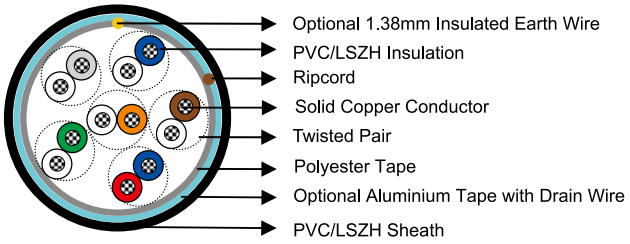
Indoor Central Office Cables to CW 1308

APPLICATION

The cables are designed to handle low frequency signals for short range applications, suitable for internal connection of telephone systems and other communications equipment. Also, they are designed to be terminated in insulation displacement connectors (IDC).Insulated and sheathed in PVC or LSZH, these cables offer an extremely cost effective general signal cable for fixed installation.

STANDARDS

• CW 1308



CONSTRUCTION

- **Conductors:** Solid annealed copper sized 0.4/0.5mm as per class 1 of BS 6360/IEC 60228.
- **Insulation:** Colour coded PVC TI 54/LSZH for copper conductor & PVC TI 54/LSZH for the 1.38mm earth conductor.
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lay length to minimize crosstalk.
- **Cabling Element:** Pairs or triples.
- **Cable Core Assembly:** There are two modes of construction: layer construction and unit construction. For layer construction, cables are laid up in concentric layers to form a compact and circular cable. Layer construction is for general use, including two cables for installation in customer's premises where a good appearance is required. For Unit construction, the elements shall be pairs and laid up as units or sub-units. This include unit of 20 pairs which contain an insulated earth conductor of 1.38mm, for use with customer distribution schemes; unit of 16 pairs for use with the binary number system and unit of 30 pairs for use with Pulse Code Modulation (PCM) systems.
- **Core Wrapping:** Cable containing more than 6 pairs have a polyester tape applied over the cable core prior to sheathing.
- **Screen (optional):** A 24μ aluminium polyester foil shield can be provided for fully enclosing the core with an overlap.
- **Sheath:** PVC TM51 grade or LSZH compound. Grey, White, Cream or Black colours are standard.
- **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.
- **Drain Wire (optional):** For screened cables, a solid tinned 0.5mm copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.4	0.5	1.38
Conductor Size	mm^2	0.126	0.196	1.495
Maximum Conductor Resistance @20°C	Ω/km	153	97.8	12.4
Minimum Insulation Resistance 500V DC @20°C	MΩ·km	50	50	N/A
Maximum Capacitance Unbalance @0.8KHz-3.0KHz pair-to-pair	pF/500m	200(Unit)/300(Layer)	500	N/A

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Minimum Insulation Thickness	mm	0.15	0.15	0.55
Maximum Insulated Conductor Diameter	mm	0.85	0.95	3.5

MECHANICAL AND THERMAL PROPERTIES

Temperature range during operation (fixed state): -30°C – +70°C

Temperature range during installation (mobile state): -20°C – +50°C

Minimum bending radius: 7.5 x Overall Diameter

COLOUR CODE

Make Up & Unit Identification Colours – 16 Pair Unit

Pair Size	8 Pairs	16 Pairs	32 Pairs	64 Pairs	128 Pairs	256 Pairs
	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
7					GREEN	NATURAL
9-15						NATURAL
16						GREEN

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

Make Up & Unit Identification Colours – 20 Pair Unit

Pair Size	10 Pairs	20 Pairs	40 Pairs	50 Pairs	80 Pairs	100 Pairs	160 Pairs	320 Pairs
	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
7							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 1 Natural, Green.

Make Up & Unit Identification Colours – 30 Pair Unit

Pair Size	30 Pairs	120 Pairs	150 Pairs
	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.

Colour Scheme for Pairs & Triples

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

In each triple, the c-wire shall be coloured TURQUOISE

DIMENSIONS AND WEIGHT

Cable Code	Number of Pairs	Minimum Insulation Thickness mm	Make Up	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.85mm Insulated Wire-Layer (Pair)						
TP1308-YY-2P04	2	0.15	Layer	0.4	3.9	15
TP1308-YY-3P04	3	0.15	Layer	0.5	5.3	21
TP1308-YY-4P04	4	0.15	Layer	0.5	5.8	25
TP1308-YY-6P04	6	0.15	Layer	0.6	6.8	37
TP1308-YY-10P04	10	0.15	Layer	0.6	8.3	54
TP1308-YY-12P04	12	0.15	Layer	0.7	8.9	61
TP1308-YY-20P04	20	0.15	Layer	0.7	10.4	95
TP1308-YY-25P04	25	0.15	Layer	0.8	11.1	115
0.5mm Conductor, 0.95mm Insulated Wire-Layer (Pair)						
TP1308-YY-3P05	3	0.15	Layer	0.65	5.0	25
TP1308-YY-4P05	4	0.15	Layer	0.65	5.8	30
TP1308-YY-6P05	6	0.15	Layer	0.6	6.8	40

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Cable Code	Number of Pairs	Minimum Insulation Thickness mm	Make Up	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
TP1308-YY-10P05	10	0.15	Layer	0.6	8.3	50
TP1308-YY-12P05	12	0.15	Layer	0.7	9.1	75
TP1308-YY-15P05	15	0.15	Layer	0.7	9.8	98
TP1308-YY-20P05	20*	0.15	Layer	0.8	10.7	140
TP1308-YY-25P05	25	0.15	Layer	0.8	11.4	184

*This cable has an additional 0.5mm insulated conductor coloured VIOLET.

Cable Code	Number of Triples	Minimum Insulation Thickness mm	Minimum Primary Sheath Thickness mm	Minimum Secondary Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.85mm Insulated Wire-Layer (Triple)						
TP1308-YY-1T04	1	0.15	0.4	—	3.8	17
TP1308-YY-5T04	5	0.15	0.4	0.8	13.0	45
0.5mm Conductor, 0.95mm Insulated Wire-Layer (Triple)						
TP1308-YY-1T05	1	0.15	0.4	—	4.0	20
TP1308-YY-5T05	5	0.15	0.4	0.8	13.5	65

Cable Code	Number of Pairs	Minimum Insulation Thickness mm	Size of Unit	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.85mm Insulated Wire-Unit (Pair)						
TP1308-YY-8P04	8	0.15	1/2*16	0.6	7.2	45
TP1308-YY-16P04	16	0.15	16	0.7	9.8	80
TP1308-YY-32P04	32	0.15	16	0.8	12.0	145
TP1308-YY-64P04	64	0.15	16	1.1	16.0	260
TP1308-YY-30P04	30	0.15	30	0.8	11.8	130
TP1308-YY-120P04	120	0.15	30	1.6	24.8	480
TP1308-YY-150P04	150	0.15	30	1.7	26.0	590
0.5mm Conductor, 0.95mm Insulated Wire-Unit (Pair)						
TP1308-YY-8P05	8	0.15	1/2*16	0.6	7.6	65
TP1308-YY-16P05	16	0.15	16	0.7	10.2	115
TP1308-YY-32P05	32	0.15	16	0.8	12.4	205
TP1308-YY-64P05	64	0.15	16	1.1	16.5	390
TP1308-YY-128P05	128	0.15	16	1.6	25.4	785
TP1308-YY-256P05	256	0.15	16	2.0	35.2	1460
TP1308-YY-(10P+E)05	10+E	0.15	1/2*20	0.6	8.6	85
TP1308-YY-(20P+E)05	20+E	0.15	20	0.7	12.0	160
TP1308-YY-(40P+E)05	40+E	0.15	20	0.9	15.0	371
TP1308-YY-(50P+E)05	50+E	0.15	20	1.0	17.0	427
TP1308-YY-(80P+E)05	80+E	0.15	20	1.2	22.5	610
TP1308-YY-(100P+E)05	100+E	0.15	20	1.5	27.0	630
TP1308-YY-(160P+E)05	160+E	0.15	20	1.7	30.3	1059
TP1308-YY-(320P+E)05	320+E	0.15	20	2.2	39.5	2255
TP1308-YY-30P05	30	0.15	30	0.8	12.2	190
TP1308-YY-120P05	120	0.15	30	1.6	25.1	765
TP1308-YY-150P05	150	0.15	30	1.7	26.0	1100

Note: For those cables with BT designation suffixed E contain a 1.38mm diameter insulated earth conductor.