

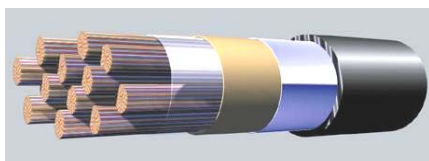
### Application

The cable is designed primarily for use in the Local Main Network where it is pressurised and used in conjunction with Resin Air Blocks. There is an option for spare pair units to be incorporated into cables of 200 Pairs and above.

### Construction

Twisted pairs in 25 Pair Units. The pair range is 50 – 4800.

Number Pairs	Conductor Size (mm)	Nominal Insulated Diameter (mm)	Minimum Sheath Radial (mm)	Resistance per kilometre at 20°C (ohms)		Mutual Capacitance per kilometre (nanofarads)		Maximum Overall Diameter (mm)
				Maximum Average	Maximum (99%)	Maximum Average	Maximum (99%)	



### Product Description

Plain annealed solid copper wire, solid polyethylene insulation, twisted pairs, polypropylene and paper core wraps, and a black low-density polyethylene sheath incorporating a longitudinally applied aluminium/polyethylene moisture barrier.

50	0.32	0.61	1.6	223	239	53	60	14.0
100	0.32	0.61	1.6	223	239	53	60	17.0
200	0.32	0.61	1.7	223	239	53	60	22.0
300	0.32	0.61	1.8	223	239	53	60	26.0
400	0.32	0.61	1.8	223	239	53	60	29.5
500	0.32	0.61	1.9	223	239	53	60	32.0
600	0.32	0.61	1.9	223	239	53	60	34.0
800	0.32	0.61	2.0	223	239	53	60	39.0
1000	0.32	0.61	2.1	223	239	53	60	42.5
1200	0.32	0.61	2.2	223	239	53	60	47.0
1600	0.32	0.61	2.3	223	239	53	60	53.0
2000	0.32	0.61	2.4	223	239	53	60	58.5
2400	0.32	0.61	2.5	223	239	53	60	62.0
3200	0.32	0.61	2.6	223	239	53	60	70.0
4000	0.32	0.61	2.6	223	239	68	75	66.0*
4800	0.32	0.61	2.7	223	239	68	75	71.0*

\* These cables have a reduced nominal insulation thickness of 0.48mm.

50	0.40	0.75	1.6	143	150	53	60	16.0
100	0.40	0.75	1.7	143	150	53	60	20.5
200	0.40	0.75	1.8	143	150	53	60	26.0
300	0.40	0.75	1.9	143	150	53	60	30.5
400	0.40	0.75	1.9	143	150	53	60	35.0
500	0.40	0.75	2.0	143	150	53	60	37.5
600	0.40	0.75	2.1	143	150	53	60	40.5
800	0.40	0.75	2.2	143	150	53	60	46.5
1000	0.40	0.75	2.3	143	150	53	60	51.5
1200	0.40	0.75	2.4	143	150	53	60	56.0
1600	0.40	0.75	2.6	143	150	53	60	65.5
2000	0.40	0.75	2.6	143	150	53	60	70.0

Continued.....

Number Pairs	Conductor Size (mm)	Nominal Insulated Diameter (mm)	Minimum Sheath Radial (mm)	Resistance per kilometre at 20°C (ohms)		Mutual Capacitance per kilometre (nanofarads)		Maximum Overall Diameter (mm)
				Maximum Average	Maximum (99%)	Maximum Average	Maximum (99%)	
50	0.50	0.90	1.6	91	96	53	60	19.0
100	0.50	0.90	1.7	91	96	53	60	23.5
200	0.50	0.90	1.9	91	96	53	60	30.5
300	0.50	0.90	2.0	91	96	53	60	37.0
400	0.50	0.90	2.1	91	96	53	60	42.5
500	0.50	0.90	2.2	91	96	53	60	46.0
600	0.50	0.90	2.2	91	96	53	60	49.5
800	0.50	0.90	2.4	91	96	53	60	56.5
1000	0.50	0.90	2.5	91	96	53	60	62.5
1200	0.50	0.90	2.6	91	96	53	60	69.0

50	0.63	1.15	1.7	58	60	56	60	22.0
100	0.63	1.15	1.8	58	60	56	60	28.0
200	0.63	1.15	2.0	58	60	56	60	37.5
300	0.63	1.15	2.2	58	60	56	60	46.0
400	0.63	1.15	2.3	58	60	56	60	52.5
500	0.63	1.15	2.4	58	60	56	60	56.5
800	0.63	1.15	2.7	58	60	56	60	70.5

50	0.90	1.50	1.8	28	30	59	64	27.5
100	0.90	1.50	2.0	28	30	59	64	38.0

*Note:* Mutual capacitance values may be increased by 3% for cables with a nominal number of pairs less than 400.

### 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 6500 megohms per 1000 metres at 20°C.

### Capacitance Unbalance Measurement and Correction Factor

Pair to Pair capacitance unbalance measurements shall be made at a suitable audio frequency. During the measurements the aluminium foil and all conductors other than those under test shall be connected to earth.

The measurements shall be corrected as follows, L being the length in metres of the cable under test. Lengths of less than 100 metres are considered as 100 metres.

$$\frac{1}{2} [L/500 + (L/500)^{1/2}]$$

Not more than 1% of the corrected capacitance unbalance measurements between adjacent pairs shall exceed 275pF.

### CW1171 Pair Colour Scheme, Cable Make-up and Spare Pair Allowance

Cabling Element Number	a-wire	b-wire	Cable Size	Number & Pair Sizes of Units in Centre and successive Layers				No. of Pairs in Spare Pair Unit	No. of Unusable Pairs Allowed
				Centre	1 <sup>st</sup> Layer	2 <sup>nd</sup> Layer	3 <sup>rd</sup> Layer		
1	WHITE	BLUE	50	1 x 50	-	-	-	0	1
2	WHITE	ORANGE	100	1 x 25	3 x (12 +13)	-	-	0	1
3	WHITE	GREEN	200	1 x 50	6 x 25	-	-	4	2
4	WHITE	BROWN		4 x 50	-	-	-		
5	WHITE	GREY	300	1 x 50	5 x 50	-	-	4	3
6	RED	BLUE		1 x 100	8 x 25	-	-		
7	RED	ORANGE	400	1 x 100	6 x 50	-	-	4	3
8	RED	GREEN	500	3 x 50	7 x 50	-	-	4	4
9	RED	BROWN		1 x 100	8 x 50	-	-		
10	RED	GREY	600	3 x 50	9 x 50	-	-	4	4
11	BLACK	BLUE		1 x 100	5 x 100	-	-		
12	BLACK	ORANGE	800	1 x 50	5 x 50	10 x 50	-	4	5
13	BLACK	GREEN		4 x 50	6 x 100	-	-		
14	BLACK	BROWN	1000	4 x 50	8 x 100	-	-	4	5
15	BLACK	GREY		3 x 100	7 x 100	-	-		
16	YELLOW	BLUE	1200	3 x 100	9 x 100	-	-	4	5
17	YELLOW	ORANGE		4 x 100	8 x 100	-	-		
18	YELLOW	GREEN	1600	1 x 100	5 x 100	10 x 100	-	4	6
19	YELLOW	BROWN	2000	4 x 50	6 x 100	12 x 100	-	8	6
20	YELLOW	GREY	2400	3 x 100	8 x 100	13 x 100	-	8	7
21	VIOLET	BLUE	3200	1 x 100	5 x 100	10 x 100	16 x 100	8	7
22	VIOLET	ORANGE	4000	3 x 100	7 x 100	12 x 100	18 x 100	8	8
23	VIOLET	GREEN	4800	4 x 100	9 x 100	15 x 100	20 x 100	8	8
24	VIOLET	BROWN							
25	VIOLET	GREY							

Note: Alternative make-ups are shown for some sizes and as a further alternative any cable can be made up using 25 Pair Units throughout.

#### Binder Colour Identification (Double & Quadruple Units)

UNIT	Position of Sub-Unit or Unit			
	First	Second	Third	Fourth
Double	BLUE	BLUE	ORANGE	ORANGE
Quadruple	BLUE	ORANGE	GREEN	BROWN

#### Binder Colour Identification (Centre & Layers)

Position of Units		
First	Intermediate	Last
RED	NATURAL	GREEN