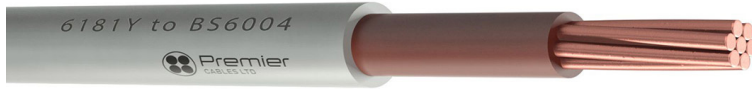


6181Y / BS 6004 Cable



Application

Fixed installation in dry or damp areas for domestic and light industrial wiring.
Also used to connect smart meters.

Standards

BS 6004

EN 60228

Flame Retardant according to IEC/EN 60332-1-2

Characteristics

Voltage Rating U_o/U

300/500V

Temperature Rating

Fixed: -15°C to +70°C

Minimum Bending Radius

Up to 6mm² - Fixed: 3 x overall diameter

10mm² to 25mm² - Fixed: 4 x overall diameter



Construction

Conductor

1mm² to 2.5mm² - class 1 solid copper conductor

4mm² to 25mm² - class 2 stranded copper conductor

Insulation

PVC (Polyvinyl Chloride)

Sheath

PVC (Polyvinyl Chloride)

Sheath Colour

Grey



Dimensions

NOMINAL CROSS SECTIONAL AREA mm ²	NOMINAL DIAMETER OF CONDUCTOR mm	NOMINAL THICKNESS OF INSULATION mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
1	1.13	0.6	4.1	28
1.5	1.38	0.7	4.6	34
2.5	1.76	0.8	5.3	49
4	2.5	0.8	6.1	75
6	3	0.8	6.7	99
10	3.85	1	8.1	155
16	4.8	1	9.3	225
25	5.9	1.2	11.1	340

Conductors

Class 1 Solid Conductors for Single Core and Multi-Core Cables

NOMINAL CROSS SECTIONAL AREA mm ²	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C ohms/km	
	Circular, Annealed Copper Conductors	
	Plain Wires	Metal-Coated Wires
1	18.1	18.2
1.5	12.1	12.2
2.5	7.41	7.56

The above table is in accordance with EN 60228

Class 2 Stranded Conductors for Single Core and Multi-Core Cables

NOMINAL CROSS SECTIONAL AREA mm ²	MINIMUM NO. OF WIRES IN CONDUCTOR mm						MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C ohms/km	
	Circular		Circular Compacted		Shaped		Annealed Copper Conductor	
	Cu	Al	Cu	Al	Cu	Al	Plain Wires	Metal-Coated Wires
4	7	-	6	-	-	-	4.61	4.7
6	7	-	6	-	-	-	3.08	3.11
10	7	7	6	6	-	-	1.83	1.84
16	7	7	6	6	-	-	1.15	1.16
25	7	7	6	6	6	6	0.727	0.734

The above table is in accordance with EN 60228

Electrical Characteristics

Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA mm ²	REFERENCE METHOD A (ENCLOSED IN CONDUIT IN THERMALLY INSULATING WALL ETC) Amps		REFERENCE METHOD A (ENCLOSED IN CONDUIT IN THERMALLY INSULATING WALL ETC) Amps		REFERENCE METHOD C (CLIPPED DIRECT) Amps		REFERENCE METHOD F (IN FREE AIR OR ON A PERFORATED CABLE TRAY ETC HORIZONTAL OR VERTICAL ETC) Amps				
	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	3 or 4 Cables Three-Phase AC	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	Horizontal	Vertical
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

Ambient temperature: 30°C

Conductor operating temperature: 70°C

The above table is in accordance with Table 4D1A of the 18th Edition of IEE Wiring Regulations BS7671 and IEC 60364-5-52.

Voltage Drop

NOMINAL CROSS SECTIONAL AREA mm ²	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						
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
		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	0.15	0.25	1.55	1.50	0.32	1.55

Conductor operating temperature: 70°C

r = Resistive Component

x = Reactive Component

z = Impedance Value

* Spacings larger than one cable diameter will result in larger volt drop.

De-Rating Factors

For Ambient Air Temperatures other than 30°C

AMBIENT TEMPERATURE	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
DE-RATING FACTOR	1.03	1.00	0.94	0.87	0.79	0.71	0.61	0.50

The information contained within this datasheet is for guidance only and is subject to change without notice or liability. All the information is provided in good faith and is believed to be correct at the time of publication. When selecting cable accessories, please note that actual cable dimensions may vary due to manufacturing tolerances.