

Solid PE Insulated & LAP Sheathed Air Core Cables to IEC 60708

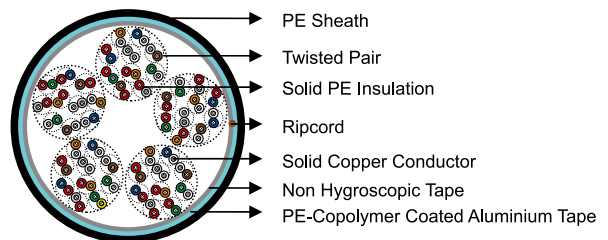
APPLICATION

The cables are designed for use in access or trunk networks, from telephone exchange to subscriber area. The cables are suitable for installation in ducts, direct burial in the ground and also for aerial installation with integral suspension strand. An armoured option is offered for direct burial installations. A figure-8 self support option is offered for aerial installation.



STANDARDS

- IEC 60708



CONSTRUCTION

- **Conductors:** Solid annealed bare copper, 0.4/0.5/0.6/0.8mm as per BS 6360/IEC 60228 Class 1.
- **Insulation:** Solid polyethylene as per IEC 60708/BS EN 50290-2-23/BS 6234/ASTM D 1248/NFC 32-060/VDE 0207.
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lay length to minimize crosstalk.
- **Cabling Element:** Pairs or Quads.
- **Cable Core Assembly:** Cables with 100 pairs or less are composed of 10-pair sub-units; cables with over 100 pairs are composed of 50 or 100-pair units. Any extra pairs form a separate unit. Units are identified by colour coded binders. Standard construction is per IEC 60708 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:** 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 electrical shielding coverage and ensure a barrier against water vapor. In cables with more than 200 pairs, the aluminum tape may be corrugated for improved cable flexibility.
- **Sheath:** Black low density polyethylene as per BS 6234/IEC 60708/ASTM D 1248, 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 in large pair cables.
- **Continuity Wire (optional):** Tinned copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.

OPTIONAL CONSTRUCTION

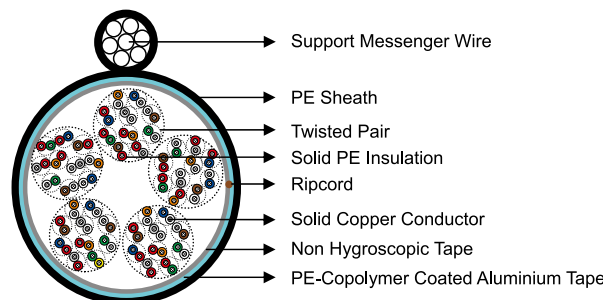
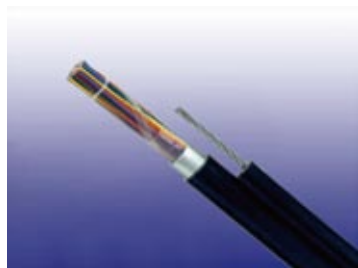
- **Armoured Cable:** Steel wire armour or corrugated steel tape armour is applied over an optional inner polyethylene sheath. For steel tape version, the steel tape is 0.2/0.5mm thick, being coated with a PE copolymer and applied with an overlap. An outer polyethylene sheath is applied over the armour.
- **Self-Support Cables:** Per CW 1252. A 7-strand galvanized steel strand is used as support wire. Black polyethylene



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sheath covers both core and support wire in a figure-8 construction.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.4	0.5	0.6	0.8
Conductor Gauge Size	AWG	26	24	-	20
Conductor Size	mm ²	0.126	0.196	0.283	0.5
Maximum Average Conductor Resistance @20°C	Ω/km	143	91	63	34.6
Minimum Insulation Resistance @500V DC	MΩ·km	5000	5000	5000	5000
Maximum Average Mutual Capacitance @800Hz	nF/km	53	53	56	59
Maximum Individual Mutual Capacitance @800Hz (for 99% cases)	nF/km	60	60	60	64
Maximum Individual Capacitance Unbalance @800Hz pair-to-pair	pF/500m	250	250	250	160
Maximum Individual Capacitance Unbalance @800Hz pair-to-pair (for 95% cases)	pF/500m	150	150	150	100
Maximum Individual Capacitance Unbalance @800Hz pair-to-ground	pF/500m	1700	1700	1700	1700
Maximum Individual Capacitance Unbalance @800Hz pair-to-ground (for 95% cases)	pF/500m	1000	1000	1000	1000
Maximum Conductor Loop Resistance @20°C	Ω/km	300	192	130	73
Impedance @1KHz	Ω	994	796	665	500
Impedance @100KHz	Ω	147	134	127	124
Impedance @512KHz	Ω	120	118	117.5	116.5
Impedance @1MHz	Ω	117	115	114.5	113.5
Maximum Average Attenuation @0.8KHz	dB/km	1.64	1.30	1.1	0.9
Maximum Average Attenuation @1KHz	dB/km	1.68	1.35	1.14	0.93
Maximum Average Attenuation @3KHz	dB/km	3.18	2.52	2.3	1.74
Maximum Average Attenuation @150KHz	dB/km	11.4	8.3	7.2	5.7
Maximum Average Attenuation @772KHz	dB/km	24.3	19.4	17.4	13.1
Maximum Average Attenuation @1000KHz	dB/km	27.1	21.4	18.5	13.7
Dielectric Strength					
Conductor to Conductor (1min)	V DC	500	500	500	500
Conductor to Screen (1min)	V DC	1000	1000	1000	1000
Nominal Insulation Thickness	mm	0.175	0.20	0.25	0.3
Nominal Insulated Conductor Diameter	mm	0.75	0.90	1.1	1.4

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 IEC 60708 given in Colour Code Chart.

DIMENSIONS AND WEIGHT

Solid PE Insulated & LAP Sheathed Air Core Cable to IEC 60708

Cable Code	Number of Pairs	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.75mm Insulated Wire				
TP708-2Y(L)2Y-10P04	10	1.5	9	71
TP708-2Y(L)2Y-20P04	20	1.5	10	107
TP708-2Y(L)2Y-30P04	30	1.5	11	143
TP708-2Y(L)2Y-50P04	50	1.5	13	211
TP708-2Y(L)2Y-70P04	70	1.5	15	278
TP708-2Y(L)2Y-100P04	100	1.5	17	380
TP708-2Y(L)2Y-150P04	150	1.5	21	548
TP708-2Y(L)2Y-200P04	200	1.8	23	708
TP708-2Y(L)2Y-300P04	300	1.8	28	1034
TP708-2Y(L)2Y-400P04	400	1.8	31	1358
TP708-2Y(L)2Y-500P04	500	2.0	35	1703
TP708-2Y(L)2Y-600P04	600	2.0	38	2016
TP708-2Y(L)2Y-800P04	800	2.5	43	2639
TP708-2Y(L)2Y-900P04	900	2.5	46	2961
TP708-2Y(L)2Y-1000P04	1000	2.5	48	3264
TP708-2Y(L)2Y-1200P04	1200	2.8	52	3873
TP708-2Y(L)2Y-1500P04	1500	2.8	58	4819
TP708-2Y(L)2Y-1800P04	1800	3.2	63	5777
TP708-2Y(L)2Y-2100P04	2100	3.2	68	6731
TP708-2Y(L)2Y-2400P04	2400	3.5	72	7645
TP708-2Y(L)2Y-2700P04	2700	3.5	76	8556
TP708-2Y(L)2Y-3000P04	3000	3.5	80	9466
0.5mm Conductor, 0.9mm Insulated Wire				
TP708-2Y(L)2Y-10P05	10	1.5	10	94
TP708-2Y(L)2Y-20P05	20	1.5	11	147
TP708-2Y(L)2Y-30P05	30	1.5	13	201
TP708-2Y(L)2Y-50P05	50	1.5	16	305
TP708-2Y(L)2Y-70P05	70	1.5	18	406
TP708-2Y(L)2Y-100P05	100	1.5	21	561
TP708-2Y(L)2Y-150P05	150	1.8	25	829
TP708-2Y(L)2Y-200P05	200	1.8	28	1074
TP708-2Y(L)2Y-300P05	300	2.0	34	1582
TP708-2Y(L)2Y-400P05	400	2.0	39	2093
TP708-2Y(L)2Y-500P05	500	2.5	43	2577
TP708-2Y(L)2Y-600P05	600	2.5	47	3073
TP708-2Y(L)2Y-800P05	800	2.8	53	4033
TP708-2Y(L)2Y-900P05	900	2.8	57	4541
TP708-2Y(L)2Y-1000P05	1000	2.8	60	5015
TP708-2Y(L)2Y-1200P05	1200	3.2	65	5959
TP708-2Y(L)2Y-1500P05	1500	3.5	72	7414
0.6mm Conductor, 1.1mm Insulated Wire				
TP708-2Y(L)2Y-10P06	10	1.5	11	119



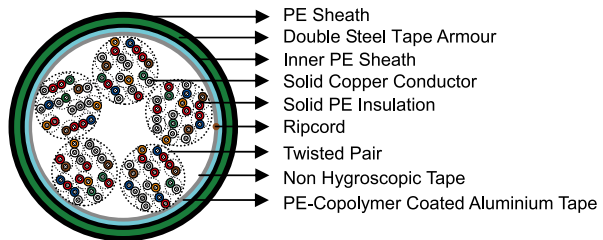
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Cable Code	Number of Pairs	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
TP708-2Y(L)2Y-20P06	20	1.5	13	194
TP708-2Y(L)2Y-30P06	30	1.5	15	269
TP708-2Y(L)2Y-50P06	50	1.5	18	416
TP708-2Y(L)2Y-70P06	70	1.5	21	558
TP708-2Y(L)2Y-100P06	100	1.8	25	782
TP708-2Y(L)2Y-150P06	150	1.8	29	1143
TP708-2Y(L)2Y-200P06	200	2.0	33	1505
TP708-2Y(L)2Y-300P06	300	2.0	40	2238
TP708-2Y(L)2Y-400P06	400	2.5	46	2944
TP708-2Y(L)2Y-500P06	500	2.5	51	3633
TP708-2Y(L)2Y-600P06	600	2.8	55	4353
TP708-2Y(L)2Y-800P06	800	3.2	63	5722
TP708-2Y(L)2Y-900P06	900	3.2	67	6438
TP708-2Y(L)2Y-1000P06	1000	3.2	70	7115
TP708-2Y(L)2Y-1200P06	1200	3.5	76	8462
0.8mm Conductor, 1.4mm Insulated Wire				
TP708-2Y(L)2Y-10P08	10	1.5	13	178
TP708-2Y(L)2Y-20P08	20	1.5	16	305
TP708-2Y(L)2Y-30P08	30	1.5	19	431
TP708-2Y(L)2Y-50P08	50	1.5	23	678
TP708-2Y(L)2Y-70P08	70	1.8	27	929
TP708-2Y(L)2Y-100P08	100	1.8	31	1313
TP708-2Y(L)2Y-150P08	150	2.0	38	1963
TP708-2Y(L)2Y-200P08	200	2.5	43	2574
TP708-2Y(L)2Y-300P08	300	2.8	52	3790
TP708-2Y(L)2Y-400P08	400	2.8	60	5019
TP708-2Y(L)2Y-500P08	500	3.2	67	6249
TP708-2Y(L)2Y-600P08	600	3.5	73	7437



Solid PE Insulated, Double Steel Tape Armoured & LAP Sheathed Air Core Cable to IEC 60708

Cable Code	Number of Pairs	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.75mm Insulated Wire					
TP708-2Y(L)2Y(DSTA)2Y-10P04	10	1.5	1.5	12	177
TP708-2Y(L)2Y(DSTA)2Y-20P04	20	1.5	1.5	14	227
TP708-2Y(L)2Y(DSTA)2Y-30P04	30	1.5	1.5	15	277
TP708-2Y(L)2Y(DSTA)2Y-50P04	50	1.5	1.5	18	380
TP708-2Y(L)2Y(DSTA)2Y-70P04	70	1.5	1.5	19	467
TP708-2Y(L)2Y(DSTA)2Y-100P04	100	1.5	1.5	22	594
TP708-2Y(L)2Y(DSTA)2Y-150P04	150	1.5	1.8	25	805
TP708-2Y(L)2Y(DSTA)2Y-200P04	200	1.8	1.8	27	995

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Cable Code	Number of Pairs	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
TP708-2Y(L)2Y(DSTA)2Y-300P04	300	1.8	1.8	32	1382
TP708-2Y(L)2Y(DSTA)2Y-400P04	400	1.8	1.8	37	1809
TP708-2Y(L)2Y(DSTA)2Y-500P04	500	2.0	2.0	43	2704
TP708-2Y(L)2Y(DSTA)2Y-600P04	600	2.0	2.0	46	3092
TP708-2Y(L)2Y(DSTA)2Y-800P04	800	2.5	2.5	51	3846
TP708-2Y(L)2Y(DSTA)2Y-900P04	900	2.5	2.5	54	4250
TP708-2Y(L)2Y(DSTA)2Y-1000P04	1000	2.5	2.5	56	4612
TP708-2Y(L)2Y(DSTA)2Y-1200P04	1200	2.8	2.8	61	5369
0.5mm Conductor, 0.9mm Insulated Wire					
TP708-2Y(L)2Y(DSTA)2Y-10P05	10	1.5	1.5	13	213
TP708-2Y(L)2Y(DSTA)2Y-20P05	20	1.5	1.5	15	283
TP708-2Y(L)2Y(DSTA)2Y-30P05	30	1.5	1.5	17	356
TP708-2Y(L)2Y(DSTA)2Y-50P05	50	1.5	1.5	20	503
TP708-2Y(L)2Y(DSTA)2Y-70P05	70	1.5	1.5	22	629
TP708-2Y(L)2Y(DSTA)2Y-100P05	100	1.5	1.8	25	822
TP708-2Y(L)2Y(DSTA)2Y-150P05	150	1.8	1.8	30	1145
TP708-2Y(L)2Y(DSTA)2Y-200P05	200	1.8	1.8	33	1428
TP708-2Y(L)2Y(DSTA)2Y-300P05	300	2.0	2.0	42	2542
TP708-2Y(L)2Y(DSTA)2Y-400P05	400	2.0	2.5	47	3191
TP708-2Y(L)2Y(DSTA)2Y-500P05	500	2.5	2.5	51	3778
TP708-2Y(L)2Y(DSTA)2Y-600P05	600	2.5	2.8	55	4392
TP708-2Y(L)2Y(DSTA)2Y-800P05	800	2.8	3.2	62	5563
TP708-2Y(L)2Y(DSTA)2Y-900P05	900	2.8	3.2	65	6135
TP708-2Y(L)2Y(DSTA)2Y-1000P05	1000	2.8	3.5	68	6682
0.6mm Conductor, 1.1mm Insulated Wire					
TP708-2Y(L)2Y(DSTA)2Y-10P06	10	1.5	1.5	15	250
TP708-2Y(L)2Y(DSTA)2Y-20P06	20	1.5	1.5	17	347
TP708-2Y(L)2Y(DSTA)2Y-30P06	30	1.5	1.5	19	456
TP708-2Y(L)2Y(DSTA)2Y-50P06	50	1.5	1.5	22	639
TP708-2Y(L)2Y(DSTA)2Y-70P06	70	1.5	1.8	25	818
TP708-2Y(L)2Y(DSTA)2Y-100P06	100	1.8	1.8	29	1093
TP708-2Y(L)2Y(DSTA)2Y-150P06	150	1.8	2.0	34	1504
TP708-2Y(L)2Y(DSTA)2Y-200P06	200	2.0	2.0	41	2457
TP708-2Y(L)2Y(DSTA)2Y-300P06	300	2.0	2.5	48	3367
TP708-2Y(L)2Y(DSTA)2Y-400P06	400	2.5	2.8	54	4238
TP708-2Y(L)2Y(DSTA)2Y-500P06	500	2.5	2.8	59	5091
TP708-2Y(L)2Y(DSTA)2Y-600P06	600	2.8	3.2	64	5913
TP708-2Y(L)2Y(DSTA)2Y-800P06	800	3.2	3.5	72	7536
0.8mm Conductor, 1.4mm Insulated Wire					
TP708-2Y(L)2Y(DSTA)2Y-10P08	10	1.5	1.5	17	332
TP708-2Y(L)2Y(DSTA)2Y-20P08	20	1.5	1.5	20	503
TP708-2Y(L)2Y(DSTA)2Y-30P08	30	1.5	1.5	23	660
TP708-2Y(L)2Y(DSTA)2Y-50P08	50	1.5	1.8	27	963
TP708-2Y(L)2Y(DSTA)2Y-70P08	70	1.8	1.8	31	1267
TP708-2Y(L)2Y(DSTA)2Y-100P08	100	1.8	2.0	37	1766
TP708-2Y(L)2Y(DSTA)2Y-150P08	150	2.0	2.5	46	3038
TP708-2Y(L)2Y(DSTA)2Y-200P08	200	2.5	2.5	51	3786
TP708-2Y(L)2Y(DSTA)2Y-300P08	300	2.8	2.8	61	5290
TP708-2Y(L)2Y(DSTA)2Y-400P08	400	2.8	3.2	68	6701
TP708-2Y(L)2Y(DSTA)2Y-500P08	500	3.2	3.5	75	8108