

## 6181B Surface Wiring Cable - BS7211,LSZH - 1.5mm<sup>2</sup> to 120mm<sup>2</sup>



### Description

6181B is a Low Smoke Zero Halogen single core cable, double insulated with a voltage rating of 450/750V. General surface wire cable for fixed installation, domestic and light industrial use. Available in Blue and Brown cores, sizes from 1.5mm<sup>2</sup> – 35mm<sup>2</sup>. As this cable is used internally, it is covered by current CPR regulations. This cable is BASEC Approved to 35mm<sup>2</sup>.

### Key Features



**Voltage Rating**  
450/750 Volts



**Minimum Bending Radius**  
Up to 25mm<sup>2</sup>: 8 x overall diameter  
35mm<sup>2</sup>: 12x overall diameter



**Flame Retardancy**  
BS EN/IEC 60332-1



**Temperature Limits**  
Maximum operating temperature of conductor: +90°C  
Maximum short-circuit temperature up to 5 sec: +250°C



**CPR Compliant**  
Yes

### Standards

- BS EN/IEC 60332-1
- BS EN/IEC 61034
- BS EN/IEC 60228
- IEC/EN 60754-1/2
- BS 7211

### Construction

- **Conductor:** Up to 25mm<sup>2</sup> Class 1 solid copper circular or sector shaped conductor 35mm<sup>2</sup> and above Class 2 Stranded copper sector shaped
- **Insulation:** Cross Linked polyethylene (XLPE)
- **Sheath:** Low Smoke Zero Halogen (LSZH)
- **Sheath Colour:** Grey or White

### QA Lab

#### Cleveland Cable Test & Training Lab

Our state-of-the-art cable testing facility ensures that every cable meets the highest standards of quality and compliance through continuous, rigorous testing. Where applicable, cables are independently tested and certified by BASEC to ensure full compliance.



#### CPR

Cleveland Cable Company is committed to compliance with the Construction Products Regulation (CPR). Where applicable, all cables manufactured after 1st July 2017 have been assessed in accordance with CPR requirements, with full supporting documentation available.



### Our Sustainability Commitment

We are committed to the journey to Net Zero as a business partner, an employer and a community member.

By thinking and acting sustainably, we deliver excellent customer service while reducing carbon emissions in collaboration with our customers and suppliers.



#### ecovadis

Cleveland Cable Company has been independently assessed by EcoVadis, a globally recognised provider of business sustainability ratings. Our score places us among the top 35% of companies evaluated worldwide, reflecting our strong commitment to environmental, social, and ethical performance



## 6181B Surface Wiring Cable - BS7211,LSZH - 1.5mm<sup>2</sup> to 120mm<sup>2</sup> - Dimensions

Reference	Conductor Size (mm <sup>2</sup> )	No Of Cores	Stranding(mm)	Overall Diameter(mm)	Weight(Kg/Km)	Nylon Size	Gland Ref
6181B1/5B	1.5	1	1/1.38	5.1	34	NONE	20/16
6181B2/5B	2.5	1	1/1.78	6	49	NONE	20/16
6181B4B	4	1	7/0.85	6.8	75	NONE	20/16
6181B6B	6	1	7/1.04	7.4	99	NONE	20/16
6181B10B	10	1	7/1.35	8.8	155	NONE	20S
6181B16B	16	1	7/1.04	10.5	225	NONE	20S
6181B25B	25	1	7/2.14	12.5	340	0.5	20
6181B35BR	35	1	7/2.52	13.5	440	0.5	25
6181B35BU	35	1	7/2.52	13.5	440	0.6	25
6181B50B	50	1	19/1.78	14.0	525	0.6	25
6181B70B	70	1	19/2.14	15.5	730	0.7	25
6181B95B	95	1	19/2.52	18.0	990	0.7	25
6181B120BU	120	1	37/2.30	19.5	1230	0.8	32

TABLE 4D1A

CURRENT-CARRYING CAPACITY (amperes):

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

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)				
							Touching			Spaced by one diameter	
	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	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)
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

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/Nm)	(mV/Afm)			(mV/Afm)			(mV/Afm)			(mV/Afm)	(mV/Afm)			(mV/Afm)			(mV/Afm)				
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				
		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	0.130	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

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