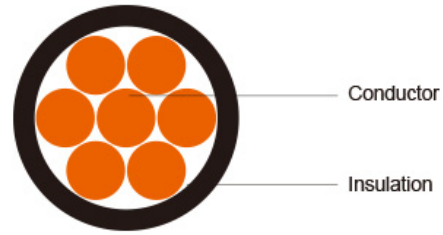


600/1000V PVC Insulated Non-sheathed Power Cables Single Core



(CU/PVC 600/1000V Class 2)

Application:

The cables are mainly used in power stations, mass transit underground passenger systems, airports, petrochemical plants, hotels, hospitals, and high-rise buildings.

STANDARDS:

Basic design adapted to BS 6491X

FIRE PERFORMANCE

Flame Retardance (Single Vertical Wire Test)**

EN 60332-1-2; IEC 60332-1-2; BS EN 60332-1-2; VDE 0482-332-1 ; NBN C 30-004 (cat. F1); NF C32-070-2.1(C2); CEI 20-35/1-2; EN 50265-2-1*; DIN VDE 0482-265-2-1*

Reduced Fire Propagation (Vertically-mounted bundled wires & cable test)**

EN 60332-3-24 (cat. C); IEC 60332-3-24; BS EN 60332-3-24; VDE 0482-332-3; NBN C 30-004 (cat. F2); NF C32-070-2.2(C1); CEI 20-22/3-4; EN 50266-2-4*; DIN VDE 0482-266-2-4

Note: Asterisk ** denotes that the standard compliance is optional, depending on the oxygen index of the PVC compound and the cable design.

VOLTAGE RATING

600/1000V

CABLE CONSTRUCTION

Conductor: Plain annealed copper wire, stranded according to IEC(EN) 60228 class 2.

Insulation: Thermoplastic PVC compound. UV resistance, hydrocarbon resistance, oil resistance, anti rodent and anti termite properties can be offered as option. Compliance to fire performance standard (IEC 60332-1, IEC 60332-3, UL 1581, UL 1666 etc) depends on the oxygen index of the PVC compound and the overall cable design. LSPVC can also be provided upon request.

COLOUR CODE

Insulation Colour as per BS7671

	With Earth Conductor	Without Earth Conductor
2Cores	-	Brown, Blue
3Cores	Yellow/Green, Brown, Blue	Brown, Gray, Black
4Cores	Yellow/Green, Brown, Gray, Black	Brown, Gray, Black, Blue
5Cores	Yellow/Green, Brown, Gray, Black, Blue	Brown, Gray, Black, Blue, Black
Above 5 Cores	Yellow/Green, Black Numbered	Black Numbered

Sheath Colour: Black (other colors upon request)

Physical AND THERMAL PROPERTIES

Temperature range during operation: Max.90°C

250°C in short-circuit for 5secs max.

Minimum bending radius: 8 x Overall Diameter (unarmoured cable)

10 x Overall Diameter (armoured cable)

CONSTRUCTION PARAMETERS

Conductor		FGD300 1V-R				
No. of Core X Cross Section	No./Nominal Diameter of Strands	Nominal Thickness	Insulation	Insulated, Non-Sheathed		
				Nominal Diameter	Overall	Approx. Weight
Noxmm2	No./mm	mm		mm		kg/km
1x1.5	7/0.53	0.7		3.1		22
1x2.5	7/0.67	0.8		3.7		34
1x4	7/0.85	0.8		4.3		50
1x6	7/1.04	0.8		4.8		70
1x10	7/1.35	1.0		6.2		116
1x16	7/1.70	1.0		7.2		174
1x25	7/2.14	1.2		9.0		276
1x35	7/2.52	1.2		10.0		366
1x50	19/1.78	1.4		11.9		502
1x70	19/2.14	1.4		13.7		706
1x95	19/2.52	1.6		16.0		974
1x120	37/2.03	1.6		17.6		1213
1x150	37/2.25	1.8		19.6		1492
1x185	37/2.52	2.0		21.8		1868
1x240	61/2.25	2.2		24.4		2443
1x300	61/2.52	2.4		27.7		3055
1x400	61/2.85	2.6		31.1		3888
1x500	61/3.20	2.8		34.6		4880
1x630	127/2.52	2.8		38.6		6229

Electrical Properties

Conductor Operating Temperature : 90°C

Ambient Temperature : 30°C

Current-Carrying Capacities (Amp)

Conductor cross-sectional area	Reference Method 4 (enclosed in thermally insulating wall etc)		Reference Method 3 (enclosed in wall or in trunking etc)		Reference Method 1 (clipped direct)		Reference Method 11 (on a perforated cable tray, horizontal or vertical)		Reference Method 12 (free air)		
	2 cables,	3 or 4 cables,	2 cables,	3 or 4 cables,	2 cables,	3 or 4 cables,	2 cables,	3 or 4 cables,	Horizontal flat spaced	Vertical flat spaced	Trefoil
	2 cables,	3 or 4 cables,	2 cables,	3 or 4 cables,	2 cables,	3 or 4 cables,	2 cables,	3 or 4 cables,	2 cables, single-	2 cables, single-	3 cables,

	single phase a.c. or d.c.	phase a.c.	single phase a.c. or d.c.	phase a.c.	single phase a.c. or d.c. flat and touching	phase a.c. flat and trefoil	single phase a.c. or flat and touching	phase a.c. flat and trefoil	phase a.c. or d.c. or 3 cables three phase	phase a.c. or d.c. or 3 cables three phase	trefoil 3-phase a.c.
1	2	3	4	5	6	7	8	9	10	11	12
mm ²	A	A	A	A	A	A	A	A	A	A	A
1.5	18	17	22	19	25	23	-	-	-	-	-
2.5	24	23	30	26	34	31	-	-	-	-	-
4	33	30	40	35	46	41	-	-	-	-	-
6	43	39	51	45	59	54	-	-	-	-	-
10	58	53	71	63	81	74	-	-	-	-	-
16	76	70	95	85	109	99	-	-	-	-	-
25	100	91	126	111	143	130	158	140	183	163	138
35	125	111	156	138	176	161	195	176	226	203	171
50	149	135	189	168	228	209	293	215	274	246	209
70	189	170	240	214	293	268	308	279	351	318	270
95	228	205	290	259	355	326	375	341	426	389	330
120	263	235	336	299	413	379	436	398	495	453	385
150	300	270	375	328	476	436	505	461	570	524	445
185	341	306	426	370	545	500	579	530	651	600	511
240	400	358	500	433	644	590	686	630	769	711	606
300	459	410	573	493	743	681	794	730	886	824	701
400	-	-	684	584	868	793	915	849	1065	994	820
500	-	-	783	666	990	904	1044	973	1228	1150	936
630	-	-	900	764	1130	1033	1191	1115	1423	1338	1069

Voltage Drop (Per Amp Per Meter)

Size of conductor	2 cables s.d.c.	2 cables, single-phase a.c.		3 or 4 cables, 3-phase a.c.		
		Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)	Ref. Methods 1 and 11 (clipped direct or on trays touching)	Ref. Methods 3 and 4 (enclosed in conduit etc, in or on a wall)	Ref. Methods 1, 11 and 12 (in trefoil)	Ref. Methods 1 and 11 (Flat and touching)
1	2	3	4	5	6	7
mm ²	mV/A	mV/A/m	mV/A/m	mV/A/m	mV/A/m	mV/A/m

	m															
1.5	31	31			27			27			27			27		
2.5	19	19			16			16			16			16		
4	33	12			10			10			10			10		
6	7.8	7.9			6.8			6.8			6.8			6.8		
10	4.7	4.7			4.7			4			4			4		
16	2.9	2.9			2.9			2.5			2.5			2.5		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.85	1.8 5	0.3 1	1.9 0	1.8 5	0.1 90	1.8 5	1.6 0	0.2 7	1.6 5	1.6 00	0.1 65	1.6 00	1.6 00	0.1 90	1.6 00
35	1.35	1.3 5	0.2 9	1.3 5	1.3 5	0.1 80	1.3 5	1.1 5	0.2 5	1.1 5	1.1 50	0.1 55	1.5 0	1.1 50	0.1 80	1.1 50
50	0.99	1.0 0	0.2 9	1.0 5	0.9 9	0.1 80	1.0 0	0.8 7	0.2 5	0.9 0	0.8 60	0.1 55	0.8 70	0.8 60	0.1 80	0.8 70
70	0.68	0.7 0	0.2 8	0.7 5	0.6 8	0.1 75	0.7 1	0.6 0	0.2 4	0.6 5	0.5 90	0.1 50	0.6 10	0.5 90	0.1 75	0.6 20
95	0.49	0.5 1	0.2 7	0.5 8	0.4 9	0.1 70	0.5 2	0.4 4	0.2 3	0.5 0	0.4 30	0.1 45	0.4 50	0.4 30	0.1 70	0.4 60
120	0.39	0.4 1	0.2 6	0.4 8	0.3 9	0.1 65	0.4 3	0.3 5	0.2 3	0.4 2	0.3 40	0.1 40	0.3 70	0.3 40	0.1 65	0.3 80
150	0.32	0.3 3	0.2 6	0.4 3	0.3 2	0.1 65	0.3 6	0.2 9	0.2 3	0.3 7	0.2 80	0.1 40	0.3 10	0.2 80	0.1 65	0.3 20
185	0.25	0.2 7	0.2 6	0.3 7	0.2 6	0.1 65	0.3 0	0.2 3	0.2 3	0.3 2	0.2 20	0.1 40	0.2 60	0.2 20	0.1 65	0.2 80
240	0.19	0.2 1	0.2 6	0.3 3	0.2 0	0.1 60	0.2 5	0.1 85	0.2 2	0.2 9	0.1 70	0.1 40	0.2 20	0.1 70	0.1 65	0.2 40
300	0.155	0.1 75	0.2 5	0.3 1	0.1 6	0.1 60	0.2 2	0.1 50	0.2 2	0.2 7	0.1 40	0.1 40	0.1 95	0.1 35	0.1 60	0.2 10
400	0.12	0.1 40	0.2 5	0.2 9	0.1 3	0.1 55	0.2 0	0.1 25	0.2 2	0.2 5	0.11 0	0.1 35	0.1 75	0.11 0	0.1 60	0.1 95
500	0.093	0.1 20	0.2 5	0.2 8	0.1 05	0.1 55	0.1 85	0.1 00	0.2 2	0.2 4	0.0 90	0.1 35	0.1 60	0.0 88	0.1 60	0.1 80
630	0.072	0.1 00	0.2 5	0.2 7	0.0 86	0.1 55	0.1 75	0.0 88	0.2 1	0.2 3	0.0 74	0.1 35	0.1 50	0.0 71	0.1 60	0.1 70