

TECHNICAL DATA SHEET

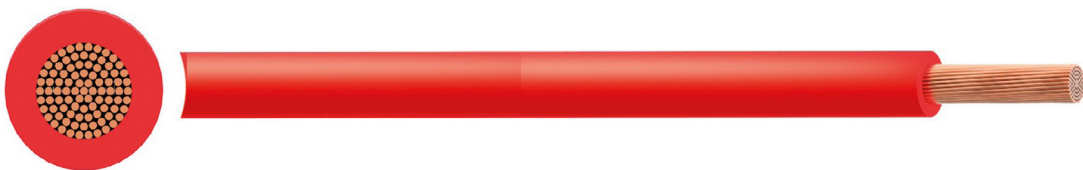
PRO-ELEC

2491B / 6701B - H05Z-K / H07Z-K BS EN 50525-3-41 Cable

**RoHS
Compliant**

Construction	
Conductor	Class 5 flexible plain copper
Insulation	LSZH (Low Smoke Zero Halogen)
Insulation Core	Red, Black, Blue, Orange, White, Yellow, Green/Yellow, Grey, Brown, Violet, Pink
Sheath Colour	See Table

Specification	
Voltage Rating Uo/U	H05Z-K - 0.5mm ² to 1mm ² : 300/500V H07Z-K - 1.5mm ² to 240mm ² : 450/750V
Temperature Rating	-25°C to +90°C
Minimum Bend Radius	Up to 35mm ² : 4 x overall diameter 50mm ² and above: 6 x overall diameter



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DIMENSIONS

PART NO	CROSS SECTIONAL AREA mm ² (NOMINAL)	THICKNESS OF INSULATION mm (NOMINAL)	NOMINAL OVERALL DIAMETER mm		MINIMUM RESISTANCE OF INSULATION AT 90°C Mohms/km	NOMINAL WEIGHT kg/km
			Lower Limit	Upper Limit		
CB20904 CB20905 CB20906 CB20907 CB20908 CB20909 CB20910 CB20911 CB20912 CB20913 CB20914 CB20915	0.5	0.6	1.9	2.4	0.015	8.7
CB20916 CB20917 CB20918 CB20919 CB20920 CB20921 CB20922 CB20923 CB20924 CB20925 CB20926 CB20927	0.75	0.6	2.2	2.8	0.001	11.3
CB20928 CB20929 CB20930 CB20931 CB20932 CB20933 CB20934 CB20935 CB20936 CB20937 CB20938 CB20939	1	0.6	2.4	2.9	0.01	13.9
CB20940 CB20941 CB20942 CB20943 CB20944 CB20945 CB20946 CB20947 CB20948 CB20949 CB20950 CB20951	1.5	0.7	2.8	3.5	0.010	19.3

TECHNICAL DATA SHEET

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PART NO	CROSS SECTIONAL AREA mm ² (NOMINAL)	THICKNESS OF INSULATION mm (NOMINAL)	NOMINAL OVERALL DIAMETER mm		MINIMUM RESISTANCE OF INSULATION AT 90°C Mohms/km	NOMINAL WEIGHT kg/km
			Lower Limit	Upper Limit		
CB20952 CB20953 CB20954 CB20955 CB20956 CB20957 CB20958 CB20959 CB20960 CB20961 CB20962 CB20963	2.5	0.8	3.4	4.3	0.009	30.0
CB20964 CB20965 CB20966 CB20967 CB20968 CB20969 CB20970 CB20971 CB20972 CB20975	4	0.8	3.9	4.9	0.007	44.9
CB20976 CB20977 CB20978 CB20979 CB20980 CB20981 CB20982 CB20983 CB20984 CB20985 CB20986	6	0.8	4.4	5.5	0.006	64.2
CB20987 CB20988 CB20989 CB20990 CB20991	10	1	5.7	7.1	0.0056	108.2
CB20992 CB20993 CB20994 CB20995 CB20996	16	1	6.7	8.4	0.0046	163.4

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CONDUCTORS

Class 5 Flexible Copper Conductors for Single Core and Multi-Core Cables

NOMINAL CROSS SECTIONAL AREA mm ²	MAXIMUM DIAMETER OF WIRES IN CONDUCTOR mm	MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C ohms/km (Plain Wires)
0.5	0.21	39
0.75	0.21	26
1	0.21	19.5
1.5	0.26	13.3
2.5	0.26	7.98
4	0.31	4.95
6	0.31	3.3
10	0.41	1.91
16	0.41	1.21
25	0.41	0.780
35	0.41	0.554
50	0.41	0.386
70	0.51	0.272
95	0.51	0.206
120	0.51	0.161
150	0.51	0.129
185	0.51	0.106
240	0.51	0.0801

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TECHNICAL DATA SHEET

ELECTRICAL CHARACTERISTICS Current Carrying Capacity and Voltage Drop

NOMINAL CROSS SECTIONAL AREA mm ²	REFERENCE METHOD A (ENCLOSED IN CONDUIT IN THERMALLY INSULATING WALL ETC) Amps		REFERENCE METHOD B (ENCLOSED IN CONDUIT ON A WALL OR IN A TRUNKING 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) TOUCHING Amps			REFERENCE METHOD G (IN FREE AIR) SPACED BY ONE CABLE DIAMETER 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 flat or 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	
										Horizontal	Vertical
1	14	13	17	15	19	17.5	-	-	-	-	-
1.5	19	17	23	20	25	23	-	-	-	-	-
2.5	26	23	31	28	34	31	-	-	-	-	-
4	35	31	42	37	46	41	-	-	-	-	-
6	45	40	54	48	59	54	-	-	-	-	-
10	61	54	75	66	81	74	-	-	-	-	-
16	81	73	100	88	109	99	-	-	-	-	-
25	106	95	133	117	143	130	161	141	135	182	161
35	131	117	164	144	176	161	200	176	169	226	201
50	158	141	198	175	228	209	242	216	207	275	246
70	200	179	253	222	293	268	310	279	268	353	318
95	241	216	306	269	355	326	377	342	328	430	389
120	278	249	354	312	413	379	437	400	383	500	454
150	318	285	393	342	476	436	504	464	444	577	527
185	362	324	449	384	545	500	575	533	510	661	605
240	424	380	528	450	644	590	679	634	607	781	719

Ambient temperature: 30°C

Conductor operating temperature: 90°C

1. Where a conductor operates at a temperature exceeding 70°C it must be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature (see also Regulation 512.1.2).
2. Where cables in this table are connected to equipment or accessories designed to operate at a temperature not exceeding 70°C, the current ratings given in the equivalent table for 70°C thermoplastic insulated cables (Table 4D1A) must be used (see Regulation 523.1).

The above table is in accordance with Table 4E1A of the 17th Edition of IEE Wiring Regulations.

TECHNICAL DATA SHEET

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)											
					Cable Touching			Cable Spaced						Cable Touching Trefoil			Cable Touching Flat			Cable Spaced* Flat					
1	46	46			46						40			40			40			40					
1.5	31	31			31						27			27			27			27					
2.5	19	19			19						16			16			16			16					
4	12	12			12						10			10			10			10					
6	7.9	7.9			7.9						6.8			6.8			6.8			6.8					
10	4.7	4.7			4.7						4			4			4			4					
16	2.9	2.9			2.9						2.5			2.5			2.5			2.5					
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.85	1.850	0.310	1.900	1.850	0.190	1.85	1.850	0.280	1.850	1.600	0.270	1.650	1.600	0.165	1.600	1.600	0.190	1.600	1.600	0.270	1.650	1.600	0.270	1.650
35	1.35	1.350	0.290	1.350	1.350	0.180	1.35	1.350	0.270	1.350	1.150	0.250	1.150	1.150	0.155	1.150	1.150	0.180	1.150	1.150	0.260	1.200	1.150	0.260	1.200
50	0.99	1.000	0.290	1.050	0.990	0.180	1.000	0.990	0.270	1.000	0.870	0.250	0.900	0.860	0.155	0.870	0.860	0.180	0.870	0.860	0.260	0.890	0.860	0.260	0.890
70	0.68	0.700	0.280	0.750	0.680	0.175	0.710	0.680	0.260	0.730	0.600	0.240	0.650	0.590	0.150	0.610	0.590	0.175	0.620	0.590	0.250	0.650	0.590	0.250	0.650
95	0.49	0.510	0.270	0.580	0.490	0.170	0.520	0.490	0.260	0.560	0.440	0.230	0.500	0.430	0.145	0.450	0.430	0.170	0.460	0.430	0.250	0.490	0.430	0.250	0.490
120	0.39	0.410	0.260	0.480	0.390	0.165	0.430	0.390	0.250	0.470	0.350	0.230	0.420	0.340	0.140	0.370	0.340	0.165	0.380	0.340	0.240	0.420	0.340	0.240	0.420

Conductor operating temperature: 90°C

r = Resistive Component

x = Reactive Component

z = Impedance Value

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

The above table is in accordance with Table 4E1B of the 17th Edition of IEE Wiring Regulations.

For cables having conductors of 16mm² or less cross-sectional area their inductances can be ignored and (mV/A/m)r values only are tabulated. For cables having conductors greater than 16mm², cross-sectional area the impedance values are given as (mV/A/m)z, together with the resistive component (mV/A/m)r and the reactive component (mV/A/m)x.

The above paragraph is extracted from Appendix 4 of the 17th Edition of IEE Wiring Regulations.

DERATING FACTORS

AMBIENT TEMPERATURE	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C	85°C	90°C	95°C
DE-RATING FACTOR	1.02	1.00	0.96	0.91	0.87	0.82	0.76	0.71	0.65	0.58	-	-	-