1.24	19.00	784.00	500
35	0.60	0.20	0.90	1.40	4.0 x 0.80	1.40	18.50	714.00	500
40	0.60	0.20	1.10	...	4.0 x 0.80	1.40	19.90	808.00	500
50	0.60	0.20	1.10	...	4.0 x 0.80	1.40	21.80	960.00	500
75	0.60	0.20	1.30	...	4.0 x 0.80	1.40	26.00	1323.00	500
100	0.60	0.20	1.40	...	4.0 x 0.80	1.56	29.60	1648.00	500

**“ S CABLE ARMoured TELEPHONE CABLES**  
**ITD SPECIFICATION NO. S/WS-113C ARMOURING AS PER IS:1554(PART-I) -1988**

No. of pairs.	Conductor Diameter	Thickness of PVC Insulation	Thickness of Inner sheath	Armouring		Minimum Thickness of Outer Sheath	Maximum Diameter of Cable	Maximum Weight of Cable kg/km	Standard Drum Length meter
				Round Wire	Flat Strip				
1	0.70	0.28	0.50	1.40		1.80	10.00	221.50	500
2	0.70	0.28	0.50	1.40		1.80	10.75	254.00	500
3	0.70	0.28	0.65	1.40		1.80	11.50	320.50	500
4	0.70	0.28	0.65	1.40		1.80	12.40	345.00	500
5	0.70	0.28	0.65	1.40		1.80	14.30	427.50	500
6	0.70	0.28	0.65	1.40		1.80	14.70	453.50	500
7	0.70	0.28	0.65	1.40		1.80	15.00	483.00	500
8	0.70	0.28	0.65	1.40		1.80	15.50	511.00	500
10	0.70	0.28	0.75	1.40		1.80	16.50	577.00	500
15	0.70	0.28	0.75	1.40		1.80	17.65	670.00	500
20	0.70	0.28	0.90	...	4.0 x 0.80	2.00	18.75	678.50	500
25	0.70	0.28	0.90	...	4.0 x 0.80	2.00	20.00	815.00	500
30	0.70	0.28	0.90	...	4.0 x 0.80	2.00	21.50	885.50	500
35	0.70	0.28	1.10	...	4.0 x 0.80	2.00	22.95	998.50	500
40	0.70	0.28	1.10	...	4.0 x 0.80	2.00	24.70	1127.00	500
50	0.70	0.28	1.10	...	4.0 x 0.80	2.00	26.45	1289.50	500

**Sole Distributor**  
**(Tamil Nadu & Maharashtra)**

**DIAMOND ELECTRICALS**

Tel: +91 44 24341478/79, Fax : +91 44 42123491

E-Mail: [info@diamondelectricals.com](mailto:info@diamondelectricals.com) Web: [www.diamondelectricals.com](http://www.diamondelectricals.com)

**DIAMOND ELECTRICALS**

75	0.70	0.28	1.40	...	4.0 x 0.80	2.00	32.10	1799.00	500
100	0.70	0.28	1.80	...	4.0 x 0.80	2.00	35.60	2231.00	500

**“ ” S CABLE ARMO RED TELEPHONE CABLES**  
**TO ITD SPECIFICATION NO. ITD- B ARMO RING AS PER IS PART-I - 88**

No. of pairs.	Conductor Diameter mm	Thickness of PVC Insulation mm	Thickness of Inner sheath mm	Armouring		Minimum Thickness of Outer Sheath mm	Maximum Diameter of Cable mm	Maximum Weight of Cable kg/km	Standard Drum Length meter
				Round Wire mm	Flat Strip mm				
1	0.90	0.33	1.40	1.40		8	10.70	258.00	500
2	0.90	0.33	1.40	1.40		8	11.40	293.00	500
3	0.90	0.33	1.40	1.40		8	12.00	329.00	500
4	0.90	0.33	1.40	1.40		8	15.30	476.00	500
5	0.90	0.33	1.40	1.40		8	16.10	530.50	500
6	0.90	0.33	1.40	1.40		8	16.30	550.00	500
7	0.90	0.33	1.40	1.40		8	16.65	584.00	500
8	0.90	0.33	1.40	1.40		8	16.95	616.50	500
10	0.90	0.33	1.40	1.40		8	17.70	672.50	500
15	0.90	0.33	1.40	1.40		8	20.00	724.00	500
20	0.90	0.33	...	...	4.0 x 0.80		21.60	909.00	500
25	0.90	0.33	...	...	4.0 x 0.80		22.75	1037.50	500
30	0.90	0.33	...	...	4.0 x 0.80		24.75	1205.50	500
35	0.90	0.33	...	...	4.0 x 0.80		26.15	1343.50	500
40	0.90	0.33	...	...	4.0 x 0.80		28.00		500
50	0.90	0.33	...	...	4.0 x 0.80		32.00	1882.50	500
75	0.90	0.33	...	...	4.0 x 0.80		38.00	2534.00	250
100	0.90	0.33	...	...	4.0 x 0.80		42.70	3215.00	250

**COLOUR SCHEME ITI D-3003**

No. of Pairs	Colour Scheme	No. of Pairs	Colour Scheme
1	White & Blue	14	Black & Brown
2	White & Orange	15	Black & Grey
3	White & Green	16	Blue & Orange
4	White & Brown	17	Blue & Green
5	White & Grey	18	Blue & Brown
6	Red & Blue	19	Blue & Grey
7	Red & Orange	20	Orange & Green
8	Red & Green	21	Orange & Brown
9	Red & Brown	22	Orange & Grey
10	Red & Grey	23	Green & Brown
11	Black & Blue	24	Green & Grey
12	Black & Orange	25	Brown & Grey
13	Black & Green		

**NOTE:** The same sequence is repeated – 1<sup>st</sup> layer of 25 pairs & 2<sup>nd</sup> layer of same sequence of 25 pair.

**Sole Distributor**  
**(Tamil Nadu & Maharashtra)**

**DIAMOND ELECTRICALS**

Tel: +91 44 24341478/79, Fax : +91 44 42123491

E-Mail: [info@diamondelectricals.com](mailto:info@diamondelectricals.com) Web: [www.diamondelectricals.com](http://www.diamondelectricals.com)

DIAMOND ELECTRICALS

## CABLE MAKE UP

Size	Number of pairs in centre and successive layers					
	centre	1 <sup>st</sup> Layer	2 <sup>nd</sup> Layer	3 <sup>rd</sup> Layer	4 <sup>th</sup> Layer	5 <sup>th</sup> Layer
1	1					
2	2					
4	4					
5	-	5				
7	1	6				
10	2	8				
15	4	11				
20	1	6	13			
30	4	10	16			
50	3	9	16	22		
75	3	9	15	21	27	
100	2	8	14	20	25	31

### COLOUR SCHEME to DOT No. G/WIR – 06/02. May 94

(SUPERCEDES SPEC.ITD NO. S/WS – 113 C)

No. of Pairs	Base Cores(A)	Colours of Dot(C)	Cores (B)	No. of Pairs	Base Cores(A)	Colours of Dot(C)	Cores (B)	No. of Pairs	Base Cores(A)	Colours of Dot(C)	Cores (B)
1	White	-	Blue	38	Yellow	Blue	Green	75	Green	Black	Grey
2	"	-	Orange	39	"	"	Brown	76	Yellow	Green	Blue
3	"	-	Green	40	"	"	Grey	77	"	"	Orange
4	"	-	Brown	41	White	Orange	Blue	78	"	"	Green
5	"	-	Grey	42	"	"	Orange	79	"	"	Brown
6	Red	-	Blue	43	"	"	Green	80	"	"	Grey
7	"	-	Orange	44	"	"	Brown	81	White	Brown	Blue
8	"	-	Green	45	"	"	Grey	82	"	"	Orange
9	"	-	Brown	46	Orange	Red	Blue	83	"	"	Green
10	"	-	Grey	47	"	"	Orange	84	"	"	Brown
11	Black	-	Blue	48	"	"	Green	85	"	"	Grey
12	"	-	Orange	49	"	"	Brown	86	Red	"	Blue
13	"	-	Green	50	"	"	Grey	87	"	"	Orange
14	"	-	Brown	51	"	Black	Blue	88	"	"	Green
15	"	-	Grey	52	"	"	Orange	89	"	"	Brown
16	Yellow	-	Blue	53	"	"	Green	90	"	"	Grey

**Sole Distributor**

(Tamil Nadu & Maharashtra)

**DIAMOND ELECTRICALS**

Tel: +91 44 24341478/79, Fax : +91 44 42123491

E-Mail: [info@diamondelectricals.com](mailto:info@diamondelectricals.com) Web: [www.diamondelectricals.com](http://www.diamondelectricals.com)

DIAMOND ELECTRICALS

17	"	-	Orange	54	"	"	Brown	91	Brown	Black	Blue
18	"	-	Green	55	"	"	Grey	92	"	"	Orange
19	"	-	Brown	56	Yellow	Orange	Blue	93	"	"	Green
20	"	-	Grey	57	"	"	Orange	94	"	"	Brown
21	White	Blue	Blue	58	"	"	Green	95	"	"	Grey
22	"	"	Orange	59	"	"	Brown	96	Yellow	Brown	Blue
23	"	"	Green	60	"	"	Grey	97	"	"	Orange
24	"	"	Brown	61	White	Green	Blue	98	"	"	Green
25	"	"	Grey	62	"	"	Orange	99	"	"	Brown
26	Red	"	Blue	63	"	"	Green	100	"	"	Grey
27	"	"	Orange	64	"	"	Brown	101	White	Grey	Blue
28	"	"	Green	65	"	"	Grey	102	"	"	Orange
29	"	"	Brown	66	Green	Red	Blue	103	"	"	Green
30	"	"	Grey	67	"	"	Orange	104	"	"	Brown
31	Blue	Black	Blue	68	"	"	Green	105	"	"	Grey
32	"	"	Orange	69	"	"	Brown	106	Grey	Red	Blue
33	"	"	Green	70	"	"	Grey	107	"	"	Orange
34	"	"	Brown	71	"	Black	Blue	108	"	"	Green
35	"	"	Grey	72	"	"	Orange	109	"	"	Brown
36	Yellow	Blue	Blue	73	"	"	Green	110	"	"	Grey
37	"	"	Orange	74	"	"	Brown				

**COLOUR SCHEME AS PER I.T.D. S/WS – 129/C**  
(COLOUR CODE FOR TAPE OR BINDER FOR UNIT IDENTIFICATION)

Unit Number	Colour of Binder
1	Blue
2	Orange
3	Green
4	Brown
5	Slate
6	White
7	Red
8	Black
9	Yellow
10	Violet

**Sole Distributor**  
(Tamil Nadu & Maharashtra)

**DIAMOND ELECTRICALS**

Tel: +91 44 24341478/79, Fax : +91 44 42123491

E-Mail: [info@diamondelectricals.com](mailto:info@diamondelectricals.com) Web: [www.diamondelectricals.com](http://www.diamondelectricals.com)

## COLOUR CODE FOR INSULATED CONDUCTOR

Pair No	1st Wire Colour	2nd Wire Colour
1	White	Blue
2	White	Orange
3	White	Green
4	White	Brown
5	White	Slate
6	Red	Blue
7	Red	Orange
8	Red	Green
9	Red	Brown
10	Red	Slate
11	Black	Blue
12	Black	Orange
13	Black	Green
14	Black	Brown
15	Black	Slate
16	Yellow	Blue
17	Yellow	Orange
18	Yellow	Green
19	Yellow	Brown
20	Yellow	Slate

- Note: - a) In 5 pair cables colour code specifies for pair 1 to 5 shall be used  
 b) In 10 Pair Cables as well as 10 pair units of the 50 pairs and 100 pair cable colour code specified for pair 1 to 10 shall be used.  
 c) In 20 Pair Cables Colours Code Specified for Pair 1 to 20 shall be used.

### MAKE-UP OF UNIT & CORE OF THE CABLES I.T.D. S/WT – 129/C

Cable Size	No. of Wires	Layer up of pairs within units			Layer up of unit	
		Centre	1st Layer	2nd Layer	Centre	1st Layer
5 Pairs	-	1	4	-	-	-
	-	5	0	-	1	-
10 Pair	1	2	8	-	1	-
20 pairs	1	1	6	13	1	-
50 Pairs	5	2	8	-	5	-
100 Pairs	10	2	8	-	2	8

**Sole Distributor**

(Tamil Nadu & Maharashtra)

**DIAMOND ELECTRICALS**

Tel: +91 44 24341478/79, Fax : +91 44 42123491

E-Mail: [info@diamondelectricals.com](mailto:info@diamondelectricals.com) Web: [www.diamondelectricals.com](http://www.diamondelectricals.com)