

Solid PE Insulated & PE Sheathed Air Core Cables to CW 1171

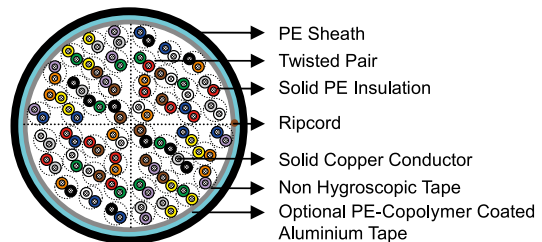
APPLICATION

The cables are designed for use as subscriber distribution cables and as connection between central offices in local access networks. The cables are unfilled and capable of being pressurized when installed. The cables are suitable for installation in ducts.



STANDARDS

- CW 1171 (For unscreened cable)
- CW 1179 (For screened cable)
- CW 1252 (For self-supporting cable)



CONSTRUCTION

- **Conductors:** Solid annealed bare copper, 0.32/0.4/0.5/0.63/0.9mm as per BS 6360/IEC 60228 Class 1.
- **Insulation:** Solid polyethylene as per BS EN 50290-2-23/BS 6234/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 100 pairs or less 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. Standard construction is per CW 1171 given in Cable Make Up Chart.
- **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):** A layer of aluminium tape (0.15mm) coated with PE-copolymer on one or both sides is applied longitudinally with overlap over the cable core to provide shielding coverage and ensure a barrier against water vapor.
- **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):** Tinned copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.

ELECTRICAL PROPERTIES

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 ²	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	6500	6500	6500	6500	6500



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Maximum Average Mutual Capacitance @800Hz	nF/km	53/68*	53	53	56	59
Maximum Individual Mutual Capacitance @800Hz (for 99% cases)	nF/km	60/75*	60	60	60	64
Maximum Individual Capacitance Unbalance @800Hz pair-to-pair	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	0.145/0.08**	0.175	0.20	0.26	0.3
Nominal Insulated Conductor Diameter	mm	0.61/0.48**	0.75	0.90	1.15	1.5

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

** The values apply to 4000 and 4800 pairs 0.32mm cable only.

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 1171 given in Colour Code Chart

DIMENSIONS AND WEIGHT

Solid PE Insulated & PE Sheathed Air Core Cables to CW 1171

Cable Code	Number of Pairs	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.32mm Conductor, 0.61mm Insulated Wire				
TP1171-2Y(L)2Y-50P032	50	1.6	14.0	140
TP1171-2Y(L)2Y-100P032	100	1.6	17.0	280
TP1171-2Y(L)2Y-200P032	200	1.7	22.0	480
TP1171-2Y(L)2Y-300P032	300	1.8	26.0	680
TP1171-2Y(L)2Y-400P032	400	1.8	29.5	880
TP1171-2Y(L)2Y-500P032	500	1.9	32.0	1080
TP1171-2Y(L)2Y-600P032	600	1.9	34.0	1281
TP1171-2Y(L)2Y-800P032	800	2.0	39.0	1681
TP1171-2Y(L)2Y-1000P032	1000	2.1	42.5	2081
TP1171-2Y(L)2Y-1200P032	1200	2.2	47.0	2482
TP1171-2Y(L)2Y-1600P032	1600	2.3	53.0	2883
TP1171-2Y(L)2Y-2000P032	2000	2.4	58.5	3284

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Cable Code	Number of Pairs	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
TP1171-2Y(L)2Y-2400P032	2400	2.5	62.0	3681
TP1171-2Y(L)2Y-3200P032	3200	2.6	70.0	4082
TP1171-2Y(L)2Y-4000P032	4000	2.6	66.0*	4883
TP1171-2Y(L)2Y-4800P032	4800	2.7	71.0*	5681
0.4mm Conductor, 0.75mm Insulated Wire				
TP1171-2Y(L)2Y-50P04	50	1.6	16.0	211
TP1171-2Y(L)2Y-100P04	100	1.7	20.5	380
TP1171-2Y(L)2Y-200P04	200	1.8	26.0	708
TP1171-2Y(L)2Y-300P04	300	1.9	30.5	1034
TP1171-2Y(L)2Y-400P04	400	1.9	35.0	1358
TP1171-2Y(L)2Y-500P04	500	2.0	37.5	1703
TP1171-2Y(L)2Y-600P04	600	2.1	40.5	2016
TP1171-2Y(L)2Y-800P04	800	2.2	46.5	2639
TP1171-2Y(L)2Y-1000P04	1000	2.3	51.5	3264
TP1171-2Y(L)2Y-1200P04	1200	2.4	56.0	3873
TP1171-2Y(L)2Y-1600P04	1600	2.6	65.5	4819
TP1171-2Y(L)2Y-2000P04	2000	2.6	70.0	6731
0.5mm Conductor, 0.9mm Insulated Wire				
TP1171-2Y(L)2Y-50P05	50	1.6	19.0	305
TP1171-2Y(L)2Y-100P05	100	1.7	23.5	561
TP1171-2Y(L)2Y-200P05	200	1.9	30.5	1074
TP1171-2Y(L)2Y-300P05	300	2.0	37.0	1582
TP1171-2Y(L)2Y-400P05	400	2.1	42.5	2093
TP1171-2Y(L)2Y-500P05	500	2.2	46.0	2577
TP1171-2Y(L)2Y-600P05	600	2.2	49.5	3073
TP1171-2Y(L)2Y-800P05	800	2.4	56.5	4033
TP1171-2Y(L)2Y-1000P05	1000	2.5	62.5	5015
TP1171-2Y(L)2Y-1200P05	1200	2.6	69.0	5959
0.63mm Conductor, 1.15mm Insulated Wire				
TP1171-2Y(L)2Y-50P063	50	1.7	22.0	416
TP1171-2Y(L)2Y-100P063	100	1.8	28.0	782
TP1171-2Y(L)2Y-200P063	200	2.0	37.5	1505
TP1171-2Y(L)2Y-300P063	300	2.2	46.0	2238
TP1171-2Y(L)2Y-400P063	400	2.3	52.5	2944
TP1171-2Y(L)2Y-500P063	500	2.4	56.5	3633
TP1171-2Y(L)2Y-800P063	800	2.7	70.5	5722
0.9mm Conductor, 1.5mm Insulated Wire				
TP1171-2Y(L)2Y-50P09	50	1.8	27.5	1000
TP1171-2Y(L)2Y-100P09	100	2.0	38.0	1670

*These cables have a reduced nominal insulation thickness of 0.08mm.