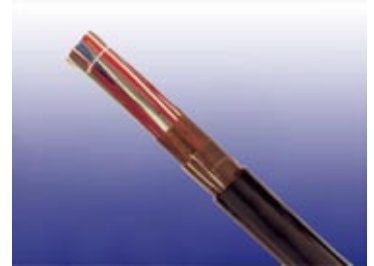


## Cellular PE Insulated & PE Sheathed Jelly Filled Cables to CW 1236

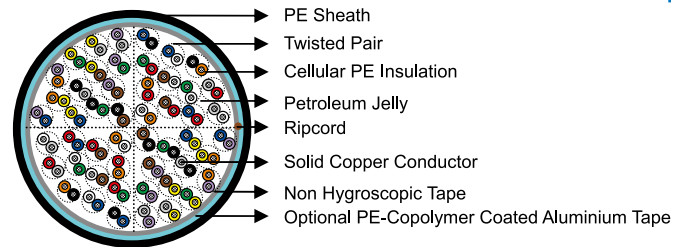
### APPLICATION

The cables are fully filled with petroleum jelly, being designed for use in access or trunk networks, from telephone exchange to subscriber area. The cables are suitable for installation in ducts and direct burial in the ground.



### STANDARDS

- CW 1236



### CONSTRUCTION

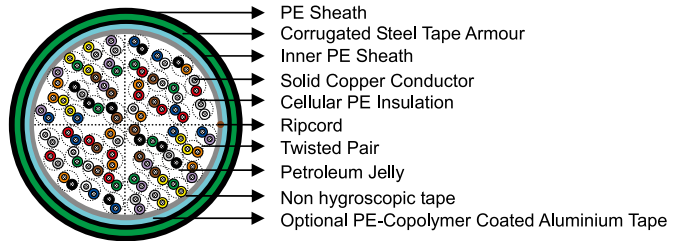
- **Conductors:** Solid annealed bare copper 0.32/0.4/0.5/0.63/0.9mm as per class 1 of BS 6360/IEC 60228.
- **Insulation:** Cellular polyethylene as per BS 6234/BS EN 50290-2-23/IEC 60708.
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lay length to minimize crosstalk.
- **Cabling Element:** Twisted Pairs.
- **Cable Core Assembly:** Cables with up to 100 pairs are composed of 25-pair units or 12/13-pair units; cables with over 100 pairs are composed of 25, 50 or 100-pair units cabled together. Any extra pairs form a separate unit. Units are identified by colour coded binders. Standard construction is per CW 1236 given in Cable Make Up Diagram.
- **Core Wrapping:** One or more non-hygroscopic polyester tapes are helically or longitudinally laid with an overlap. These tapes furnish thermal, mechanical as well as high dielectric protection between shielding and individual conductors.
- **Moisture Barrier (optional):** An optional aluminium tape (0.15mm) coated with PE-copolymer on one or both sides is applied longitudinally with overlap over the cable core to provide 100% electrical shielding coverage and ensures a barrier against water vapor.
- **Filling:** The cable core interstices are filled with petroleum jelly to avoid longitudinal water penetration within the cable. The water resistant filling compound is applied to the air space between non-hygroscopic tape and shield, shield and sheath within the cable core.
- **Sheath:** Black low density polyethylene as per BS 6234/IEC 60708, being able to withstand exposure to sunlight, temperature variations, ground chemicals and other environmental contaminants.
- **Ripcord:** Ripcord may be provided for slitting the sheath longitudinally to facilitate its removal.
- **Spare Pairs (optional):** Spare pairs may be incorporated for 200 and larger pair cables.
- **Continuity Wire (optional):** One tinned copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.



# Caledonian

## OUTDOOR TELEPHONE CABLES

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### OPTIONAL CONSTRUCTION

- **Armoured Cable:** Steel wire armour or corrugated steel tape armour is applied over an optional inner polyethylene sheath. For steel tape version, the 0.15mm thick steel tape is coated with a copolymer and applied with an overlap. An outer polyethylene sheath is applied over the armour.

### ELECTRICAL CHARACTERISTICS

Nominal Conductor Diameter	mm	0.32	0.4	0.5	0.63	0.9
Conductor Gauge Size	AWG	28	26	24	22	19
Conductor Size	mm <sup>2</sup>	0.08	0.126	0.196	0.312	0.636
Maximum Average Conductor Resistance @20°C	Ω/km	223	143	91	58	28
Minimum Insulation Resistance @500V DC	MΩ·km	1500	1500	1500	1500	1500
Maximum Average Mutual Capacitance @800Hz*	nF/km	56	56	56	56	59
Maximum Individual Mutual Capacitance @800Hz (for 99% cases)	nF/km	64	64	64	64	65
Maximum Individual Capacitance Unbalance @800Hz pair-to-pair (for 99% cases)	pF/500m	275	275	275	275	275
Maximum Conductor Loop Resistance @20°C	Ω/km	470	300	192	114	60
Impedance @1KHz	Ω	1000	994	796	660	445
Impedance @100KHz	Ω	156	147	134	125	122
Impedance @512KHz	Ω	122	120	118	117	116
Impedance @1MHz	Ω	120	117	115	114	113
Maximum Average Attenuation @0.8KHz	dB/km	1.76	1.64	1.30	1.04	0.74
Maximum Average Attenuation @1KHz	dB/km	1.8	1.68	1.35	1.08	0.76
Maximum Average Attenuation @3KHz	dB/km	3.4	3.18	2.52	2.01	1.42
Maximum Average Attenuation @150KHz	dB/km	16.8	11.4	8.3	6.2	4.4
Maximum Average Attenuation @772KHz	dB/km	29.5	24.3	19.4	15.4	10.8
Maximum Average Attenuation @1000KHz	dB/km	33.5	27.1	21.4	17.5	12.8
Dielectric Strength Conductor to Conductor (3secs)	V DC	500	500	500	500	500
Nominal Insulation Thickness	mm	0.145	0.175	0.20	0.26	0.30
Nominal Insulated Conductor Diameter	mm	0.61	0.75	0.90	1.15	1.50

\*Mutual capacitance values for 0.63mm & 0.9mm may be increased by 3% for cables with a nominal number of pairs less than 400.

### 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 (unarmoured cables); 15 x Overall Diameter (armoured cables)

## COLOUR CODE

Standard colour code is per CW 1236 given in Colour Code Chart

## DIMENSIONS AND WEIGHT

Cellular PE Insulated and LAP Sheathed Jelly Filled Cable to CW 1236

Cable Code	Number of Pairs	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.32mm Conductor, 0.61mm Insulated Wire				
TP1236-02YF(L)2Y-100P032	100	1.6	17.0	350
TP1236-02YF(L)2Y-200P032	200	1.7	22.0	578
TP1236-02YF(L)2Y-300P032	300	1.8	26.0	850
TP1236-02YF(L)2Y-400P032	400	1.8	29.0	1069
TP1236-02YF(L)2Y-500P032	500	1.9	32.0	1213
TP1236-02YF(L)2Y-600P032	600	1.9	34.0	1472
TP1236-02YF(L)2Y-800P032	800	2.0	39.0	1954
TP1236-02YF(L)2Y-1000P032	1000	2.1	42.5	2419
TP1236-02YF(L)2Y-1200P032	1200	2.2	47.0	2954
TP1236-02YF(L)2Y-1600P032	1600	2.3	53.0	3391
TP1236-02YF(L)2Y-2000P032	2000	2.4	58.5	3648
TP1236-02YF(L)2Y-2400P032	2400	2.5	62.0	4180
TP1236-02YF(L)2Y-3200P032	3200	2.6	70.0	4636
0.4mm Conductor, 0.75mm Insulated Wire				
TP1236-02YF(L)2Y-50P04	50	1.6	16.0	260
TP1236-02YF(L)2Y-100P04	100	1.7	20.5	470
TP1236-02YF(L)2Y-200P04	200	1.8	26.0	855
TP1236-02YF(L)2Y-300P04	300	1.9	30.5	1245
TP1236-02YF(L)2Y-400P04	400	1.9	35.0	1650
TP1236-02YF(L)2Y-500P04	500	2.0	37.5	1900
TP1236-02YF(L)2Y-600P04	600	2.1	40.5	2310
TP1236-02YF(L)2Y-800P04	800	2.2	46.5	3080
TP1236-02YF(L)2Y-1000P04	1000	2.3	51.5	3785
TP1236-02YF(L)2Y-1200P04	1200	2.4	56.0	4600
TP1236-02YF(L)2Y-1600P04	1600	2.6	65.5	6000
TP1236-02YF(L)2Y-2000P04	2000	2.6	70.0	7300
0.5mm Conductor, 0.9mm Insulated Wire				
TP1236-02YF(L)2Y-50P05	50	1.6	19.0	385
TP1236-02YF(L)2Y-100P05	100	1.7	23.5	700
TP1236-02YF(L)2Y-200P05	200	1.9	30.5	1300
TP1236-02YF(L)2Y-300P05	300	2.0	37.0	1900
TP1236-02YF(L)2Y-400P05	400	2.1	42.5	2500
TP1236-02YF(L)2Y-500P05	500	2.2	46.0	3010
TP1236-02YF(L)2Y-600P05	600	2.2	49.5	3650
TP1236-02YF(L)2Y-800P05	800	2.4	56.5	4900
TP1236-02YF(L)2Y-1000P05	1000	2.5	62.5	6000
TP1236-02YF(L)2Y-1200P05	1200	2.6	69.0	7100
0.63mm Conductor, 1.15mm Insulated Wire				
TP1236-02YF(L)2Y-50P063	50	1.7	22.0	550
TP1236-02YF(L)2Y-100P063	100	1.8	28.0	1000



# Caledonian

## OUTDOOR TELEPHONE CABLES

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(Continued from previous page)

Cable Code	Number of Pairs	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
TP1236-02YF(L)2Y-200P063	200	2.0	37.5	1900
TP1236-02YF(L)2Y-300P063	300	2.2	46.0	2850
TP1236-02YF(L)2Y-400P063	400	2.3	52.5	3750
TP1236-02YF(L)2Y-500P063	500	2.4	56.5	4500
TP1236-02YF(L)2Y-600P063	600	2.5	61.0	5400
TP1236-02YF(L)2Y-800P063	800	2.7	70.5	7250
0.9mm Conductor, 1.5mm Insulated Wire				
TP1236-02YF(L)2Y-50P09	50	1.8	27.5	1000
TP1236-02YF(L)2Y-100P09	100	2.0	38.0	2000

\*The above part number will be changed for unscreened cables by deleting the (L).

### Cellular PE Insulated, PE Inner Sheathed, Corrugated Steel Tape Armoured & LAP Sheathed Jelly Filled Cable

Cable Code	Number of Pairs	Minimum Bedding Thickness mm	Steel Tape Thickness mm	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.75mm Insulated Wire						
TP1236-02YF(L)2Y(STA)2Y-10P04	10	1.0	0.15	1.3	15.5	180
TP1236-02YF(L)2Y(STA)2Y-20P04	20	1.0	0.15	1.3	18.0	230
TP1236-02YF(L)2Y(STA)2Y-30P04	30	1.1	0.15	1.4	19.5	295
TP1236-02YF(L)2Y(STA)2Y-50P04	50	1.1	0.15	1.5	20.0	400
TP1236-02YF(L)2Y(STA)2Y-100P04	100	1.2	0.15	1.6	27.0	665
TP1236-02YF(L)2Y(STA)2Y-200P04	200	1.3	0.15	1.7	31.0	1100
0.5mm Conductor, 0.9mm Insulated Wire						
TP1236-02YF(L)2Y(STA)2Y-10P05	10	1.0	0.15	1.2	16.6	225
TP1236-02YF(L)2Y(STA)2Y-20P05	20	1.0	0.15	1.2	19.5	315
TP1236-02YF(L)2Y(STA)2Y-30P05	30	1.1	0.15	1.3	20.5	395
TP1236-02YF(L)2Y(STA)2Y-50P05	50	1.1	0.15	1.3	23.0	550
TP1236-02YF(L)2Y(STA)2Y-100P05	100	1.2	0.15	1.5	28.5	885
TP1236-02YF(L)2Y(STA)2Y-200P05	200	1.3	0.15	1.6	35.5	1465
0.63mm Conductor, 1.15mm Insulated Wire						
TP1236-02YF(L)2Y(STA)2Y-10P063	10	1.0	0.15	1.3	18.5	290
TP1236-02YF(L)2Y(STA)2Y-20P063	20	1.1	0.15	1.4	21.5	400
TP1236-02YF(L)2Y(STA)2Y-30P063	30	1.1	0.15	1.4	23.0	530
TP1236-02YF(L)2Y(STA)2Y-50P063	50	1.2	0.15	1.6	26.0	750
TP1236-02YF(L)2Y(STA)2Y-100P063	100	1.3	0.15	1.7	33.0	1280
TP1236-02YF(L)2Y(STA)2Y-200P063	200	1.7	0.15	2.0	43.0	2325
0.9mm Conductor, 1.5mm Insulated Wire						
TP1236-02YF(L)2Y(STA)2Y-10P09	10	1.1	0.15	1.5	20.5	395
TP1236-02YF(L)2Y(STA)2Y-20P09	20	1.1	0.15	1.5	24.0	625
TP1236-02YF(L)2Y(STA)2Y-30P09	30	1.3	0.15	1.6	27.0	880
TP1236-02YF(L)2Y(STA)2Y-50P09	50	1.3	0.15	1.7	33.5	1285
TP1236-02YF(L)2Y(STA)2Y-100P09	100	1.5	0.15	2.1	45.0	2430
TP1236-02YF(L)2Y(STA)2Y-200P09	200	2.2	0.15	2.5	55.0	4195

\*The above part number will be changed for unscreened cables by deleting the (L)