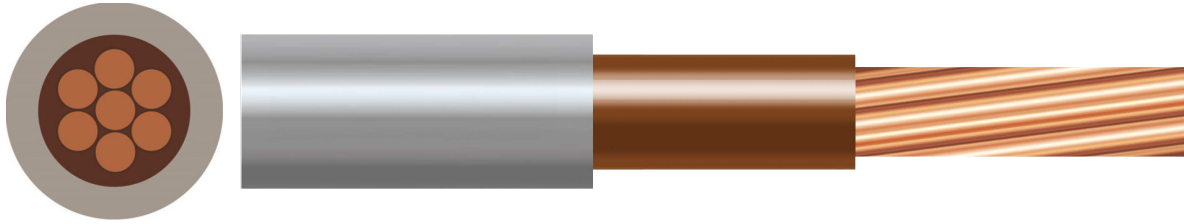


## 6181-Y DOUBLE INSULATED PVC SURFACE WIRING 300/500V



The 6181Y cable is a PVC sheathed single-core cable designed for fixed installations, including walls, boards, and channels, offering low smoke emission and corrosion resistance in case of fire. This double-insulated cable is suitable for building wiring applications in both domestic and light industrial settings, available in Blue and Brown core options.

<b>CONDUCTOR</b>	Plain Copper
<b>STRANDING</b>	Class 1 and Class 2
<b>INSULATION</b>	PVC
<b>OUTERSHEATH</b>	PVC
<b>RATED VOLTAGE</b>	300/500V
<b>MINIMUM BENDING RADIUS</b>	Diameter up to 10mm 3 x Overall diameter Diameter 10 - 25mm 4 x Overall diameter
<b>OPERATING TEMPERATURE</b>	Maximum 70°C, minimum bending 0°C

# SPECIFICATION DATA

Size sqmm	Diameter over conductor mm	Radial thickness of insulation mm	Diameter over core mm	Approx overall diameter	Weight
1.0	1.13	0.6	2.4	4.1	28
1.5	1.38	0.7	2.8	4.5	34
2.5	1.78	0.7	3.4	5.1	49
4	2.55	0.8	4.2	6.1	75
6	3.12	0.8	4.8	8.7	99
10	4.05	1.0	6.1	8.0	155
16	5.10	1.0	7.1	9.1	225
25	6.42	1.2	8.9	11.2	340

## RATING TABLES

**TABLE 4D1A – Single-core 70 °C thermoplastic insulated cables, non-armoured, with or without sheath (COPPER CONDUCTORS)**

Ambient temperature: 30 °C  
Conductor operating temperature: 70 °C

CURRENT-CARRYING CAPACITY (amperes):

Conductor cross-sectional area	Reference Method A (enclosed in conduit in thermally insulating wall etc.)		Reference Method B (enclosed in conduit on a wall or in trunking etc.)		Reference Method C (clipped direct)		Reference Method F (in free air or on a perforated cable tray horizontal or vertical)					
	2 cables, single-phase AC or DC	3 or 4 cables, three-phase AC	2 cables, single-phase AC or DC	3 or 4 cables, three-phase AC	2 cables, single-phase AC or DC flat and touching	3 or 4 cables, three-phase AC flat and touching or trefoil	Touching			Spaced by one diameter		
							2 cables, single-phase AC or DC flat	3 cables, three-phase AC flat	3 cables, three-phase AC trefoil	2 cables, single-phase AC or DC or 3 cables three-phase AC flat		
1	2	3	4	5	6	7	8	9	10	11	12	
(mm <sup>2</sup> )	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
1	11	10.5	13.5	12	15.5	14	-	-	-	-	-	-
1.5	14.5	13.5	17.5	15.5	20	18	-	-	-	-	-	-
2.5	20	18	24	21	27	25	-	-	-	-	-	-
4	26	24	32	28	37	33	-	-	-	-	-	-
6	34	31	41	36	47	43	-	-	-	-	-	-
10	46	42	57	50	65	59	-	-	-	-	-	-
16	61	56	76	68	87	79	-	-	-	-	-	-
25	80	73	101	89	114	104	131	114	110	146	130	
35	99	89	125	110	141	129	162	143	137	181	162	
50	119	108	151	134	182	167	196	174	167	219	197	
70	151	136	192	171	234	214	251	225	216	281	254	
95	182	164	232	207	284	261	304	275	264	341	311	
120	210	188	269	239	330	303	352	321	308	396	362	
150	240	216	300	262	381	349	406	372	356	456	419	
185	273	245	341	296	436	400	463	427	409	521	480	
240	321	286	400	346	515	472	546	507	485	615	569	
300	367	328	458	394	594	545	629	587	561	709	659	
400	-	-	546	467	694	634	754	689	656	852	795	
500	-	-	626	533	792	723	868	789	749	982	920	
630	-	-	720	611	904	826	1005	905	855	1138	1070	
800	-	-	-	-	1030	943	1086	1020	971	1265	1188	
1000	-	-	-	-	1154	1058	1216	1149	1079	1420	1337	

**COPPER CONDUCTORS**

**NOTE:**

For cables having flexible conductors, see section 2.4 of this Appendix for adjustment factors for current-carrying capacity and voltage drop.

TABLE 4D1B

VOLTAGE DROP (per ampere per metre):

Conductor operating temperature: 70 °C

Conductor cross-sectional area	2 cables, DC	2 cables, single-phase AC						3 or 4 cables, three-phase AC														
		Reference Methods A & B (enclosed in conduit or trunking)			Reference Methods C & F (clipped direct, on tray or in free air)			Reference Methods A & B (enclosed in conduit or trunking)			Reference Methods C & F (clipped direct, on tray or in free air)											
		Cables touching			Cables spaced*			Cables touching, Trefoil			Cables touching, Flat			Cables spaced*, Flat								
1	2	3			4			5			6			7			8			9		
(mm <sup>2</sup> )	(mV/A/m)	(mV/A/m)			(mV/A/m)			(mV/A/m)			(mV/A/m)			(mV/A/m)			(mV/A/m)			(mV/A/m)		
1	44	44			44			44			38			38			38			38		
1.5	29	29			29			29			25			25			25			25		
2.5	18	18			18			18			15			15			15			15		
4	11	11			11			11			9.5			9.5			9.5			9.5		
6	7.3	7.3			7.3			7.3			6.4			6.4			6.4			6.4		
10	4.4	4.4			4.4			4.4			3.8			3.8			3.8			3.8		
16	2.8	2.8			2.8			2.8			2.4			2.4			2.4			2.4		
25	1.75	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
35	1.25	1.80	0.33	1.80	1.75	0.20	1.75	1.75	0.29	1.80	1.50	0.29	1.55	1.50	0.175	1.50	1.50	0.25	1.55	1.50	0.32	1.55
50	0.93	1.30	0.31	1.30	1.25	0.195	1.25	1.25	0.28	1.30	1.10	0.27	1.10	1.10	0.170	1.10	1.10	0.24	1.10	1.10	0.32	1.15
70	0.63	0.95	0.30	1.00	0.93	0.190	0.95	0.93	0.28	0.97	0.81	0.26	0.85	0.80	0.165	0.82	0.80	0.24	0.84	0.80	0.32	0.86
95	0.46	0.65	0.29	0.72	0.63	0.185	0.66	0.63	0.27	0.69	0.56	0.25	0.61	0.55	0.160	0.57	0.55	0.24	0.60	0.55	0.31	0.63
120	0.36	0.49	0.28	0.56	0.47	0.180	0.50	0.47	0.27	0.54	0.42	0.24	0.48	0.41	0.155	0.43	0.41	0.23	0.47	0.40	0.31	0.51
150	0.29	0.37	0.27	0.47	0.37	0.175	0.41	0.37	0.26	0.45	0.33	0.23	0.41	0.32	0.150	0.36	0.32	0.23	0.40	0.32	0.30	0.44
185	0.23	0.30	0.27	0.41	0.30	0.175	0.34	0.29	0.26	0.39	0.27	0.23	0.36	0.26	0.150	0.30	0.26	0.23	0.34	0.26	0.30	0.40
240	0.180	0.24	0.27	0.37	0.24	0.170	0.29	0.24	0.26	0.35	0.22	0.23	0.32	0.21	0.145	0.26	0.21	0.22	0.31	0.21	0.30	0.36
300	0.145	0.185	0.26	0.33	0.185	0.165	0.25	0.185	0.25	0.31	0.17	0.23	0.29	0.160	0.145	0.22	0.160	0.22	0.27	0.160	0.29	0.34
400	0.105	0.150	0.26	0.31	0.150	0.165	0.22	0.150	0.25	0.29	0.14	0.23	0.27	0.130	0.140	0.190	0.130	0.22	0.25	0.130	0.29	0.32
500	0.086	0.120	0.26	0.29	0.120	0.160	0.20	0.115	0.25	0.27	0.12	0.22	0.25	0.105	0.140	0.175	0.105	0.21	0.24	0.100	0.29	0.31
630	0.068	0.098	0.25	0.28	0.098	0.155	0.185	0.093	0.24	0.26	0.10	0.22	0.25	0.086	0.135	0.160	0.086	0.21	0.23	0.081	0.29	0.30
800	0.053	0.081	0.25	0.27	0.081	0.155	0.175	0.076	0.24	0.25	0.08	0.22	0.24	0.072	0.135	0.150	0.072	0.21	0.22	0.066	0.28	0.29
1000	0.042	0.068	-	-	0.068	0.150	0.165	0.061	0.24	0.25	-	-	-	0.060	0.130	0.145	0.060	0.21	0.22	0.053	0.28	0.29
		0.059	-	-	0.059	0.150	0.160	0.050	0.24	0.24	-	-	-	0.052	0.130	0.140	0.052	0.20	0.21	0.044	0.28	0.28

NOTE: \* Spacings larger than one cable diameter will result in a larger voltage drop.

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