

0.6/1kV及以下塑料绝缘及护套电力电缆

Plastic insulated and Sheath power cable of 0.6/1kV or Lower

本产品适用于交流额定电压1.8/3kV及以下的电力线路中作输送电能用。其中五芯电力电缆是为适应配电系统的发展和安全性需要，将低压配电系统工程的中性与零线分开，使系统运行更趋稳定，保障了操作人员的安全性。

一、生产执行标准

GB/T12706.1等同采用国际电工委员会IEC60502。

二、使用特点

- 1、电缆导体长期允许工作温度不超过70℃；
- 2、短路时（最长持续时间不超过5秒），电缆导体的最高温度不超过160℃；
- 3、敷设电缆时的环境温度应不低于0℃。

三、电缆基本型号名称

型号 Type		名 称 Description	适用场合 Application
铜 Cu	铝 Al		
VV	VLV	铜（铝）芯聚氯乙烯绝缘聚氯乙烯护套电力电缆 Power cable with copper / AL conductor, PVC insulation and sheath	敷设在室内、隧道、电缆沟及管道中，电缆不能承受机械外力作用。 To be laid indoors, in the tunnel, cable furrow or pipe. The cable can not bear mechanical force from outside.
VV22	VLV22	铜（铝）芯聚氯乙烯绝缘钢带铠装聚氯乙烯护套电力电缆 Power cable with copper / AL conductor PVC insulation, steel tape armored and PVC sheath	敷设在地下，电缆能承受一定机械外力作用，但不能承受大的拉力。 To be laid underground, the cable can bear certain mechanical force, but it can not bear great pulling force.
VV32	VLV32	铜（铝）芯聚氯乙烯绝缘钢丝铠装聚氯乙烯护套电力电缆 Power cable with copper / AL conductor PVC insulation, steel wire armored and PVC sheath	敷设在地下，电缆能承受一定机械外力作用，也可以承受一定的拉力。 To be laid underground, the cable can bear certain mechanical force, and also bear certain pulling force.

注：本公司可根据用户的需要提供阻燃型、耐火型、阻燃耐火型电力电缆产品，订货时在原型号前加“Z-、ZR-、ZA-、ZB-、ZC-、ZD-”表示阻燃型，加“N-”表示耐火型，加“ZAN-、ZBN-、ZCN-、ZDN-”表示阻燃耐火型。

The cable is used to transmit power on the A.C.1.8/3KV or below power transmission line. The five cores power cable is designed to separate the neutral and lines of low-voltage distribution system in order to meet the needs of the development and safety of the distribution system, so that the operation of the system is more stable and the safety of the operator is ensured.

Executive standard

GB/T12706.1 (Equal to the standard of IEC60502)

Working Condition

- 1、Long-term working temperature of cable conductor allowed shall be no more than 70℃.
- 2、Max. temperature of cable conductor shall be no more than 160℃ during short circuit (the longest lasting time shall be no more than 5 seconds).
- 3、Environment temperature for installation shall be no less than 0℃.

Type, Description and Application occasion

Note: We also produce flame-retardant fire resistant type power cable according to the requirement of the customer. Prefix “Z-、ZR-、ZA-、ZB-、ZC-、ZD-” should be added to the original type of cable in ordering flame retardant cable. Prefix “N-” for fire resistant cable. Prefix “ZAN-、ZBN-、ZCN-、ZDN-” for retardant fire resistant cable.

四、生产范围

Production Range

型号 Type		芯数 Core Number	标称截面 mm ² Nominal cross section area
铜 Cu	铝 Al		
VV	VLV	1	1.5~800
		2	1.5~240
		3	1.5~300
VV22	VLV22	3+1	4~300
		4	4~300
VV32	VLV32	4+1	4~185
		3+2	4~185
		5	4~185

注：1、本公司可根据用户需要，提供五芯结构电缆产品；
2、用于交流系统的单芯铠装电缆的铠装层应采用非磁性金属带绕包。

Note: 1. We also produce cable with five cores according to the requirement of the customer.
2. Non-magnetic metal tape wrapping should be adopted as armored layer for single core armored cable for A.C. system.

五、电缆主要技术参数

1、20℃时导体最大直流电阻值应满足GB/T3956标准中的2类导体的规定；

2、工频交流耐压试验单芯无屏蔽电缆应将其浸入水中1h，在导体和水之间施加试验电压3.5kV/5 min；多芯电缆应依次在每一根绝缘导体对其余导体之间施加试验电压3.5kV/5min，绝缘均应无击穿。

标称截面 mm ² Nominal cross section area	1.5	2.5	4	6	10	16	25	35	50
20℃时导体最大直流电阻 Ω/km The maximum DC resistance value of conductor at 20℃	12.1	7.41	4.61	3.08	1.83	1.15	0.727	0.524	0.387
标称截面 mm ² Nominal cross section area	70	95	120	150	185	240	300	400	500
20℃时导体最大直流电阻 Ω/km The maximum DC resistance value of conductor at 20℃	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366

六、电缆近似外径及近似重量(表1~表5)

Table 1

芯数×标称截面 mm ² Core number x nominal cross section area	电缆近似外径 mm Approximate outer diameter of cable	电缆近似重量 kg/km Approximate weight of cable		电缆近似外径 mm Approximate outer diameter of cable	电缆近似重量 kg/km Approximate weight of cable	
		VV	VLV		VV22*	VLV22*
1×1.5	5.8	50	/	/	/	/
1×2.5	6.2	62	47	/	/	/
1×4	7.1	87	63	/	/	/
1×6	7.6	110	75	/	/	/
1×10	8.9	166	96	12.4	346	270
1×16	9.9	234	133	13.4	432	331
1×25	11.7	345	186	15.2	574	414
1×35	12.6	450	229	16.2	692	475
1×50	14.6	585	276	17.7	863	553
1×70	16.3	800	366	19.4	1133	700
1×95	18.5	1065	475	21.6	1432	844
1×120	20.2	1328	586	24.0	1705	962
1×150	22.5	1600	702	25.7	2044	1120
1×185	24.8	1990	850	27.8	2438	1296
1×240	27.8	2546	1060	31.0	3057	1570
1×300	30.7	3140	1292	34.2	3926	2070
1×400	34.0	4127	1651	38.0	5084	2608
1×500	38.0	5259	2016	43.0	6295	2936

* 用于交流系统的单芯铠装电缆的铠装层应采用非磁性金属带绕包；
单芯钢丝铠装电缆应采用隔磁措施。

Main Technical parameter of cable

1.The maximumDC resistance value of conductor at 20℃ shall meet the requirement of conductor of category 2 stipulated in GB/T3956 standard.

2.Power frequency AC Voltage withstand test For single core cable without shielding, impose test voltage 3.5kV/5 min between conductor and water when be immersed in the water for one hour. For multi-core cable, between each insulated conductor and other conductor, impose test voltage 3.5kV/5min.

Approximate outer diameter and weight of cable (From table 1 to table 5)

*Non-magnetic metal tape wrapping should be adopted as armored layer for single core armored cable for A.C. system. Magnetic separation measure should be adopted for cable with single conductor and steel wire armor.

Table 2

芯数×标称截面 mm ² Core number x nominal cross section area	电缆近似外径 mm Approximate outer diameter of cable	电缆近似重量 kg/km Approximate weight of cable		电缆近似外径 mm Approximate outer diameter of cable	电缆近似重量 kg/km Approximate weight of cable	
		VV	VLV		VV22	VLV22
2×1.5	10.4	118	/	/	/	/
2×2.5	11.3	151	118	/	/	/
2×4	13.0	210	159	16.0	424	374
2×6	13.9	263	192	17.1	494	425
2×10	16.5	394	242	19.8	665	497
2×16	18.6	541	334	21.8	845	638
2×25	22.0	794	468	25.3	1154	827
2×35	24.2	1037	585	27.5	1436	982
2×50	20.3	1236	592	23.6	1580	940
2×70	22.7	1647	745	26.0	2210	1302
2×95	26.2	2189	966	29.1	2800	1530
2×120	28.8	2640	1144	32.6	3400	1850
2×150	32.2	3280	1410	36.2	4150	2198
2×185	35.8	4006	1703	39.5	5025	2592

Table 3

芯数×标称截面 mm² Core number x nominal cross section area	电缆近似外径 mm Approximate outer diameter of cable	电缆近似重量 kg/km Approximate weight of cable		电缆近似外径 mm Approximate outer diameter of cable	电缆近似重量 kg/km Approximate weight of cable	
		VV	VLV		VV22	VLV22
3×1.5	10.6	142	/	/	/	/
3×2.5	11.7	187	139	/	/	/
3×4	13.6	264	189	16.6	489	413
3×6	14.7	335	226	17.7	578	472
3×10	17.4	514	290	20.4	801	560
3×16	19.7	729	418	22.7	1058	743
3×25	23.4	1085	596	26.4	1470	979
3×35	25.8	1430	748	28.8	2148	1370
3×50	25.5	1820	839	28.5	2457	1489
3×70	28.4	2400	1080	31.7	3122	1768
3×95	32.8	3155	1418	36.7	4055	2218
3×120	35.7	3982	1747	39.6	4925	2606
3×150	40.0	4950	2135	44.0	6050	3154
3×185	44.4	6156	2610	48.6	7299	3721
3×240	49.7	7886	3308	53.9	9223	4584
3×300	54.3	9647	4059	58.7	11022	5423

Table 4

芯数×标称截面 mm² Core number x nominal cross section area	电缆近似外径 mm Approximate outer diameter of cable	电缆近似重量 kg/km Approximate weight of cable		电缆近似外径 mm Approximate outer diameter of cable	电缆近似重量 kg/km Approximate weight of cable	
		VV	VLV		VV22	VLV22
4×2.5	12.2	225	166	/	/	/
4×4	15.0	332	231	18.0	581	480
4×6	16.2	430	270	19.2	703	551
4×10	19.7	641	393	22.7	891	637
4×16	22.0	902	499	25.0	1175	771
4×25	26.0	1438	766	29.0	1998	1347
4×35	28.7	1815	919	31.7	2585	1660
4×50	30.4	2380	1091	33.4	3100	1819
4×70	33.8	3202	1398	37.0	4039	2228
4×95	38.2	4300	1860	41.5	5200	2800
4×120	42.0	5269	2186	45.5	6400	3320
4×150	46.4	6554	2748	49.9	7806	3958
4×185	51.2	8090	3325	54.9	9442	4700
4×240	55.3	10355	4056	59.0	11887	5734
4×300	64.5	12776	4950	68.2	14356	6995

Table 5

芯数×标称截面 mm² Core number x nominal cross section area	电缆近似外径 mm Approximate outer diameter of cable	电缆近似重量 kg/km Approximate weight of cable		电缆近似外径 mm Approximate outer diameter of cable	电缆近似重量 kg/km Approximate weight of cable	
		VV	VLV		VV22	VLV22
3×4+1×2.5	14.5	310	215	17.5	543	447
3×6+1×4	16.1	403	268	19.1	661	526
3×10+1×6	18.9	600	363	21.9	894	625
3×16+1×10	21.6	858	505	24.6	1195	807
3×25+1×16	25.0	1315	693	28.0	1679	1082
3×35+1×16	27.6	1645	834	30.6	2243	1458
3×50+1×25	29.6	2124	996	32.6	2867	1736
3×70+1×50	33.2	2867	1285	36.2	3698	2099
3×95+1×50	38.0	3824	1664	42.1	4796	2636
3×120+1×70	41.5	4784	2060	45.5	5900	3129
3×150+1×70	44.6	5790	2473	48.4	6921	3623
3×185+1×95	49.7	7164	3050	54.2	8437	4369
3×240+1×120	55.9	9414	3842	60.3	11163	5586
3×300+1×150	61.6	11749	4920	66.0	13465	6445

七、电缆载流量 (0.6/1kV)

在空气中敷设；

单芯电缆平行敷设时中心距离185mm²及以下为电缆直径的2倍；240mm²及以上为90mm；

导电线芯最高允许工作温度：70℃，

周围环境温度：30℃。

Current-loading capacity of cable

In the Air.

Centre distance 185mm² and below of single core cable in parallel for installation is 2 times of outer diameter of cable. 240mm² and above is 90mm.

Allowed Max.core working temperature:70℃.

Ambient temperature:30℃.

不同空气温度下的载流量修正系数

Current-loading capacity correcting coefcient under different air temperature

空气温度℃ Air temperature	20	25	30	35	40	45
修正系数 Correcting coefficient	1.12	1.06	1.00	0.94	0.87	0.79

0.6/1KV铜导体PVC绝缘PVC护套阻燃或非阻燃电力电缆在空气中敷设长期连续负荷允许载流量

Long-term and continual current-loading capacity of 0.6/1KV CU/PVC/PVC flame retardant non-flame retardant Cable in the air

标称截面 Nominal cross section area mm ²	长期连续负荷载流量(A) Long-term and continual current-loading capacity											
	无铠装 Unarmored						铠装 Armour					
	单芯 Single core			2芯 2 cores	3芯 4芯 (3+1)芯	5芯 (4+1)芯 (3+2)芯	单芯 Single core			2芯	3芯 4芯 (3+1)芯	5芯 (4+1)芯 (3+2)芯
	2根 2cores ○○	3根 3cores ○○○ ○○○					2根 2cores ○○	3根 3cores ○○○ ○○○				
1.5	28	26	23	20	-	-	28	26	23	-	-	-
2.5	36	33	30	26	-	-	36	33	30	-	-	-
4	47	44	39	37	30		46	44	39	38	31	32
6	60	56	49	44	37	31	60	56	49	45	38	39
10	83	77	68	61	53	38	83	77	68	62	54	55
16	109	101	89	82	69	54	109	101	89	84	70	71
25	138	128	113	104	89	70	138	128	113	106	91	91
35	173	161	142	127	109	91	173	161	142	130	111	112
50	207	193	170	155	132	111	207	193	170	158	135	137
70	264	246	216	190	167	135	264	246	216	194	170	173
95	322	299	264	242	213	170	322	299	264	247	217	221
120	374	348	307	282	242	217	374	348	307	288	247	250
150	431	401	353	322	282	247	431	401	353	328	287	290
185	495	460	406	368	322	288	495	460	406	375	327	330
240	587	546	481	-	385	328	587	546	481	-	392	398
300	673	626	552	-	431	393	673	626	552	-	439	445
400	794	738	652	-	-	440	794	738	652	-	-	-
500	920	854	754	-	-	-	920	854	754	-	-	-

0.6/1kV铝导体PVC绝缘PVC护套阻燃或非阻燃电力电缆在空气中敷设长期连续负荷允许载流量
Long-term and continual current-loading capacity of 0.6/1kV AL/PVC/PVC flame retardant non-flame reardant cable in the air

标称截面 Nominal cross section area mm²	长期连续负荷载流量(A) Long-term and continual current-loading capacity											
	无铠装 Unarmored						铠装 Armour					
	单芯 Single core			2芯 2 cores	3芯 4芯 (3+1)芯	5芯 (4+1)芯 (3+2)芯	单芯 Single core			2芯	3芯 4芯 (3+1)芯	5芯 (4+1)芯 (3+2)芯
	2根 2cores ○○	3根 3cores					2根 2cores ○○	3根 3cores				
○○○		○○○	○○○					○○○				
2.5	28	26	23	21	17	17	28	26	23	-	-	-
4	37	34	30	28	23	23	37	34	30	28	23	23
6	48	45	40	37	30	31	48	45	40	37	30	31
10	63	59	52	48	40	41	63	59	52	48	40	41
16	84	78	69	63	54	55	84	78	69	63	54	55
25	110	102	90	81	69	70	110	102	90	81	69	70
35	132	123	108	99	85	87	132	123	108	99	85	87
50	161	150	132	121	104	106	161	150	132	121	104	106
70	201	187	165	150	132	135	201	187	165	150	132	135
95	247	230	203	190	161	164	247	230	203	190	161	164
120	288	268	236	219	190	194	288	268	236	219	190	194
150	334	311	274	247	219	223	334	311	274	247	219	223
185	385	358	316	288	247	252	385	358	316	288	247	252
240	454	422	372	-	299	305	454	422	372	-	299	305
300	523	486	429	-	339	346	523	486	429	-	339	346
400	621	578	509	-	-	-	621	578	509	-	-	-
500	725	674	595	-	-	-	725	674	595	-	-	-

直埋敷设

单芯电缆非接触敷设时，中心距离为电缆直径的2倍；导电芯最高允许工作温度：70℃，土壤温度：25℃；土壤热阻系数：1.0℃.m/w，直埋深度：0.8m。

Cable direct burial laying

Centre distance of single core cable for no contact laying is 2 times of outer diameter of cable.

Allowed Max.working temperature of conductor:70℃,Soil temperature:25℃. Heat-resistant coefficient is 1.0℃.m/w,depth of burying is 0.8m.

不同土壤温度下的载流量修正系统

Current-loading capacity correcting coefficient under different soil temperature

土壤温度 °C Soil temperature	15	20	25	30	35
修正系数 Correcting coefficient	1.11	1.05	1.00	0.94	0.88

0.6/1kV铜导体PVC绝缘PVC护套阻燃或非阻燃电力电缆在土壤中直埋敷设长期连续负荷允许载流量
Long-term and continual current-loading capacity of 0.6/1kV CU/PVC/PVC flame retardant non-flame reardant cable in the soil directly buried installation

标称截面 Nominal cross section area mm²	长期连续负荷载流量(A) Long-term and continual current-loading capacity											
	无铠装 Unarmored						铠装 Armour					
	单芯 Single core			2芯 2 cores	3芯 4芯 (3+1)芯	5芯 (4+1)芯 (3+2)芯	单芯 Single core			2芯	3芯 4芯 (3+1)芯	5芯 (4+1)芯 (3+2)芯
	2根 2cores ○○	3根 3cores ○○○ ○○○	2根 2cores ○○				3根 3cores ○○○ ○○○					
1.5	29	27	24	26	22	22	29	27	24	26	22	22
2.5	38	35	31	34	29	30	38	35	31	34	29	30
4	49	46	40	44	38	39	49	46	40	44	38	39
6	61	57	50	56	47	48	61	57	50	56	47	48
10	83	77	68	76	65	66	83	77	68	76	65	66
16	105	98	86	100	84	86	105	98	86	100	84	86
25	135	126	111	125	110	112	135	126	111	125	110	112
35	160	149	131	155	130	133	160	149	131	155	130	133
50	195	181	160	185	155	158	195	181	160	185	155	158
70	240	223	197	230	195	199	240	223	197	230	195	199
95	285	265	234	275	230	235	285	265	234	275	230	235
120	325	302	267	310	260	265	325	302	267	310	260	265
150	365	339	299	350	300	306	365	339	299	350	300	306
185	415	386	340	395	335	341	415	386	340	395	335	341
240	480	446	394	-	390	398	480	446	394	-	390	398
300	545	507	447	-	435	444	545	507	447	-	435	444
400	625	581	513	-	-	-	625	581	513	-	-	-
500	710	660	582	-	-	-	710	660	582	-	-	-

0.6/1kV铝导体PVC绝缘PVC护套阻燃或非阻燃电力电缆在土壤中直埋敷设长期连续负荷允许载流量

Long-term and continual current-loading capacity of 0.6/1kV AL/PVC/PVC flame retardant non-flame reardant cable in the soil directly buried installation

标称截面 Nominal cross section area mm ²	长期连续负荷载流量(A) Long-term and continual current-loading capacity											
	无铠装 Unarmored						铠装 Armour					
	单芯 Single core			2芯 2 cores	3芯 4芯 (3+1)芯	5芯 (4+1)芯 (3+2)芯	单芯 Single core			2芯	3芯 4芯 (3+1)芯	5芯 (4+1)芯 (3+2)芯
	2根 2cores ○○	3根 3cores					2根 2cores ○○	3根 3cores				
		○○○	○○○					○○○	○○○			
2.5	30	28	25		23	23	30	28	25		23	23
4	39	36	32	26	30	31	39	36	32	26	30	31
6	50	47	41	35	39	40	50	47	41	35	39	40
10	64	60	52	45	50	51	64	60	52	45	50	51
16	83	77	68	59	65	66	83	77	68	59	65	66
25	105	98	86	77	84	85	105	98	86	77	84	85
35	125	116	103	100	100	102	125	116	103	100	100	102
50	150	140	123	120	120	122	150	140	123	120	120	122
70	185	172	152	145	150	153	185	172	152	145	150	153
95	220	205	180	175	185	189	220	205	180	175	185	189
120	250	233	205	210	205	209	250	233	205	210	205	209
150	285	265	234	245	230	235	285	265	234	245	230	235
185	320	298	262	275	260	265	320	298	262	275	260	265
240	375	349	308	310	300	306	375	349	308	310	300	306
300	425	395	349	-	340	347	425	395	349	-	340	347
400	490	456	402	-	-	-	490	456	402	-	-	-
500	560	521	459	-	-	-	560	521	459	-	-	-

八、交货长度

按合同要求长度交货，长度计量误差为±0.5%。

Delivery Length

The goods will be delivered according to the contract with length error of ±0.5%.