

Internal Telephone Cable (Generally Complies with BT Specification CW1308)

Central Office Cable

Plain Annealed Copper Wire/PVC Insulation/HFFR Sheathed



BRITISH CABLES COMPANY

Internal telephony wiring - PVC/HFFR

Application

The cable is designed to handle low frequency signals for short-range applications and is intended to be terminated in Insulation Displacement Connectors (IDC), but may be soldered or wrapped.

Construction

There are three modes of construction; Layer for general use, including two cables for installation in customer's premises where a good appearance is required. Unit, of 20 pairs, including a 1.38mm diameter insulated earth conductor, for use with customer distribution schemes. Unit, of 16 pairs, for use with the binary number system. Unit, of 30 pairs, for use with Pulse Code Modulation (PCM) systems.

Product description

Plain annealed solid copper wire, PVC insulated twisted pair or triple, HFFR sheath. An optional collective screen of aluminium coated polyester is available on request.



Number Pairs	Conductor Diameter (mm)	Minimum Radial Insulation (mm)	Maximum Insulated Diameter (mm)	Unit Size/Make-up	Minimum Sheath Radial (mm)	Maximum Overall Diameter (mm)	Resistance @ 20°C (ohms/km)	Capacitance Unbalance (pF/500m)
2	0.4	0.15	0.85	Layer	0.40	3.9	153.0	300
3	0.4	0.15	0.85	Layer	0.50	5.3	153.0	300
4	0.4	0.15	0.85	Layer	0.50	5.8	153.0	300
6	0.4	0.15	0.85	Layer	0.60	6.8	153.0	300
10	0.4	0.15	0.85	Layer	0.60	8.3	153.0	300
12	0.4	0.15	0.85	Layer	0.70	8.9	153.0	300
20	0.4	0.15	0.85	Layer	0.70	10.4	153.0	300
25	0.4	0.15	0.85	Layer	0.80	11.1	153.0	300
2	0.5	0.15	0.95	Layer	0.65	4.2	97.8	500
3	0.5	0.15	0.95	Layer	0.65	5.0	97.8	500
4	0.5	0.15	0.95	Layer	0.65	5.8	97.8	500
6	0.5	0.15	0.95	Layer	0.60	6.8	97.8	500
10	0.5	0.15	0.95	Layer	0.60	8.3	97.8	500
12	0.5	0.15	0.95	Layer	0.70	9.1	97.8	500
15	0.5	0.15	0.95	Layer	0.70	9.8	97.8	500
20**	0.5	0.15	0.95	Layer	0.80	10.7	97.8	500
25	0.5	0.15	0.95	Layer	0.80	11.4	97.8	500

20** this cable has an additional 0.5mm insulated conductor, coloured VIOLET.

Number Pairs	Conductor Diameter (mm)	Minimum Radial Insulation (mm)	Maximum Insulated Diameter (mm)	Unit Size/ Make-up	Minimum Sheath Radial (mm)	Maximum Overall Diameter (mm)	Resistance @ 20°C (ohms/km)	Capacitance Unbalance (pF/500m)
8	0.4	0.15	0.85	½ x 16	0.60	7.2	153.0	200
16	0.4	0.15	0.85	16	0.70	9.8	153.0	200
32	0.4	0.15	0.85	16	0.80	12.0	153.0	200
64	0.4	0.15	0.85	16	1.10	16.0	153.0	200
30	0.4	0.15	0.85	30	0.80	11.8	153.0	200
120	0.4	0.15	0.85	30	1.60	24.8	153.0	200
150	0.4	0.15	0.85	30	1.70	26.0	153.0	200
8	0.5	0.15	0.95	½ x 16	0.60	7.6	97.8	500
16	0.5	0.15	0.95	16	0.70	10.2	97.8	500
32	0.5	0.15	0.95	16	0.80	12.4	97.8	500
64	0.5	0.15	0.95	16	1.10	16.5	97.8	500
128	0.5	0.15	0.95	16	1.60	25.4	97.8	500
256	0.5	0.15	0.95	16	2.00	35.2	97.8	500
10 + E	0.5	0.15	0.95	½ x 20	0.60	8.6	97.8	500
20 + E	0.5	0.15	0.95	20	0.70	12.0	97.8	500
40 + E	0.5	0.15	0.95	20	0.90	15.0	97.8	500
50 + E	0.5	0.15	0.95	20	1.00	17.0	97.8	500
80 + E	0.5	0.15	0.95	20	1.20	22.5	97.8	500
100 + E	0.5	0.15	0.95	20	1.50	27.0	97.8	500
160 + E	0.5	0.15	0.95	20	1.70	30.3	97.8	500
320 + E	0.5	0.15	0.95	20	2.20	39.5	97.8	500
30	0.5	0.15	0.95	30	0.80	12.2	97.8	500
120	0.5	0.15	0.95	30	1.60	25.1	97.8	500
200 + E	0.5	0.15	0.95	20	2.00	35.0	97.8	500

Note: The 'E' in the table above indicates that the cable contains an earth-wire. This consists of a 1.38mm solid copper conductor (maximum resistance 12.4 ohms/km), insulated with Cream PVC to a nominal 2.7mm.

Insulation resistance

Insulation resistance measurements shall be made with not less than 500 volts D.C. After steady electrification for one minute the insulation resistance measured between each conductor and the remaining conductors connected together shall be not less than 50 megohms per 1000 metres at 20°C.

Colour scheme for pairs & triples

Cabling Element No.	a-wire	b-wire	Cabling Element No.	a-wire	b-wire
1	WHITE-Blue	BLUE-White	16	YELLOW-Blue	BLUE-Yellow
2	WHITE-Orange	ORANGE-White	17	YELLOW-Orange	ORANGE-Yellow
3	WHITE-Green	GREEN-White	18	YELLOW-Green	GREEN-Yellow
4	WHITE-Brown	BROWN-White	19	YELLOW-Brown	BROWN-Yellow
5	WHITE-Grey	GREY-White	20	YELLOW-Grey	GREY-Yellow
6	RED-Blue	BLUE-Red	21	VIOLET-Blue	BLUE-Violet
7	RED-Orange	ORANGE-Red	22	VIOLET-Orange	ORANGE-Violet
8	RED-Green	GREEN-Red	23	VIOLET-Green	GREEN-Violet
9	RED-Brown	BROWN-Red	24	VIOLET-Brown	BROWN-Violet
10	RED-Grey	GREY-Red	25	VIOLET-Grey	GREY-Violet
11	BLACK-Blue	BLUE-Black	26	PINK-Blue	BLUE-Pink
12	BLACK-Orange	ORANGE-Black	27	PINK-Orange	ORANGE-Pink
13	BLACK-Green	GREEN-Black	28	PINK-Green	GREEN-Pink
14	BLACK-Brown	BROWN-Black	29	PINK-Brown	BROWN-Pink
15	BLACK-Grey	GREY-Black	30	PINK-Grey	GREY-Pink

Make-up & unit identification colours – 16 pair unit

Pair Size	8 Pair	16 Pair	32 Pair	64 Pair	128 Pair	256 Pair
	Number of Units					
Centre	½	1	4 x ½	1	4 x ½	1
1st Layer				6 x ½	6	5
2nd Layer						10
Unit No.	Colours of Unit Lappings					
1	Orange	Orange	Orange	Orange	Orange	Orange
2			Green	Orange	Green	Orange
3				Natural	Orange	Natural
4				Green	Natural	Natural
5					Natural	Natural
6					Natural	Green
7					Natural	Orange
8					Green	Natural
9-15						Natural
16						Green

Note 1: ½ refers to sub-units of 8 Pairs.

Make-up & unit identification colours – 20 pair unit

Pair Size	10 Pair	20 Pair	40 Pair	50 Pair	80 Pair	100 Pair	160 Pair	320 Pair
	Number of Units							
Centre	½	1	4 x ½	5 x ½	1	1	4 x ½	1
1st Layer					6 x ½	8 x ½	6	5
2nd Layer						*****		10
Unit No.	Colours of Unit Lappings							
1	Orange	Orange	Orange	Orange	Orange	Orange	Orange	Orange
2			Green	Natural	Orange	Orange	Green	Orange
3				Green*	Natural	Natural	Orange	Natural
4					Green	Natural	Natural	Natural
5						Green	Natural	Natural
6							Natural	Green
7							Natural	Orange
8							Green	Natural
9-15								Natural
16								Green

Note 1: ½ refers to sub-units of 10 Pairs. **Note 2:** These cables include the single 1.38mm diameter insulated conductor. * The Green colour lapping shall be applied to the last ½ unit. ***** At the manufacturer's discretion the first layer may be 4 x 1. Alternatively the centre layer may be 5 x 1 in which case the Unit lappings shall be coloured Orange, 3 x Natural, Green.

Make-up & unit identification colours – 30 pair unit

Pair Size	30 Pair	120 Pair	150 Pair
	Number of Units		
Centre	1	1	1
1st Layer		6 x ½	8 x ½
Unit No.	Colours of Unit Lappings		
1	Orange	Orange	Orange
2		Orange	Orange
3		Natural	Natural
4		Green	Blue
5			Green

Note 1: ½ refers to sub-units of 15 Pairs.



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