PVC Insulated Cables

KEYSTONE CABLE
tel (65) 6367 0107 fax (65) 6365 2963
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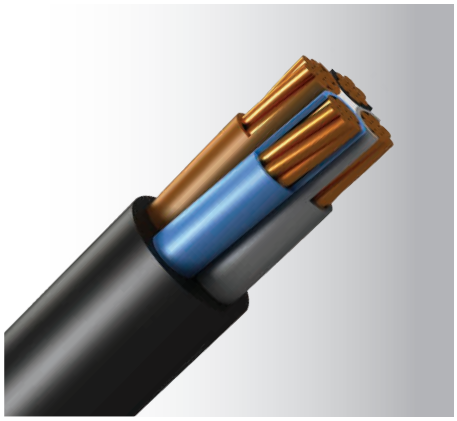
0.6/1kV 2-Core ~ 4-Core
PVC Insulated, PVC Sheathed Cable

Description: CU/PVC/PVC
Model Code: PP



Application :	This cable is primarily used for main power supply. It can be installed on cable trays, cable ladders, in cable ducts, and cable trunking.
Voltage rating :	0.6/1kV
Construction :	Plain annealed copper (IEC 60228 Class 2), PVC insulated, PVC sheathed cable
Insulation colour :	2-Core: Brown, Blue; 3-Core: Brown, Black, Grey; Brown, Blue, Green/Yellow; 4-Core: Brown, Black, Grey, Blue; Brown, Black, Grey, Green/Yellow; (Other colour upon request)
Sheath colour :	Black
Specification :	IEC 60502-1, IEC 60332-1-2
Operating temperature :	70˚C

2-CORE [2C]
(Brown, Blue) (1-phase and neutral)

Conductor Nominal Area	Insulation Thickness	Part No.	Approx. Overall Diam.	Approx. Weight
(mm^2)	(mm)		(mm)	(kg/km)
1.5	0.8	**07023004**	11.2	150
2.5	0.8	**08023004**	11.6	180
4	1.0	**09023004**	13.7	260
6	1.0	**10023004**	15.2	290
10	1.0	**11023004**	16.8	385
16	1.0	**12023004**	18.8	528
25 (cs)	1.2	**13023004**	22.0	761
35 (cs)	1.2	**14023004**	24.4	983
50 (cs)	1.4	**15023004**	27.7	1288
70 (cs)	1.4	**16023004**	31.6	1772
95 (cs)	1.6	**17023004**	36.2	2397
120 (cs)	1.6	**18023004**	38.8	2934
150 (cs)	1.8	**19023004**	42.7	3562
185 (cs)	2.0	**20023004**	47.6	4445
240 (cs)	2.2	**21023004**	54.0	5751
300 (cs)	2.4	**22023004**	60.2	7166
400 (cs)	2.6	**23023004**	67.6	9082

Current rating and voltage drop
Please refer to Table 6 & 7 (Page 56)

(cs) : Circular Compact Stranded Conductor

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0.6/1kV 2-Core ~ 4-Core
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Description: CU/PVC/PVC
Model Code: PP

3-CORE [3C]
(Brown, Black, Grey) (3-phase, three wire)

Conductor Nominal Area	Insulation Thickness	Part No.	Approx. Overall Diam.	Approx. Weight
(mm^2)	(mm)		(mm)	(kg/km)
1.5	0.8	**07033005**	11.3	165
2.5	0.8	**08033005**	12.3	200
4	1.0	**09033005**	14.2	300
6	1.0	**10033005**	15.8	380
10	1.0	**11033005**	17.7	545
16	1.0	**12033005**	20.0	760
25 (cs)	1.2	**13033005**	23.1	1046
35 (cs)	1.2	**14033005**	26.0	1365
50 (cs)	1.4	**15033005**	30.1	1822
70 (cs)	1.4	**16033005**	33.7	2494
95 (cs)	1.6	**17033005**	38.9	3412
120 (cs)	1.6	**18033005**	41.7	4190
150 (cs)	1.8	**19033005**	45.9	5096
185 (cs)	2.0	**20033005**	51.2	6364
240 (cs)	2.2	**21033005**	58.2	8282
300 (cs)	2.4	**22033005**	64.6	10295
400 (cs)	2.6	**23033005**	72.8	13098

3-CORE [3G]
(Brown, Blue, Green/Yellow) (1-phase and earth)

Conductor Nominal Area	Insulation Thickness	Part No.	Approx. Overall Diam.	Approx. Weight
(mm^2)	(mm)		(mm)	(kg/km)
1.5	0.8	**07033011**	11.3	165
2.5	0.8	**08033011**	12.3	200
4	1.0	**09033011**	14.2	300
6	1.0	**10033011**	15.8	380
10	1.0	**11033011**	17.7	545
16	1.0	**12033011**	20.0	760
25 (cs)	1.2	**13033011**	24.7	1370
35 (cs)	1.2	**14033011**	26.0	1365
50 (cs)	1.4	**15033011**	30.1	1822
70 (cs)	1.4	**16033011**	33.7	2494
95 (cs)	1.6	**17033011**	38.9	3412
120 (cs)	1.6	**18033011**	41.7	4190
150 (cs)	1.8	**19033011**	45.9	5096
185 (cs)	2.0	**20033011**	51.2	6364
240 (cs)	2.2	**21033011**	58.2	8282
300 (cs)	2.4	**22033011**	64.6	10295
400 (cs)	2.6	**23033011**	72.8	13098

Current rating and voltage drop
Please refer to Table 6 & 7 (Page 56)

(cs) : Circular Compact Stranded Conductor

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0.6/1kV 2-Core ~ 4-Core
PVC Insulated, PVC Sheathed Cable

Description: CU/PVC/PVC
Model Code: PP

4-CORE [4C]
(Brown, Black, Grey, Blue) (3-phase and neutral)

Conductor Nominal Area	Insulation Thickness	Part No.	Approx. Overall Diam.	Approx. Weight
(mm^2)	(mm)		(mm)	(kg/km)
1.5	0.8	**07043006**	12.3	210
2.5	0.8	**08043006**	13.2	265
4	1.0	**09043006**	15.2	385
6	1.0	**10043006**	16.9	440
10	1.0	**11043006**	19.3	675
16	1.0	**12043006**	21.9	925
25 (cs)	1.2	**13043006**	25.5	1410
35 (s)	1.2	**14043007**	26.5	1740
50 (s)	1.4	**15043007**	30.0	2300
70 (s)	1.4	**16043007**	34.0	3180
95 (s)	1.6	**17043007**	38.3	4370
120 (s)	1.6	**18043007**	41.8	5400
150 (s)	1.8	**19043007**	47.5	6550
185 (s)	2.0	**20043007**	52.0	8180
240 (s)	2.2	**21043007**	58.0	10700
300 (s)	2.4	**22043007**	66.0	13200
400 (s)	2.6	**23043007**	73.5	17100

4-CORE [4G]
(Brown, Black, Grey, Green/Yellow) (3-phase and earth)

Conductor Nominal Area	Insulation Thickness	Part No.	Approx. Overall Diam.	Approx. Weight
(mm^2)	(mm)		(mm)	(kg/km)
1.5	0.8	**07043012**	12.3	210
2.5	0.8	**08043012**	13.2	265
4	1.0	**09043012**	15.2	385
6	1.0	**10043012**	16.9	440
10	1.0	**11043012**	19.3	675
16	1.0	**12043012**	21.9	925
25 (cs)	1.2	**13043012**	25.5	1410
35 (cs)	1.2	**14043012**	29.2	1800
50 (cs)	1.4	**15043012**	33.0	2390
70 (cs)	1.4	**16043012**	37.5	3290
95 (cs)	1.6	**17043012**	43.7	4485
120 (cs)	1.6	**18043012**	46.0	5350
150 (cs)	1.8	**19043012**	51.7	6750
185 (cs)	2.0	**20043012**	57.5	8300
240 (cs)	2.2	**21043012**	65.4	10610
300 (cs)	2.4	**22043012**	72.7	13160
400 (cs)	2.6	**23043012**	82.0	17100

Current rating and voltage drop
Please refer to Table 6 & 7 (Page 56)

(cs) : Circular Compact Stranded Conductor
(s) : Sector Shaped Stranded Conductor

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Multi-Core Cables with PVC Insulation, Unarmoured, PVC Outersheath 0.6/1kV

Table 6 : Current-Carrying Capacities (Amp)
[CU/PVC/PVC Cables]

Conductor Operating Temperature : 70°C
Ambient Temperature : 30°C

IEC 60502-1 (BS 6346)

Conductor Cross-sectional Area	Reference Method 4 (enclosed in an insulated wall etc)		Reference Method 3 (enclosed in conduit on a wall or ceiling, or in trunking)		Reference Method 1 (clipped direct)		Reference Method 11 (on perforated cable tray), or Reference Method 13 (in free air)	
	one 2-core cable*, 1-phase a.c. or d.c.	one 3-core* or 4-core cable, 3-phase a.c.	one 2-core cable*, 1-phase a.c. or d.c.	one 3-core* or 4-core cable, 3-phase a.c.	one 2-core cable*, 1-phase a.c. or d.c.	one 3-core* or 4-core cable, 3-phase a.c.	one 2-core cable*, 1-phase a.c. or d.c.	one 3-core* or 4-core cable, 3-phase a.c.
1	2	3	4	5	6	7	8	9
mm^2	A	A	A	A	A	A	A	A
1	11	10	13	11.5	15	13.5	17	14.5
1.5	14	13	16.5	15	19.5	17.5	22	18.5
2.5	18.5	17.5	23	20	27	24	30	25
4	25	23	30	27	36	32	40	34
6	32	29	38	34	46	41	51	43
10	43	39	52	46	63	57	70	60
16	57	52	69	62	85	76	94	80
25	75	68	90	80	112	96	119	101
35	92	83	111	99	138	119	148	126
50	110	99	133	118	168	144	180	153
70	139	125	168	149	213	184	232	196
95	167	150	201	179	258	223	282	238
120	192	172	232	206	299	259	328	276
150	219	196	258	225	344	299	379	319
185	248	223	294	255	392	341	434	364
240	291	261	344	297	461	403	514	430
300	334	298	394	339	530	464	593	497
400	-	-	470	402	634	557	715	597

*With or without protective conductor

Note : For rating factors of ambient temperature other than 30°C, please refer to Table 25 (Page 66)

Table 7 : Voltage Drop (Per Amp Per Meter)
[CU/PVC/PVC Cables]

Conductor Operating Temperature : 70°C

IEC 60502-1 (BS 6346)

Conductor Cross-sectional Area	2-core cable, d.c.	2-core cable, 1-phase a.c.			3-core or 4-core cable, 3-phase a.c.		
1	2	3			4		
mm^2	mV/A/m	mV/A/m			mV/A/m		
1	44	44			38		
1.5	29	29			25		
2.5	18	18			15		
4	11	11			9.5		
6	7.3	7.3			6.4		
10	4.4	4.4			3.8		
16	2.8	2.8			2.4		
		r	x	z	r	x	z
25	1.75	1.75	0.170	1.75	1.50	0.145	1.50
35	1.25	1.25	0.165	1.25	1.10	0.145	1.10
50	0.93	0.93	0.165	0.94	0.80	0.140	0.81
70	0.63	0.63	0.160	0.65	0.55	0.140	0.57
95	0.46	0.47	0.155	0.50	0.41	0.135	0.43
120	0.36	0.38	0.155	0.41	0.33	0.135	0.35
150	0.29	0.30	0.155	0.34	0.26	0.130	0.29
185	0.23	0.25	0.150	0.29	0.21	0.130	0.25
240	0.180	0.190	0.150	0.24	0.165	0.130	0.21
300	0.145	0.155	0.145	0.21	0.135	0.130	0.185
400	0.105	0.115	0.145	0.185	0.100	0.125	0.160

Note : r = resistive component; x = reactive component; z = impedance value

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Table 25 : Correction Factor for Ambient Air Temperature Other Than 30°C to be Applied to the Current-Carrying Capacities for Cables in Free Air

Ambient Temperature	Insulation				
	PVC	XLPE	HT-PVC	Rubber	Rubber
(°C)	(70°C)	(90°C)	(90°C)	(85°C)	(60°C)
10	1.22	1.15	-	-	-
15	1.17	1.12	-	-	-
20	1.12	1.08	-	-	-
25	1.06	1.04	1.03	1.02	-
30	1.00	1.00	1.00	1.00	1.00
35	0.94	0.96	0.97	0.95	0.91
40	0.87	0.91	0.94	0.90	0.82
45	0.79	0.87	0.91	0.85	0.71
50	0.71	0.82	0.87	0.80	0.58
55	0.61	0.76	0.84	0.74	0.41
60	0.50	0.71	0.80	0.67	-
65	0.35	0.65	0.76	0.60	-
70	-	0.58	0.71	0.52	-
75	-	0.50	0.61	0.43	-
80	-	0.41	0.50	0.30	-
85	-	0.29	0.35	-	-

Table 26 : Correction Factor for Ambient Ground Temperature Other Than 15°C to be Applied to the Current-Carrying Capacities for Cables in Ducts or in Ground

Ground Temperature	Insulation	
	PVC	XLPE
(°C)	(70°C)	(90°C)
10	1.04	1.03
15	1.00	1.00
20	0.95	0.97
25	0.90	0.93
30	0.85	0.89
35	0.80	0.86
40	0.74	0.82
45	0.67	0.77
50	0.60	0.73
55	-	0.68
60	-	0.63
65	-	0.58