

# 6181Y Double Insulated Cable

Application: Domestic wiring cable. Can be installed in fixed installations in dry or damp premises clipped direct, on trays or in free air where mechanical damage would not be an issue. Suitable for laying in conduit or trunking where mechanical protection is required. *These cables are not intended to be laid underground.*



1	Conductor	H07V-R: Class 2 standard plain copper conductors H07V-U: Class 1 solid plain copper conductor
2	Insulation	PVC (Polyvinyl Chloride)
3	Sheath	PVC (Polyvinyl Chloride)

**Voltage Rating**            300/500V

**Conductor Operating Temperature**    0°C to +70°C

### Core Identification

Brown or Blue Insulation  
Grey Sheath

Conductor Size	Class of Conductor	Thickness of Insulation	Weight kg / km	Nominal Overall Diameter
1.0	1	0.8	26	4.1
1.5	1	0.8	35	4.5
2.5	1	0.8	55	5.1
4.0	2	0.8	75	6.1
6.0	2	0.8	95	8.7
10.0	2	1.0	15	8.0
16.0	2	1.0	225	9.1
25.0	2	1.2	340	11.2
35.0	2	1.2	445	13.5

*The information contained within this datasheet is for guidance only. Please note the actual cable dimensions may vary due to manufacturing tolerance.*



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 a.c. or d.c	3 or 4 cables, three - phase a.c	2 Cables, single - phase a.c. or d.c.	3 or 4 cables, three - phase a.c.	2 cables, single - phase a.c. or d.c. flat and touching	3 or 4 cables, three - phase a.c. flat and touching or trefoil	Touching			Spaced By One Diameter		
							2 Cables, single - phase a.c. or d.c. flat	3 cables, three - phase a.c. flat	3 cables, three - phase a.c. trefoil	2 Cables, single phase a.c. or d.c. or 3 cables three-phase a.c. flat	Horizontal	Vertical
(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	32	41	36	47	43	-	-	-	-	-	-
10	46	42	5	50	65	59	-	-	-	-	-	-
16	61	56	76	68	87	79	-	-	-	-	-	-
25	80	73	101	98	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	182	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	439	406	32	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	

NOTE:  
For cable 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 d.c.	2 Cables, single - phrase a.c.									3 or 4 cables, three - phrase a.c.											
		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 Spaces*, 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	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			935		
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		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.75	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
35	1.25	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
50	0.93	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
70	0.63	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
95	0.46	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
120	0.36	0.39	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
150	0.29	0.31	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
185	0.23	0.25	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
240	0.180	0.195	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
300	0.145	0.160	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
400	0.105	0.160	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
500	0.086	0.110	0.26	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
630	0.068	0.094	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
800	0.053	-			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
1000	0.042	-			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.