

## 6181Y PVC SINGLE CORE, DOUBLE INSULATED SURFACE WIRING CABLE



### APPLICATION

6181Y is a PVC single core cable, it is double insulated with a voltage rating of 300/500V. It's a general surface wire cable for fixed installation, domestic and light industrial use. Available in Blue and Brown core, sizes from 1mm<sup>2</sup> – 120mm<sup>2</sup>.

### CONSTRUCTION

**Conductor:**

**1mm – 2.5mm:** Solid conductor

**Above 2.5mm:** Plain annealed stranded circular copper conductor, single core

**Insulation:** PVC available in Brown or Blue

**Sheath:** PVC

**Sheath Colour:** Grey or White

### CABLE STANDARDS

BS 6004

Flame propagation to

BS EN 50265 (IEC 60332)

Flame Propagation according to

IEC/EN 60332-1-2

### CHARACTERISTICS

**Voltage Rating:** 300/500 Volts

**120mm<sup>2</sup> Rating:** 600/1000 Volts

**Temperature Limits:** -15°C to +70°C

**Minimum Bending Radius:** As per cable manufacturer datasheet

### CORE IDENTIFICATION

All sizes available in **Brown** and **Blue**

Should not be installed at temperatures below 0°C or above +60°C

## 6181Y PVC CABLE DIMENSIONS

CCC CODE	CONDUCTOR SIZE (MM <sup>2</sup> )	STRANDING (MM)	NUMBER OF CORES	WEIGHT (KG/KM)	OVERALL DIAMETER (MM)	GLAND REF	NYLON CLEAT SIZE
6181Y1**	1	1/1.13	1	28	4.5	20/16	-
6181Y1/5**	1.5	1/1.38	1	36	5.1	20/16	-
6181Y2/5**	2	1/1.78	1	51	6	20/16	-
61814	4	7/0.85	1	75	6.8	20/16	-
6181Y6	6	7/1.04	1	98	7.4	20/16	-
6181Y10	10	7/1.35	1	150	8.8	20S	-
6181Y16	16	7/1.70	1	220	10.5	20S	0.5
6181Y25	25	7/2.14	1	340	12.5	20	0.5
6181Y35	35	7/2.52	1	440	13.5	25	0.6
6181Y50	50	19/1.78	1	540	14.38	25	0.6
6181Y70	70	19/2.14	1	750	15.3	25	0.7
6181Y95	95	19/2.52	1	1010	17.7	25	0.7
6181Y120	120	37/2.03	1	1250	19.3	32	0.8

## 6181Y PVC - CARRYING CAPACITY (AMPERES)

CONDUCTOR CROSS - SECTIONAL AREA	REFERENCE METHOD A (ENCLOSED IN CONDUIT 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 ON A PERFORATED CABLE TRAY HORIZONTAL OR VERTICAL)				
	2 CABLES, SINGLE - PHASE AC OR DC	3 OR 4 CABLES, SINGLE - 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	
										HORIZONTAL	VERTICAL
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)
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

THE ABOVE IS IN ACCORDANCE WITH 18TH EDITION OF IET WIRING REGULATIONS.

## 6181Y PVC - VOLTAGE DROP

CROSS SECTIONAL AREA MM <sup>2</sup>	2 CABLES DC mV/A/m	2 CABLES SINGLE-PHASE AC mV/A/m									3 OR 4 CABLES THREE-PHASE AC mV/A/m											
		REFERENCE METHODS A AND B (ENCLOSED IN CONDUIT OR TRUNKING)			REFERENCE METHODS C, F AND G (CLIPPED DIRECT, ON TRAY OR IN FREE AIR)						REFERENCE METHODS A AND B (ENCLOSED IN CONDUIT OR TRUNKING)			REFERENCE METHODS C, F AND G (CLIPPED DIRECT, ON TRAY OR IN FREE AIR)								
					CABLES TOUCHING			CABLES SPACED*						CABLES TOUCHING, TREFOIL		CABLES TOUCHING, FLAT		CABLES SPACED*, FLAT				
(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)							
1.5	28.00	29.00			29.00			29.00			25.00		25.00		25.00		25.00					
2.5	18.00	18.00			18.00			18.00			15.00		15.00		15.00		15.00					
4	11.00	11.00			11.00			11.00			9.50		9.50		9.50		9.50					
6	7.3	7.30			7.30			7.3			6.40		6.40		6.40		6.40					
10	4.40	4.40			4.40			4.40			3.80		3.80		3.80		3.80					
16	2.80	2.80			2.80			2.80			2.40		2.40		2.40		2.40					
		R	X	Z	R	X	Z	R	X	Z	R	X	Z	R	X	Z	R	X	Z	R	X	Z
25	1.750	1.800	0.330	1.800	1.750	0.200	1.750	1.750	0.290	1.800	1.500	0.290	1.550	1.500	0.180	1.500	0.150	0.250	1.550	1.500	0.320	1.550
35	1.250	1.300	0.310	1.300	1.250	0.200	1.250	1.250	0.280	1.300	1.100	0.270	1.100	1.100	0.170	1.100	1.100	0.24	1.100	1.100	0.320	1.150
50	0.930	0.950	0.300	1.000	0.930	0.190	0.950	0.930	0.280	0.970	0.81	0.260	0.850	0.800	0.170	0.820	0.800	0.24	0.840	0.800	0.320	0.860
70	0.630	0.650	0.290	0.720	0.630	0.185	0.660	0.630	0.270	0.690	0.560	0.250	0.61	0.550	0.160	0.57	0.550	0.24	0.600	0.550	0.31	0.630
95	0.460	0.490	0.280	0.560	0.47	0.180	0.500	0.47	0.270	0.540	0.420	0.24	0.480	0.41	0.160	0.430	0.41	0.230	0.47	0.400	0.31	0.51
120	0.360	0.390	0.270	0.47	0.370	0.180	0.410	0.370	0.260	0.450	0.330	0.230	0.41	0.320	0.150	0.360	0.320	0.230	0.400	0.320	0.300	0.440

THE ABOVE IS IN ACCORDANCE WITH 18TH EDITION OF IET WIRING REGULATIONS

CONDUCTOR OPERATING TEMPERATURE: 90°C

R = RESISTIVE COMPONENT  
X = REACTIVE COMPONENT  
Z = IMPEDANCE VALUE

\* SPACINGS LARGER THAN THOSE SPECIFIED IN METHOD 12 WILL RESULT IN LARGER VOLT DROP.

THE INFORMATION CONTAINED WITHIN THIS DATASHEET IS FOR GUIDANCE ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE OR LIABILITY. WE BELIEVE THE INFORMATION IS CORRECT AT THE TIME OF PUBLICATION. PLEASE NOTE WHEN SELECTING CABLE ACCESSORIES THAT ACTUAL CABLE DIMENSIONS MAY VARY DUE TO MANUFACTURING TOLERANCES.