

PE Insulated & LSZH Sheathed Cables to CW 1600

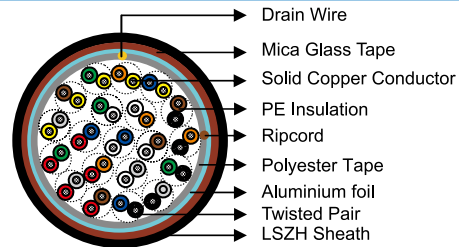
APPLICATION

The cables are similar in design and application to CW 1308, but with Low Smoke Halogen Free cores and sheath. CW 1600 has the added advantage of an Aluminium/Polyester foil screen and drain wire. A fire barrier tape is included on cable with more than 6 pairs. The cables are used for the internal wiring of building when the need to protect people and equipment from smoke and fumes is paramount. The cables are designed to handle low frequency signals for short range applications and intended to be terminated in insulation displacement connectors (IDC).



STANDARDS

- CW 1600



CONSTRUCTION

- **Conductors:** Solid annealed bare or tinned copper sized 0.5mm (24AWG respectively) as per class 1 of BS 6360/IEC 60228.
- **Insulation:** Solid polyethylene as per BS 6234/IEC 60708.
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lay length to minimize crosstalk.
- **Cabling Element:** Twisted Pairs/Triples/Quads.
- **Cable Core Assembly:** There are two modes of construction: layer for general use, including two cables for installation in customer's premises where a good appearance is required; and unit of 20 pairs which includes an insulated earth conductor of 1.38mm, for use with customer distribution scheme.
- **Core Wrapping:** Cable containing more than 12 wires have a polyester tape applied over the cable core prior to sheathing.
- **Screen:** A 24 μ aluminium polyester foil shield can be provided for fully enclosing the core with an overlap.
- **Fire Barrier Tape:** Mica glass tape is included in cable with more than 6 pairs for achieving the required fire properties.
- **Sheath:** LSZH compound. Grey, White, Cream or Black colours are available for options.
- **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.
- **Drain Wire:** A solid tinned 0.5mm earth/continuity wire shall be laid longitudinally.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.5	1.38
Conductor Size	mm ²	0.196	1.495
Maximum Conductor Resistance @20°C	Ω /km	97.8	12.4
Minimum Insulation Resistance @500V DC	M Ω -km	50	N/A
Maximum Average Mutual Capacitance @0.8KHz-3.0KHz	nF/km	80	N/A
Maximum Capacitance Unbalance @0.8KHz-3.0KHz pair-to-pair	pF/500m	500	N/A



Caledonian

INDOOR TELEPHONE CABLES

www.caledonian-cables.co.uk www.addison-cables.com

(Continued from previous page)

Minimum Insulation Thickness	mm	0.15	0.55
Maximum Insulated Conductor Diameter	mm	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: 10 x Overall Diameter

FIRE HAZARD PERFORMANCE

- 1) Minimum Smoke Emission IEC 61034, EN 50268 (New: EN 61034), VDE 0482-268 (New: VDE 0482-1034)
These standards specify a method to measure the generation of smoke from cables during fire. The result is expressed as percentage of light transmitted. Usually, the smoke density shall not be less than 60%.
- 2) Halogen Free IEC 60754-1, EN 50267-2-1
These standards specify a method for determination of the amount of halogen acid gas evolved during combustion of compound. The hydrochloric acid yield should be less than 0.5%.
- 3) Non corrosive gases IEC 60754-2, EN 50267-2-2, VDE 0482-267
These standards specify a method for determination of acidity of gas evolved during combustion of cables by measuring PH and conductivity. The specimen is deemed to pass this test if the pH value is less than 4.3 when related to 1 litre of water and conductivity is less than 10 µs/min.
- 4) Reduced Fire Propagation IEC 60332-3C, EN 50266-2-4, VDE 0482-266-2-4
These standards specify a method for flame propagation test for bunched cables.
- 5) Flame Retardancy IEC 60332-1, VDE 0482-265-2-1
These standards specify a method for flame propagation test for single core cables.
- 6) Temperature Index BS EN ISO 4589-3, BS 2782 Part 1
These standards specify a method for measuring the temperature Index of materials. The temperature index shall be equal or greater than 280°C.
- 7) Oxygen Index BS EN ISO 4589-2, BS 2863
These standards specify a test for measuring the minimum oxygen concentration to support candle like combustion of plastics. The oxygen index shall not be less than 30%.

COLOUR CODE

Colour Scheme for Pairs

Cabling Element No.	a-wire		b-wire	Cabling Element No.	a-wire		b-wire
1	WHITE	Blue	BLUE	13	BLACK	Green	GREEN
2	WHITE	Orange	ORANGE	14	BLACK	Brown	BROWN
3	WHITE	Green	GREEN	15	BLACK	Grey	GREY
4	WHITE	Brown	BROWN	16	YELLOW	Blue	BLUE
5	WHITE	Grey	GREY	17	YELLOW	Orange	ORANGE
6	RED	Blue	BLUE	18	YELLOW	Green	GREEN

(Continued from previous page)

Cabling Element No.	a-wire		b-wire	Cabling Element No.	a-wire		b-wire
7	RED	Orange	ORANGE	19	YELLOW	Brown	BROWN
8	RED	Green	GREEN	20	YELLOW	Grey	GREY
9	RED	Brown	BROWN	21	VIOLET	Blue	BLUE
10	RED	Grey	GREY	22	VIOLET	Orange	ORANGE
11	BLACK	Blue	BLUE	23	VIOLET	Green	GREEN
12	BLACK	Orange	ORANGE	24	VIOLET	Brown	BROWN
				25	VIOLET	Grey	GREY

Note 1: Uppercase letters indicate the base, solid colour of insulation, and the lower case indicates ink bands applied onto the base colour.

Make Up & Unit Identification Colours – Unit

Pair Size	20 Pairs	40 Pairs	80 Pairs	100 Pairs	160 Pairs	320 Pairs
	Number of Units					
Centre	1	4 X ½	1	1	4 X ½	1
1 st Layer			6 X ½	8 X ½	6	5
2 nd Layer						10
Unit No.	Colours of Unit Lappings					
1	ORANGE	ORANGE	ORANGE	ORANGE	ORANGE	ORANGE
2		GREEN	ORANGE	ORANGE	GREEN	ORANGE
3			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.

DIMENSIONS AND WEIGHT

Cable Code	Number of Pairs	Minimum Insulation Thickness mm	Pair Elements or Unit Size	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.5mm Conductor, 0.95mm Insulated Wire-Layer						
TP1600-2Y(St)H-2P05	2	0.15	Prs1-2	0.6	4.5	23
TP1600-2Y(St)H-3P05	3	0.15	Prs1-3	0.6	5.0	35
TP1600-2Y(St)H-4P05	4	0.15	Prs1-4	0.6	5.8	40
TP1600-2Y(St)H-6P05	6	0.15	Prs1-6	0.6	6.8	51
TP1600-2Y(St)H-12P05	12	0.15	Prs1-12	0.7	9.1	92
TP1600-2Y(St)H-25P05	25	0.15	Prs1-25	0.8	11.4	167
0.5mm Conductor, 0.95mm Insulated Wire-Unit						
TP1600-2Y(St)H-(10P+E)05	10+E	0.15	1/2X20	0.6	8.6	102
TP1600-2Y(St)H-(20P+E)05	20+E	0.15	20	0.7	12.0	157
TP1600-2Y(St)H-(40P+E)05	40+E	0.15	20	0.9	15.0	271
TP1600-2Y(St)H-(50P+E)05	50+E	0.15	20	1.0	18.0	341
TP1600-2Y(St)H-(80P+E)05	80+E	0.15	20	1.2	22.5	496
TP1600-2Y(St)H-(100P+E)05	100+E	0.15	20	1.5	27.0	633
TP1600-2Y(St)H-(160P+E)05	160+E	0.15	20	1.7	30.3	960
TP1600-2Y(St)H-(320P+E)05	320+E	0.15	20	2.2	39.5	1840

Note: The "E" in the table above indicates that the cable contains an earth-wire.