OUTDOOR TELEPHONE CABLES

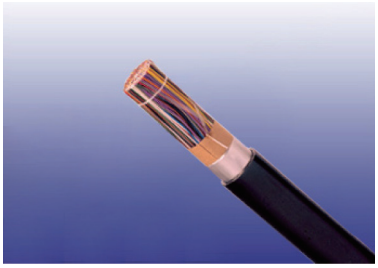
Caledonian
TELEPHONE CABLES

ADDISON

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

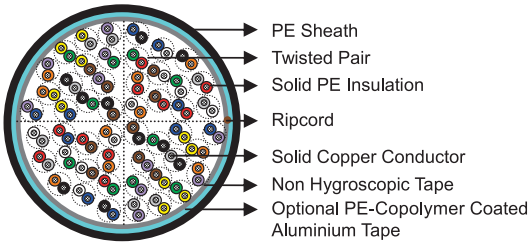
APPLICATION

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

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Minimum Insulation Resistance @500V DC	MΩ·km	6500	6500	6500	6500	6500
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

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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-2000P032	2000	2.4	58.5	3284
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

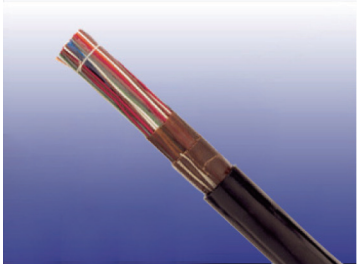
*These cables have a reduced nominal insulation thickness of 0.08mm.

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

Solid PE Insulated & PE Sheathed Jelly Filled Cables to CW 1326 & CW 1326/1179

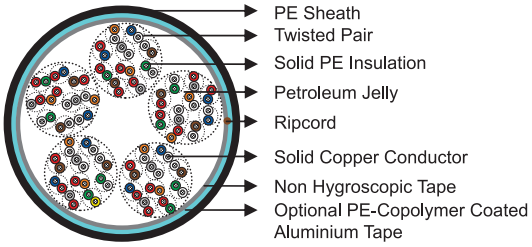
APPLICATION

The cables are designed for use as subscriber distribution cables and as connection between central offices in local access networks. The cables are jelly filled and suitable for installation in ducts. The cables are also available for direct burial in the ground and 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

- CW 1326 (For unscreened cable)
- CW 1179 (For screened cable)
- CW 1252 (For self-supporting cable)



CONSTRUCTION

- **Conductors:** Solid annealed bare copper, 0.5mm as per class 1 of BS 6360/IEC 60228.
- **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 are composed of 10-pair units.
- **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.
- **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):** Tinned copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.5
Conductor Gauge Size	AWG	24
Conductor Size	mm^2	0.196
Maximum Average Conductor Resistance @20°C	Ω/km	91
Minimum Insulation Resistance @500V DC	MΩ·km	1500
Maximum Average Mutual Capacitance @800Hz*	nF/km	56
Maximum Individual Mutual Capacitance @800Hz (for 99% cases)	nF/km	64
Maximum Individual Capacitance Unbalance @800Hz pair-to-pair	pF/500m	275
Maximum Conductor Loop Resistance @20°C	Ω/km	192
Impedance @1KHz	Ω	796
Impedance @100KHz	Ω	134
Impedance @512KHz	Ω	118
Impedance @1MHz	Ω	115
Maximum Average Attenuation @0.8KHz	dB/km	1.30
Maximum Average Attenuation @1KHz	dB/km	1.35
Maximum Average Attenuation @3KHz	dB/km	2.52
Maximum Average Attenuation @150KHz	dB/km	8.3
Maximum Average Attenuation @772KHz	dB/km	19.4
Maximum Average Attenuation @1000KHz	dB/km	21.4
Dielectric Strength Conductor to Conductor (3secs)	V DC	500
Nominal Insulation Thickness	mm	0.275
Nominal Insulated Conductor Diameter	mm	1.05

*For screened cables of 20 pairs or less, the maximum average mutual capacitance shall not apply and the maximum for 99% of cases shall be increased by 3nF.

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 1326 given in the following Colour Code Chart

Cabling Element No.	a-wire	b-wire	Cabling Element No.	a-wire	b-wire
1	WHITE	BLUE	6	RED	BLUE
2	WHITE	ORANGE	7	RED	ORANGE
3	WHITE	GREEN	8	RED	GREEN
4	WHITE	BROWN	9	RED	BROWN
5	WHITE	GREY	10	RED	GREY

Units binders

No. of Units	Binder Colour	No. of Units	Binder Colour
1	BLUE	6	WHITE
2	ORANGE	7	RED
3	GREEN	8	BLACK
4	BROWN	9	YELLOW
5	GREY	10	VIOLET

DIMENSIONS AND WEIGHT

Solid PE Insulated and Unscreened/Screened PE Sheathed Jelly Filled Cable to CW 1326, CW 1326/1179

Cable Code	Number of Pairs	Minimum Sheath Thickness mm	Maximum Overall Diameter mm (Unscreened)	Nominal Weight kg/km (Unscreened)	Maximum Overall Diameter mm (Screened)	Nominal Weight kg/km (Screened)
0.5mm Conductor, 1.05mm Insulated Wire						
TP1326-2YF(L)2Y-2P05	2	1.1	8.5	55	10.0	65
TP1326-2YF(L)2Y-5P05	5	1.2	8.5	77	10.0	87
TP1326-2YF(L)2Y-10P05	10	1.2	12.0	126	13.5	137
TP1326-2YF(L)2Y-20P05	20	1.3	15.0	221	16.5	231
TP1326-2YF(L)2Y-30P05	30	1.4	18.0	332	19.5	347
TP1326-2YF(L)2Y-50P05	50	1.4	19.5	483	21.0	504
TP1326-2YF(L)2Y-100P05	100	1.5	25.0	933	26.5	956

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

Solid PE Insulated, PE Inner Sheathed, Steel Wire Armoured and PE Outer Sheathed Jelly Filled Cable to CW 1326/1198 (Unscreened)

Cable Code	Number of Pairs	Minimum Bedding Thickness mm	Steel Wire Diameter mm	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.5mm Conductor, 1.05mm Insulated Wire						
TP1326-2YF2Y(SWA)2Y-2P05	2	1.1	0.9	0.9	13.7	241
TP1326-2YF2Y(SWA)2Y-5P05	5	1.2	0.9	0.9	13.7	274
TP1326-2YF2Y(SWA)2Y-10P05	10	1.2	0.9	0.9	17.2	351
TP1326-2YF2Y(SWA)2Y-20P05	20	1.3	1.25	0.9	20.9	499
TP1326-2YF2Y(SWA)2Y-30P05	30	1.4	2.0	1.0	24.8	749
TP1326-2YF2Y(SWA)2Y-50P05	50	1.4	2.0	1.0	26.3	1123
TP1326-2YF2Y(SWA)2Y-100P05	100	1.5	2.0	1.1	32.0	1763

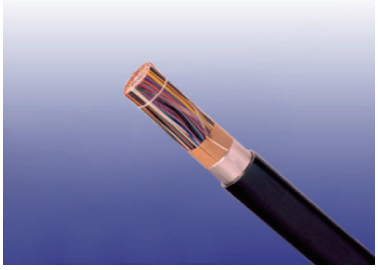
Solid PE Insulated, PE Inner Sheathed, Steel Wire Armoured and PE Outer Sheathed Jelly Filled Cable to CW 1326 /1179/1198 (Screened)

Cable Code	Number of Pairs	Minimum Bedding Thickness mm	Steel Wire Diameter mm	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.5mm Conductor, 1.05mm Insulated Wire						
TP1326-2YF(L)2Y(SWA)2Y-2P05	2	1.1	0.9	0.9	15.2	251
TP1326-2YF(L)2Y(SWA)2Y-5P05	5	1.2	0.9	0.9	15.2	286
TP1326-2YF(L)2Y(SWA)2Y-10P05	10	1.2	1.25	0.9	19.4	363
TP1326-2YF(L)2Y(SWA)2Y-20P05	20	1.3	2.0	1.0	23.3	501
TP1326-2YF(L)2Y(SWA)2Y-30P05	30	1.4	2.0	1.0	26.3	752
TP1326-2YF(L)2Y(SWA)2Y-50P05	50	1.4	2.0	1.1	28.0	1139
TP1326-2YF(L)2Y(SWA)2Y-100P05	100	1.5	2.0	1.2	30.5	1786

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

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

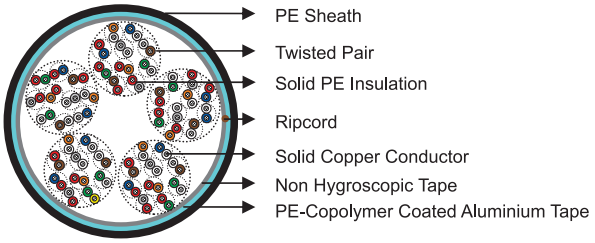
APPLICATION



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

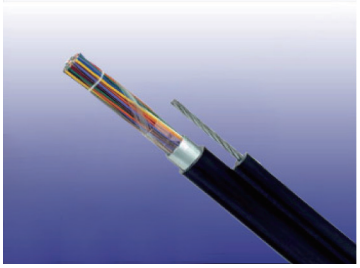


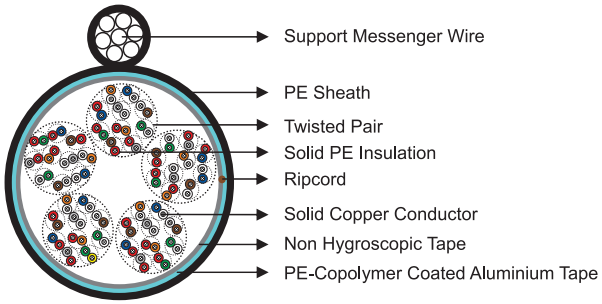
CONSTRUCTION

- **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 Cable:** Per CW 1252. A 7-strand galvanized steel strand is used as support wire. Black polyethylene





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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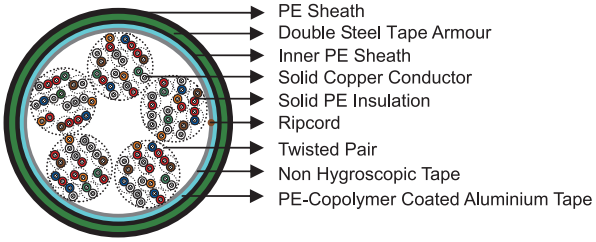
Cable Code	Number of Pairs	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
TP708-2Y(L)2Y-20P06	20	1.5	13	194
TP708-2Y(L)2Y-30P06	30	1.5	15	269
TP708-2Y(L)2Y-50P06	50	1.5	18	416
TP708-2Y(L)2Y-70P06	70	1.5	21	558
TP708-2Y(L)2Y-100P06	100	1.8	25	782
TP708-2Y(L)2Y-150P06	150	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	Mumber 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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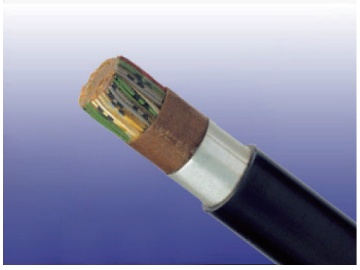
Cable Code	Mumber of Pairs	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
TP708-2Y(L)2Y(DSTA)2Y-300P04	300	1.8	1.8	32	1382
TP708-2Y(L)2Y(DSTA)2Y-400P04	400	1.8	1.8	37	1809
TP708-2Y(L)2Y(DSTA)2Y-500P04	500	2.0	2.0	43	2704
TP708-2Y(L)2Y(DSTA)2Y-600P04	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

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

Solid PE Insulated & LAP Sheathed Air Core/Jelly Filled Cables to DIN VDE 0816

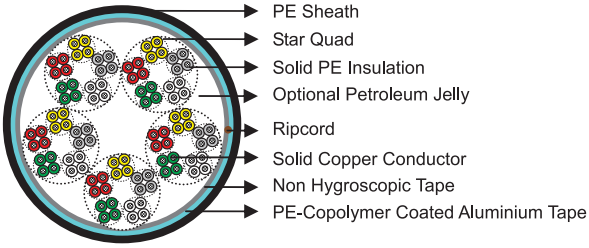
APPLICATION

The cables are designed for use as connection between central offices. The cables are suitable for installation in ducts and aerial installation with integral suspension strand. Jelly filled option is for subscriber's cables installed underground or along the edge of pavement. An armoured option is offered for direct burial installations.



STANDARDS

• DIN VDE 0816

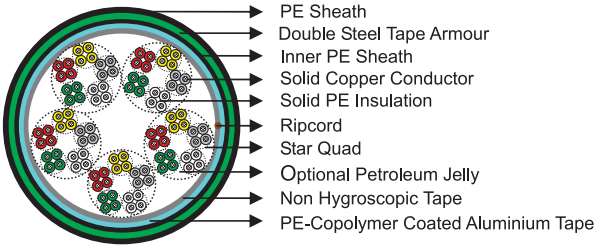


CONSTRUCTION

- **Conductors:** Solid annealed bare copper 0.4/0.6/0.8mm, as per class 1 of DIN VDE 0295/BS 6360/IEC 60228.
- **Insulation:** Solid polyethylene 2YI2 type as per DIN VDE 0207-2.
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lay length to minimize crosstalk.
- **Cabling Element:** Star Quads.
- **Cable Core Assembly:** 4 Cores are twisted into star quad. 5 star quads are stranded into a basic unit. 5 or 10 basic units each are stranded into one main unit. The star quads are grouped in units and stranded in layers to form the cable core. Standard make up is per DIN VDE 0816 in the 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 (0.2mm) coated with PE-copolymer on one or both sides and applied longitudinally with overlap over the cable core to provide electrical shielding coverage and ensures a barrier against water vapor.
- **Sheath:** Black low or medium density polyethylene 2YM2 type as per DIN VDE 0207-3, 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 provided for large pair cables.
- **Continuity Wire (optional):** Tinned copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.

OPTIONAL CONSTRUCTION

- **Jelly Filled Cable:** 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.

- **Armoured Cable:** Corrugated steel tape armour is applied over an optional inner polyethylene sheath with an overlap. An outer polyethylene sheath is applied over the armour.

TYPE CODES

A-	Outdoor cable
2Y	Polyethylene (PE) insulation
F	Continuous core filling
(L)2Y	Laminated sheath(copolymer-coated aluminium tape laminated to PE outer sheath)
SR	Corrugated steel tape
b	Armouring
T	Messenger of galvanized steel wires
StIII	Star quad in local cables.
Bd	Unit-type stranding

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.4	0.6	0.8
Conductor Gauge Size	AWG	26	-	20
Conductor Size	mm^2	0.126	0.283	0.5
Maximum Average Conductor Resistance @20°C	Ω/km	143	63	34.6
Minimum Insulation Resistance @500V DC	MΩ·km	5000	5000	5000
Maximum Average Mutual Capacitance @800Hz (for 95% cases)	nF/km	48	50	53
Maximum Individual Mutual Capacitance @800Hz (for 100% cases)	nF/km	50	52	55
Maximum Individual Capacitance Unbalance @800Hz pair-to-pair				
K1 (100% of all values)	pF/500m	980	980	980
K1 (95% of all values)	pF/500m	420	420	420
K9-K12 (100% of all values)	pF/500m	800	800	800
K9-K12 (90% of all values)	pF/500m	200	200	200
Maximum Conductor Loop Resistance @20°C	Ω/km	300	130	73.2
Impedance @0.8KHz	Ω	994	665	500
Maximum Average Attenuation @0.8KHz	dB/km	1.49	1.04	0.78
Dielectric Strength 50Hz				
Conductor to Conductor (2mins)	V AC	500	500	500
Conductor to Screen (2mins)	V AC	2000	2000	2000
Maximum Operating Voltage Peak Value	V	150	220	220
Nominal Insulation Thickness (Air Core)	mm	0.20	0.25	0.3
(Jelly Filled)	mm	0.26	0.36	0.44
Nominal Insulated Conductor Diameter (Air Core)	mm	0.8	1.1	1.4
(Jelly Filled)	mm	0.92	1.32	1.68

MECHANICAL AND THERMAL PROPERTIES

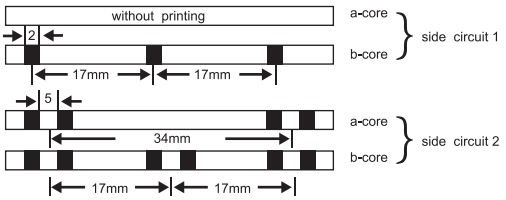
Temperature range during operation (fixed state): -30°C – +70°C
Temperature range during installation (mobile state): -20°C – +50°C
Minimum bending radius: 10 x Overall Diameter (unarmoured cables);15 x Overall Diameter (armoured cables)

COLOUR CODE

Quads

The single core is identified by black ring markings:

Side Circuit 1	a-wire	without marking
	b-wire	1 mark distance 17mm
Side Circuit 2	a-wire	2 marks distance 34mm
	b-wire	2 marks distance 17mm



Subunits

Basic colours for the wire insulation of the 5 star quads of a basic unit:

Quad 1 Red Quad 2 Green
Quad 3 Grey Quad 4 Yellow Quad 5 White

The tracer units are coded with a red helix, all other units by a white binder.

DIMENSIONS AND WEIGHT

Solid PE Insulated and LAP Sheathed Air Core Cable to DIN VDE 0816
VDE CODE: A-2Y(L)2Y…x2x0.4/0.6/0.8 StIII Bd

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.8mm Insulated Wire					
TP816A-2Y(L)2Y-StIII-Bd-6P04	6	0.2	1.8	10.0	85
TP816A-2Y(L)2Y-StIII-Bd-10P04	10	0.2	1.8	11.0	125
TP816A-2Y(L)2Y-StIII-Bd-20P04	20	0.2	1.8	12.0	150
TP816A-2Y(L)2Y-StIII-Bd-30P04	30	0.2	1.8	13.5	200
TP816A-2Y(L)2Y-StIII-Bd-40P04	40	0.2	1.8	14.5	225
TP816A-2Y(L)2Y-StIII-Bd-50P04	50	0.2	1.8	15.5	275
TP816A-2Y(L)2Y-StIII-Bd-70P04	70	0.2	1.8	17.0	350
TP816A-2Y(L)2Y-StIII-Bd-100P04	100	0.2	1.8	19.5	450
TP816A-2Y(L)2Y-StIII-Bd-120P04	120	0.2	2.0	20.5	525
TP816A-2Y(L)2Y-StIII-Bd-150P04	150	0.2	2.0	22.5	625
TP816A-2Y(L)2Y-StIII-Bd-200P04	200	0.2	2.0	25.5	825
TP816A-2Y(L)2Y-StIII-Bd-250P04	250	0.2	2.0	29.0	1000
TP816A-2Y(L)2Y-StIII-Bd-300P04	300	0.2	2.0	31.0	1175
TP816A-2Y(L)2Y-StIII-Bd-350P04	350	0.2	2.2	33.0	1325
TP816A-2Y(L)2Y-StIII-Bd-400P04	400	0.2	2.2	34.5	1500
TP816A-2Y(L)2Y-StIII-Bd-500P04	500	0.2	2.2	38.5	1875
TP816A-2Y(L)2Y-StIII-Bd-600P04	600	0.2	2.2	41.5	2175
TP816A-2Y(L)2Y-StIII-Bd-700P04	700	0.2	2.6	44.0	2500
TP816A-2Y(L)2Y-StIII-Bd-800P04	800	0.2	2.6	47.5	2875
TP816A-2Y(L)2Y-StIII-Bd-1000P04	1000	0.2	3.0	52.0	3525
TP816A-2Y(L)2Y-StIII-Bd-1200P04	1200	0.2	3.0	57.5	4250
TP816A-2Y(L)2Y-StIII-Bd-1500P04	1500	0.2	3.4	63.0	5225
TP816A-2Y(L)2Y-StIII-Bd-2000P04	2000	0.2	3.8	72.5	6925
0.6mm Conductor, 1.1mm Insulated Wire					

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Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
TP816A-2Y(L)2Y-StIII-Bd-6P06	6	0.25	1.8	11.5	125
TP816A-2Y(L)2Y-StIII-Bd-10P06	10	0.25	1.8	13.0	157
TP816A-2Y(L)2Y-StIII-Bd-20P06	20	0.25	1.8	14.5	250
TP816A-2Y(L)2Y-StIII-Bd-30P06	30	0.25	1.8	16.5	325
TP816A-2Y(L)2Y-StIII-Bd-40P06	40	0.25	1.8	18.0	400
TP816A-2Y(L)2Y-StIII-Bd-50P06	50	0.25	1.8	19.5	475
TP816A-2Y(L)2Y-StIII-Bd-70P06	70	0.25	2.0	22.0	625
TP816A-2Y(L)2Y-StIII-Bd-100P06	100	0.25	2.0	26.0	850
TP816A-2Y(L)2Y-StIII-Bd-120P06	120	0.25	2.2	27.5	1000
TP816A-2Y(L)2Y-StIII-Bd-150P06	150	0.25	2.2	30.0	1225
TP816A-2Y(L)2Y-StIII-Bd-200P06	200	0.25	2.2	33.5	1575
TP816A-2Y(L)2Y-StIII-Bd-250P06	250	0.25	2.6	37.5	1925
TP816A-2Y(L)2Y-StIII-Bd-300P06	300	0.25	2.6	40.0	2275
TP816A-2Y(L)2Y-StIII-Bd-350P06	350	0.25	2.8	43.0	2625
TP816A-2Y(L)2Y-StIII-Bd-400P06	400	0.25	2.8	46.0	3025
TP816A-2Y(L)2Y-StIII-Bd-500P06	500	0.25	3.0	50.5	3700
TP816A-2Y(L)2Y-StIII-Bd-600P06	600	0.25	3.4	60.0	4475
TP816A-2Y(L)2Y-StIII-Bd-700P06	700	0.25	3.6	62.0	5175
TP816A-2Y(L)2Y-StIII-Bd-800P06	800	0.25	3.8	65.5	5850
TP816A-2Y(L)2Y-StIII-Bd-1000P06	1000	0.25	3.8	73.5	7300
TP816A-2Y(L)2Y-StIII-Bd-1200P06	1200	0.25	4.0	80.5	8750
0.8mm Conductor,1.4mm Insulated Wire					
TP816A-2Y(L)2Y-StIII-Bd-6P08	6	0.3	1.8	13.0	175
TP816A-2Y(L)2Y-StIII-Bd-10P08	10	0.3	1.8	15.0	225
TP816A-2Y(L)2Y-StIII-Bd-20P08	20	0.3	1.8	17.0	350
TP816A-2Y(L)2Y-StIII-Bd-30P08	30	0.3	1.8	19.5	475
TP816A-2Y(L)2Y-StIII-Bd-40P08	40	0.3	2.0	21.5	600
TP816A-2Y(L)2Y-StIII-Bd-50P08	50	0.3	2.0	23.5	750
TP816A-2Y(L)2Y-StIII-Bd-70P08	70	0.3	2.0	27.5	1000
TP816A-2Y(L)2Y-StIII-Bd-100P08	100	0.3	2.2	31.5	1375
TP816A-2Y(L)2Y-StIII-Bd-120P08	120	0.3	2.4	34.0	1625
TP816A-2Y(L)2Y-StIII-Bd-150P08	150	0.3	2.6	37.5	2000
TP816A-2Y(L)2Y-StIII-Bd-200P08	200	0.3	2.6	42.0	2600
TP816A-2Y(L)2Y-StIII-Bd-250P08	250	0.3	3.0	48.0	3250
TP816A-2Y(L)2Y-StIII-Bd-300P08	300	0.3	3.0	52.0	3825
TP816A-2Y(L)2Y-StIII-Bd-350P08	350	0.3	3.4	55.5	4425
TP816A-2Y(L)2Y-StIII-Bd-400P08	400	0.3	3.4	60.0	5100
TP816A-2Y(L)2Y-StIII-Bd-500P08	500	0.3	3.4	66.0	6250
TP816A-2Y(L)2Y-StIII-Bd-600P08	600	0.3	3.8	72.5	7525
TP816A-2Y(L)2Y-StIII-Bd-700P08	700	0.3	4.0	77.5	8700
TP816A-2Y(L)2Y-StIII-Bd-800P08	800	0.3	4.2	83.0	9950

Solid PE Insulated and LAP Sheathed Jelly Filled Cable to DIN VDE 0816

VDE CODE: A-2YF(L)2Y…x2x0.4/0.6/0.8 StIII Bd

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.92mm Insulated Wire					
TP816A-2YF(L)2Y-StIII-Bd-6P04	6	0.26	1.8	10.0	85
TP816A-2YF(L)2Y-StIII-Bd-10P04	10	0.26	1.8	11.0	125
TP816A-2YF(L)2Y-StIII-Bd-20P04	20	0.26	1.8	12.0	150
TP816A-2YF(L)2Y-StIII-Bd-30P04	30	0.26	1.8	13.5	200
TP816A-2YF(L)2Y-StIII-Bd-40P04	40	0.26	1.8	14.5	225
TP816A-2YF(L)2Y-StIII-Bd-50P04	50	0.26	1.8	15.5	275
TP816A-2YF(L)2Y-StIII-Bd-70P04	70	0.26	1.8	17.0	350
TP816A-2YF(L)2Y-StIII-Bd-100P04	100	0.26	1.8	19.5	450

(Continued from previous page)

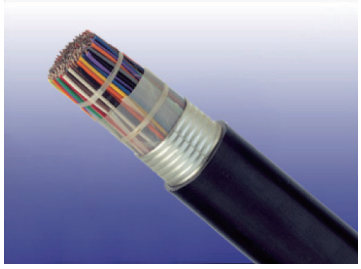
Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
TP816A-2YF(L)2Y-StIII-Bd-120P04	120	0.26	2.0	20.5	525
TP816A-2YF(L)2Y-StIII-Bd-150P04	150	0.26	2.0	22.5	625
TP816A-2YF(L)2Y-StIII-Bd-200P04	200	0.26	2.0	25.5	825
TP816A-2YF(L)2Y-StIII-Bd-250P04	250	0.26	2.2	29.0	1000
TP816A-2YF(L)2Y-StIII-Bd-300P04	300	0.26	2.2	31.0	1175
TP816A-2YF(L)2Y-StIII-Bd-350P04	350	0.26	2.2	33.0	1325
TP816A-2YF(L)2Y-StIII-Bd-400P04	400	0.26	2.2	34.5	1500
TP816A-2YF(L)2Y-StIII-Bd-500P04	500	0.26	2.4	38.5	1875
TP816A-2YF(L)2Y-StIII-Bd-600P04	600	0.26	2.6	41.5	2175
TP816A-2YF(L)2Y-StIII-Bd-700P04	700	0.26	2.8	44.0	2500
TP816A-2YF(L)2Y-StIII-Bd-800P04	800	0.26	3.0	47.5	2875
TP816A-2YF(L)2Y-StIII-Bd-1000P04	1000	0.26	3.0	52.0	3525
TP816A-2YF(L)2Y-StIII-Bd-1200P04	1200	0.26	3.4	57.5	4250
TP816A-2YF(L)2Y-StIII-Bd-1500P04	1500	0.26	3.8	63.0	5225
TP816A-2YF(L)2Y-StIII-Bd-2000P04	2000	0.26	4.0	72.5	6925
0.6mm Conductor, 1.32mm Insulated Wire					
TP816A-2YF(L)2Y-StIII-Bd-6P06	6	0.36	1.8	11.5	125
TP816A-2YF(L)2Y-StIII-Bd-10P06	10	0.36	1.8	13.0	175
TP816A-2YF(L)2Y-StIII-Bd-20P06	20	0.36	1.8	14.5	250
TP816A-2YF(L)2Y-StIII-Bd-30P06	30	0.36	1.8	16.5	325
TP816A-2YF(L)2Y-StIII-Bd-40P06	40	0.36	1.8	18.0	400
TP816A-2YF(L)2Y-StIII-Bd-50P06	50	0.36	1.8	19.5	475
TP816A-2YF(L)2Y-StIII-Bd-70P06	70	0.36	2.0	22.0	625
TP816A-2YF(L)2Y-StIII-Bd-100P06	100	0.36	2.0	26.0	850
TP816A-2YF(L)2Y-StIII-Bd-120P06	120	0.36	2.2	27.5	1000
TP816A-2YF(L)2Y-StIII-Bd-150P06	150	0.36	2.2	30.0	1225
TP816A-2YF(L)2Y-StIII-Bd-200P06	200	0.36	2.2	33.5	1575
TP816A-2YF(L)2Y-StIII-Bd-250P06	250	0.36	2.6	37.5	1925
TP816A-2YF(L)2Y-StIII-Bd-300P06	300	0.36	2.6	40.0	2275
TP816A-2YF(L)2Y-StIII-Bd-350P06	350	0.36	2.8	43.0	2625
TP816A-2YF(L)2Y-StIII-Bd-400P06	400	0.36	3.0	46.0	3025
TP816A-2YF(L)2Y-StIII-Bd-500P06	500	0.36	3.2	50.5	3700
TP816A-2YF(L)2Y-StIII-Bd-600P06	600	0.36	3.4	60.0	4475
TP816A-2YF(L)2Y-StIII-Bd-750P06	750	0.36	3.6	62.0	5175
TP816A-2YF(L)2Y-StIII-Bd-800P06	800	0.36	3.8	65.5	5850
TP816A-2YF(L)2Y-StIII-Bd-1000P06	1000	0.36	3.8	73.5	7300
TP816A-2YF(L)2Y-StIII-Bd-1200P06	1200	0.36	4.0	80.5	8750
0.8mm Conductor,1.68mm Insulated Wire					
TP816A-2YF(L)2Y-StIII-Bd-6P08	6	0.44	1.8	13.0	175
TP816A-2YF(L)2Y-StIII-Bd-10P08	10	0.44	1.8	15.0	225
TP816A-2YF(L)2Y-StIII-Bd-20P08	20	0.44	1.8	17.0	350
TP816A-2YF(L)2Y-StIII-Bd-30P08	30	0.44	1.8	19.5	475
TP816A-2YF(L)2Y-StIII-Bd-40P08	40	0.44	2.0	21.5	600
TP816A-2YF(L)2Y-StIII-Bd-50P08	50	0.44	2.0	23.5	750
TP816A-2YF(L)2Y-StIII-Bd-70P08	70	0.44	2.0	27.5	1000
TP816A-2YF(L)2Y-StIII-Bd-100P08	100	0.44	2.2	31.5	1375
TP816A-2YF(L)2Y-StIII-Bd-120P08	120	0.44	2.4	34.0	1625
TP816A-2YF(L)2Y-StIII-Bd-150P08	150	0.44	2.6	37.5	2000
TP816A-2YF(L)2Y-StIII-Bd-200P08	200	0.44	2.6	42.0	2600
TP816A-2YF(L)2Y-StIII-Bd-250P08	250	0.44	3.0	48.0	3250
TP816A-2YF(L)2Y-StIII-Bd-300P08	300	0.44	3.0	52.0	3825
TP816A-2YF(L)2Y-StIII-Bd-350P08	350	0.44	3.2	55.5	4425
TP816A-2YF(L)2Y-StIII-Bd-400P08	400	0.44	3.4	60.0	5100
TP816A-2YF(L)2Y-StIII-Bd-500P08	500	0.44	3.4	66.0	6250
TP816A-2YF(L)2Y-StIII-Bd-600P08	600	0.44	3.8	72.5	7525
TP816A-2YF(L)2Y-StIII-Bd-700P08	700	0.44	4.0	77.5	8700
TP816A-2YF(L)2Y-StIII-Bd-800P08	800	0.44	4.0	83.0	9950

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

ADDISON

Solid PE Insulated & LAP Sheathed (ALPETH) Air Core Cables to GR-421

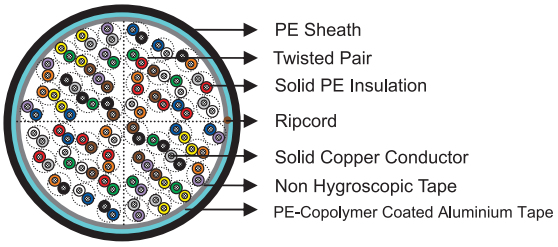
APPLICATION



The cables are designed for use as subscriber distribution cables and as connection between central offices. 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

• Telcordia (Bellcore) GR-421

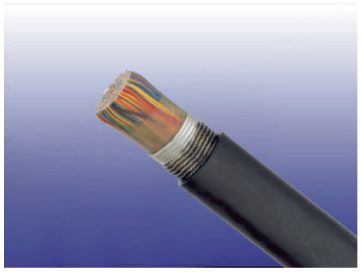


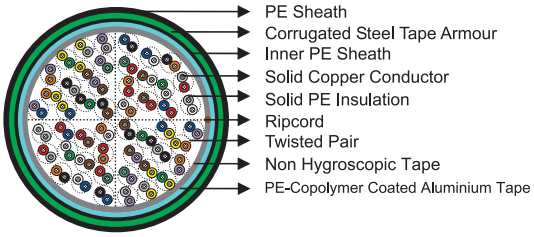
CONSTRUCTION

- **Conductors:** Solid annealed bare copper, 0.4/0.5/0.63/0.9mm, as per ASTM B-3/class 1 of IEC 60228.
- **Insulation:** Solid medium or high density polyethylene as per ASTM D 1248/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 400 pairs are composed of 25-pair units or 12/13-pair units; cables with over 400 pairs are composed of 50 or 100-pair units. Any extra pairs form a separate unit. Units are identified by colour coded binders. Construction is per GR-421 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:** A layer of aluminium tape (0.2mm) coated with PE-copolymer is applied longitudinally with overlap over the cable core to provide 100% electrical shielding coverage and ensures 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 ASTM D 1248/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 large pair cables.
- **Continuity Wire (optional):** One tinned copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.

OPTIONAL CONSTRUCTION

- **Armoured Cable:** 0.15mm thick corrugated steel tape armour is applied with an overlap over an optional inner polye-





thylene sheath. An outer polyethylene sheath is applied over the armour.

- **Self-Support Cable:** A 7-strand galvanized steel strand is used as support wire. Black polyethylene sheath covers both core and support wire in a figure-8 construction.

ABBREVIATIONS

LAP (CAP): Bare Aluminium tape + PE sheath
LAPSP (CAPSP): LAP sheath + steel tape armour + PE sheath
LAP (ALPETH): PE sheath
PAP: PE inner sheath + bare aluminium tape + PE sheath
PASP: PE inner sheath + bare aluminium tape + steel tape armour + PE outer sheath
ASP (STAPETH): Bare aluminium tape + steel tape armour + PE outer sheath
CACSP: Copolymer coated aluminum tape + copolymer coated steel tape armour + PE outer sheath
LAPSP: Copolymer coated aluminum tape +PE inner sheath + steel tape armour + PE outer sheath
FIGURE 8 LAP: Copolymer coated aluminum tape + PE outer sheath + self supporting

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.4	0.5	0.63	0.9
Conductor Gauge Size	AWG	26	24	22	19
Maximum Average DC Resistance	Ω/km / Ω/mile	140/225	87/140	55/88.6	27.0/43.4
Maximum Individual DC Resistance	Ω/km / Ω/mile	144.2/232	89.5/144	56.5/91.0	28.0/45.0
Minimum Insulation Resistance @500V DC	MΩ·km / MΩ·mile	1600/1000	1600/1000	1600/1000	1600/1000
Maximum Average Resistance Unbalance	%	1.5	1.5	1.5	1.5
Maximum Individual Resistance Unbalance	%	5	5	5	5
Average Mutual Capacitance	nF/km / nF/kft	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5
Maximum Individual Mutual Capacitance	nF/km / nF/kft	57/17.4	57/17.4	57/17.4	57/17.4
Maximum Individual Capacitance Unbalance pair-to-pair	pF/km / pF/kft	145/44	145/44	145/44	145/44
Capacitance Unbalance RMS pair-to-pair	pF/km / pF/kft	45/13.7	45/13.7	45/13.7	45/13.7
Maximum Individual Capacitance Unbalance pair-to-ground	pF/km / pF/kft	2625/800	2625/800	2625/800	2625/800
Maximum Average Capacitance Unbalance pair-to-ground	pF/km / pF/kft	574/175	574/175	574/175	574/175
Maximum Conductor Loop Resistance @20°C	Ω/km / Ω/mile	300/482	192/309	114/183.6	60/96.4
Impedance @1KHz	Ω	994	796	660	445
Impedance @100KHz	Ω	147	134	125	122
Impedance @512KHz	Ω	120	118	117	116
Impedance @1MHz	Ω	117	115	114	113
Maximum Average Attenuation @0.8KHz	dB/km / dB/kft	1.64/0.5	1.30/0.39	1.04/0.32	0.74/0.22

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Maximum Average Attenuation @1KHz	dB/km / dB/kft	1.68/0.51	1.35/0.41	1.08/0.33	0.76/0.23
Maximum Average Attenuation @3KHz	dB/km / dB/kft	3.18/0.97	2.52/0.77	2.01/0.61	1.42/0.43
Maximum Average Attenuation @150KHz	dB/km / dB/kft	11.4/3.47	8.3/2.53	6.2/1.89	4.4/1.34
Maximum Average Attenuation @772KHz	dB/km / dB/kft	24.3/7.4	19.4/5.9	15.4/4.7	10.8/3.3
Maximum Average Attenuation @1000KHz	dB/km / dB/kft	27.1/8.25	21.4/6.52	17.5/5.33	12.8/3.89
Dielectric Strength					
Conductor to Conductor (3secs)	V DC	2400	3000	4000	5000
Conductor to Screen (3secs)	V DC	10000	10000	10000	10000
Minimum EL Far-end Cross-talk-Mean Power Sum					
@150KHz	dB/305m / dB/kft	61	63	63	65
@772KHz	dB/305m / dB/kft	47	49	49	57
@1.6MHz	dB/305m / dB/kft	41	42	43	44
@3.15MHz	dB/305m / dB/kft	35	37	37	39
@6.3MHz	dB/305m / dB/kft	29	31	31	33
Minimum Far-end Cross-talk-Worst Pair Power Sum					
@150KHz	dB/305m / dB/kft	57	57	57	59
@772KHz	dB/305m / dB/kft	43	43	43	45
@1.6MHz	dB/305m / dB/kft	37	37	37	39
@3.15MHz	dB/305m / dB/kft	31	31	31	33
@6.3MHz	dB/305m / dB/kft	25	25	25	27
Minimum Near-end Cross-talk-Mean Power Sum					
@150KHz	dB/305m / dB/kft	58	58	58	58
@772KHz	dB/305m / dB/kft	47	47	47	47
@1.6MHz	dB/305m / dB/kft	43	43	43	43
@3.15MHz	dB/305m / dB/kft	38	38	38	38
@6.3MHz	dB/305m / dB/kft	34	34	34	34
Minimum Near-end Cross-talk-Worst Pair Power Sum					
@150KHz	dB/305m / dB/kft	53	53	53	53
@772KHz	dB/305m / dB/kft	42	42	42	42
@1.6MHz	dB/305m / dB/kft	38	38	38	38
@3.15MHz	dB/305m / dB/kft	33	33	33	33
@6.3MHz	dB/305m / dB/kft	29	29	29	29
Nominal Insulation Thickness	mm	0.175	0.2	0.26	0.3
Nominal Insulated Conductor Diameter	mm	0.75	0.9	1.15	1.5

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

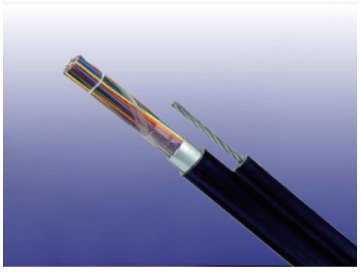
COLOUR CODE

Standard colour code is per GR-421 given in Colour Code Chart

DIMENSIONS AND WEIGHT

Solid PE Insulated and LAP Sheathed (ALPETH) Air Core Cable to GR-421

Cable Code	Number of Pairs	Nominal Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
0.4mm Conductor, 0.75mm Insulated Wire				
TP421-2Y(A)2Y-25P04	25	1.5/0.059	12.0/0.47	141/95
TP421-2Y(A)2Y-50P04	50	1.5/0.059	14.5/0.57	231/155
TP421-2Y(A)2Y-100P04	100	1.7/0.067	18.5/0.73	394/265
TP421-2Y(A)2Y-200P04	200	1.7/0.067	24.6/0.97	729/490
TP421-2Y(A)2Y-300P04	300	1.8/0.071	28.0/1.10	1034/695
TP421-2Y(A)2Y-400P04	400	1.9/0.075	33.0/1.30	1346/905
TP421-2Y(A)2Y-600P04	600	2.1/0.083	38.1/1.50	1964/1320
TP421-2Y(A)2Y-900P04	900	2.2/0.087	45.7/1.80	2931/1970
TP421-2Y(A)2Y-1200P04	1200	2.4/0.094	53.3/2.10	3868/2600
TP421-2Y(A)2Y-1500P04	1500	2.5/0.098	58.4/2.30	4791/3220
TP421-2Y(A)2Y-1800P04	1800	2.5/0.098	63.5/2.50	5713/3839
TP421-2Y(A)2Y-2000P04	2000	2.5/0.098	66.0/2.60	6348/4266
TP421-2Y(A)2Y-2100P04	2100	2.5/0.098	68.6/2.70	6636/4459
0.5mm Conductor, 0.9mm Insulated Wire				
TP421-2Y(A)2Y-25P05	25	1.5/0.059	13.2/0.52	195/131
TP421-2Y(A)2Y-50P05	50	1.5/0.059	16.5/0.65	330/222
TP421-2Y(A)2Y-100P05	100	1.7/0.067	21.8/0.86	590/396
TP421-2Y(A)2Y-200P05	200	1.7/0.067	28.0/1.10	1100/739
TP421-2Y(A)2Y-300P05	300	1.7/0.067	35.6/1.40	1620/1089
TP421-2Y(A)2Y-400P05	400	1.8/0.071	38.1/1.50	2120/1425
TP421-2Y(A)2Y-600P05	600	2.0/0.079	48.3/1.90	3120/2097
TP421-2Y(A)2Y-900P05	900	2.2/0.087	55.9/2.20	4580/3078
TP421-2Y(A)2Y-1200P05	1200	2.4/0.094	63.5/2.50	6070/4079
TP421-2Y(A)2Y-1500P05	1500	2.5/0.098	71.2/2.80	7530/5060
TP421-2Y(A)2Y-1600P05	1600	2.5/0.098	76.2/3.00	7700/5174
TP421-2Y(A)2Y-1800P05	1800	2.5/0.098	78.7/3.10	8985/6038
0.63mm Conductor, 1.15mm Insulated Wire				
TP421-2Y(A)2Y-25P063	25	1.5/0.059	15.5/0.61	275/185
TP421-2Y(A)2Y-50P063	50	1.5/0.059	20.1/0.79	476/320
TP421-2Y(A)2Y-100P063	100	1.7/0.067	28.0/1.10	885/595
TP421-2Y(A)2Y-200P063	200	1.7/0.067	38.1/1.50	1666/1120
TP421-2Y(A)2Y-300P063	300	1.7/0.067	43.2/1.70	2455/1650
TP421-2Y(A)2Y-400P063	400	1.8/0.071	48.3/1.90	3229/2170
TP421-2Y(A)2Y-600P063	600	1.9/0.075	58.4/2.30	4791/3220
TP421-2Y(A)2Y-900P063	900	2.1/0.083	71.2/2.80	7082/4759
TP421-2Y(A)2Y-1200P063	1200	2.2/0.087	81.3/3.20	9388/6308
0.9mm Conductor, 1.5mm Insulated Wire				
TP421-2Y(A)2Y-25P09	25	1.5/0.059	20.1/0.79	476/320
TP421-2Y(A)2Y-50P09	50	1.5/0.059	28.0/1.10	885/595
TP421-2Y(A)2Y-100P09	100	1.7/0.067	38.1/1.50	1651/1109
TP421-2Y(A)2Y-200P09	200	1.7/0.067	48.3/1.90	3199/2150
TP421-2Y(A)2Y-300P09	300	1.7/0.067	61.0/2.40	4746/3189



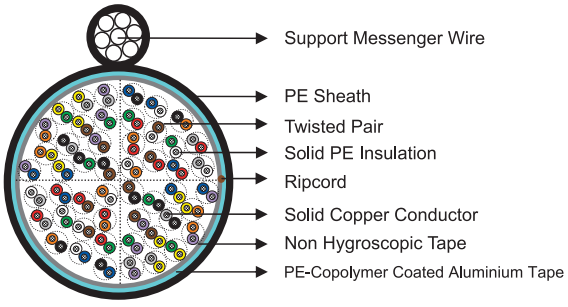
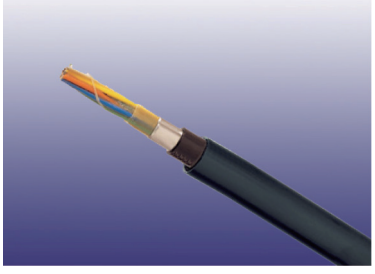
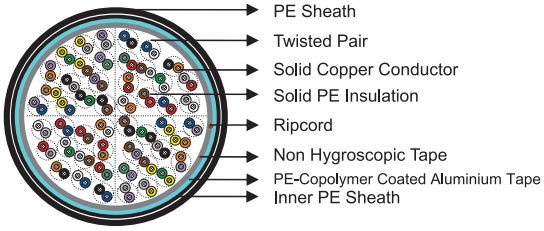


Fig 8 Solid PE Insulated & LAP Sheathed (Alpeth) Air Core Cable to GR-421

Cable Code	Number of Pairs	Support Messenger Wire Diameter mm/inch	Nominal Sheath Thickness mm/inch	Nominal Overall Dimension mm/inch	Nominal Weight kg/km / lbs/kft
0.4mm Conductor, 0.75mm Insulated Wire					
TP421-2Y(A)2Y-25P04-SS	25	7/6.35 / 7/0.25	1.5/0.059	14.2/0.56	379/255
TP421-2Y(A)2Y-50P04-SS	50	7/6.35 / 7/0.25	1.5/0.059	16.8/0.66	469/315
TP421-2Y(A)2Y-100P04-SS	100	7/6.35 / 7/0.25	1.7/0.067	20.6/0.81	632/425
TP421-2Y(A)2Y-200P04-SS	200	7/6.35 / 7/0.25	1.7/0.067	25.4/1.00	952/640
TP421-2Y(A)2Y-300P04-SS	300	7/6.35 / 7/0.25	1.8/0.071	30.5/1.20	1257/845
0.5mm Conductor, 0.9mm Insulated Wire					
TP421-2Y(A)2Y-25P05-SS	25	7/6.35 / 7/0.25	1.5/0.059	16.0/0.63	431/290
TP421-2Y(A)2Y-50P05-SS	50	7/6.35 / 7/0.25	1.5/0.059	19.3/0.76	565/380
TP421-2Y(A)2Y-100P05-SS	100	7/6.35 / 7/0.25	1.7/0.067	24.6/0.97	826/555
TP421-2Y(A)2Y-200P05-SS	200	7/6.35 / 7/0.25	1.7/0.067	30.5/1.20	1317/885
0.63mm Conductor, 1.15mm Insulated Wire					
TP421-2Y(A)2Y-25P063-SS	25	7/6.35 / 7/0.25	1.5/0.059	17.8/0.70	513/345
TP421-2Y(A)2Y-50P063-SS	50	7/6.35 / 7/0.25	1.5/0.059	22.4/0.88	714/480
TP421-2Y(A)2Y-100P063-SS	100	7/6.35 / 7/0.25	1.7/0.067	30.5/1.20	1116/750
0.9mm Conductor, 1.5mm Insulated Wire					
TP421-2Y(A)2Y-25P09-SS	25	7/6.35 / 7/0.25	1.5/0.059	22.4/0.88	714/480
TP421-2Y(A)2Y-50P09-SS	50	7/6.35 / 7/0.25	1.5/0.059	30.5/1.20	1108/745





Solid PE Insulated & PAP Sheathed Air Core Cable to GR-421

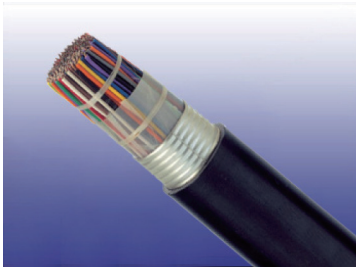
Cable Code	Number of Pairs	Nominal Sheath Thickness		Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
		Inner	Outer		
		mm/inch	mm/inch		
0.4mm Conductor, 0.75mm Insulated Wire					
TP421-2Y2Y(A)2Y-50P04	50	1.2/0.047	1.5/0.059	16.0/0.630	275/185
TP421-2Y2Y(A)2Y-100P04	100	1.2/0.047	1.5/0.059	20.0/0.787	446/300
TP421-2Y2Y(A)2Y-200P04	200	1.2/0.047	1.5/0.059	25.0/0.984	781/525
TP421-2Y2Y(A)2Y-400P04	400	1.2/0.047	1.5/0.059	34.0/1.34	1443/970
TP421-2Y2Y(A)2Y-600P04	600	1.6/0.063	2.0/0.079	40.0/1.57	2098/1410
TP421-2Y2Y(A)2Y-900P04	900	1.6/0.063	2.0/0.079	48.0/1.89	3043/2045
TP421-2Y2Y(A)2Y-1200P04	1200	1.6/0.063	2.0/0.079	54.0/2.13	4010/2695
0.5mm Conductor, 0.9mm Insulated Wire					
TP421-2Y2Y(A)2Y-25P05	25	1.2/0.047	1.5/0.059	16.0/0.630	251/169
TP421-2Y2Y(A)2Y-50P05	50	1.2/0.047	1.5/0.059	18.0/0.709	380/255
TP421-2Y2Y(A)2Y-100P05	100	1.2/0.047	1.5/0.059	23.0/0.906	640/430
TP421-2Y2Y(A)2Y-200P05	200	1.6/0.063	1.8/0.071	30.0/1.18	1146/770
TP421-2Y2Y(A)2Y-300P05	300	1.6/0.063	1.8/0.071	36.0/1.42	1682/1130
TP421-2Y2Y(A)2Y-400P05	400	1.6/0.063	2.0/0.079	41.0/1.61	2195/1475
TP421-2Y2Y(A)2Y-600P05	600	1.8/0.071	2.3/0.090	49.0/1.93	3215/2160
TP421-2Y2Y(A)2Y-900P05	900	2.0/0.079	2.5/0.098	59.0/2.32	4747/3190
TP421-2Y2Y(A)2Y-1200P05	1200	2.2/0.079	2.7/0.106	67.0/2.64	6198/4165
0.63mm Conductor, 1.15mm Insulated Wire					
TP421-2Y2Y(A)2Y-25P063	25	1.2/0.047	1.5/0.059	17.0/0.669	320/215
TP421-2Y2Y(A)2Y-50P063	50	1.2/0.047	1.5/0.059	22.0/0.866	535/360
TP421-2Y2Y(A)2Y-100P063	100	1.2/0.047	1.5/0.059	28.0/1.10	945/635
TP421-2Y2Y(A)2Y-200P063	200	1.6/0.063	2.0/0.079	37.0/1.46	1771/1190
TP421-2Y2Y(A)2Y-400P063	400	1.8/0.071	2.3/0.091	51.0/2.01	3363/2260
TP421-2Y2Y(A)2Y-600P063	600	2.0/0.079	2.5/0.098	62.0/2.44	5015/3370
0.9mm Conductor, 1.5mm Insulated Wire					
TP421-2Y2Y(A)2Y-25P09	25	1.2/0.047	1.5/0.059	21.0/0.827	528/355
TP421-2Y2Y(A)2Y-50P09	50	1.2/0.047	1.5/0.059	27.0/1.06	930/625
TP421-2Y2Y(A)2Y-100P09	100	1.6/0.063	2.0/0.079	36.0/1.42	1741/1170
TP421-2Y2Y(A)2Y-200P09	200	1.8/0.071	2.3/0.091	50.0/1.97	3319/2230

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

Solid PE Insulated & LAP Sheathed (ALPETH) Air Core Cables to ICEA S-85-625

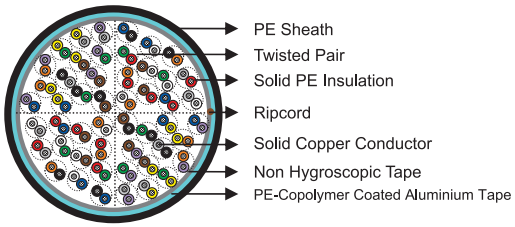
APPLICATION

The cables are designed for use as subscriber distribution cables and as connection between central offices. 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

• ANSI/ICEA S-85-625

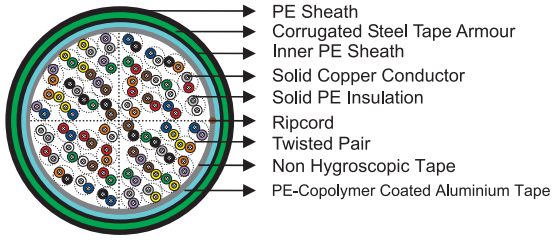


CONSTRUCTION

- **Conductors:** Solid annealed bare copper, 0.4/0.5/0.63/0.9mm, as per ASTM B-3/class 1 of IEC 60228.
- **Insulation:** Solid medium or high density polyethylene as per ASTM D 1248/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 of 25 pairs or less are assembled into cylindrical core. Cables larger than 25 pairs are assembled into units, which are then used to form the core. Units are identified by colour coded binders.
- **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 (0.2mm) coated with PE-copolymer is applied longitudinally with overlap over the cable core to provide 100% electrical shielding coverage and ensure a barrier against water vapor.
- **Sheath:** Black low or medium density polyethylene as per ASTM D 1248/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 provided for large pair cables.
- **Continuity Wire (optional):** One tinned copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.

OPTIONAL CONSTRUCTION

- **Armoured Cable**: 0.15mm thick corrugated steel tape armour is applied with an overlap over an optional inner polyethylene sheath. An outer polyethylene sheath is applied over the armour.
- **Self-Support Cable:** A 7-strand galvanized steel strand is used as support wire. Black polyethylene sheath covers both core and support wire in a figure-8 construction.



• **Shield Options:** There are 8 different shield options which can be offered in this standard:

1) 8 mil bare aluminium tape
2) 8 mil coated aluminium tape
3) 5 mil copper tape
4) 5 mil copper clad alloy steel tape
5) 5 mil copper clad stainless steel tape
6) 6 mil & 7 mil 194 copper alloy tape
7) 6 mil bare steel tape
8) 6 mil coated steel tape

ABBREVIATIONS

LAP (CAP): Bare Aluminium tape + PE sheath
LAPSP (CAPSP): LAP sheath + steel tape armour + PE
LAP (ALPETH): PE sheath
PAP: PE inner sheath + bare aluminium tape + PE sheath
APSP (STAPETH): Bare aluminium tape + PE inner sheath + steel tape armour + PE outer sheath
CACSP: Copolymer coated aluminum tape + copolymer coated steel tape armour + PE outer sheath
LAPSP: Copolymer coated aluminum tape + PE inner sheath + steel tape armour + PE outer sheath
FIGURE 8 LAP: Copolymer coated aluminum tape + PE outer sheath + self supporting

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.4	0.5	0.63	0.9
Conductor Gauge Size	AWG	26	24	22	19
Maximum Average DC Resistance	Ω/km / Ω/mile	140/225	87/140	55/88.6	27.0/43.4
Maximum Individual DC Resistance	Ω/km / Ω/mile	144.2/232	89.5/144	56.5/91.0	28.0/45.0
Minimum Insulation Resistance @500V DC	MΩ·km / MΩ·mile	1600/1000	1600/1000	1600/1000	1600/1000
Maximum Average Resistance Unbalance	%	1.5	1.5	1.5	1.5
Maximum Individual Resistance Unbalance	%	5	5	5	5
Average Mutual Capacitance	nF/km / nF/kft	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5
Maximum Individual Mutual Capacitance	nF/km / nF/kft	57/17.4	57/17.4	57/17.4	57/17.4
Maximum Individual Capacitance Unbalance pair-to-pair	pF/km / pF/kft	145/44	145/44	145/44	145/44
Capacitance Unbalance RMS pair-to-pair	pF/km / pF/kft	45/13.7	45/13.7	45/13.7	45/13.7
Maximum Individual Capacitance Unbalance pair-to-ground	pF/km / pF/kft	2625/800	2625/800	2625/800	2625/800
Maximum Average Capacitance Unbalance pair-to-ground	pF/km / pF/kft	574/175	574/175	574/175	574/175
Maximum Conductor Loop Resistance @20°C	Ω/km / Ω/mile	300/482	192/309	114/183.6	60/96.4
Impedance @1KHz	Ω	994	796	660	445
Impedance @100KHz	Ω	147	134	125	122

(Continued from previous page)

Impedance @512KHz	Ω	120	118	117	116
Impedance @1MHz	Ω	117	115	114	113
Maximum Average Attenuation @0.8KHz	dB/km / dB/kft	1.64/0.5	1.30/0.39	1.04/0.32	0.74/0.22
Maximum Average Attenuation @1KHz	dB/km / dB/kft	1.68/0.51	1.35/0.41	1.08/0.33	0.76/0.23
Maximum Average Attenuation @3KHz	dB/km / dB/kft	3.18/0.97	2.52/0.77	2.01/0.61	1.42/0.43
Maximum Average Attenuation @150KHz	dB/km / dB/kft	11.4/3.47	8.3/2.53	6.2/1.89	4.4/1.34
Maximum Average Attenuation @772KHz	dB/km / dB/kft	24.3/7.4	19.4/5.9	15.4/4.7	10.8/3.3
Maximum Average Attenuation @1000KHz	dB/km / dB/kft	27.1/8.25	21.4/6.52	17.5/5.33	12.8/3.89
Dielectric Strength					
Conductor to Conductor (3secs)	V DC	2400	3000	4000	5000
Conductor to Screen (3secs)	V DC	10000	10000	10000	10000
Minimum EL Far-end Cross-talk-Mean Power Sum					
@150KHz	dB/305m / dB/kft	61	63	63	65
@772KHz	dB/305m / dB/kft	47	49	49	57
@1.6MHz	dB/305m / dB/kft	41	42	43	44
@3.15MHz	dB/305m / dB/kft	35	37	37	39
@6.3MHz	dB/305m / dB/kft	29	31	31	33
Minimum Far-end Cross-talk-Worst Pair Power Sum					
@150KHz	dB/305m / dB/kft	57	57	57	59
@772KHz	dB/305m / dB/kft	43	43	43	45
@1.6MHz	dB/305m / dB/kft	37	37	37	39
@3.15MHz	dB/305m / dB/kft	31	31	31	33
@6.3MHz	dB/305m / dB/kft	25	25	25	27
Minimum Near-end Cross-talk-Mean Power Sum					
@150KHz	dB/305m / dB/kft	58	58	58	58
@772KHz	dB/305m / dB/kft	47	47	47	47
@1.6MHz	dB/305m / dB/kft	43	43	43	43
@3.15MHz	dB/305m / dB/kft	38	38	38	38
@6.3MHz	dB/305m / dB/kft	34	34	34	34
Minimum Near-end Cross-talk-Worst Pair Power Sum					
@150KHz	dB/305m / dB/kft	53	53	53	53
@772KHz	dB/305m / dB/kft	42	42	42	42
@1.6MHz	dB/305m / dB/kft	38	38	38	38
@3.15MHz	dB/305m / dB/kft	33	33	33	33
@6.3MHz	dB/305m / dB/kft	29	29	29	29
Nominal Insulation Thickness	mm	0.15	0.2	0.26	0.3
Nominal Insulated Conductor Diameter	mm	0.7	0.9	1.15	1.5

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

COLOUR CODE

Standard colour code is per ICEA S-85-625 given in Colour Code Chart

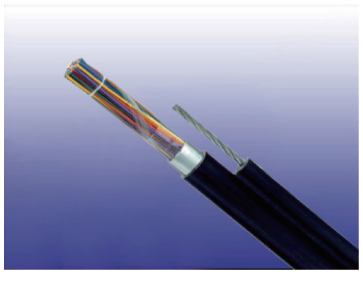
DIMENSIONS AND WEIGHT

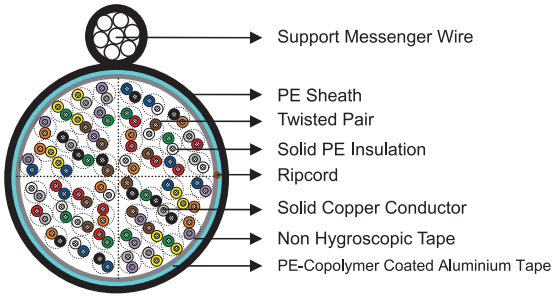
Solid PE Insulated and LAP Sheathed (Alpeth) Air Core Cable to ICEA S-85-625

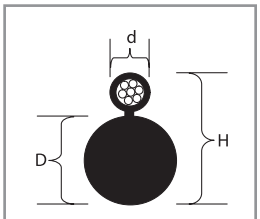
Cable Code	Number of Pairs	Nominal Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
0.4mm Conductor, 0.7mm Insulated Wire				
TP625-2Y(A)2Y-3P04	3	1.5/0.059	8.0/0.315	55/37
TP625-2Y(A)2Y-5P04	5	1.5/0.059	8.5/0.335	60/40
TP625-2Y(A)2Y-6P04	6	1.5/0.059	9.0/0.354	65/44
TP625-2Y(A)2Y-10P04	10	1.5/0.059	9.5/0.374	80/54
TP625-2Y(A)2Y-12P04	12	1.5/0.059	10.0/0.394	90/60
TP625-2Y(A)2Y-15P04	15	1.5/0.059	10.5/0.413	100/67
TP625-2Y(A)2Y-20P04	20	1.5/0.059	11.0/0.433	120/81
TP625-2Y(A)2Y-25P04	25	1.5/0.059	12.0/0.472	140/94
TP625-2Y(A)2Y-30P04	30	1.5/0.059	12.5/0.492	155/104
TP625-2Y(A)2Y-40P04	40	1.5/0.059	13.5/0.531	190/128
TP625-2Y(A)2Y-50P04	50	1.5/0.059	14.5/0.571	220/148
TP625-2Y(A)2Y-75P04	75	1.5/0.059	16.5/0.650	300/202
TP625-2Y(A)2Y-100P04	100	1.5/0.059	18.0/0.709	380/255
TP625-2Y(A)2Y-150P04	150	1.5/0.059	21.0/0.827	540/363
TP625-2Y(A)2Y-200P04	200	1.5/0.059	24.0/0.945	690/464
TP625-2Y(A)2Y-300P04	300	1.5/0.059	27.5/1.083	1000/672
TP625-2Y(A)2Y-400P04	400	1.8/0.071	31.5/1.24	1300/874
TP625-2Y(A)2Y-600P04	600	2.0/0.079	37.5/1.476	1900/1277
TP625-2Y(A)2Y-800P04	800	2.3/0.091	43.0/1.693	2800/1882
TP625-2Y(A)2Y-900P04	900	2.3/0.091	46.0/1.811	2961/1990
TP625-2Y(A)2Y-1000P04	1000	2.5/0.098	48.0/1.890	3264/2193
TP625-2Y(A)2Y-1200P04	1200	2.8/0.110	52.0/2.047	3873/2603
TP625-2Y(A)2Y-1500P04	1500	2.8/0.110	58.0/2.283	4819/3238
TP625-2Y(A)2Y-1800P04	1800	3.2/0.126	63.0/2.480	5777/3882
TP625-2Y(A)2Y-2100P04	2100	3.2/0.126	68.0/2.677	6731/4523
TP625-2Y(A)2Y-2400P04	2400	3.5/0.138	72.0/2.834	7645/5137
TP625-2Y(A)2Y-2700P04	2700	3.5/0.138	76.0/2.992	8556/5749
TP625-2Y(A)2Y-3000P04	3000	3.5/0.138	80.0/3.150	9466/6361
0.5mm Conductor, 0.9mm Insulated Wire				
TP625-2Y(A)2Y-3P05	3	1.5/0.059	8.5/0.335	60/40
TP625-2Y(A)2Y-5P05	5	1.5/0.059	9.5/0.374	70/47
TP625-2Y(A)2Y-6P05	6	1.5/0.059	10.0/0.394	75/50
TP625-2Y(A)2Y-10P05	10	1.5/0.059	11.0/0.433	100/67
TP625-2Y(A)2Y-12P05	12	1.5/0.059	11.5/0.453	120/81
TP625-2Y(A)2Y-15P05	15	1.5/0.059	12.0/0.472	130/87
TP625-2Y(A)2Y-20P05	20	1.5/0.059	13.0/0.512	160/108
TP625-2Y(A)2Y-25P05	25	1.5/0.059	14.0/0.551	190/128
TP625-2Y(A)2Y-30P05	30	1.5/0.059	14.5/0.571	220/148
TP625-2Y(A)2Y-40P05	40	1.5/0.059	16.0/0.630	270/181
TP625-2Y(A)2Y-50P05	50	1.5/0.059	17.0/0.669	320/215
TP625-2Y(A)2Y-70P05	70	1.5/0.059	19.0/0.748	406/273
TP625-2Y(A)2Y-75P05	75	1.5/0.059	19.5/0.768	440/296
TP625-2Y(A)2Y-100P05	100	1.5/0.059	22.5/0.886	570/383
TP625-2Y(A)2Y-150P05	150	1.5/0.059	26.0/1.024	810/544
TP625-2Y(A)2Y-200P05	200	1.8/0.071	29.5/1.157	1070/719
TP625-2Y(A)2Y-300P05	300	1.8/0.071	35.0/1.380	1530/1028
TP625-2Y(A)2Y-400P05	400	2.0/0.079	39.5/1.555	2010/1351
TP625-2Y(A)2Y-500P05	500	2.3/0.091	43.0/1.690	2577/1732
TP625-2Y(A)2Y-600P05	600	2.3/0.091	48.0/1.886	2980/2002
TP625-2Y(A)2Y-900P05	900	2.5/0.098	57.0/2.240	4415/2967
TP625-2Y(A)2Y-1000P05	1000	2.8/0.110	60.0/2.360	5015/3370
TP625-2Y(A)2Y-1200P05	1200	3.2/0.126	65.0/2.559	5959/4004

(Continued from previous page)

Cable Code	Number of Pairs	Nominal Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
TP625-2Y(A)2Y-1500P05	1500	3.5/0.138	72.0/2.835	7414/4982
0.63mm Conductor, 1.15mm Insulated Wire				
TP625-2Y(A)2Y-3P063	3	1.5/0.059	9.5/0.374	70/47
TP625-2Y(A)2Y-5P063	5	1.5/0.059	10.5/0.413	90/60
TP625-2Y(A)2Y-6P063	6	1.5/0.059	11.0/0.433	100/67
TP625-2Y(A)2Y-10P063	10	1.5/0.059	12.5/0.492	130/87
TP625-2Y(A)2Y-12P063	12	1.5/0.059	13.0/0.512	160/108
TP625-2Y(A)2Y-15P063	15	1.5/0.059	13.5/0.531	180/121
TP625-2Y(A)2Y-20P063	20	1.5/0.059	15.0/0.591	230/155
TP625-2Y(A)2Y-25P063	25	1.5/0.059	16.0/0.630	260/175
TP625-2Y(A)2Y-30P063	30	1.5/0.059	17.0/0.669	310/208
TP625-2Y(A)2Y-40P063	40	1.5/0.059	19.0/0.748	390/262
TP625-2Y(A)2Y-50P063	50	1.5/0.059	20.5/0.807	460/309
TP625-2Y(A)2Y-75P063	75	1.5/0.059	24.0/0.945	660/443
TP625-2Y(A)2Y-100P063	100	1.5/0.059	27.0/1.061	850/571
TP625-2Y(A)2Y-150P063	150	1.8/0.071	32.0/1.260	1240/833
TP625-2Y(A)2Y-200P063	200	2.0/0.079	36.5/1.437	1830/1230
TP625-2Y(A)2Y-300P063	300	2.0/0.079	43.5/1.712	2360/1586
TP625-2Y(A)2Y-400P063	400	2.3/0.091	50.0/1.968	3120/2097
TP625-2Y(A)2Y-600P063	600	2.5/0.098	59.5/2.340	4610/3098
0.9mm Conductor, 1.5mm Insulated Wire				
TP625-2Y(A)2Y-3P09	3	1.5/0.059	11.0/0.433	100/67
TP625-2Y(A)2Y-5P09	5	1.5/0.059	12.5/0.492	140/94
TP625-2Y(A)2Y-6P09	6	1.5/0.059	13.0/0.512	160/108
TP625-2Y(A)2Y-10P09	10	1.5/0.059	15.0/0.591	220/148
TP625-2Y(A)2Y-12P09	12	1.5/0.059	16.0/0.630	260/175
TP625-2Y(A)2Y-15P09	15	1.5/0.059	17.5/0.689	310/208
TP625-2Y(A)2Y-20P09	20	1.5/0.059	19.0/0.748	390/262
TP625-2Y(A)2Y-25P09	25	1.5/0.059	20.5/0.807	460/309
TP625-2Y(A)2Y-30P09	30	1.5/0.059	22.5/0.885	570/383
TP625-2Y(A)2Y-40P09	40	1.5/0.059	25.5/1.000	720/484
TP625-2Y(A)2Y-50P09	50	1.5/0.059	27.5/1.080	850/571
TP625-2Y(A)2Y-75P09	75	1.8/0.071	33.0/1.300	1240/833
TP625-2Y(A)2Y-100P09	100	2.0/0.079	37.0/1.460	1620/1089
TP625-2Y(A)2Y-150P09	150	2.0/0.079	44.5/1.750	2380/1599
TP625-2Y(A)2Y-200P09	200	2.3/0.091	51.0/2.010	3130/2103
TP625-2Y(A)2Y-300P09	300	2.5/0.099	60.5/2.380	4700/3158
TP625-2Y(A)2Y-400P09	400	2.8/0.110	69.5/2.740	6210/4173







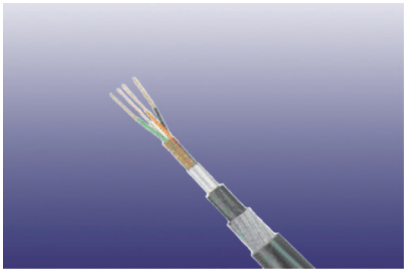
Dimension definition
(d x D x H)

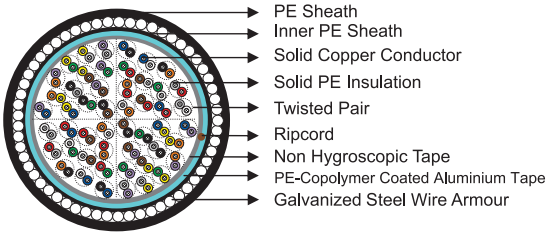
Fig 8 Solid PE Insulated & LAP Sheathed (Alpeth) Air Core Cable to ICEA S-85-625

Cable Code	Number of Pairs	Support Messenger Wire Diameter mm/inch	Nominal Sheath Thickness mm/inch	Nominal Overall Dimension d x D x H mm/inch	Nominal Weight kg/km / lbs/kft
0.4mm Conductor, 0.7mm Insulated Wire					
TP625-2Y(A)2Y-3P04-SS	3	7/2.03 / 7/0.08	1.5/0.059	9.1X8.0X20.0 / 0.36X0.315X0.787	245/165
TP625-2Y(A)2Y-5P04-SS	5	7/2.03 / 7/0.08	1.5/0.059	9.1X8.5X20.5 / 0.36X0.335X0.807	250/168
TP625-2Y(A)2Y-6P04-SS	6	7/2.03 / 7/0.08	1.5/0.059	9.1X9.0X21.0 / 0.36X0.354X0.827	260/175
TP625-2Y(A)2Y-10P04-SS	10	7/2.03 / 7/0.08	1.5/0.059	9.1X9.5X21.5 / 0.36X0.374X0.846	270/181
TP625-2Y(A)2Y-12P04-SS	12	7/2.03 / 7/0.08	1.5/0.059	9.1X10.0X22.0 / 0.36X0.394X0.866	280/188
TP625-2Y(A)2Y-15P04-SS	15	7/2.03 / 7/0.08	1.5/0.059	9.1X10.5X22.5 / 0.36X0.413X0.886	290/195
TP625-2Y(A)2Y-20P04-SS	20	7/2.03 / 7/0.08	1.5/0.059	9.1X11.0X23.5 / 0.36X0.433X0.925	310/208
TP625-2Y(A)2Y-25P04-SS	25	7/2.03 / 7/0.08	1.5/0.059	9.1X12.0X24.0 / 0.36X0.472X0.945	330/222
TP625-2Y(A)2Y-30P04-SS	30	7/2.03 / 7/0.08	1.5/0.059	9.1X12.5X24.5 / 0.36X0.492X0.965	350/235
TP625-2Y(A)2Y-40P04-SS	40	7/2.03 / 7/0.08	1.5/0.059	9.1X13.5X25.5 / 0.36X0.531X1.000	390/262
TP625-2Y(A)2Y-50P04-SS	50	7/2.03 / 7/0.08	1.5/0.059	9.1X14.5X26.5 / 0.36X0.571X1.040	410/276
TP625-2Y(A)2Y-75P04-SS	75	7/2.03 / 7/0.08	1.5/0.059	9.1X16.5X28.5 / 0.36X0.650X1.120	490/329
TP625-2Y(A)2Y-100P04-SS	100	7/2.03 / 7/0.08	1.5/0.059	9.1X18.0X30.0 / 0.36X0.709X1.180	570/383
TP625-2Y(A)2Y-150P04-SS	150	7/2.03 / 7/0.08	1.5/0.059	9.1X21.0X33.0 / 0.36X0.827X1.300	730/491
TP625-2Y(A)2Y-200P04-SS	200	7/2.03 / 7/0.08	1.5/0.059	9.1X23.5X36.0 / 0.36X0.925X1.420	880/591
TP625-2Y(A)2Y-300P04-SS	300	7/2.03 / 7/0.08	1.5/0.059	9.1X27.5X39.5 / 0.36X1.080X1.560	1220/820
TP625-2Y(A)2Y-400P04-SS	400	7/2.03 / 7/0.08	1.5/0.059	9.7X31.5X44.0 / 0.382X1.240X1.73	1490/1001
0.5mm Conductor, 0.9mm Insulated Wire					
TP625-2Y(A)2Y-3P05-SS	3	7/2.03 / 7/0.08	1.5/0.059	9.1X8.5X20.5 / 0.36X0.335X0.807	250/168
TP625-2Y(A)2Y-5P05-SS	5	7/2.03 / 7/0.08	1.5/0.059	9.1X9.5X21.5 / 0.36X0.374X0.846	260/175
TP625-2Y(A)2Y-6P05-SS	6	7/2.03 / 7/0.08	1.5/0.059	9.1X9.5X22.0 / 0.36X0.374X0.866	265/178
TP625-2Y(A)2Y-10P05-SS	10	7/2.03 / 7/0.08	1.5/0.059	9.1X11.0X23.0 / 0.36X0.433X0.906	290/195
TP625-2Y(A)2Y-12P05-SS	12	7/2.03 / 7/0.08	1.5/0.059	9.1X11.5X23.5 / 0.36X0.453X0.925	310/208
TP625-2Y(A)2Y-15P05-SS	15	7/2.03 / 7/0.08	1.5/0.059	9.1X12.0X24.0 / 0.36X0.472X0.945	330/222
TP625-2Y(A)2Y-20P05-SS	20	7/2.03 / 7/0.08	1.5/0.059	9.1X13.0X25.0 / 0.36X0.512X0.984	350/235
TP625-2Y(A)2Y-25P05-SS	25	7/2.03 / 7/0.08	1.5/0.059	9.1X14.0X26.0 / 0.36X0.551X1.024	380/255
TP625-2Y(A)2Y-30P05-SS	30	7/2.03 / 7/0.08	1.5/0.059	9.1X14.5X26.5 / 0.36X0.571X1.040	420/282
TP625-2Y(A)2Y-40P05-SS	40	7/2.03 / 7/0.08	1.5/0.059	9.1X16.0X28.0 / 0.36X0.630X1.100	470/316
TP625-2Y(A)2Y-50P05-SS	50	7/2.03 / 7/0.08	1.5/0.059	9.1X17.0X29.0 / 0.36X0.669X1.140	510/343
TP625-2Y(A)2Y-75P05-SS	75	7/2.03 / 7/0.08	1.5/0.059	9.1X19.5X31.5 / 0.36X0.768X1.240	630/423
TP625-2Y(A)2Y-100P05-SS	100	7/2.03 / 7/0.08	1.5/0.059	9.1X22.5X34.5 / 0.36X0.886X1.360	760/511
TP625-2Y(A)2Y-150P05-SS	150	7/2.03 / 7/0.08	1.5/0.059	9.1X26.0X38.0 / 0.36X1.020X1.500	1000/672
TP625-2Y(A)2Y-200P05-SS	200	7/2.03 / 7/0.08	1.8/0.071	9.7X29.5X42.5 / 0.382X1.160X1.67	1260/847
TP625-2Y(A)2Y-300P05-SS	300	7/2.03 / 7/0.08	1.8/0.071	9.7X34.5X47.5 / 0.382X1.360X1.87	1720/1156
0.63mm Conductor, 1.15mm Insulated Wire					
TP625-2Y(A)2Y-3P063-SS	3	7/2.03 / 7/0.08	1.5/0.059	9.1X9.5X21.5 / 0.36X0.374X0.846	260/175
TP625-2Y(A)2Y-5P063-SS	5	7/2.03 / 7/0.08	1.5/0.059	9.1X10.5X22.5 / 0.36X0.413X0.886	280/188
TP625-2Y(A)2Y-6P063-SS	6	7/2.03 / 7/0.08	1.5/0.059	9.1X11.0X23.0 / 0.36X0.433X0.906	290/195
TP625-2Y(A)2Y-10P063-SS	10	7/2.03 / 7/0.08	1.5/0.059	9.1X12.5X24.5 / 0.36X0.492X0.965	320/215
TP625-2Y(A)2Y-12P063-SS	12	7/2.03 / 7/0.08	1.5/0.059	9.1X13.0X25.0 / 0.36X0.512X0.984	350/235
TP625-2Y(A)2Y-15P063-SS	15	7/2.03 / 7/0.08	1.5/0.059	9.1X13.5X26.0 / 0.36X0.531X1.024	380/255
TP625-2Y(A)2Y-20P063-SS	20	7/2.03 / 7/0.08	1.5/0.059	9.1X15.0X27.0 / 0.36X0.591X1.060	420/282
TP625-2Y(A)2Y-25P063-SS	25	7/2.03 / 7/0.08	1.5/0.059	9.1X16.0X28.0 / 0.36X0.630X1.100	450/302
TP625-2Y(A)2Y-30P063-SS	30	7/2.03 / 7/0.08	1.5/0.059	9.1X17.0X29.0 / 0.36X0.669X1.140	510/343
TP625-2Y(A)2Y-40P063-SS	40	7/2.03 / 7/0.08	1.5/0.059	9.1X19.0X31.0 / 0.36X0.748X1.220	590/396
TP625-2Y(A)2Y-50P063-SS	50	7/2.03 / 7/0.08	1.5/0.059	9.1X20.5X32.5 / 0.36X0.807X1.280	650/437
TP625-2Y(A)2Y-75P063-SS	75	7/2.03 / 7/0.08	1.5/0.059	9.1X24.0X36.5 / 0.36X0.945X1.440	850/571
TP625-2Y(A)2Y-100P063-SS	100	7/2.03 / 7/0.08	1.5/0.059	9.1X27.0X39.0 / 0.36X1.060X1.540	1040/699
TP625-2Y(A)2Y-150P063-SS	150	7/2.03 / 7/0.08	1.8/0.071	9.7X32.0X45.0 / 0.382X1.26X1.770	1430/961
TP625-2Y(A)2Y-200P063-SS	200	7/2.03 / 7/0.08	2.0/0.079	10.1X36.5X49.5 / 0.398X1.44X1.95	1820/1223
TP625-2Y(A)2Y-300P063-SS	300	7/2.03 / 7/0.08	2.0/0.079	10.1X43.5X56.5 / 0.398X1.71X2.22	2570/1727
0.9mm Conductor, 1.5mm Insulated Wire					
TP625-2Y(A)2Y-3P09-SS	3	7/2.03 / 7/0.08	1.5/0.059	9.1X11.0X23.0 / 0.36X0.433X0.906	290/195

(Continued from previous page)

Cable Code	Number of Pairs	Support Messenger Wire Diameter mm/inch	Nominal Sheath Thickness mm/inch	Nominal Overall Dimension d x D x H mm/inch	Nominal Weight kg/km / lbs/kft
TP625-2Y(A)2Y-5P09-SS	5	7/2.03 / 7/0.08	1.5/0.059	9.1X12.5X24.5 / 0.36X0.492X0.965	330/222
TP625-2Y(A)2Y-6P09-SS	6	7/2.03 / 7/0.08	1.5/0.059	9.1X13.0X25.0 / 0.36X0.512X0.984	350/235
TP625-2Y(A)2Y-10P09-SS	10	7/2.03 / 7/0.08	1.5/0.059	9.1X15.0X27.5 / 0.36X0.591X1.080	410/276
TP625-2Y(A)2Y-12P09-SS	12	7/2.03 / 7/0.08	1.5/0.059	9.1X16.0X28.0 / 0.36X0.630X1.100	450/302
TP625-2Y(A)2Y-15P09-SS	15	7/2.03 / 7/0.08	1.5/0.059	9.1X17.5X29.5 / 0.36X0.689X1.160	500/336
TP625-2Y(A)2Y-20P09-SS	20	7/2.03 / 7/0.08	1.5/0.059	9.1X19.0X31.0 / 0.36X0.748X1.220	580/390
TP625-2Y(A)2Y-25P09-SS	25	7/2.03 / 7/0.08	1.5/0.059	9.1X20.5X33.0 / 0.36X0.807X1.300	650/437
TP625-2Y(A)2Y-30P09-SS	30	7/2.03 / 7/0.08	1.5/0.059	9.1X22.5X35.0 / 0.36X0.886X1.380	770/517
TP625-2Y(A)2Y-40P09-SS	40	7/2.03 / 7/0.08	1.5/0.059	9.1X25.5X37.5 / 0.36X1.000X1.480	920/618
TP625-2Y(A)2Y-50P09-SS	50	7/2.03 / 7/0.08	1.5/0.059	9.1X27.5X39.5 / 0.36X1.080X1.560	1040/699
TP625-2Y(A)2Y-75P09-SS	75	7/2.03 / 7/0.08	1.8/0.071	9.7X33.0X45.5 / 0.382X1.30X1.800	1430/961
TP625-2Y(A)2Y-100P09-SS	100	7/2.03 / 7/0.08	2.0/0.079	10.1X37.0X50.5 / 0.398X1.46X1.99	1810/1216
TP625-2Y(A)2Y-150P09-SS	150	7/2.03 / 7/0.08	2.0/0.079	10.1X44.5X57.5 / 0.398X1.75X2.26	2570/1727
TP625-2Y(A)2Y-200P09-SS	200	7/2.03 / 7/0.08	2.3/0.091	10.7X51.0X64.5 / 0.421X2.01X2.54	3440/2312





Solid PE Insulated, Steel Wire Armoured & LAP Sheathed (Alpeth) Air Core Cable to ICEA S-85-625

Cable Code	Number of Pairs	Nominal Inner Sheath Thickness mm/inch	Nominal Diameter of Armour Wires mm/inch	Nominal Outer Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
0.4mm Conductor, 0.7mm Insulated Wire						
TP625-2Y2Y(SWA)(A)2Y-5P04	5	1.5/0.059	0.8/0.031	1.5/0.059	15.0/0.591	260/175
TP625-2Y2Y(SWA)(A)2Y-10P04	10	1.5/0.059	0.8/0.031	1.5/0.059	16.0/0.630	305/205
TP625-2Y2Y(SWA)(A)2Y-15P04	15	1.5/0.059	0.8/0.031	1.5/0.059	17.0/0.669	380/255
TP625-2Y2Y(SWA)(A)2Y-20P04	20	1.5/0.059	0.8/0.031	1.5/0.059	18.0/0.709	410/275
TP625-2Y2Y(SWA)(A)2Y-25P04	25	1.5/0.059	0.8/0.031	1.5/0.059	19.0/0.748	440/296
TP625-2Y2Y(SWA)(A)2Y-30P04	30	1.5/0.059	0.8/0.031	1.5/0.059	19.0/0.748	470/316
TP625-2Y2Y(SWA)(A)2Y-40P04	40	1.5/0.059	0.8/0.031	1.5/0.059	20.0/0.787	520/349
TP625-2Y2Y(SWA)(A)2Y-50P04	50	1.5/0.059	0.8/0.031	1.5/0.059	21.0/0.827	570/383
TP625-2Y2Y(SWA)(A)2Y-100P04	100	1.5/0.059	1.6/0.063	1.5/0.059	26.0/1.024	1100/739
0.5mm Conductor, 0.9mm Insulated Wire						
TP625-2Y2Y(SWA)(A)2Y-5P05	5	1.5/0.059	0.8/0.031	1.5/0.059	16.0/0.630	290/195
TP625-2Y2Y(SWA)(A)2Y-10P05	10	1.5/0.059	0.8/0.031	1.5/0.059	18.0/0.709	380/255
TP625-2Y2Y(SWA)(A)2Y-15P05	15	1.5/0.059	0.8/0.031	1.5/0.059	19.0/0.748	440/296
TP625-2Y2Y(SWA)(A)2Y-20P05	20	1.5/0.059	0.8/0.031	1.5/0.059	20.0/0.787	480/323
TP625-2Y2Y(SWA)(A)2Y-25P05	25	1.5/0.059	0.8/0.031	1.5/0.059	21.0/0.827	550/370
TP625-2Y2Y(SWA)(A)2Y-30P05	30	1.5/0.059	0.8/0.031	1.5/0.059	21.0/0.827	570/383
TP625-2Y2Y(SWA)(A)2Y-40P05	40	1.5/0.059	1.6/0.063	1.5/0.059	24.0/0.945	930/625
TP625-2Y2Y(SWA)(A)2Y-50P05	50	1.5/0.059	1.6/0.063	1.5/0.059	25.0/0.984	1030/692
TP625-2Y2Y(SWA)(A)2Y-100P05	100	1.5/0.059	1.6/0.063	1.5/0.059	30.0/1.18	1500/1008
0.63mm Conductor, 1.15mm Insulated Wire						
TP625-2Y2Y(SWA)(A)2Y-5P063	5	1.5/0.059	0.8/0.031	1.5/0.059	17.0/0.669	380/255
TP625-2Y2Y(SWA)(A)2Y-10P063	10	1.5/0.059	0.8/0.031	1.5/0.059	19.0/0.748	450/302

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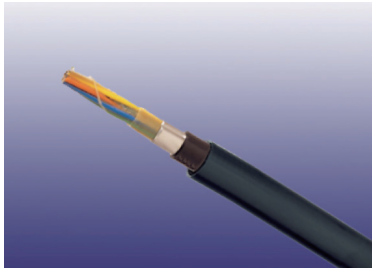
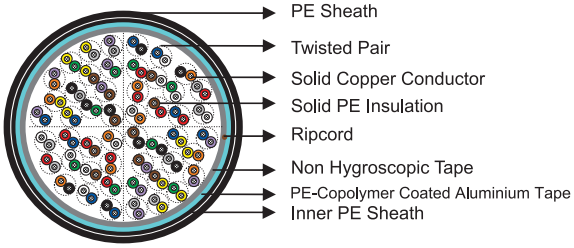
Cable Code	Number of Pairs	Nominal Inner Sheath Thickness mm/inch	Nominal Diameter of Armour Wires mm/inch	Nominal Outer Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
TP625-2Y2Y(SWA)(A)2Y-15P063	15	1.5/0.059	0.8/0.031	1.5/0.059	21.0/0.827	540/363
TP625-2Y2Y(SWA)(A)2Y-20P063	20	1.5/0.059	0.8/0.031	1.5/0.059	22.0/0.866	580/390
TP625-2Y2Y(SWA)(A)2Y-25P063	25	1.5/0.059	1.6/0.063	1.5/0.059	24.0/0.945	940/632
TP625-2Y2Y(SWA)(A)2Y-30P063	30	1.5/0.059	1.6/0.063	1.5/0.059	25.0/0.984	1000/672
TP625-2Y2Y(SWA)(A)2Y-40P063	40	1.5/0.059	1.6/0.063	1.5/0.059	27.0/1.06	1160/779
TP625-2Y2Y(SWA)(A)2Y-50P063	50	1.5/0.059	1.6/0.063	1.5/0.059	28.0/1.10	1300/874
TP625-2Y2Y(SWA)(A)2Y-100P063	100	1.5/0.059	2.0/0.079	1.5/0.059	36.0/1.42	2210/1485
0.9mm Conductor, 1.5mm Insulated Wire						
TP625-2Y2Y(SWA)(A)2Y-5P09	5	1.5/0.059	0.8/0.031	1.5/0.059	19.0/0.748	440/296
TP625-2Y2Y(SWA)(A)2Y-10P09	10	1.5/0.059	0.8/0.031	1.5/0.059	22.0/0.866	600/403
TP625-2Y2Y(SWA)(A)2Y-15P09	15	1.5/0.059	1.6/0.063	1.5/0.059	25.0/0.984	1020/685
TP625-2Y2Y(SWA)(A)2Y-20P09	20	1.5/0.059	1.6/0.063	1.5/0.059	27.0/1.06	1160/779
TP625-2Y2Y(SWA)(A)2Y-25P09	25	1.5/0.059	1.6/0.063	1.5/0.059	28.0/1.10	1330/894
TP625-2Y2Y(SWA)(A)2Y-30P09	30	1.5/0.059	1.6/0.063	1.5/0.059	30.0/1.18	1520/1021
TP625-2Y2Y(SWA)(A)2Y-40P09	40	1.5/0.059	2.0/0.079	1.5/0.059	34.0/1.34	2010/1351
TP625-2Y2Y(SWA)(A)2Y-50P09	50	1.5/0.059	2.0/0.079	1.5/0.059	36.0/1.42	2250/1512
TP625-2Y2Y(SWA)(A)2Y-100P09	100	2.0/0.079	2.5/0.098	2.0/0.079	48.0/1.89	3960/2661





Solid PE Insulated & Double Sheathed Alpeth (PAP) Air Core Cable to ICEA S-85-625

Cable Code	Number of Pairs	Nominal Sheath Thickness		Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
		Inner mm/inch	Outer mm/inch		
0.4mm Conductor, 0.7mm Insulated Wire					
TP625-2Y2Y(A)2Y-3P04	3	1.2/0.047	1.5/0.059	10.5/0.413	70/47
TP625-2Y2Y(A)2Y-5P04	5	1.2/0.047	1.5/0.059	11.0/0.433	85/57
TP625-2Y2Y(A)2Y-6P04	6	1.2/0.047	1.5/0.059	11.0/0.433	90/60
TP625-2Y2Y(A)2Y-10P04	10	1.2/0.047	1.5/0.059	12.0/0.472	110/74
TP625-2Y2Y(A)2Y-12P04	12	1.2/0.047	1.5/0.059	12.5/0.492	120/81
TP625-2Y2Y(A)2Y-15P04	15	1.2/0.047	1.5/0.059	13.0/0.512	140/94
TP625-2Y2Y(A)2Y-20P04	20	1.2/0.047	1.5/0.059	13.5/0.531	150/101
TP625-2Y2Y(A)2Y-25P04	25	1.2/0.047	1.5/0.059	14.5/0.571	175/118
TP625-2Y2Y(A)2Y-30P04	30	1.2/0.047	1.5/0.059	15.0/0.591	195/131
TP625-2Y2Y(A)2Y-40P04	40	1.2/0.047	1.5/0.059	16.0/0.630	235/158
TP625-2Y2Y(A)2Y-50P04	50	1.2/0.047	1.5/0.059	17.0/0.670	270/181
TP625-2Y2Y(A)2Y-75P04	75	1.2/0.047	1.5/0.059	19.0/0.748	360/241
TP625-2Y2Y(A)2Y-100P04	100	1.2/0.047	1.5/0.059	20.5/0.807	445/299
TP625-2Y2Y(A)2Y-150P04	150	1.2/0.047	1.5/0.059	23.0/0.906	610/410
TP625-2Y2Y(A)2Y-200P04	200	1.2/0.047	1.5/0.059	26.0/1.02	770/517
TP625-2Y2Y(A)2Y-300P04	300	1.2/0.047	1.5/0.059	30.0/1.18	1135/763
TP625-2Y2Y(A)2Y-400P04	400	1.6/0.063	1.8/0.071	34.5/1.36	1455/978
TP625-2Y2Y(A)2Y-600P04	600	1.6/0.063	2.0/0.079	40.5/1.59	2100/1411
TP625-2Y2Y(A)2Y-900P04	900	1.6/0.063	2.0/0.079	48.0/1.89	3070/2063
0.5mm Conductor, 0.9mm Insulated Wire					

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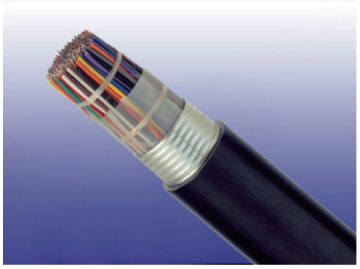
Cable Code	Number of Pairs	Nominal Sheath Thickness		Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
		Inner mm/inch	Outer mm/inch		
TP625-2Y2Y(A)2Y-3P05	3	1.2/0.047	1.5/0.059	11.0/0.433	80/54
TP625-2Y2Y(A)2Y-5P05	5	1.2/0.047	1.5/0.059	11.5/0.453	100/67
TP625-2Y2Y(A)2Y-6P05	6	1.2/0.047	1.5/0.059	12.0/0.472	110/74
TP625-2Y2Y(A)2Y-10P05	10	1.2/0.047	1.5/0.059	13.0/0.512	140/94
TP625-2Y2Y(A)2Y-12P05	12	1.2/0.047	1.5/0.059	13.5/0.531	150/101
TP625-2Y2Y(A)2Y-15P05	15	1.2/0.047	1.5/0.059	14.5/0.571	170/114
TP625-2Y2Y(A)2Y-20P05	20	1.2/0.047	1.5/0.059	15.5/0.610	200/134
TP625-2Y2Y(A)2Y-25P05	25	1.2/0.047	1.5/0.059	16.0/0.630	230/155
TP625-2Y2Y(A)2Y-30P05	30	1.2/0.047	1.5/0.059	17.0/0.670	265/178
TP625-2Y2Y(A)2Y-40P05	40	1.2/0.047	1.5/0.059	18.5/0.728	320/215
TP625-2Y2Y(A)2Y-50P05	50	1.2/0.047	1.5/0.059	19.5/0.768	370/249
TP625-2Y2Y(A)2Y-75P05	75	1.2/0.047	1.5/0.059	22.0/0.866	505/339
TP625-2Y2Y(A)2Y-100P05	100	1.2/0.047	1.5/0.059	25.0/0.984	640/430
TP625-2Y2Y(A)2Y-150P05	150	1.2/0.047	1.5/0.059	28.5/1.121	890/598
TP625-2Y2Y(A)2Y-200P05	200	1.6/0.063	1.8/0.071	33.0/1.30	1190/800
TP625-2Y2Y(A)2Y-300P05	300	1.6/0.063	1.8/0.071	38.0/1.50	1700/1142
TP625-2Y2Y(A)2Y-400P05	400	1.6/0.063	2.0/0.079	42.5/1.67	2200/1478
TP625-2Y2Y(A)2Y-600P05	600	1.8/0.079	2.3/0.091	51.5/2.03	3235/2174
TP625-2Y2Y(A)2Y-900P05	900	2.0/0.079	2.5/0.098	61.0/2.40	4705/3162
0.63mm Conductor, 1.15mm Insulated Wire					
TP625-2Y2Y(A)2Y-3P063	3	1.2/0.047	1.5/0.059	11.5/0.453	95/64
TP625-2Y2Y(A)2Y-5P063	5	1.2/0.047	1.5/0.059	13.0/0.512	120/81
TP625-2Y2Y(A)2Y-6P063	6	1.2/0.047	1.5/0.059	13.0/0.512	135/91
TP625-2Y2Y(A)2Y-10P063	10	1.2/0.047	1.5/0.059	14.5/0.571	175/118
TP625-2Y2Y(A)2Y-12P063	12	1.2/0.047	1.5/0.059	15.5/0.610	195/131
TP625-2Y2Y(A)2Y-15P063	15	1.2/0.047	1.5/0.059	16.0/0.630	230/155
TP625-2Y2Y(A)2Y-20P063	20	1.2/0.047	1.5/0.059	17.5/0.689	270/181
TP625-2Y2Y(A)2Y-25P063	25	1.2/0.047	1.5/0.059	18.5/0.728	315/212
TP625-2Y2Y(A)2Y-30P063	30	1.2/0.047	1.5/0.059	19.5/0.768	365/245
TP625-2Y2Y(A)2Y-40P063	40	1.2/0.047	1.5/0.059	21.0/0.827	450/302
TP625-2Y2Y(A)2Y-50P063	50	1.2/0.047	1.5/0.059	22.5/0.886	530/356
TP625-2Y2Y(A)2Y-75P063	75	1.2/0.047	1.5/0.059	26.5/1.04	730/491
TP625-2Y2Y(A)2Y-100P063	100	1.2/0.047	1.5/0.059	29.5/1.16	930/625
TP625-2Y2Y(A)2Y-150P063	150	1.6/0.063	1.8/0.071	35.5/1.40	1370/921
TP625-2Y2Y(A)2Y-200P063	200	1.6/0.063	2.0/0.079	39.5/1.56	1775/1193
TP625-2Y2Y(A)2Y-300P063	300	1.6/0.063	2.0/0.079	47.0/1.85	2555/1717
TP625-2Y2Y(A)2Y-400P063	400	1.8/0.079	2.3/0.091	53.5/2.11	3375/2268
TP625-2Y2Y(A)2Y-600P063	600	2.0/0.079	2.5/0.098	63.5/2.50	4930/3313
0.9mm Conductor, 1.5mm Insulated Wire					
TP625-2Y2Y(A)2Y-3P09	3	1.2/0.047	1.5/0.059	13.5/0.531	135/91
TP625-2Y2Y(A)2Y-5P09	5	1.2/0.047	1.5/0.059	15.0/0.591	175/118
TP625-2Y2Y(A)2Y-6P09	6	1.2/0.047	1.5/0.059	15.5/0.610	195/131
TP625-2Y2Y(A)2Y-10P09	10	1.2/0.047	1.5/0.059	17.5/0.689	265/178
TP625-2Y2Y(A)2Y-12P09	12	1.2/0.047	1.5/0.059	18.5/0.728	300/202
TP625-2Y2Y(A)2Y-15P09	15	1.2/0.047	1.5/0.059	19.5/0.768	370/249
TP625-2Y2Y(A)2Y-20P09	20	1.2/0.047	1.5/0.059	21.5/0.846	450/302
TP625-2Y2Y(A)2Y-25P09	25	1.2/0.047	1.5/0.059	23.0/0.906	525/353
TP625-2Y2Y(A)2Y-30P09	30	1.2/0.047	1.5/0.059	25.0/0.984	635/427
TP625-2Y2Y(A)2Y-40P09	40	1.2/0.047	1.5/0.059	27.5/1.08	800/538
TP625-2Y2Y(A)2Y-50P09	50	1.2/0.047	1.5/0.059	30.0/1.18	920/618
TP625-2Y2Y(A)2Y-75P09	75	1.6/0.063	1.8/0.071	36.0/1.42	1360/914
TP625-2Y2Y(A)2Y-100P09	100	1.6/0.063	2.0/0.079	40.5/1.59	1765/1186
TP625-2Y2Y(A)2Y-150P09	150	1.6/0.063	2.0/0.079	48.0/1.89	2545/1710
TP625-2Y2Y(A)2Y-200P09	200	1.8/0.071	2.3/0.091	54.5/2.15	3440/2312
TP625-2Y2Y(A)2Y-300P09	300	2.0/0.079	2.5/0.098	64.5/2.54	5010/3367
TP625-2Y2Y(A)2Y-400P09	400	2.0/0.079	2.8/0.110	73.5/2.90	6560/4408

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

Solid PE Insulated & LAP Sheathed Air Core Cables to ICEA S-85-625

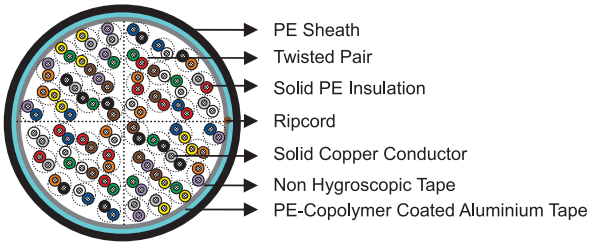
APPLICATION

The cables are designed for use as subscriber distribution cables and as connection between central offices. The cables are suitable for installation in ducts and aerial installation with integral suspension strand. A figure-8 self support option is offered for aerial installation.



STANDARDS

• ICEA S-85-625
(formerly RUS (REA) PE-22 & RUS (REA) PE-38)



CONSTRUCTION

- **Conductors:** Solid annealed bare copper, 0.4/0.5/0.63/0.9mm, as per ASTM B-3/class 1 of IEC 60228.
- **Insulation:** Solid polyethylene as per ASTM D 1248/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 of 25 pairs or less are assembled into cylindrical core. Cables larger than 25 pairs are assembled into units, which are then used to form the core. Units are identified by colour coded binders.
- **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 corrugated copolymer coated aluminium tape (0.2mm/8mil) is applied longitudinally with overlap over the cable core to provide 100% electrical shielding coverage and ensures a barrier against water vapor.
- **Sheath:** Black low density or medium density polyethylene as per ASTM D 1248/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 provided for large pair cables.
- **Continuity Wire (optional):** One tinned copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.

OPTIONAL CONSTRUCTION

- **Self-Support Cable:** A 7-strand galvanized steel strand is used as support wire. Black polyethylene sheath covers both core and support wire in a figure-8 construction.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.4	0.5	0.63	0.9
Conductor Gauge Size	AWG	26	24	22	19
Maximum Average DC Resistance	Ω/km / Ω/mile	140/225	87/140	55/88.6	27.0/43.4
Maximum Individual DC Resistance	Ω/km / Ω/mile	144.2/232	89.5/144	56.5/91.0	28.0/45.0
Minimum Insulation Resistance @500V DC	MΩ·km / MΩ·mile	1600/1000	1600/1000	1600/1000	1600/1000
Maximum Average Resistance Unbalance	%	1.5	1.5	1.5	1.5
Maximum Individual Resistance Unbalance	%	5	5	5	5
Average Mutual Capacitance	nF/km / nF/kft	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5
Maximum Individual Mutual Capacitance	nF/km / nF/kft	57/17.4	57/17.4	57/17.4	57/17.4
Maximum Individual Capacitance Unbalance pair-to-pair	pF/km / pF/kft	145/44	145/44	145/44	145/44
Capacitance Unbalance RMS pair-to-pair	pF/km / pF/kft	45/13.7	45/13.7	45/13.7	45/13.7
Maximum Individual Capacitance Unbalance pair-to-ground	pF/km / pF/kft	2625/800	2625/800	2625/800	2625/800
Maximum Average Capacitance Unbalance pair-to-ground	pF/km / pF/kft	574/175	574/175	574/175	574/175
Maximum Conductor Loop Resistance @20°C	Ω/km / Ω/mile	300/482	192/309	114/183.6	60/96.4
Impedance @1KHz	Ω	994	796	660	445
Impedance @100KHz	Ω	147	134	125	122
Impedance @512KHz	Ω	120	118	117	116
Impedance @1MHz	Ω	117	115	114	113
Maximum Average Attenuation @0.8KHz	dB/km / dB/kft	1.64/0.5	1.30/0.39	1.04/0.32	0.74/0.22
Maximum Average Attenuation @1KHz	dB/km / dB/kft	1.68/0.51	1.35/0.41	1.08/0.33	0.76/0.23
Maximum Average Attenuation @3KHz	dB/km / dB/kft	3.18/0.97	2.52/0.77	2.01/0.61	1.42/0.43
Maximum Average Attenuation @150KHz	dB/km / dB/kft	11.4/3.47	8.3/2.53	6.2/1.89	4.4/1.34
Maximum Average Attenuation @772KHz	dB/km / dB/kft	24.3/7.4	19.4/5.9	15.4/4.7	10.8/3.3
Maximum Average Attenuation @1000KHz	dB/km / dB/kft	27.1/8.25	21.4/6.52	17.5/5.33	12.8/3.89
Dielectric Strength					
Conductor to Conductor (3secs)	V DC	2400	3000	4000	5000
Conductor to Screen (3secs)	V DC	10000	10000	10000	10000
Minimum EL Far-end Cross-talk-Mean Power Sum					
@150KHz	dB/305m / dB/kft	61	63	63	65
@772KHz	dB/305m / dB/kft	47	49	49	57
@1.6MHz	dB/305m / dB/kft	41	42	43	44
@3.15MHz	dB/305m / dB/kft	35	37	37	39
@6.3MHz	dB/305m / dB/kft	29	31	31	33
Minimum Far-end Cross-talk-Worst Pair Power Sum					
@150KHz	dB/305m / dB/kft	57	57	57	59
@772KHz	dB/305m / dB/kft	43	43	43	45
@1.6MHz	dB/305m / dB/kft	37	37	37	39
@3.15MHz	dB/305m / dB/kft	31	31	31	33
@6.3MHz	dB/305m / dB/kft	25	25	25	27
Minimum Near-end Cross-talk-Mean Power Sum					
@150KHz	dB/305m / dB/kft	58	58	58	58
@772KHz	dB/305m / dB/kft	47	47	47	47
@1.6MHz	dB/305m / dB/kft	43	43	43	43
@3.15MHz	dB/305m / dB/kft	38	38	38	38

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@6.3MHz	dB/305m / dB/kft	34	34	34	34
Minimum Near-end Cross-talk-Worst Pair Power Sum					
@150KHz	dB/305m / dB/kft	53	53	53	53
@772KHz	dB/305m / dB/kft	42	42	42	42
@1.6MHz	dB/305m / dB/kft	38	38	38	38
@3.15MHz	dB/305m / dB/kft	33	33	33	33
@6.3MHz	dB/305m / dB/kft	29	29	29	29
Nominal Insulation Thickness	mm	0.15	0.2	0.26	0.3
Nominal Insulated Conductor Diameter	mm	0.7	0.9	1.15	1.5

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

COLOUR CODE

Standard colour code is per ICEA S-85-625 given in Colour Code Chart

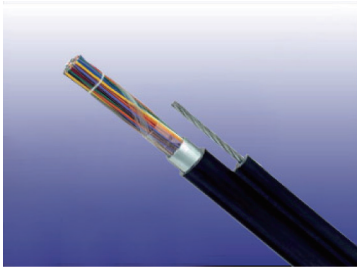
DIMENSIONS AND WEIGHT

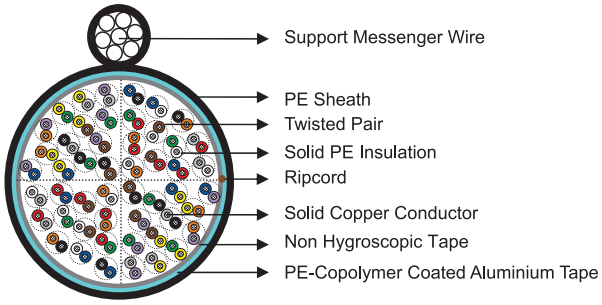
Solid PE Insulated and LAP Sheathed Air Core Cable to ICEA S-85-625 (formerly RUS (REA) PE-22)

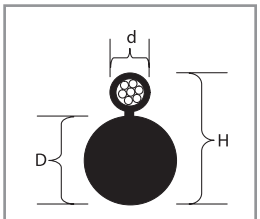
Cable Code	Number of Pairs	Nominal Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
0.4mm Conductor, 0.7mm Insulated Wire				
TP22-2Y(L)2Y-3P04	3	1.5/0.059	8.0/0.32	55/37
TP22-2Y(L)2Y-5P04	5	1.5/0.059	8.5/0.33	60/40
TP22-2Y(L)2Y-6P04	6	1.5/0.059	9.0/0.35	65/44
TP22-2Y(L)2Y-10P04	10	1.5/0.059	9.5/0.37	80/54
TP22-2Y(L)2Y-12P04	12	1.5/0.059	10.0/0.39	90/60
TP22-2Y(L)2Y-15P04	15	1.5/0.059	10.5/0.41	100/67
TP22-2Y(L)2Y-20P04	20	1.5/0.059	11.0/0.43	120/81
TP22-2Y(L)2Y-25P04	25	1.5/0.059	12.0/0.47	140/94
TP22-2Y(L)2Y-30P04	30	1.5/0.059	12.5/0.49	155/104
TP22-2Y(L)2Y-40P04	40	1.5/0.059	13.5/0.53	190/128
TP22-2Y(L)2Y-50P04	50	1.5/0.059	14.5/0.57	220/148
TP22-2Y(L)2Y-75P04	75	1.5/0.059	16.5/0.65	300/202
TP22-2Y(L)2Y-100P04	100	1.5/0.059	18.0/0.71	380/255
TP22-2Y(L)2Y-150P04	150	1.5/0.059	21.0/0.83	540/363
TP22-2Y(L)2Y-200P04	200	1.5/0.059	24.0/0.94	690/464
TP22-2Y(L)2Y-300P04	300	1.5/0.059	30.5/1.20	1000/672
TP22-2Y(L)2Y-400P04	400	1.8/0.071	31.5/1.24	1300/874
TP22-2Y(L)2Y-600P04	600	2.0/0.079	37.5/1.48	1900/1277

(Continued from previous page)

Cable Code	Number of Pairs	Nominal Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
TP22-2Y(L)2Y-800P04	800	2.3/0.091	43.0/1.69	2800/1882
TP22-2Y(L)2Y-900P04	900	2.3/0.091	46.0/1.81	2961/1990
TP22-2Y(L)2Y-1000P04	1000	2.5/0.098	48.0/1.89	3264/2193
TP22-2Y(L)2Y-1200P04	1200	2.8/0.110	52.0/2.05	3873/2603
TP22-2Y(L)2Y-1500P04	1500	2.8/0.110	58.0/2.28	4819/3238
TP22-2Y(L)2Y-1800P04	1800	3.2/0.126	63.0/2.48	5777/3882
TP22-2Y(L)2Y-2100P04	2100	3.2/0.126	68.0/2.68	6731/4523
TP22-2Y(L)2Y-2400P04	2400	3.5/0.138	72.0/2.83	7645/5137
TP22-2Y(L)2Y-2700P04	2700	3.5/0.138	76.0/2.99	8556/5749
TP22-2Y(L)2Y-3000P04	3000	3.5/0.138	80.0/3.15	9466/6361
0.5mm Conductor, 0.9mm Insulated Wire				
TP22-2Y(L)2Y-6P05	6	1.5/0.059	9.40/0.37	82/55
TP22-2Y(L)2Y-12P05	12	1.5/0.059	10.92/0.43	119/80
TP22-2Y(L)2Y-25P05	25	1.5/0.059	13.72/0.54	201/135
TP22-2Y(L)2Y-50P05	50	1.5/0.059	17.02/0.67	335/225
TP22-2Y(L)2Y-100P05	100	1.5/0.059	22.35/0.88	595/400
TP22-2Y(L)2Y-200P05	200	1.5/0.059	30.48/1.20	1108/745
TP22-2Y(L)2Y-300P05	300	1.5/0.059	35.56/1.40	1622/1090
TP22-2Y(L)2Y-400P05	400	1.5/0.059	40.64/1.60	2128/1430
TP22-2Y(L)2Y-600P05	600	1.5/0.059	48.26/1.90	3154/2120
TP22-2Y(L)2Y-900P05	900	1.5/0.059	58.42/2.30	4627/3110
0.63mm Conductor, 1.15mm Insulated Wire				
TP22-2Y(L)2Y-6P063	6	1.5/0.059	10.16/0.40	104/70
TP22-2Y(L)2Y-12P063	12	1.5/0.059	12.45/0.49	164/110
TP22-2Y(L)2Y-25P063	25	1.5/0.059	16.00/0.63	283/190
TP22-2Y(L)2Y-50P063	50	1.5/0.059	22.86/0.90	484/325
TP22-2Y(L)2Y-100P063	100	1.5/0.059	27.94/1.10	885/595
TP22-2Y(L)2Y-200P063	200	1.5/0.059	35.56/1.40	1696/1140
0.9mm Conductor, 1.5mm Insulated Wire				
TP22-2Y(L)2Y-6P09	6	1.5/0.059	12.45/0.49	164/110
TP22-2Y(L)2Y-12P09	12	1.5/0.059	15.75/0.62	268/180
TP22-2Y(L)2Y-25P09	25	1.5/0.059	20.07/0.79	476/320
TP22-2Y(L)2Y-50P09	50	1.5/0.059	27.94/1.10	878/590







Dimension definition
(d x D x H)

Fig 8 Solid PE Insulated & LAP Sheathed Air Core Cable to ICEA S-85-625 (formerly RUS (REA) PE-38)

Cable Code	Number of Pairs	Support Messenger Wire Diameter mm/inch	Nominal Sheath Thickness mm/inch	Nominal Overall Dimension d x D x H mm/inch	Nominal Weight kg/km / lbs/kft
0.4mm Conductor, 0.7mm Insulated Wire					
TP38-2Y(L)2Y-3P04-SS	3	7/2.03 / 7/0.08	1.5/0.059	9.1X8.0X20.0 / 0.36X0.315X0.787	245/165
TP38-2Y(L)2Y-5P04-SS	5	7/2.03 / 7/0.08	1.5/0.059	9.1X8.5X20.5 / 0.36X0.335X0.807	250/168
TP38-2Y(L)2Y-6P04-SS	6	7/2.03 / 7/0.08	1.5/0.059	9.1X9.0X21.0 / 0.36X0.354X0.827	260/175
TP38-2Y(L)2Y-10P04-SS	10	7/2.03 / 7/0.08	1.5/0.059	9.1X9.5X21.5 / 0.36X0.374X0.846	270/181
TP38-2Y(L)2Y-12P04-SS	12	7/2.03 / 7/0.08	1.5/0.059	9.1X10.0X22.0 / 0.36X0.394X0.866	280/188
TP38-2Y(L)2Y-15P04-SS	15	7/2.03 / 7/0.08	1.5/0.059	9.1X10.5X22.5 / 0.36X0.413X0.886	290/195
TP38-2Y(L)2Y-20P04-SS	20	7/2.03 / 7/0.08	1.5/0.059	9.1X11.0X23.5 / 0.36X0.433X0.925	310/208
TP38-2Y(L)2Y-25P04-SS	25	7/2.03 / 7/0.08	1.5/0.059	9.1X12.0X24.0 / 0.36X0.472X0.945	330/222
TP38-2Y(L)2Y-30P04-SS	30	7/2.03 / 7/0.08	1.5/0.059	9.1X12.5X24.5 / 0.36X0.492X0.965	350/235
TP38-2Y(L)2Y-40P04-SS	40	7/2.03 / 7/0.08	1.5/0.059	9.1X13.5X25.5 / 0.36X0.531X1.000	390/262
TP38-2Y(L)2Y-50P04-SS	50	7/2.03 / 7/0.08	1.5/0.059	9.1X14.5X26.5 / 0.36X0.571X1.040	410/276
TP38-2Y(L)2Y-75P04-SS	75	7/2.03 / 7/0.08	1.5/0.059	9.1X16.5X28.5 / 0.36X0.650X1.120	490/329
TP38-2Y(L)2Y-100P04-SS	100	7/2.03 / 7/0.08	1.5/0.059	9.1X18.0X30.0 / 0.36X0.709X1.180	570/383
TP38-2Y(L)2Y-150P04-SS	150	7/2.03 / 7/0.08	1.5/0.059	9.1X21.0X33.0 / 0.36X0.827X1.300	730/491
TP38-2Y(L)2Y-200P04-SS	200	7/2.03 / 7/0.08	1.5/0.059	9.1X23.5X36.0 / 0.36X0.925X1.420	880/591
TP38-2Y(L)2Y-300P04-SS	300	7/2.03 / 7/0.08	1.5/0.059	9.1X27.5X39.5 / 0.36X1.080X1.560	1220/820
TP38-2Y(L)2Y-400P04-SS	400	7/2.03 / 7/0.08	1.5/0.059	9.7X31.5X44.0 / 0.382X1.240X1.73	1490/1001
0.5mm Conductor, 0.9mm Insulated Wire					
TP38-2Y(L)2Y-6P05-SS	6	7/2.03 / 7/0.08	1.5/0.059	9.1X9.4X22.0 / 0.36X0.37X0.866	305/205
TP38-2Y(L)2Y-12P05-SS	12	7/2.03 / 7/0.08	1.5/0.059	9.1X10.92X23.5 / 0.36X0.43X0.925	342/230
TP38-2Y(L)2Y-25P05-SS	25	7/2.03 / 7/0.08	1.5/0.059	9.1X13.72X26.0 / 0.36X0.54X1.024	424/285
TP38-2Y(L)2Y-50P05-SS	50	7/2.03 / 7/0.08	1.5/0.059	9.1X17.02X29.0 / 0.36X0.67X1.14	558/375
TP38-2Y(L)2Y-100P05-SS	100	7/2.03 / 7/0.08	1.5/0.059	9.1X22.86X34.5 / 0.36X0.90X1.36	833/560
0.63mm Conductor, 1.15mm Insulated Wire					
TP38-2Y(L)2Y-6P063-SS	6	7/2.03 / 7/0.08	1.5/0.059	9.1X10.15X23.0 / 0.36X0.40X0.906	327/220
TP38-2Y(L)2Y-12P063-SS	12	7/2.03 / 7/0.08	1.5/0.059	9.1X12.45X25.0 / 0.36X0.49X0.984	387/260
TP38-2Y(L)2Y-25P063-SS	25	7/2.03 / 7/0.08	1.5/0.059	9.1X15.49X28.0 / 0.36X0.61X1.10	498/335
TP38-2Y(L)2Y-50P063-SS	50	7/2.03 / 7/0.08	1.5/0.059	9.1X20.57X32.5 / 0.36X0.81X1.28	722/485
0.9mm Conductor, 1.5mm Insulated Wire					
TP38-2Y(L)2Y-6P09-SS	6	7/2.03 / 7/0.08	1.5/0.059	9.1X12.45X25.0 / 0.36X0.49X0.984	387/260
TP38-2Y(L)2Y-12P09-SS	12	7/2.03 / 7/0.08	1.5/0.059	9.1X15.75X28.0 / 0.36X0.62X1.10	491/330
TP38-2Y(L)2Y-25P09-SS	25	7/2.03 / 7/0.08	1.5/0.059	9.1X20.57X33.0 / 0.36X0.81X1.30	714/480

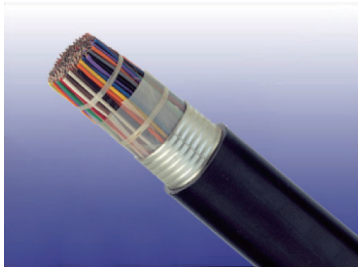
Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

ADDISON

Solid PE Insulated & LAP Sheathed Jelly Filled Cables to RUS (REA) PE-39 (ICEA S-84-608)

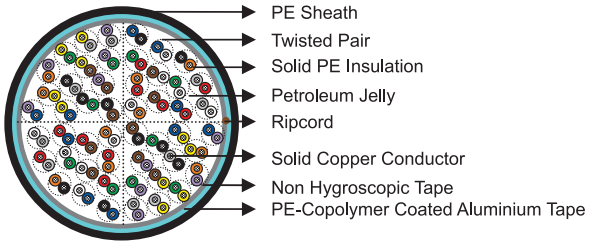
APPLICATION

The cables are designed for use as subscriber distribution cables and as connection between central offices. The recommended installation is in ducts.



STANDARDS

- RUS (REA) PE-39 (RUS 7 CFR 1755.390)
- ICEA S-84-608



CONSTRUCTION

- **Conductors:** Solid annealed bare copper, 0.4/0.5/0.63/0.9mm, as per ASTM B-3/class 1 of IEC 60228.
- **Insulation:** Solid medium or high density polyethylene as per ASTM D 1248/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 of 25 pairs or less are assembled into cylindrical core. Cables larger than 25 pairs are assembled into units, which are then used to form the core. Units are identified by colour coded binders.
- **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 corrugated PE copolymer coated aluminium tape (0.2mm/8mil) is applied longitudinally with overlap over the cable core to provide 100% electrical shielding coverage and ensure a barrier against water vapor.
- **Sheath:** Black low or medium density polyethylene as per ASTM D 1248/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 provided for large pair cables.
- **Continuity Wire (optional):** One tinned copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.4	0.5	0.63	0.9
Conductor Gauge Size	AWG	26	24	22	19
Maximum Average DC Resistance	Ω/km / Ω/mile	140/225	87/140	55/88.6	27.0/43.4
Maximum Individual DC Resistance	Ω/km / Ω/mile	144.2/232	89.5/144	56.5/91.0	28.0/45.0
Minimum Insulation Resistance @500V DC	MΩ·km / MΩ·mile	1600/1000	1600/1000	1600/1000	1600/1000
Maximum Average Resistance Unbalance	%	1.5	1.5	1.5	1.5

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Maximum Individual Resistance Unbalance	%	5	5	5	5
Average Mutual Capacitance	nF/km / nF/kft	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5
Maximum Individual Mutual Capacitance	nF/km / nF/kft	57/17.4	57/17.4	57/17.4	57/17.4
Maximum Individual Capacitance Unbalance pair-to-pair	pF/km / pF/kft	145/44	145/44	145/44	145/44
Capacitance Unbalance RMS pair-to-pair	pF/km / pF/kft	45/13.7	45/13.7	45/13.7	45/13.7
Maximum Individual Capacitance Unbalance pair-to-ground	pF/km / pF/kft	2625/800	2625/800	2625/800	2625/800
Maximum Average Capacitance Unbalance pair-to-ground	pF/km / pF/kft	574/175	574/175	574/175	574/175
Maximum Conductor Loop Resistance @20°C	Ω/km / Ω/mile	300/482	192/309	114/183.6	60/96.4
Impedance @1KHz	Ω	994	796	660	445
Impedance @100KHz	Ω	147	134	125	122
Impedance @512KHz	Ω	120	118	117	116
Impedance @1MHz	Ω	117	115	114	113
Maximum Average Attenuation @0.8KHz	dB/km / dB/kft	1.64/0.5	1.30/0.39	1.04/0.32	0.74/0.22
Maximum Average Attenuation @1KHz	dB/km / dB/kft	1.68/0.51	1.35/0.41	1.08/0.33	0.76/0.23
Maximum Average Attenuation @3KHz	dB/km / dB/kft	3.18/0.97	2.52/0.77	2.01/0.61	1.42/0.43
Maximum Average Attenuation @150KHz	dB/km / dB/kft	11.4/3.47	8.3/2.53	6.2/1.89	4.4/1.34
Maximum Average Attenuation @772KHz	dB/km / dB/kft	24.3/7.4	19.4/5.9	15.4/4.7	10.8/3.3
Maximum Average Attenuation @1000KHz	dB/km / dB/kft	27.1/8.25	21.4/6.52	17.5/5.33	12.8/3.89
Dielectric Strength					
Conductor to Conductor (3secs)	V DC	2400	3000	4000	5000
Conductor to Screen (3secs)	V DC	10000	10000	10000	10000
Minimum EL Far-end Cross-talk-Mean Power Sum					
@150KHz	dB/305m / dB/kft	61	63	63	65
@772KHz	dB/305m / dB/kft	47	49	49	57
@1.6MHz	dB/305m / dB/kft	41	42	43	44
@3.15MHz	dB/305m / dB/kft	35	37	37	39
@6.3MHz	dB/305m / dB/kft	29	31	31	33
Minimum Far-end Cross-talk-Worst Pair Power Sum					
@150KHz	dB/305m / dB/kft	57	57	57	59
@772KHz	dB/305m / dB/kft	43	43	43	45
@1.6MHz	dB/305m / dB/kft	37	37	37	39
@3.15MHz	dB/305m / dB/kft	31	31	31	33
@6.3MHz	dB/305m / dB/kft	25	25	25	27
Minimum Near-end Cross-talk-Mean Power Sum					
@150KHz	dB/305m / dB/kft	58	58	58	58
@772KHz	dB/305m / dB/kft	47	47	47	47
@1.6MHz	dB/305m / dB/kft	43	43	43	43
@3.15MHz	dB/305m / dB/kft	38	38	38	38
@6.3MHz	dB/305m / dB/kft	34	34	34	34
Minimum Near-end Cross-talk-Worst Pair Power Sum					
@150KHz	dB/305m / dB/kft	53	53	53	53
@772KHz	dB/305m / dB/kft	42	42	42	42
@1.6MHz	dB/305m / dB/kft	38	38	38	38
@3.15MHz	dB/305m / dB/kft	33	33	33	33
@6.3MHz	dB/305m / dB/kft	29	29	29	29
Nominal Insulation Thickness	mm	0.15	0.2	0.26	0.3
Nominal Insulated Conductor Diameter	mm	0.7	0.9	1.15	1.5

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

COLOUR CODE

Standard colour code is per ICEA S-84-608 given in Colour Code Chart

DIMENSIONS AND WEIGHT

Solid PE Insulated & LAP Sheathed Jelly Filled Cables to RUS (REA) PE-39 (ICEA S-84-608)

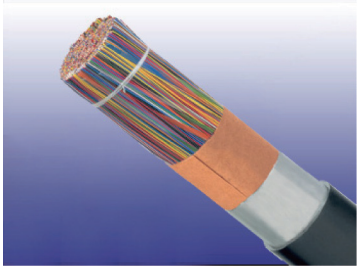
Cable Code	Number of Pairs	Nominal Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
0.4mm Conductor, 0.7mm Insulated Wire				
TP39-2YF(L)2Y-25P04	25	1.5/0.059	14.0/0.551	203/136
TP39-2YF(L)2Y-50P04	50	1.5/0.059	17.1/0.673	326/219
TP39-2YF(L)2Y-75P04	75	1.5/0.059	19.5/0.768	446/300
TP39-2YF(L)2Y-100P04	100	1.7/0.067	22.0/0.866	569/382
TP39-2YF(L)2Y-150P04	150	1.7/0.059	25.7/1.012	827/556
TP39-2YF(L)2Y-200P04	200	1.7/0.067	28.7/1.130	1023/687
TP39-2YF(L)2Y-300P04	300	1.8/0.071	33.6/1.323	1451/975
TP39-2YF(L)2Y-400P04	400	1.9/0.075	37.8/1.488	1876/1261
TP39-2YF(L)2Y-600P04	600	2.0/0.079	45.8/1.803	2781/1869
TP39-2YF(L)2Y-900P04	900	2.1/0.083	54.7/2.154	4057/2726
0.5mm Conductor, 0.9mm Insulated Wire				
TP39-2YF(L)2Y-6P05	6	1.5/0.059	11.3/0.445	123/83
TP39-2YF(L)2Y-12P05	12	1.5/0.059	13.3/0.524	180/121
TP39-2YF(L)2Y-18P05	18	1.7/0.067	14.9/0.587	233/157
TP39-2YF(L)2Y-25P05	25	1.7/0.067	16.3/0.642	285/192
TP39-2YF(L)2Y-50P05	50	1.7/0.067	20.4/0.803	478/321
TP39-2YF(L)2Y-75P05	75	1.8/0.071	23.8/0.937	673/452
TP39-2YF(L)2Y-100P05	100	2.0/0.079	27.0/1.063	869/584
TP39-2YF(L)2Y-150P05	150	2.2/0.087	31.6/1.244	1273/855
TP39-2YF(L)2Y-200P05	200	2.4/0.094	35.4/1.394	1579/1061
TP39-2YF(L)2Y-300P05	300	2.5/0.098	42.5/1.673	2307/1550
TP39-2YF(L)2Y-400P05	400	2.5/0.098	48.4/1.906	3026/2033
TP39-2YF(L)2Y-600P05	600	2.5/0.098	57.9/2.280	4429/2976
0.63mm Conductor, 1.15mm Insulated Wire				
TP39-2YF(L)2Y-6P063	6	1.5/0.059	12.6/0.496	158/106
TP39-2YF(L)2Y-12P063	12	1.5/0.059	15.1/0.594	240/161
TP39-2YF(L)2Y-18P063	18	1.7/0.067	17.0/0.669	317/213
TP39-2YF(L)2Y-25P063	25	1.7/0.067	18.9/0.744	398/267
TP39-2YF(L)2Y-50P063	50	1.7/0.067	24.3/0.957	696/468
TP39-2YF(L)2Y-75P063	75	1.8/0.071	28.2/1.110	984/661
TP39-2YF(L)2Y-100P063	100	1.9/0.075	32.2/1.268	1278/859
TP39-2YF(L)2Y-150P063	150	2.1/0.083	38.0/1.496	1898/1275
TP39-2YF(L)2Y-200P063	200	2.2/0.087	43.4/1.709	2405/1616
TP39-2YF(L)2Y-300P063	300	2.2/0.087	52.0/2.047	3516/2363
TP39-2YF(L)2Y-400P063	400	2.2/0.087	59.2/2.331	4614/3100
0.9mm Conductor, 1.5mm Insulated Wire				
TP39-2YF(L)2Y-6P09	6	1.5/0.059	15.3/0.602	244/164
TP39-2YF(L)2Y-12P09	12	1.5/0.059	18.9/0.744	397/267
TP39-2YF(L)2Y-18P09	18	1.7/0.067	21.7/0.854	542/364
TP39-2YF(L)2Y-25P09	25	1.7/0.067	24.7/0.972	708/476

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

Thin Wall Cellular PE Insulated & PE Sheathed Air Core Cables to CW 1224

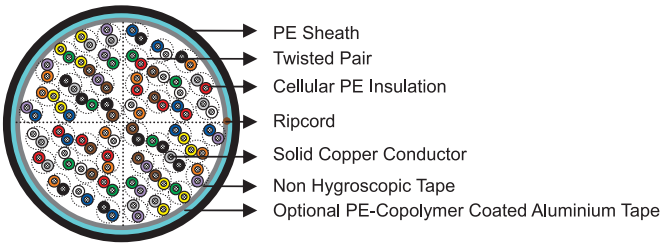
APPLICATION

The cables are designed for local main network where it is pressurized. They are used as subscriber distribution cables and as connection between central offices. The cables are suitable for installation in ducts in access or trunk networks.



STANDARDS

• CW 1224



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 EN 50290-2-23/IEC 60708/BS 6234.
- **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.
- **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 and applied longitudinally with overlap over the cable core to provide 100% electrical shielding coverage and ensures 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):** One 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

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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
Maximum Average Mutual Capacitance @800Hz*	nF/km	53	53	53	56	59
Maximum Individual Mutual Capacitance @800Hz (for 99% cases)	nF/km	60	60	60	60	64
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	0.095	0.13	0.15	0.175	0.225
Nominal Insulated Conductor Diameter	mm	0.51	0.66	0.8	0.98	1.35

* Mutual capacitance values 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 1224 given in Colour Code Chart

DIMENSIONS AND WEIGHT

Cellular PE Insulated & LAP Sheathed Air Core Cable to CW 1224

Cable Code	Number of Pairs	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.32mm Conductor, 0.51mm Insulated Wire				
TP1224-02Y(L)2Y-100P032	100	1.6	16.0	266
TP1224-02Y(L)2Y-200P032	200	1.7	20.0	490
TP1224-02Y(L)2Y-300P032	300	1.7	23.5	706
TP1224-02Y(L)2Y-400P032	400	1.8	26.0	910
TP1224-02Y(L)2Y-500P032	500	1.8	28.5	1085
TP1224-02Y(L)2Y-600P032	600	1.9	31.0	1330
TP1224-02Y(L)2Y-800P032	800	1.9	34.5	1740
TP1224-02Y(L)2Y-1000P032	1000	2.0	38.0	2150
TP1224-02Y(L)2Y-1200P032	1200	2.1	41.0	2560
TP1224-02Y(L)2Y-1600P032	1600	2.2	46.5	3370
TP1224-02Y(L)2Y-2000P032	2000	2.3	51.5	4180
TP1224-02Y(L)2Y-2400P032	2400	2.4	55.5	4990

(Continued from previous page)

Cable Code	Number of Pairs	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
TP1224-02Y(L)2Y-3200P032	3200	2.5	63.0	6610
TP1224-02Y(L)2Y-4000P032	4000	2.7	71.0	8230
TP1224-02Y(L)2Y-4800P032	4800	2.7	76.0	9850
0.4mm Conductor, 0.66mm Insulated Wire				
TP1224-02Y(L)2Y-50P04	50	1.6	15.5	220
TP1224-02Y(L)2Y-100P04	100	1.6	19.0	380
TP1224-02Y(L)2Y-200P04	200	1.7	24.5	700
TP1224-02Y(L)2Y-300P04	300	1.8	28.5	1009
TP1224-02Y(L)2Y-400P04	400	1.9	32.0	1300
TP1224-02Y(L)2Y-500P04	500	1.9	35.0	1550
TP1224-02Y(L)2Y-600P04	600	2.0	38.0	1900
TP1224-02Y(L)2Y-800P04	800	2.1	43.0	2490
TP1224-02Y(L)2Y-1000P04	1000	2.2	47.5	3075
TP1224-02Y(L)2Y-1200P04	1200	2.3	51.5	3660
TP1224-02Y(L)2Y-1400P04	1400	2.4	55.5	4235
TP1224-02Y(L)2Y-1600P04	1600	2.4	58.5	4818
TP1224-02Y(L)2Y-2000P04	2000	2.5	64.5	5980
TP1224-02Y(L)2Y-2400P04	2400	2.6	70.0	7645
TP1224-02Y(L)2Y-3000P04	3000	2.8	74.0	9466
TP1224-02Y(L)2Y-3200P04	3200	3.0	80.0	10076
0.5mm Conductor, 0.8mm Insulated Wire				
TP1224-02Y(L)2Y-50P05	50	1.6	17.0	320
TP1224-02Y(L)2Y-100P05	100	1.7	22.0	540
TP1224-02Y(L)2Y-200P05	200	1.8	28.5	1000
TP1224-02Y(L)2Y-300P05	300	1.9	33.5	1500
TP1224-02Y(L)2Y-400P05	400	2.0	37.5	1944
TP1224-02Y(L)2Y-500P05	500	2.1	41.5	2577
TP1224-02Y(L)2Y-600P05	600	2.1	44.5	2800
TP1224-02Y(L)2Y-800P05	800	2.3	51.5	3743
TP1224-02Y(L)2Y-1000P05	1000	2.4	56.0	4450
TP1224-02Y(L)2Y-1200P05	1200	2.5	61.5	5460
TP1224-02Y(L)2Y-1600P05	1600	2.6	69.5	7060
TP1224-02Y(L)2Y-2000P05	2000	2.7	75.0	8660
TP1224-02Y(L)2Y-2400P05	2400	2.7	80.0	10260
0.63mm Conductor, 0.98mm Insulated Wire				
TP1224-02Y(L)2Y-100P063	100	1.7	25.0	785
TP1224-02Y(L)2Y-200P063	200	1.9	33.5	1490
TP1224-02Y(L)2Y-300P063	300	2.0	39.5	2200
TP1224-02Y(L)2Y-400P063	400	2.1	44.5	2890
TP1224-02Y(L)2Y-600P063	600	2.3	53.5	4235
TP1224-02Y(L)2Y-800P063	800	2.5	61.0	5590
TP1224-02Y(L)2Y-1000P063	1000	2.6	67.5	6800
TP1224-02Y(L)2Y-1200P063	1200	2.7	73.5	8100
TP1224-02Y(L)2Y-1600P063	1600	2.7	80.0	10700
0.9mm Conductor, 1.35mm Insulated Wire				
TP1224-02Y(L)2Y-50P09	50	1.7	24.5	805
TP1224-02Y(L)2Y-100P09	100	1.9	32.5	1515
TP1224-02Y(L)2Y-200P09	200	2.1	45.0	2935
TP1224-02Y(L)2Y-300P09	300	2.4	56.0	4318
TP1224-02Y(L)2Y-400P09	400	2.5	62.0	5700

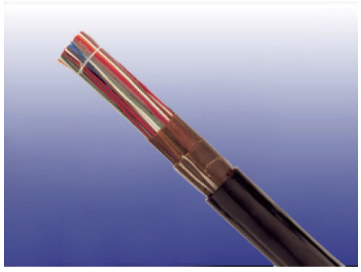
*The above part number will be changed for unscreened cables by deleting the (L).

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

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

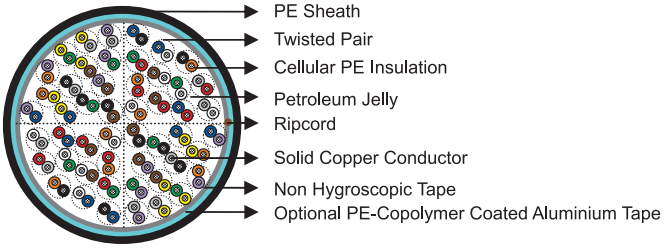
APPLICATION

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.



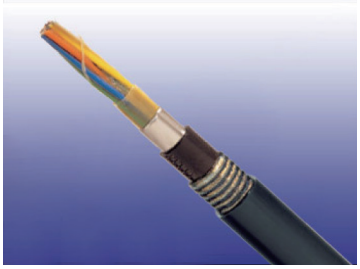
STANDARDS

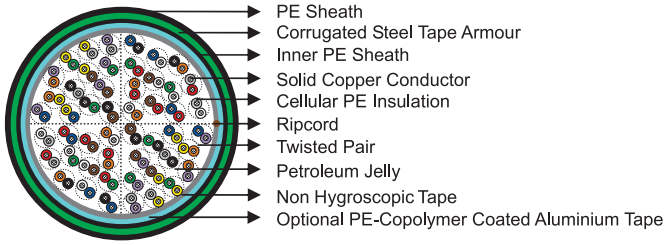
• CW 1236



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.





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^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	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

(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

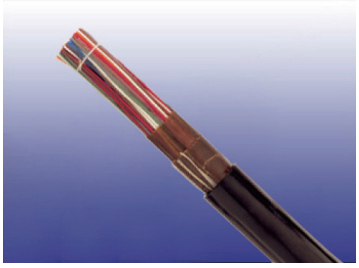
*The above part number will be changed for unscreened cables by deleting the (L)

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

Cellular PE Insulated & PE Sheathed Jelly Filled Cables to CW 1128 & CW 1128/1179

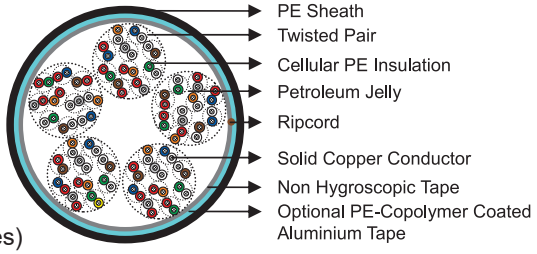
APPLICATION

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. Jelly filled construction is for subscriber's cables installed underground or along the edge of pavement. An armoured option is offered for direct burial installations. A figure-8 self support option is offered for aerial installation.



STANDARDS

- CW 1128 (Unscreened jelly filled cables)
- CW 1128/1179 (Screened jelly filled cables)
- CW 1128/1252 (Self supporting jelly filled cables)
- CW 1128/1198 (Steel wire armoured jelly filled cables)
- CW 1128/1179/1198 (Steel wire armoured screened jelly filled cables)



CONSTRUCTION

- **Conductors:** Solid annealed bare copper 0.4/0.5/0.6/0.63/0.9 mm 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 are composed of 10-pair units. Any extra pairs form a separate unit. Units are identified by colour coded binders. Standard construction is per CW 1128 given in Cable Make Up Chart below.
- **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):** Laminated sheath made of an 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.
- **Inner Bedding (for armoured cables):** Black polyethylene compound
- **Armour (for armoured cables):** Galvanized steel wire armour is applied over an inner polyethylene sheath.
- **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/ASTM D 1248 which is compounded to withstand exposure to sunlight, temperature variations, ground chemicals and other environmental contaminants.
- **Ripcord (optional):** Ripcord may be provided for slitting the sheath longitudinally to facilitate its removal.
- **Continuity Wire (optional):** One tinned copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.

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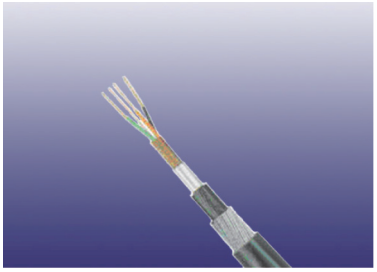

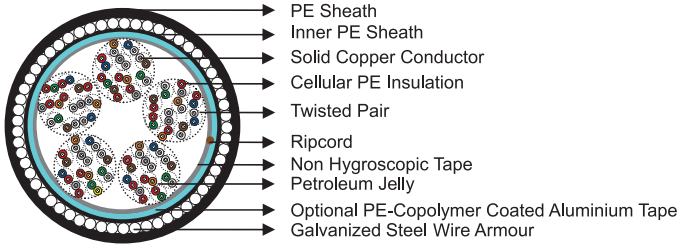

ELECTRICAL CHARACTERISTICS

Nominal Conductor Diameter	mm	0.4	0.5	0.6	0.63	0.9
Conductor Gauge Size	AWG	26	24	-	22	19
Conductor Size	mm^2	0.126	0.196	0.283	0.312	0.636
Maximum Average Conductor Resistance @20°C	Ω/km	143	91	63	58	28
Minimum Insulation Resistance @500V DC	MΩ·km	1500	1500	1500	1500	1500
Maximum Average Mutual Capacitance @800Hz*	nF/km	56	56	42	56	59
Maximum Individual Mutual Capacitance @800Hz (for 99% cases)	nF/km	64	64	46	64	65
Maximum Individual Capacitance Unbalance @800Hz pair-to-pair	pF/500m	275	275	275	275	275
Maximum Conductor Loop Resistance @20°C	Ω/km	300	192	130	114	60
Impedance @1KHz	Ω	994	796	665	660	445
Impedance @100KHz	Ω	147	134	127	125	122
Impedance @512KHz	Ω	120	118	117.5	117	116
Impedance @1MHz	Ω	117	115	114.5	114	113
Maximum Average Attenuation @0.8KHz	dB/km	1.64	1.30	1.1	1.04	0.74
Maximum Average Attenuation @1KHz	dB/km	1.68	1.35	1.14	1.08	0.76
Maximum Average Attenuation @3KHz	dB/km	3.18	2.52	2.3	2.01	1.42
Maximum Average Attenuation @150KHz	dB/km	11.4	8.3	7.2	6.2	4.4
Maximum Average Attenuation @772KHz	dB/km	24.3	19.4	17.4	15.4	10.8
Maximum Average Attenuation @1000KHz	dB/km	27.1	21.4	18.5	17.5	12.8
Dielectric Strength Conductor to Conductor (3secs)	V DC	500	500	500	500	500
Nominal Insulation Thickness	mm	0.175	0.20	0.375	0.26	0.30
Nominal Insulated Conductor Diameter	mm	0.75	0.90	1.35	1.15	1.50

Remarks: For screened cables of 20 pairs or less the maximum average mutual capacitance values shall not apply and the maximum for 99% shall be increased by 3nF.

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 1128 given in Colour Code Chart

Cabling Element No.	a-wire	b-wire
1	WHITE	BLUE
2	WHITE	ORANGE
3	WHITE	GREEN
4	WHITE	BROWN
5	WHITE	GREY
6	RED	BLUE
7	RED	ORANGE
8	RED	GREEN
9	RED	BROWN
10	RED	GREY

Unit Number	Binder Colour
1	BLUE
2	ORANGE
3	GREEN
4	BROWN
5	GREY
6	WHITE
7	RED
8	BLACK
9	YELLOW
10	VIOLET

Cable Size	No. and Pair Size of Units in Centre and 1st Layer	
	Centre	1st Layer
2 pairs	1 X 2	
5 pairs	1 X 5	
10 pairs	1 X 10	
20 pairs	4 X 5	
	2 X 10	
50 pairs	5 X 10	
	1 X 10	4 X 10
100 pairs	2 X 10	8 X 10
	3 X 10	7 X 10
	4 X 5	8 X 10

Note:
The two pair cable is manufactured as a quad, coloured Orange, Green, White, and Black in order of rotation.

DIMENSIONS AND WEIGHT

Cellular PE Insulated and LAP Sheathed Jelly Filled Cable to CW 1128 & CW 1128/1179

Cable Code	Number of Pairs	Minimum Sheath Thickness mm	Maximum Overall Diameter mm (Unscreened)	Nominal Weight kg/km (Unscreened)	Maximum Overall Diameter mm (Screened)	Nominal Weight kg/km (Screened)
0.4mm Conductor, 0.75mm Insulated Wire						
TP1128-02YF(L)2Y-5P04	5	1.1	7.5	50	9.0	60
TP1128-02YF(L)2Y-10P04	10	1.1	8.5	75	10.0	85
TP1128-02YF(L)2Y-20P04	20	1.1	10.0	120	11.5	130
TP1128-02YF(L)2Y-50P04	50	1.2	14.0	245	15.5	260
TP1128-02YF(L)2Y-100P04	100	1.3	18.5	440	20.0	470
0.5mm Conductor, 0.9mm Insulated Wire						
TP1128-02YF(L)2Y-2P05	2	1.1	7.5	52	9.0	62
TP1128-02YF(L)2Y-5P05	5	1.1	8.0	73	9.5	83
TP1128-02YF(L)2Y-10P05	10	1.1	9.5	120	11.0	130
TP1128-02YF(L)2Y-20P05	20	1.2	12.0	210	13.5	220
TP1128-02YF(L)2Y-50P05	50	1.3	16.5	460	18.0	480
TP1128-02YF(L)2Y-100P05	100	1.4	22.0	880	23.5	910
0.6mm Conductor, 1.35mm Insulated Wire						
TP1128-02YF(L)2Y-2P06	2	1.1	8.5	72	10.0	82
TP1128-02YF(L)2Y-5P06	5	1.2	11.0	87	12.5	97
TP1128-02YF(L)2Y-10P06	10	1.2	13.0	145	14.5	155
TP1128-02YF(L)2Y-20P06	20	1.3	16.0	240	17.5	250
TP1128-02YF(L)2Y-50P06	50	1.4	24.0	520	25.5	540
TP1128-02YF(L)2Y-100P06	100	1.6	32.0	960	33.5	990

(Continued from previous page)

Cable Code	Number of Pairs	Minimum Sheath Thickness mm	Maximum Overall Diameter mm (Unscreened)	Nominal Weight kg/km (Unscreened)	Maximum Overall Diameter mm (Screened)	Nominal Weight kg/km (Screened)
0.63mm Conductor, 1.15mm Insulated Wire						
TP1128-02YF(L)2Y-2P063	2	1.1	8.0	75	9.5	85
TP1128-02YF(L)2Y-5P063	5	1.1	9.5	90	11.0	100
TP1128-02YF(L)2Y-10P063	10	1.2	11.5	150	13.0	160
TP1128-02YF(L)2Y-20P063	20	1.2	14.0	250	15.5	260
TP1128-02YF(L)2Y-50P063	50	1.4	20.5	530	22.0	550
TP1128-02YF(L)2Y-100P063	100	1.5	27.5	900	29.0	1000
0.9mm Conductor, 1.5mm Insulated Wire						
TP1128-02YF(L)2Y-2P09	2	1.1	9.0	120	10.5	130
TP1128-02YF(L)2Y-5P09	5	1.2	11.5	140	13.0	150
TP1128-02YF(L)2Y-10P09	10	1.2	14.0	240	15.5	250
TP1128-02YF(L)2Y-20P09	20	1.3	18.0	440	19.5	450
TP1128-02YF(L)2Y-50P09	50	1.5	26.5	980	28.0	1000
TP1128-02YF(L)2Y-100P09	100	1.7	36.0	1970	37.5	2000

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

Cellular PE Insulated, PE Inner Sheathed, Steel Wire Armoured and PE Outer Sheathed Jelly Filled Cable to CW 1128/1198

Cable Code	Number of Pairs	Minimum Bedding Thickness mm	Steel Wire Diameter mm	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.75mm Insulated Wire						
TP1128-02YF2Y(SWA)2Y-5P04	5	1.1	0.9	0.9	12.7	239
TP1128-02YF2Y(SWA)2Y-10P04	10	1.1	0.9	0.9	13.7	275
TP1128-02YF2Y(SWA)2Y-20P04	20	1.1	0.9	0.9	15.2	418
TP1128-02YF2Y(SWA)2Y-50P04	50	1.2	1.25	0.9	19.9	600
TP1128-02YF2Y(SWA)2Y-100P04	100	1.3	2.0	1.0	25.3	1310
0.5mm Conductor, 0.9mm Insulated Wire						
TP1128-02YF2Y(SWA)2Y-2P05	2	1.1	0.9	0.9	12.7	238
TP1128-02YF2Y(SWA)2Y-5P05	5	1.1	0.9	0.9	13.2	269
TP1128-02YF2Y(SWA)2Y-10P05	10	1.1	0.9	0.9	14.7	345
TP1128-02YF2Y(SWA)2Y-20P05	20	1.2	0.9	0.9	17.2	488
TP1128-02YF2Y(SWA)2Y-50P05	50	1.3	2.0	1.0	23.3	1100
TP1128-02YF2Y(SWA)2Y-100P05	100	1.4	2.0	1.1	29.0	1710
0.6mm Conductor, 1.35mm Insulated Wire						
TP1128-02YF2Y(SWA)2Y-2P06	2	1.1	0.9	0.9	13.7	308
TP1128-02YF2Y(SWA)2Y-5P06	5	1.2	0.9	0.9	16.2	349
TP1128-02YF2Y(SWA)2Y-10P6	10	1.2	1.25	0.9	18.9	405
TP1128-02YF2Y(SWA)2Y-20P06	20	1.3	2.0	1.0	22.8	578
TP1128-02YF2Y(SWA)2Y-50P06	50	1.4	2.0	1.1	31.0	1170
TP1128-02YF2Y(SWA)2Y-100P06	100	1.6	2.0	1.3	40.2	2310
0.63mm Conductor, 1.15mm Insulated Wire						
TP1128-02YF2Y(SWA)2Y-2P063	2	1.1	0.9	0.9	13.2	318
TP1128-02YF2Y(SWA)2Y-5P063	5	1.1	0.9	0.9	14.7	359
TP1128-02YF2Y(SWA)2Y-10P063	10	1.2	0.9	0.9	16.7	415
TP1128-02YF2Y(SWA)2Y-20P063	20	1.2	1.25	0.9	19.9	588
TP1128-02YF2Y(SWA)2Y-50P063	50	1.4	2.0	1.1	27.5	1270
TP1128-02YF2Y(SWA)2Y-100P063	100	1.5	2.0	1.2	35.5	2410
0.9mm Conductor, 1.5mm Insulated Wire						

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Cable Code	Number of Pairs	Minimum Bedding Thickness mm	Steel Wire Diameter mm	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
TP1128-02YF2Y(SWA)2Y-2P09	2	1.1	0.9	0.9	14.2	308
TP1128-02YF2Y(SWA)2Y-5P09	5	1.2	0.9	0.9	16.7	470
TP1128-02YF2Y(SWA)2Y-10P09	10	1.2	1.25	0.9	19.9	721
TP1128-02YF2Y(SWA)2Y-20P09	20	1.3	2.0	1.0	24.8	1200
TP1128-02YF2Y(SWA)2Y-30P09	30	1.4	2.0	1.1	27.8	1520
TP1128-02YF2Y(SWA)2Y-50P09	50	1.5	2.0	1.2	34.5	2350
TP1128-02YF2Y(SWA)2Y-100P09	100	1.7	2.0	1.4	44.4	3660

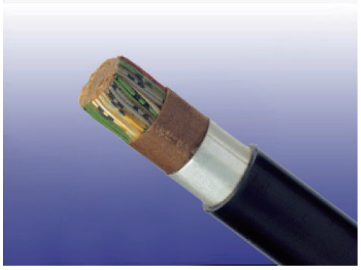
Cellular PE Insulated, PE inner Sheathed, Steel Wire Armoured and LAP Sheathed Jelly Filled Cable to CW 1128/1179/1198

Cable Code	Number of Pairs	Minimum Bedding Thickness mm	Steel Wire Diameter mm	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.75mm Insulated Wire						
TP1128-02YF(L)2Y(SWA)2Y-5P04	5	1.1	0.9	0.9	14.2	232
TP1128-02YF(L)2Y(SWA)2Y-10P04	10	1.1	0.9	0.9	15.2	281
TP1128-02YF(L)2Y(SWA)2Y-20P04	20	1.1	0.9	0.9	16.7	428
TP1128-02YF(L)2Y(SWA)2Y-50P04	50	1.2	2.0	1.0	22.3	575
TP1128-02YF(L)2Y(SWA)2Y-100P04	100	1.3	2.0	1.0	26.8	1340
0.5mm Conductor, 0.9mm Insulated Wire						
TP1128-02YF(L)2Y(SWA)2Y-2P05	2	1.1	0.9	0.9	14.2	248
TP1128-02YF(L)2Y(SWA)2Y-5P05	5	1.1	0.9	0.9	14.7	282
TP1128-02YF(L)2Y(SWA)2Y-10P05	10	1.1	0.9	0.9	16.2	356
TP1128-02YF(L)2Y(SWA)2Y-20P05	20	1.2	1.25	0.9	19.4	498
TP1128-02YF(L)2Y(SWA)2Y-50P05	50	1.3	2.0	1.0	24.8	1115
TP1128-02YF(L)2Y(SWA)2Y-100P05	100	1.4	2.1	1.1	30.5	1740
0.6mm Conductor, 1.35mm Insulated Wire						
TP1128-02YF(L)2Y(SWA)2Y-2P06	2	1.1	0.9	0.9	15.2	288
TP1128-02YF(L)2Y(SWA)2Y-5P06	5	1.2	1.25	0.9	18.4	342
TP1128-02YF(L)2Y(SWA)2Y-10P06	10	1.2	1.25	0.9	20.4	416
TP1128-02YF(L)2Y(SWA)2Y-20P06	20	1.3	2.0	1.0	24.3	498
TP1128-02YF(L)2Y(SWA)2Y-50P06	50	1.4	2.0	1.2	33.5	1265
TP1128-02YF(L)2Y(SWA)2Y-100P06	100	1.6	2.0	1.3	41.7	2400
0.63mm Conductor, 1.15mm Insulated Wire						
TP1128-02YF(L)2Y(SWA)2Y-2P063	2	1.1	0.9	0.9	14.7	298
TP1128-02YF(L)2Y(SWA)2Y-5P063	5	1.1	0.9	0.9	16.2	352
TP1128-02YF(L)2Y(SWA)2Y-10P063	10	1.2	1.25	0.9	18.9	426
TP1128-02YF(L)2Y(SWA)2Y-20P063	20	1.2	2.0	1.0	22.3	598
TP1128-02YF(L)2Y(SWA)2Y-50P063	50	1.4	2.0	1.1	29.0	1285
TP1128-02YF(L)2Y(SWA)2Y-100P063	100	1.5	2.0	1.2	37.0	2450
0.9mm Conductor, 1.5mm Insulated Wire						
TP1128-02YF(L)2Y(SWA)2Y-2P09	2	1.1	0.9	0.9	15.7	318
TP1128-02YF(L)2Y(SWA)2Y-5P09	5	1.2	1.25	0.9	18.9	484
TP1128-02YF(L)2Y(SWA)2Y-10P09	10	1.2	2.0	1.0	22.3	730
TP1128-02YF(L)2Y(SWA)2Y-20P09	20	1.3	2.0	1.0	26.3	1209
TP1128-02YF(L)2Y(SWA)2Y-30P09	30	1.4	2.0	1.1	29.3	1529
TP1128-02YF(L)2Y(SWA)2Y-50P09	50	1.5	2.0	1.2	36.0	2363
TP1128-02YF(L)2Y(SWA)2Y-100P09	100	1.7	2.0	1.4	45.9	3671

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

Cellular PE Insulated & LAP Sheathed Air Core/Jelly Filled Cables to DIN VDE 0816

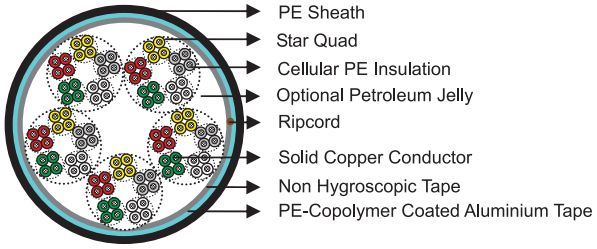
APPLICATION



The cables are designed for use as connection between central offices. The cables are suitable for installation in ducts, direct burial in the ground and also for aerial installation with integral suspension strand. Jelly filled option is for subscriber's cables installed underground or along the edge of pavement. An armoured option is offered for direct burial installations. A figure-8 self support option is offered for aerial installation.

STANDARDS

• DIN VDE 0816

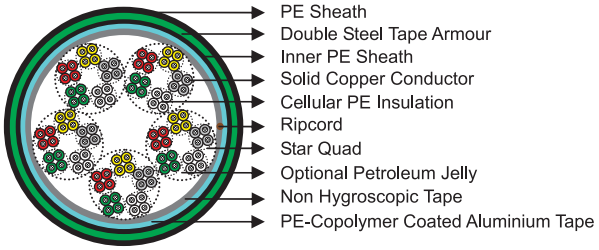


CONSTRUCTION

- **Conductors:** Solid annealed bare copper 0.4/0.6/0.8mm, as per class 1 of DIN VDE 0295/ BS 6360/IEC 60228.
- **Insulation:** Cellular polyethylene 2YI2 type as per VDE 0207-2.
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lay length to minimize crosstalk.
- **Cabling Element:** Star Quads.
- **Cable Core Assembly:** 4 cores are twisted into star quad. 5 star quads are stranded into a basic unit. 5 or 10 basic units each are stranded into one main unit. The star quads are grouped in units and stranded in layers to form the cable core. Standard make up is per VDE 0816 in the 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 (0.2mm) 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.
- **Sheath:** Black low or medium density polyethylene 2YM2 type as per VDE 0207-3, 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 provided for large pair cables.
- **Continuity Wire (optional):** Tinned copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.

OPTIONAL CONSTRUCTION

- **Jelly Filled Cable:** 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.

• **Armoured Cable**: Corrugated steel tape armour is applied over an optional inner polyethylene sheath with an overlap. An outer polyethylene sheath is applied over the armour.

TYPE CODES

A-	Outdoor cable
02Y	Cellular polyethylene (FOAM PE) insulation
F	Continuous core filling
(L)2Y	Laminated sheath(copolymer-coated aluminium tape laminated to PE outer sheath)
SR	Corrugated steel tape
b	Armouring
T	Messenger of galvanized steel wires
StIII	Star quad in local cables.
Bd	Unit-type stranding

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.4	0.6	0.8
Conductor Gauge Size	AWG	26	-	20
Conductor Size	mm^2	0.126	0.283	0.5
Maximum Average Conductor Resistance @20°C	Ω/km	143	63	34.6
Minimum Insulation Resistance @500V DC	MΩ·km	5000	5000	5000
Maximum Mutual Capacitance @800Hz 95% of all values	nF/km	40	40	40
100% of all values	nF/km	42	42	42
Capacitance Unbalance @800Hz pair-to-pair				
K1 100% of values max	pF/500m	980	800	800
98% of values max	pF/500m	420	400	400
K9-12 100% of values max	pF/500m	800	300	300
90% of values max	pF/500m	200	100	100
Maximum Conductor Loop Resistance @20°C	Ω/km	300	130	73.2
Impedance @0.8KHz	Ω	994	665	500
Maximum Average Attenuation @0.8KHz	dB/km	1.45	0.91	0.68
Dielectric Strength 50Hz				
Conductor to Conductor (2mins)	V AC	500	500	500
Conductor to Screen (2mins)	V AC	2000	2000	2000
Maximum Operating Voltage Peak Value	V	150	225	225
Nominal Insulation Thickness (Air Core)	mm	0.20	0.25	0.3
(Jelly Filled)	mm	0.26	0.36	0.44
Nominal Insulated Conductor Diameter (Air Core)	mm	0.8	1.1	1.4
(Jelly Filled)	mm	0.92	1.32	1.68

MECHANICAL AND THERMAL PROPERTIES

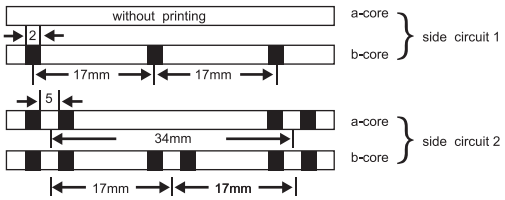
Temperature range during operation (fixed state): -30°C – +70°C
Temperature range during installation (mobile state): -20°C – +50°C
Minimum bending radius: 10 x Overall Diameter (unarmoured cables);15 x Overall Diameter (armoured cables)

COLOUR CODE

Quads

The single core is identified by black ring markings:

Side Circuit 1	a-wire	without marking
	b-wire	1 mark distance 17mm
Side Circuit 2	a-wire	2 marks distance 34mm
	b-wire	2 marks distance 17mm



Subunits

Basic colours of the wire insulation of the 5 star quads of a basic unit:

Quad 1 Red Quad 2 Green
Quad 3 Grey Quad 4 Yellow Quad 5 White

The tracer units are coded with a red helix, all other units by a white binder.

DIMENSIONS AND WEIGHT

Cellular PE Insulated and LAP Sheathed Air Core Cable VDE CODE: A-02Y(L)2Y …x2x0.4/0.6/0.8 StIII Bd

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.8mm Insulated Wire					
TP816A-02Y(L)2Y-StIII-Bd-6P04	6	0.2	1.8	9.0	85
TP816A-02Y(L)2Y-StIII-Bd-10P04	10	0.2	1.8	11.0	125
TP816A-02Y(L)2Y-StIII-Bd-20P04	20	0.2	1.8	12.0	150
TP816A-02Y(L)2Y-StIII-Bd-30P04	30	0.2	1.8	13.5	200
TP816A-02Y(L)2Y-StIII-Bd-40P04	40	0.2	1.8	14.5	225
TP816A-02Y(L)2Y-StIII-Bd-50P04	50	0.2	1.8	15.5	275
TP816A-02Y(L)2Y-StIII-Bd-70P04	70	0.2	1.8	17.0	250
TP816A-02Y(L)2Y-StIII-Bd-100P04	100	0.2	1.8	19.5	450
TP816A-02Y(L)2Y-StIII-Bd-120P04	120	0.2	2.0	20.5	525
TP816A-02Y(L)2Y-StIII-Bd-150P04	150	0.2	2.0	22.5	625
TP816A-02Y(L)2Y-StIII-Bd-200P04	200	0.2	2.0	25.5	825
TP816A-02Y(L)2Y-StIII-Bd-250P04	250	0.2	2.0	29.0	1000
TP816A-02Y(L)2Y-StIII-Bd-300P04	300	0.2	2.0	31.0	1175
TP816A-02Y(L)2Y-StIII-Bd-350P04	350	0.2	2.2	33.0	1325
TP816A-02Y(L)2Y-StIII-Bd-400P04	400	0.2	2.2	34.5	1500
TP816A-02Y(L)2Y-StIII-Bd-500P04	500	0.2	2.2	38.5	1875
TP816A-02Y(L)2Y-StIII-Bd-600P04	600	0.2	2.2	41.5	2175
TP816A-02Y(L)2Y-StIII-Bd-700P04	700	0.2	2.6	44.0	2500
TP816A-02Y(L)2Y-StIII-Bd-800P04	800	0.2	2.6	47.5	2875
TP816A-02Y(L)2Y-StIII-Bd-1000P04	1000	0.2	3.0	52.0	3525
TP816A-02Y(L)2Y-StIII-Bd-1200P04	1200	0.2	3.0	57.5	4250
TP816A-02Y(L)2Y-StIII-Bd-1500P04	1500	0.2	3.4	63.0	5225
TP816A-02Y(L)2Y-StIII-Bd-2000P04	2000	0.2	3.8	72.5	6925
0.6mm Conductor, 1.1mm Insulated Wire					

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Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
TP816A-02Y(L)2Y-StIII-Bd-6P06	6	0.25	1.8	10.3	106
TP816A-02Y(L)2Y-StIII-Bd-10P06	10	0.25	1.8	11.3	137
TP816A-02Y(L)2Y-StIII-Bd-20P06	20	0.25	1.8	14.6	221
TP816A-02Y(L)2Y-StIII-Bd-30P06	30	0.25	1.8	16.2	292
TP816A-02Y(L)2Y-StIII-Bd-40P06	40	0.25	1.8	18.0	366
TP816A-02Y(L)2Y-StIII-Bd-50P06	50	0.25	1.8	19.5	436
TP816A-02Y(L)2Y-StIII-Bd-70P06	70	0.25	2.0	22.2	580
TP816A-02Y(L)2Y-StIII-Bd-100P06	100	0.25	2.0	26.0	808
TP816A-02Y(L)2Y-StIII-Bd-120P06	120	0.25	2.2	28.0	951
TP816A-02Y(L)2Y-StIII-Bd-150P06	150	0.25	2.2	30.6	1156
TP816A-02Y(L)2Y-StIII-Bd-200P06	200	0.25	2.2	35.0	1511
TP816A-02Y(L)2Y-StIII-Bd-250P06	250	0.25	2.6	39.9	1890
TP816A-02Y(L)2Y-StIII-Bd-300P06	300	0.25	2.6	43.1	2220
TP816A-02Y(L)2Y-StIII-Bd-350P06	350	0.25	2.8	46.8	2600
TP816A-02Y(L)2Y-StIII-Bd-400P06	400	0.25	3.0	48.0	3025
TP816A-02Y(L)2Y-StIII-Bd-500P06	500	0.25	2.8	50.5	3700
TP816A-02Y(L)2Y-StIII-Bd-600P06	600	0.25	3.4	60.0	4475
TP816A-02Y(L)2Y-StIII-Bd-700P06	700	0.25	3.6	62.0	5175
TP816A-02Y(L)2Y-StIII-Bd-800P06	800	0.25	3.8	65.5	5850
TP816A-02Y(L)2Y-StIII-Bd-1000P06	1000	0.25	3.8	73.5	7300
TP816A-02Y(L)2Y-StIII-Bd-1200P06	1200	0.25	4.0	80.5	8750
0.8mm Conductor,1.4mm Insulated Wire					
TP816A-02Y(L)2Y-StIII-Bd-6P08	6	0.3	1.8	12.0	141
TP816A-02Y(L)2Y-StIII-Bd-10P08	10	0.3	1.8	13.9	202
TP816A-02Y(L)2Y-StIII-Bd-20P08	20	0.3	1.8	17.1	334
TP816A-02Y(L)2Y-StIII-Bd-30P08	30	0.3	1.8	19.8	464
TP816A-02Y(L)2Y-StIII-Bd-40P08	40	0.3	2.0	22.1	590
TP816A-02Y(L)2Y-StIII-Bd-50P08	50	0.3	2.0	24.6	728
TP816A-02Y(L)2Y-StIII-Bd-70P08	70	0.3	2.0	28.1	971
TP816A-02Y(L)2Y-StIII-Bd-100P08	100	0.3	2.2	32.6	1319
TP816A-02Y(L)2Y-StIII-Bd-120P08	120	0.3	2.4	35.6	1587
TP816A-02Y(L)2Y-StIII-Bd-150P08	150	0.3	2.6	39.1	1920
TP816A-02Y(L)2Y-StIII-Bd-200P08	200	0.3	2.6	44.3	2519
TP816A-02Y(L)2Y-StIII-Bd-250P08	250	0.3	3.0	50.6	3180
TP816A-02Y(L)2Y-StIII-Bd-300P08	300	0.3	3.0	55.7	3840
TP816A-02Y(L)2Y-StIII-Bd-350P08	350	0.3	3.4	60.1	4440
TP816A-02Y(L)2Y-StIII-Bd-400P08	400	0.3	3.4	63.0	5100
TP816A-02Y(L)2Y-StIII-Bd-500P08	500	0.3	3.4	66.0	6250
TP816A-02Y(L)2Y-StIII-Bd-600P08	600	0.3	3.8	72.5	7525
TP816A-02Y(L)2Y-StIII-Bd-700P08	700	0.3	4.0	77.5	8700
TP816A-02Y(L)2Y-StIII-Bd-800P08	800	0.3	4.2	83.0	9950

Cellular PE Insulated and LAP Sheathed Jelly Filled Cable VDE CODE: A-02YF(L)2Y …x2x0.4/0.6/0.8 StIII Bd

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.92mm Insulated Wire					
TP816A-02YF(L)2Y-StIII-Bd-6P04	6	0.26	1.8	9.6	89
TP816A-02YF(L)2Y-StIII-Bd-10P04	10	0.26	1.8	11.3	133
TP816A-02YF(L)2Y-StIII-Bd-20P04	20	0.26	1.8	13.3	182
TP816A-02YF(L)2Y-StIII-Bd-30P04	30	0.26	1.8	14.9	240
TP816A-02YF(L)2Y-StIII-Bd-40P04	40	0.26	1.8	16.8	303
TP816A-02YF(L)2Y-StIII-Bd-50P04	50	0.26	1.8	17.6	350
TP816A-02YF(L)2Y-StIII-Bd-70P04	70	0.26	1.8	19.9	455
TP816A-02YF(L)2Y-StIII-Bd-100P04	100	0.26	1.8	21.8	568

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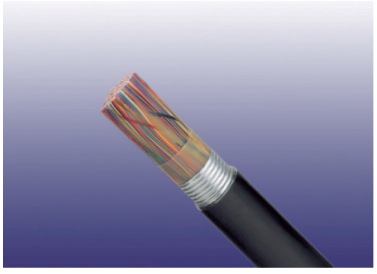
Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
TP816A-02YF(L)2Y-StIII-Bd-120P04	120	0.26	2.0	27.1	743
TP816A-02YF(L)2Y-StIII-Bd-150P04	150	0.26	2.0	28.0	906
TP816A-02YF(L)2Y-StIII-Bd-200P04	200	0.26	2.0	31.4	1130
TP816A-02YF(L)2Y-StIII-Bd-250P04	250	0.26	2.2	34.1	1340
TP816A-02YF(L)2Y-StIII-Bd-300P04	300	0.26	2.2	38.3	1690
TP816A-02YF(L)2Y-StIII-Bd-350P04	350	0.26	2.2	40.8	1950
TP816A-02YF(L)2Y-StIII-Bd-400P04	400	0.26	2.2	43.1	2170
TP816A-02YF(L)2Y-StIII-Bd-500P04	500	0.26	2.4	48.2	2720
TP816A-02YF(L)2Y-StIII-Bd-600P04	600	0.26	2.6	50.2	3140
TP816A-02YF(L)2Y-StIII-Bd-700P04	700	0.26	2.8	53.7	3620
TP816A-02YF(L)2Y-StIII-Bd-800P04	800	0.26	3.0	57.7	4160
TP816A-02YF(L)2Y-StIII-Bd-1000P04	1000	0.26	3.0	64.3	5170
TP816A-02YF(L)2Y-StIII-Bd-1200P04	1200	0.26	3.4	70.3	6050
TP816A-02YF(L)2Y-StIII-Bd-1500P04	1500	0.26	3.8	72.5	6900
TP816A-02YF(L)2Y-StIII-Bd-2000P04	2000	0.26	4.0	80.9	10100
0.6mm Conductor, 1.32mm Insulated Wire					
TP816A-02YF(L)2Y-StIII-Bd-6P06	6	0.36	1.8	11.2	130
TP816A-02YF(L)2Y-StIII-Bd-10P06	10	0.36	1.8	12.8	180
TP816A-02YF(L)2Y-StIII-Bd-20P06	20	0.36	1.8	16.8	305
TP816A-02YF(L)2Y-StIII-Bd-30P06	30	0.36	1.8	18.6	410
TP816A-02YF(L)2Y-StIII-Bd-40P06	40	0.36	1.8	19.4	480
TP816A-02YF(L)2Y-StIII-Bd-50P06	50	0.36	1.8	22.7	625
TP816A-02YF(L)2Y-StIII-Bd-70P06	70	0.36	2.0	25.5	820
TP816A-02YF(L)2Y-StIII-Bd-100P06	100	0.36	2.0	29.6	1120
TP816A-02YF(L)2Y-StIII-Bd-120P06	120	0.36	2.2	33.0	1310
TP816A-02YF(L)2Y-StIII-Bd-150P06	150	0.36	2.2	37.9	1740
TP816A-02YF(L)2Y-StIII-Bd-200P06	200	0.36	2.2	42.6	2240
TP816A-02YF(L)2Y-StIII-Bd-250P06	250	0.36	2.6	47.1	2780
TP816A-02YF(L)2Y-StIII-Bd-300P06	300	0.36	2.6	51.3	3390
TP816A-02YF(L)2Y-StIII-Bd-350P06	350	0.36	2.8	54.3	3760
TP816A-02YF(L)2Y-StIII-Bd-400P06	400	0.36	3.0	58.8	4340
TP816A-02YF(L)2Y-StIII-Bd-500P06	500	0.36	3.2	64.7	5330
TP816A-02YF(L)2Y-StIII-Bd-600P06	600	0.36	3.4	68.3	6180
TP816A-02YF(L)2Y-StIII-Bd-750P06	750	0.36	3.6	73.1	7140
TP816A-02YF(L)2Y-StIII-Bd-800P06	800	0.36	3.8	78.3	8170
TP816A-02YF(L)2Y-StIII-Bd-1000P06	1000	0.36	3.8	86.3	10030
TP816A-02YF(L)2Y-StIII-Bd-1200P06	1200	0.36	4.0	92.3	11030
0.8mm Conductor,1.68mm Insulated Wire					
TP816A-02YF(L)2Y-StIII-Bd-6P08	6	0.44	1.8	12.9	180
TP816A-02YF(L)2Y-StIII-Bd-10P08	10	0.44	1.8	14.9	260
TP816A-02YF(L)2Y-StIII-Bd-20P08	20	0.44	1.8	19.6	460
TP816A-02YF(L)2Y-StIII-Bd-30P08	30	0.44	1.8	22.2	620
TP816A-02YF(L)2Y-StIII-Bd-40P08	40	0.44	2.0	23.3	745
TP816A-02YF(L)2Y-StIII-Bd-50P08	50	0.44	2.0	27.8	1000
TP816A-02YF(L)2Y-StIII-Bd-70P08	70	0.44	2.0	30.9	1290
TP816A-02YF(L)2Y-StIII-Bd-100P08	100	0.44	2.2	36.4	1830
TP816A-02YF(L)2Y-StIII-Bd-120P08	120	0.44	2.4	38.6	2100
TP816A-02YF(L)2Y-StIII-Bd-150P08	150	0.44	2.6	36.8	2835
TP816A-02YF(L)2Y-StIII-Bd-200P08	200	0.44	2.6	52.8	3675
TP816A-02YF(L)2Y-StIII-Bd-250P08	250	0.44	3.0	58.4	4555
TP816A-02YF(L)2Y-StIII-Bd-300P08	300	0.44	3.0	63.1	5370
TP816A-02YF(L)2Y-StIII-Bd-350P08	350	0.44	3.2	68.3	6280
TP816A-02YF(L)2Y-StIII-Bd-400P08	400	0.44	3.4	72.4	7105
TP816A-02YF(L)2Y-StIII-Bd-500P08	500	0.44	3.4	80.6	8830
TP816A-02YF(L)2Y-StIII-Bd-600P08	600	0.44	3.8	87.3	10490
TP816A-02YF(L)2Y-StIII-Bd-700P08	700	0.44	4.0	102.5	11200
TP816A-02YF(L)2Y-StIII-Bd-800P08	800	0.44	4.0	108.0	11950

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

Foam Skin Insulated & LAP Sheathed Jelly Filled Cables to IEC 60708

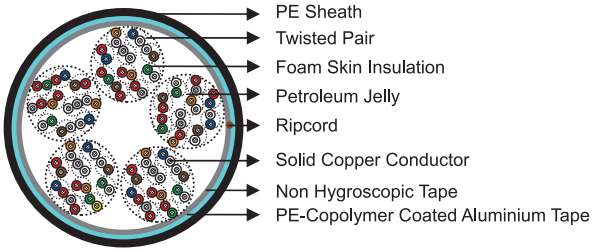
APPLICATION

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. Jelly filled option is for subscriber's cables installed underground or along the edge of pavement. 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, 0.4/0.5/0.6/0.63/0.8/0.9 mm as per class 1 of IEC 60228 & ASTM B-3.
- **Insulation:** Foam skin which is a composite polyethylene insulation made of an inner cellular layer and an outer solid skin, 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:** Twisted Pairs.
- **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 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:** 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 100% 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.
- **Filling (optional):** 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/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 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.

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 0.2/0.5mm thick steel tape is coated with a copolymer and applied with an overlap. An outer polyethylene sheath is applied over the armour.
- **Self-Support Cable:** A 7-strand galvanized steel strand is used as support wire. Black polyethylene sheath covers both core and support wire in a figure-8 construction.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.4	0.5	0.6	0.63	0.8	0.9
Conductor Gauge Size	AWG	26	24	-	22	20	19
Conductor Size	mm^2	0.126	0.196	0.283	0.312	0.5	0.636
Maximum Average Conductor Resistance @20°C	Ω/km	143	91	63	58	34.6	28
Minimum Insulation Resistance @500V DC	MΩ·km	5000	5000	5000	5000	5000	5000
Maximum Average Mutual Capacitance @800Hz	nF/km	53	53	56	56	59	59
Maximum Individual Mutual Capacitance @800Hz (for 99% cases)	nF/km	60	60	60	60	64	64
Maximum Individual Capacitance Unbalance @800Hz pair-to-pair	pF/500m	250	250	250	250	160	160
Maximum Individual Capacitance Unbalance @800Hz pair-to-pair (for 95% cases)	pF/500m	150	150	150	150	100	100
Maximum Individual Capacitance Unbalance @800Hz pair-to-ground	pF/500m	1700	1700	1700	1700	1700	1700
Maximum Individual Capacitance Unbalance @800Hz pair-to-ground (for 95% cases)	pF/500m	1000	1000	1000	1000	1000	1000
Maximum Conductor Loop Resistance @20°C	Ω/km	300	192	130	114	73	60
Impedance @1KHz	Ω	994	796	665	660	500	445
Impedance @100KHz	Ω	147	134	127	125	124	122
Impedance @512KHz	Ω	120	118	117.5	117	116.5	116
Impedance @1MHz	Ω	117	115	114.5	114	113.5	113
Maximum Average Attenuation @0.8KHz	dB/km	1.64	1.30	1.1	1.04	0.9	0.74
Maximum Average Attenuation @1KHz	dB/km	1.68	1.35	1.14	1.08	0.93	0.76
Maximum Average Attenuation @3KHz	dB/km	3.18	2.52	2.3	2.01	1.74	1.42
Maximum Average Attenuation @150KHz	dB/km	11.4	8.3	7.2	6.2	5.7	4.4
Maximum Average Attenuation @772KHz	dB/km	24.3	19.4	17.4	15.4	13.1	10.8
Maximum Average Attenuation @1000KHz	dB/km	27.1	21.4	18.5	17.5	13.7	12.8
Dielectric Strength							
Conductor to Conductor (1min)	V DC	500	500	500	500	500	500
Conductor to Screen (1min)	V DC	1000	1000	1000	1000	1000	1000
Nominal Insulation Thickness	mm	0.175	0.20	0.25	0.26	0.3	0.3
Nominal Insulated Conductor Diameter	mm	0.75	0.90	1.1	1.15	1.4	1.5

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 (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

Foam Skin Insulated and LAP Sheathed Jelly Filled 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				
TP708-02YSF(L)2Y-10P04	10	1.5	9.0	82
TP708-02YSF(L)2Y-20P04	20	1.5	10.0	120
TP708-02YSF(L)2Y-30P04	30	1.5	11.0	161
TP708-02YSF(L)2Y-50P04	50	1.5	14.0	239
TP708-02YSF(L)2Y-70P04	70	1.5	15.0	315
TP708-02YSF(L)2Y-100P04	100	1.5	18.0	434
TP708-02YSF(L)2Y-150P04	150	1.5	21.0	630
TP708-02YSF(L)2Y-200P04	200	1.8	24.0	824
TP708-02YSF(L)2Y-300P04	300	1.8	29.0	1195
TP708-02YSF(L)2Y-400P04	400	1.8	32.0	1556
TP708-02YSF(L)2Y-500P04	500	2.0	36.0	1921
TP708-02YSF(L)2Y-600P04	600	2.0	39.0	2282
TP708-02YSF(L)2Y-800P04	800	2.5	44.0	2987
TP708-02YSF(L)2Y-900P04	900	2.5	46.0	3364
TP708-02YSF(L)2Y-1000P04	1000	2.5	49.0	3712
TP708-02YSF(L)2Y-1200P04	1200	2.8	53.0	4411
TP708-02YSF(L)2Y-1500P04	1500	2.8	59.0	5483
TP708-02YSF(L)2Y-1800P04	1800	3.2	64.0	6567
TP708-02YSF(L)2Y-2100P04	2100	3.2	69.0	7626
TP708-02YSF(L)2Y-2400P04	2400	3.5	73.0	8663
TP708-02YSF(L)2Y-2700P04	2700	3.5	77.0	9697
TP708-02YSF(L)2Y-3000P04	3000	3.5	81.0	10729
0.5mm Conductor, 0.9mm Insulated Wire				
TP708-02YSF(L)2Y-10P05	10	1.5	10	108
TP708-02YSF(L)2Y-20P05	20	1.5	12	165
TP708-02YSF(L)2Y-30P05	30	1.5	13	226
TP708-02YSF(L)2Y-50P05	50	1.5	16	344
TP708-02YSF(L)2Y-70P05	70	1.5	18	458
TP708-02YSF(L)2Y-100P05	100	1.5	21	645
TP708-02YSF(L)2Y-150P05	150	1.8	25	939
TP708-02YSF(L)2Y-200P05	200	1.8	29	1224
TP708-02YSF(L)2Y-300P05	300	2.0	34	1787
TP708-02YSF(L)2Y-400P05	400	2.0	39	2352
TP708-02YSF(L)2Y-500P05	500	2.5	43	2897
TP708-02YSF(L)2Y-600P05	600	2.5	47	3469
TP708-02YSF(L)2Y-800P05	800	2.8	53	4553
TP708-02YSF(L)2Y-900P05	900	2.8	57	5129
TP708-02YSF(L)2Y-1000P05	1000	2.8	60	5666
TP708-02YSF(L)2Y-1200P05	1200	3.2	65	6732
TP708-02YSF(L)2Y-1500P05	1500	3.5	72	8348
TP708-02YSF(L)2Y-1800P05	1800	3.5	78	10011

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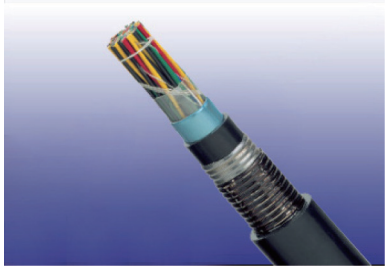
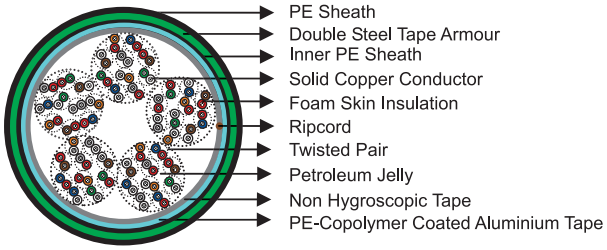
Cable Code	Number of Pairs	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
TP708-02YSF(L)2Y-2100P05	2100	3.5	84	11609
0.6mm Conductor, 1.1mm Insulated Wire				
TP708-02YSF(L)2Y-10P06	10	1.5	11	139
TP708-02YSF(L)2Y-20P06	20	1.5	13	218
TP708-02YSF(L)2Y-30P06	30	1.5	15	302
TP708-02YSF(L)2Y-50P06	50	1.5	18	467
TP708-02YSF(L)2Y-70P06	70	1.5	21	639
TP708-02YSF(L)2Y-100P06	100	1.8	25	894
TP708-02YSF(L)2Y-150P06	150	1.8	30	1297
TP708-02YSF(L)2Y-200P06	200	1.8	33	1707
TP708-02YSF(L)2Y-300P06	300	2.0	40	2507
TP708-02YSF(L)2Y-400P06	400	2.5	46	3315
TP708-02YSF(L)2Y-500P06	500	2.5	51	4088
TP708-02YSF(L)2Y-600P06	600	2.8	55	4860
TP708-02YSF(L)2Y-800P06	800	3.2	63	6444
0.8mm Conductor, 1.4mm Insulated Wire				
TP708-02YSF(L)2Y-10P08	10	1.5	13	210
TP708-02YSF(L)2Y-20P08	20	1.5	16	348
TP708-02YSF(L)2Y-30P08	30	1.5	19	507
TP708-02YSF(L)2Y-50P08	50	1.8	23	793
TP708-02YSF(L)2Y-70P08	70	1.8	28	1081
TP708-02YSF(L)2Y-100P08	100	1.8	32	1521
TP708-02YSF(L)2Y-150P08	150	2.0	38	2240
TP708-02YSF(L)2Y-200P08	200	2.5	43	2944
TP708-02YSF(L)2Y-300P08	300	2.8	52	4355
TP708-02YSF(L)2Y-400P08	400	2.8	60	5763
TP708-02YSF(L)2Y-500P08	500	3.2	67	7158





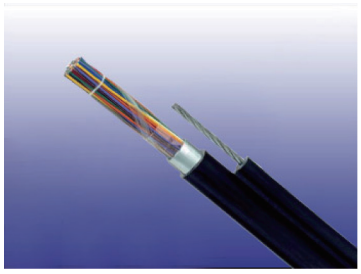
Foam Skin Insulated, Double Steel Tape Armoured & LAP Sheathed Jelly Filled Cable to IEC 60708

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					
TP708-02YSF(L)2Y(DSTA)2Y-10P04	10	1.5	1.5	12.0	188
TP708-02YSF(L)2Y(DSTA)2Y-20P04	20	1.5	1.5	14.0	241
TP708-02YSF(L)2Y(DSTA)2Y-30P04	30	1.5	1.5	15.0	296
TP708-02YSF(L)2Y(DSTA)2Y-50P04	50	1.5	1.5	17.0	397
TP708-02YSF(L)2Y(DSTA)2Y-70P04	70	1.5	1.5	19.0	505
TP708-02YSF(L)2Y(DSTA)2Y-100P04	100	1.5	1.5	22.0	646
TP708-02YSF(L)2Y(DSTA)2Y-150P04	150	1.5	1.8	25.0	876
TP708-02YSF(L)2Y(DSTA)2Y-200P04	200	1.8	1.8	28.0	1091

(Continued from previous page)

Cable Code	Number of Pairs	Nominal Inner Sheath Thickness mm	Nominal Outer Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
TP708-02YSF(L)2Y(DSTA)2Y-300P04	300	1.8	1.8	32.0	1522
TP708-02YSF(L)2Y(DSTA)2Y-400P04	400	1.8	2.0	37.0	1991
TP708-02YSF(L)2Y(DSTA)2Y-500P04	500	2.0	2.0	43.0	2913
TP708-02YSF(L)2Y(DSTA)2Y-600P04	600	2.0	2.5	46.0	3347
TP708-02YSF(L)2Y(DSTA)2Y-800P04	800	2.5	2.5	51.0	4186
TP708-02YSF(L)2Y(DSTA)2Y-900P04	900	2.5	2.8	54.0	4630
TP708-02YSF(L)2Y(DSTA)2Y-1000P04	1000	2.5	2.8	56.0	5034
TP708-02YSF(L)2Y(DSTA)2Y-1200P04	1200	2.8	2.8	61.0	5881
0.5mm Conductor, 0.9mm Insulated Wire					
TP708-02YSF(L)2Y(DSTA)2Y-10P05	10	1.5	1.5	14.0	227
TP708-02YSF(L)2Y(DSTA)2Y-20P05	20	1.5	1.5	15.0	301
TP708-02YSF(L)2Y(DSTA)2Y-30P05	30	1.5	1.5	17.0	381
TP708-02YSF(L)2Y(DSTA)2Y-50P05	50	1.5	1.5	20.0	534
TP708-02YSF(L)2Y(DSTA)2Y-70P05	70	1.5	1.5	22.0	681
TP708-02YSF(L)2Y(DSTA)2Y-100P05	100	1.5	1.8	25.0	894
TP708-02YSF(L)2Y(DSTA)2Y-150P05	150	1.8	1.8	30.0	1241
TP708-02YSF(L)2Y(DSTA)2Y-200P05	200	1.8	1.8	33.0	1562
TP708-02YSF(L)2Y(DSTA)2Y-300P05	300	2.0	2.0	40.0	2250
TP708-02YSF(L)2Y(DSTA)2Y-400P05	400	2.0	2.5	47.0	3433
TP708-02YSF(L)2Y(DSTA)2Y-500P05	500	2.5	2.5	51.0	4081
TP708-02YSF(L)2Y(DSTA)2Y-600P05	600	2.5	2.8	55.0	4755
TP708-02YSF(L)2Y(DSTA)2Y-800P05	800	2.8	3.2	62.0	6047
TP708-02YSF(L)2Y(DSTA)2Y-900P05	900	2.8	3.2	65.0	6685
TP708-02YSF(L)2Y(DSTA)2Y-1000P05	1000	3.2	3.5	68.0	7294
0.6mm Conductor, 1.1mm Insulated Wire					
TP708-02YSF(L)2Y(DSTA)2Y-10P06	10	1.5	1.5	15.0	270
TP708-02YSF(L)2Y(DSTA)2Y-20P06	20	1.5	1.5	17.0	370
TP708-02YSF(L)2Y(DSTA)2Y-30P06	30	1.5	1.5	19.0	482
TP708-02YSF(L)2Y(DSTA)2Y-50P06	50	1.5	1.5	22.0	682
TP708-02YSF(L)2Y(DSTA)2Y-70P06	70	1.5	1.8	25.0	888
TP708-02YSF(L)2Y(DSTA)2Y-100P06	100	1.8	1.8	29.0	1191
TP708-02YSF(L)2Y(DSTA)2Y-150P06	150	1.8	2.0	34.0	1645
TP708-02YSF(L)2Y(DSTA)2Y-200P06	200	2.0	2.0	39.0	2161
TP708-02YSF(L)2Y(DSTA)2Y-300P06	300	2.0	2.5	48.0	3617
TP708-02YSF(L)2Y(DSTA)2Y-400P06	400	2.5	2.8	54.0	4573
TP708-02YSF(L)2Y(DSTA)2Y-500P06	500	2.5	2.8	59.0	5510
TP708-02YSF(L)2Y(DSTA)2Y-600P06	600	2.8	3.2	64.0	6396
TP708-02YSF(L)2Y(DSTA)2Y-800P06	800	3.2	3.5	72.0	8215
0.8mm Conductor, 1.4mm Insulated Wire					
TP708-02YSF(L)2Y(DSTA)2Y-10P08	10	1.5	1.5	17.0	364
TP708-02YSF(L)2Y(DSTA)2Y-20P08	20	1.5	1.5	20.0	548
TP708-02YSF(L)2Y(DSTA)2Y-30P08	30	1.5	1.5	23.0	724
TP708-02YSF(L)2Y(DSTA)2Y-50P08	50	1.8	1.8	28.0	1065
TP708-02YSF(L)2Y(DSTA)2Y-70P08	70	1.8	1.8	32.0	1404
TP708-02YSF(L)2Y(DSTA)2Y-100P08	100	2.0	2.0	37.0	1957
TP708-02YSF(L)2Y(DSTA)2Y-150P08	150	2.0	2.5	46.0	3302
TP708-02YSF(L)2Y(DSTA)2Y-200P08	200	2.5	2.5	51.0	4142
TP708-02YSF(L)2Y(DSTA)2Y-300P08	300	2.8	2.8	61.0	5823
TP708-02YSF(L)2Y(DSTA)2Y-400P08	400	2.8	3.2	68.0	7408
TP708-02YSF(L)2Y(DSTA)2Y-500P08	500	3.2	3.5	75.0	9001

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.



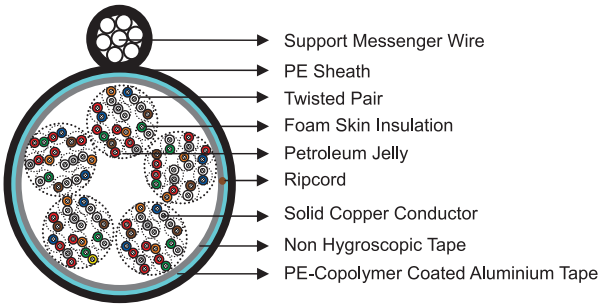


Fig 8 Foam Skin Insulated & LAP Sheathed Jelly Filled Cable to IEC 60708

Cable Code	Number of Pairs	Support Wire No. X Diameter mm	Nominal Outer Sheath Thickness mm	Nominal Cable Dimensions Height X Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.75mm Insulated Wire					
TP708-02YSF(L)2Y-10P04-SS	10	7X0.9	1.5	16X8.0	136
TP708-02YSF(L)2Y-20P04-SS	20	7X0.9	1.5	18X9.5	177
TP708-02YSF(L)2Y-30P04-SS	30	7X1.2	1.5	20X10.9	252
TP708-02YSF(L)2Y-50P04-SS	50	7X1.2	1.5	22X13.0	330
TP708-02YSF(L)2Y-70P04-SS	70	7X1.2	1.5	24X14.7	404
TP708-02YSF(L)2Y-100P04-SS	100	7X1.2	1.5	26X16.9	515
TP708-02YSF(L)2Y-150P04-SS	150	7X1.6	1.5	30X19.8	760
TP708-02YSF(L)2Y-200P04-SS	200	7X1.6	1.8	34X23	965
0.5mm Conductor, 0.9mm Insulated Wire					
TP708-02YSF(L)2Y-10P05-SS	10	7X0.9	1.5	17X8.9	158
TP708-02YSF(L)2Y-20P05-SS	20	7X0.9	1.5	19X10.8	220
TP708-02YSF(L)2Y-30P05-SS	30	7X1.2	1.5	22X12.4	309
TP708-02YSF(L)2Y-50P05-SS	50	7X1.2	1.5	24X15.1	426
TP708-02YSF(L)2Y-70P05-SS	70	7X1.2	1.5	26X17.1	530
TP708-02YSF(L)2Y-100P05-SS	100	7X1.2	1.5	29X19.7	695
TP708-02YSF(L)2Y-150P05-SS	150	7X1.6	1.8	35X25	1060
TP708-02YSF(L)2Y-200P05-SS	200	7X1.6	1.8	38X28	1320
0.63mm Conductor, 1.15mm Insulated Wire					
TP708-02YSF(L)2Y-10P063-SS	10	7X1.2	1.5	20X10.0	240
TP708-02YSF(L)2Y-20P063-SS	20	7X1.2	1.5	22X13.2	336
TP708-02YSF(L)2Y-30P063-SS	30	7X1.2	1.5	25X15.4	431
TP708-02YSF(L)2Y-50P063-SS	50	7X1.2	1.5	28X19.0	625
TP708-02YSF(L)2Y-70P063-SS	70	7X1.6	1.5	32X22	865
TP708-02YSF(L)2Y-100P063-SS	100	7X1.6	1.8	37X26	1170
TP708-02YSF(L)2Y-150P063-SS	150	7X1.6	1.8	42X31	1640
TP708-02YSF(L)2Y-200P063-SS	200	7X1.6	2.0	47X36	2110
0.9mm Conductor, 1.5mm Insulated Wire					
TP708-02YSF(L)2Y-10P09-SS	10	7X1.2	1.5	22X13.1	330
TP708-02YSF(L)2Y-20P09-SS	20	7X1.2	1.5	26X16.4	505
TP708-02YSF(L)2Y-30P09-SS	30	7X1.2	1.5	29X19.5	680
TP708-02YSF(L)2Y-50P09-SS	50	7X1.6	1.8	36X25	1120
TP708-02YSF(L)2Y-70P09-SS	70	7X1.6	1.8	40X29	1460
TP708-02YSF(L)2Y-100P09-SS	100	7X1.6	2.0	45X34	1990
TP708-02YSF(L)2Y-150P09-SS	150	7X2.0	2.0	53X41	2930

Fig 8 Foam Skin Insulated and LAP Sheathed Air Core Cable to IEC 60708

Cable Code	Number of Pairs	Support Wire No. X Diameter mm	Nominal Outer Sheath Thickness mm	Nominal Cable Dimensions Height X Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.75mm Insulated Wire					
TP708-02YS(L)2Y-10P04-SS	10	7X0.9	1.5	16X8.0	129
TP708-02YS(L)2Y-20P04-SS	20	7X0.9	1.5	18X9.4	166
TP708-02YS(L)2Y-30P04-SS	30	7X1.2	1.5	20X10.7	234
TP708-02YS(L)2Y-50P04-SS	50	7X1.2	1.5	22X12.9	306
TP708-02YS(L)2Y-70P04-SS	70	7X1.2	1.5	24X14.6	370
TP708-02YS(L)2Y-100P04-SS	100	7X1.2	1.5	26X16.7	466
TP708-02YS(L)2Y-150P04-SS	150	7X1.6	1.5	30X19.6	680
TP708-02YS(L)2Y-200P04-SS	200	7X1.6	1.5	33X23	840
0.5mm Conductor, 0.9mm Insulated Wire					
TP708-02YS(L)2Y-10P05-SS	10	7X0.9	1.5	17X8.6	148
TP708-02YS(L)2Y-20P05-SS	20	7X0.9	1.5	19X10.3	198
TP708-02YS(L)2Y-30P05-SS	30	7X1.2	1.5	21X11.7	280
TP708-02YS(L)2Y-50P05-SS	50	7X1.2	1.5	23X14.1	378
TP708-02YS(L)2Y-70P05-SS	70	7X1.2	1.5	25X16.1	472
TP708-02YS(L)2Y-100P05-SS	100	7X1.2	1.5	28X18.5	610
TP708-02YS(L)2Y-150P05-SS	150	7X1.6	1.5	32X22	895
TP708-02YS(L)2Y-200P05-SS	200	7X1.6	1.8	36X26	1140
0.63mm Conductor, 1.15mm Insulated Wire					
TP708-02YS(L)2Y-10P063-SS	10	7X1.2	1.5	19X9.8	216
TP708-02YS(L)2Y-20P063-SS	20	7X1.2	1.5	21X11.9	295
TP708-02YS(L)2Y-30P063-SS	30	7X1.2	1.5	23X13.9	373
TP708-02YS(L)2Y-50P063-SS	50	7X1.2	1.5	26X16.8	530
TP708-02YS(L)2Y-70P063-SS	70	7X1.6	1.5	30X19.2	740
TP708-02YS(L)2Y-100P063-SS	100	7X1.6	1.8	34X23	995
TP708-02YS(L)2Y-150P063-SS	150	7X1.6	1.8	38X28	1370
TP708-02YS(L)2Y-200P063-SS	200	7X1.6	1.8	42X31	1730
0.9mm Conductor, 1.5mm Insulated Wire					
TP708-02YS(L)2Y-10P09-SS	10	7X1.2	1.5	21X12.1	291
TP708-02YS(L)2Y-20P09-SS	20	7X1.2	1.5	24X15	440
TP708-02YS(L)2Y-30P09-SS	30	7X1.2	1.5	27X17.6	585
TP708-02YS(L)2Y-50P09-SS	50	7X1.6	1.5	32X22	940
TP708-02YS(L)2Y-70P09-SS	70	7X1.6	1.8	37X26	1250
TP708-02YS(L)2Y-100P09-SS	100	7X1.6	1.8	41X31	1680
TP708-02YS(L)2Y-150P09-SS	150	7X2.0	1.9	48X37	2470

Fig 8 Foam Skin Insulated, Double Steel Tape Armoured & LAP Sheathed Jelly Filled Cable to IEC 60708

Cable Code	Number of Pairs	Support Wire No. X Diameter mm	Nominal Inner / Outer Sheath Thickness mm	Nominal Cable Dimensions Height X Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.75mm Insulated Wire					
TP708-02YSF(L)2Y(DSTA)2Y-10P04-SS	10	7X1.2	1.5/1.5	21X12.2	295
TP708-02YSF(L)2Y(DSTA)2Y-20P04-SS	20	7X1.2	1.5/1.5	23X13.7	354

(Continued from previous page)

Cable Code	Number of Pairs	Support Wire No. X Diameter mm	Nominal Inner / Outer Sheath Thickness mm	Nominal Cable Dimensions Height X Diameter mm	Nominal Weight kg/km
TP708-02YSF(L)2Y(DSTA)2Y-30P04-SS	30	7X1.2	1.5/1.5	24X14.9	407
TP708-02YSF(L)2Y(DSTA)2Y-50P04-SS	50	7X1.2	1.5/1.5	26X17.1	515
TP708-02YSF(L)2Y(DSTA)2Y-70P04-SS	70	7X1.2	1.5/1.5	28X18.7	610
TP708-02YSF(L)2Y(DSTA)2Y-100P04-SS	100	7X1.2	1.5/1.5	30X21	745
TP708-02YSF(L)2Y(DSTA)2Y-150P04-SS	150	7X1.6	1.5/1.8	35X25	1060
TP708-02YSF(L)2Y(DSTA)2Y-200P04-SS	200	7X1.6	1.8/1.8	39X28	1300
0.5mm Conductor, 0.9mm Insulated Wire					
TP708-02YSF(L)2Y(DSTA)2Y-10P05-SS	10	7X1.2	1.5/1.5	22X13.0	325
TP708-02YSF(L)2Y(DSTA)2Y-20P05-SS	20	7X1.2	1.5/1.5	21X14.9	408
TP708-02YSF(L)2Y(DSTA)2Y-30P05-SS	30	7X1.2	1.5/1.5	26X16.5	485
TP708-02YSF(L)2Y(DSTA)2Y-50P05-SS	50	7X1.2	1.5/1.5	28X19.1	635
TP708-02YSF(L)2Y(DSTA)2Y-70P05-SS	70	7X1.6	1.5/1.5	32X22	830
TP708-02YSF(L)2Y(DSTA)2Y-100P05-SS	100	7X1.6	1.5/1.8	35X25	1050
TP708-02YSF(L)2Y(DSTA)2Y-150P05-SS	150	7X1.6	1.8/1.8	40X29	1410
TP708-02YSF(L)2Y(DSTA)2Y-200P05-SS	200	7X1.6	1.8/2.0	43X33	1740
0.63mm Conductor, 1.15mm Insulated Wire					
TP708-02YSF(L)2Y(DSTA)2Y-10P063-SS	10	7X1.2	1.5/1.5	24X14.7	393
TP708-02YSF(L)2Y(DSTA)2Y-20P063-SS	20	7X1.2	1.5/1.5	27X17.3	525
TP708-02YSF(L)2Y(DSTA)2Y-30P063-SS	30	7X1.2	1.5/1.5	29X19.4	645
TP708-02YSF(L)2Y(DSTA)2Y-50P063-SS	50	7X1.2	1.5/1.8	33X24	915
TP708-02YSF(L)2Y(DSTA)2Y-70P063-SS	70	7X1.6	1.5/1.8	37X27	1190
TP708-02YSF(L)2Y(DSTA)2Y-100P063-SS	100	7X1.6	1.8/1.8	42X31	1550
TP708-02YSF(L)2Y(DSTA)2Y-150P063-SS	150	7X1.6	1.8/2.0	47X36	2100
TP708-02YSF(L)2Y(DSTA)2Y-200P063-SS	200	7X1.6	2.0/2.0	52X41	2630
0.9mm Conductor, 1.5mm Insulated Wire					
TP708-02YSF(L)2Y(DSTA)2Y-10P09-SS	10	7X1.2	1.5/1.5	26X17.1	515
TP708-02YSF(L)2Y(DSTA)2Y-20P09-SS	20	7X1.2	1.5/1.5	30X21	735
TP708-02YSF(L)2Y(DSTA)2Y-30P09-SS	30	7X1.2	1.5/1.8	34X25	970
TP708-02YSF(L)2Y(DSTA)2Y-50P09-SS	50	7X1.6	1.8/1.8	40X30	1480
TP708-02YSF(L)2Y(DSTA)2Y-70P09-SS	70	7X1.6	1.8/2.0	45X34	1900
TP708-02YSF(L)2Y(DSTA)2Y-100P09-SS	100	7X1.6	2.0/2.0	50X39	2500
TP708-02YSF(L)2Y(DSTA)2Y-150P09-SS	150	7X2.0	2.0/2.5	60X47	3610

Fig 8 Foam Skin Insulated, Double Steel Tape Armoured and LAP Sheathed Air Core Cable to IEC 60708

Cable Code	Number of Pairs	Support Wire No. X Diameter mm	Nominal Inner / Outer Sheath Thickness mm	Nominal Cable Dimensions Height X Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.75mm Insulated Wire					
TP708-02YS(L)2Y(DSTA)2Y-10P04-SS	10	7X0.9	1.5/1.5	20X12.0	249
TP708-02YS(L)2Y(DSTA)2Y-20P04-SS	20	7X0.9	1.5/1.5	22X13.5	304

(Continued from previous page)

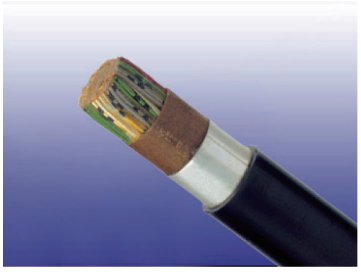
Cable Code	Number of Pairs	Support Wire No. X Diameter mm	Nominal Inner / Outer Sheath Thickness mm	Nominal Cable Dimensions Height X Diameter mm	Nominal Weight kg/km
TP708-02YS(L)2Y(DSTA)2Y-30P04-SS	30	7X1.2	1.5/1.5	24X14.8	389
TP708-02YS(L)2Y(DSTA)2Y-50P04-SS	50	7X1.2	1.5/1.5	26X17.0	489
TP708-02YS(L)2Y(DSTA)2Y-70P04-SS	70	7X1.2	1.5/1.5	28X18.6	575
TP708-02YS(L)2Y(DSTA)2Y-100P04-SS	100	7X1.2	1.5/1.5	30X21	695
TP708-02YS(L)2Y(DSTA)2Y-150P04-SS	150	7X1.6	1.5/1.8	35X25	975
TP708-02YS(L)2Y(DSTA)2Y-200P04-SS	200	7X1.6	1.8/1.8	28X28	1190
0.5mm Conductor, 0.9mm Insulated Wire					
TP708-02YS(L)2Y(DSTA)2Y-10P05-SS	10	7X0.9	1.5/1.5	21X12.7	267
TP708-02YS(L)2Y(DSTA)2Y-20P05-SS	20	7X0.9	1.5/1.5	23X14.3	347
TP708-02YS(L)2Y(DSTA)2Y-30P05-SS	30	7X1.2	1.5/1.5	25X15.8	448
TP708-02YS(L)2Y(DSTA)2Y-50P05-SS	50	7X1.2	1.5/1.5	27X18.2	575
TP708-02YS(L)2Y(DSTA)2Y-70P05-SS	70	7X1.2	1.5/1.5	29X21	695
TP708-02YS(L)2Y(DSTA)2Y-100P05-SS	100	7X1.2	1.5/1.8	33X24	890
TP708-02YS(L)2Y(DSTA)2Y-150P05-SS	150	7X1.6	1.5/1.8	37X27	1220
TP708-02YS(L)2Y(DSTA)2Y-200P05-SS	200	7X1.6	1.8/1.8	41X30	1510
0.63mm Conductor, 1.15mm Insulated Wire					
TP708-02YS(L)2Y(DSTA)2Y-10P063-SS	10	7X1.2	1.5/1.5	23X13.9	359
TP708-02YS(L)2Y(DSTA)2Y-20P063-SS	20	7X1.2	1.5/1.5	25X16.0	465
TP708-02YS(L)2Y(DSTA)2Y-30P063-SS	30	7X1.2	1.5/1.5	27X17.8	565
TP708-02YS(L)2Y(DSTA)2Y-50P063-SS	50	7X1.2	1.5/1.5	30X21	765
TP708-02YS(L)2Y(DSTA)2Y-70P063-SS	70	7X1.6	1.5/1.8	35X24	1030
TP708-02YS(L)2Y(DSTA)2Y-100P063-SS	100	7X1.6	1.8/1.8	39X28	1330
TP708-02YS(L)2Y(DSTA)2Y-150P063-SS	150	7X1.6	1.8/1.9	43X32	1770
TP708-02YS(L)2Y(DSTA)2Y-200P063-SS	200	7X1.6	1.8/1.9	47X36	2180
0.9mm Conductor, 1.5mm Insulated Wire					
TP708-02YS(L)2Y(DSTA)2Y-10P09-SS	10	7X1.2	1.5/1.5	25X16.1	463
TP708-02YS(L)2Y(DSTA)2Y-20P09-SS	20	7X1.2	1.5/1.5	18X19.1	650
TP708-02YS(L)2Y(DSTA)2Y-30P09-SS	30	7X1.2	1.5/1.5	31X22	830
TP708-02YS(L)2Y(DSTA)2Y-50P09-SS	50	7X1.6	1.5/1.8	37X27	1270
TP708-02YS(L)2Y(DSTA)2Y-70P09-SS	70	7X1.6	1.8/1.8	41X31	1630
TP708-02YS(L)2Y(DSTA)2Y-100P09-SS	100	7X1.6	1.8/1.9	46X35	2130
TP708-02YS(L)2Y(DSTA)2Y-150P09-SS	150	7X2.0	1.9/1.9	53X41	3000

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

Foam Skin Insulated & LAP Sheathed Air Core/Jelly Filled Cables to DIN VDE 0816

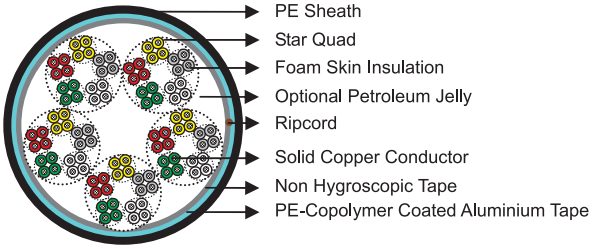
APPLICATION

The cables are designed for use as connection between central offices. The cables are suitable for installation in ducts, direct burial in the ground and also for aerial installation with integral suspension strand. Jelly filled option is for subscriber's cables installed underground or along the edge of pavement. An armoured option is offered for direct burial installations. A figure-8 self support option is offered for aerial installation.



STANDARDS

• VDE 0816



CONSTRUCTION

- **Conductors:** Solid annealed bare copper 0.6 and 0.8mm as per class 1 of VDE 0295/IEC 60228.
- **Insulation:** Foam skin which is a composite polyethylene insulation made of an inner cellular layer and an outer solid skin 2YI1 type as per VDE 0207-2.
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lay length to minimize crosstalk.
- **Cabling Element:** Star Quads.
- **Cable Core Assembly:** 4 cores are twisted into star quad. 5 star quads are stranded into a basic unit. 5 or 10 basic units each are stranded into one main unit. The star quads are grouped in units and stranded in layers to form the cable core. Standard make up is per VDE 0816 in the 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 (0.2mm) 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 ensure a barrier against water vapor.
- **Sheath:** Black low density polyethylene type 2YM2 as per VDE 0207-3, 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 provided for large pair cable.
- **Continuity Wire (optional):** Tinned copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.

OPTIONAL CONSTRUCTION

- **Jelly Filled Cable:** 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.

- **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.

TYPE CODES

A-	Outdoor cable
02YS	Foam skin insulation
F	Continuous core filling
(L)2Y	Laminated sheath(copolymer-coated aluminium tape laminated to PE outer sheath)
SR	Corrugated steel tape
b	Armouring
T	Messenger of galvanized steel wires
StIII	Star quad in local cables.
Bd	Unit-type stranding

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.6	0.8
Conductor Gauge Size	AWG	-	20
Conductor Size	mm^2	0.283	0.5
Maximum Average Conductor Resistance @20°C	Ω/km	63	34.6
Minimum Insulation Resistance @500V DC	MΩ·km	5000	5000
Maximum Mutual Capacitance @800Hz 100% of all values	nF/km	42	42
95% of all values	nF/km	40	40
Capacitance Unbalance @800Hz pair-to-pair			
K1 100% of values max	pF/500m	800	800
98% of values max	pF/500m	400	400
K9-12 100% of values max	pF/500m	300	300
90% of values max	pF/500m	100	100
Maximum Conductor Loop Resistance @20°C	Ω/km	130	73.2
Impedance @0.8KHz	Ω	664	500
Maximum Average Attenuation @0.8KHz	dB/km	0.91	0.68
Dielectric Strength 50Hz			
Conductor to Conductor (2mins)	V AC	500	500
Conductor to Screen (2mins)	V AC	2000	2000
Maximum Operating Voltage Peak Value	V	225	225
Nominal Insulation Thickness (Air Core)	mm	0.25	0.3
(Jelly Filled)	mm	0.36	0.44
Nominal Insulated Conductor Diameter (Air Core)	mm	1.1	1.4
(Jelly Filled)	mm	1.32	1.68

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 VDE 0816 given in Colour Code Chart

DIMENSIONS AND WEIGHT

Foam Skin Insulated and LAP Sheathed Air Core Cable VDE CODE: A-02YS(L)2Y…x2x0.6/0.8mm StIII Bd

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.6mm Conductor, 1.1mm Insulated Wire					
TP816A-02YS(L)2Y-StIII-Bd-50P06	50	0.25	1.8	22.0	565
TP816A-02YS(L)2Y-StIII-Bd-100P06	100	0.25	2.0	28.0	960
TP816A-02YS(L)2Y-StIII-Bd-200P06	200	0.25	2.2	37.5	1785
TP816A-02YS(L)2Y-StIII-Bd-300P06	300	0.25	2.2	44.5	2545
TP816A-02YS(L)2Y-StIII-Bd-400P06	400	0.25	2.6	51.0	3370
TP816A-02YS(L)2Y-StIII-Bd-600P06	600	0.25	3.0	61.5	4855
TP816A-02YS(L)2Y-StIII-Bd-800P06	800	0.25	3.4	70.0	6315
TP816A-02YS(L)2Y-StIII-Bd-1000P06	1000	0.25	3.4	76.5	7850
TP816A-02YS(L)2Y-StIII-Bd-1200P06	1200	0.25	3.8	83.0	9390
0.8mm Conductor,1.4mm Insulated Wire					
TP816A-02YS(L)2Y-StIII-Bd-50P08	50	0.3	1.8	25.0	840
TP816A-02YS(L)2Y-StIII-Bd-100P08	100	0.3	2.0	33.0	1500
TP816A-02YS(L)2Y-StIII-Bd-150P08	150	0.3	2.2	39.5	2165
TP816A-02YS(L)2Y-StIII-Bd-200P08	200	0.3	2.2	45.5	2825
TP816A-02YS(L)2Y-StIII-Bd-300P08	300	0.3	2.6	55.0	4145
TP816A-02YS(L)2Y-StIII-Bd-400P08	400	0.3	3.0	63.0	5475
TP816A-02YS(L)2Y-StIII-Bd-500P08	500	0.3	3.4	69.5	6750
TP816A-02YS(L)2Y-StIII-Bd-600P08	600	0.3	3.4	76.0	8090
TP816A-02YS(L)2Y-StIII-Bd-750P08	750	0.3	3.8	84.5	10065

Foam Skin Insulated and LAP Sheathed Jelly Filled Cable VDE CODE: A-02YSF(L)2Y…X2X 0.6/0.8mm StIII Bd

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.6mm Conductor, 1.32mm Insulated Wire					
TP816A-02YSF(L)2Y-StIII-Bd-50P06	50	0.36	1.8	23.0	620
TP816A-02YSF(L)2Y-StIII-Bd-100P06	100	0.36	2.0	30.5	1150
TP816A-02YSF(L)2Y-StIII-Bd-150P06	150	0.36	2.2	37.5	1650
TP816A-02YSF(L)2Y-StIII-Bd-200P06	200	0.36	2.2	41.0	2100
TP816A-02YSF(L)2Y-StIII-Bd-300P06	300	0.36	2.6	50.0	3170
TP816A-02YSF(L)2Y-StIII-Bd-400P06	400	0.36	3.0	56.5	4100
TP816A-02YSF(L)2Y-StIII-Bd-600P06	600	0.36	3.4	68.0	5970
TP816A-02YSF(L)2Y-StIII-Bd-800P06	800	0.36	3.4	78.0	7900
TP816A-02YSF(L)2Y-StIII-Bd-1000P06	1000	0.36	3.8	86.5	9840
0.8mm Conductor,1.68mm Insulated Wire					
TP816A-02YSF(L)2Y-StIII-Bd-50P08	50	0.44	2.0	28.5	935
TP816A-02YSF(L)2Y-StIII-Bd-100P08	100	0.44	2.2	38.0	1820
TP816A-02YSF(L)2Y-StIII-Bd-150P08	150	0.44	2.2	44.5	2625
TP816A-02YSF(L)2Y-StIII-Bd-200P08	200	0.44	2.6	51.0	3450
TP816A-02YSF(L)2Y-StIII-Bd-300P08	300	0.44	3.0	62.0	5145
TP816A-02YSF(L)2Y-StIII-Bd-400P08	400	0.44	3.4	71.5	6810
TP816A-02YSF(L)2Y-StIII-Bd-500P08	500	0.44	3.8	79.0	8365
TP816A-02YSF(L)2Y-StIII-Bd-600P08	600	0.44	3.8	86.5	10030

Foam Skin Insulated & LAP Sheathed Double Steel Tape Armoured Air Core Cable

VDE CODE: A-02YS(L)2Yb2Y…x2x 0.6/0.8mm StIII Bd

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.6mm Conductor, 1.1mm Insulated Wire					
T816A-02YS(L)2Yb2Y-StIII-Bd-100P06	100	0.25	2.0	35.0	1835
T816A-02YS(L)2Yb2Y-StIII-Bd-200P06	200	0.25	2.2	45.0	2940
T816A-02YS(L)2Yb2Y-StIII-Bd-300P06	300	0.25	2.2	52.0	3940
T816A-02YS(L)2Yb2Y-StIII-Bd-400P06	400	0.25	2.6	58.0	4905
T816A-02YS(L)2Yb2Y-StIII-Bd-600P06	600	0.25	3.0	69.5	6870
T816A-02YS(L)2Yb2Y-StIII-Bd-800P06	800	0.25	3.4	79.0	8570
T816A-02YS(L)2Yb2Y-StIII-Bd-1000P06	1000	0.25	3.4	86.5	10450
T816A-02YS(L)2Yb2Y-StIII-Bd-1200P06	1200	0.25	3.8	94.0	12000
0.8mm Conductor,1.4mm Insulated Wire					
T816A-02YS(L)2Yb2Y-StIII-Bd-100P08	100	0.3	2.0	40.0	2550
T816A-02YS(L)2Yb2Y-StIII-Bd-150P08	150	0.3	2.2	46.5	3330
T816A-02YS(L)2Yb2Y-StIII-Bd-200P08	200	0.3	2.2	53.0	4220
T816A-02YS(L)2Yb2Y-StIII-Bd-300P08	300	0.3	2.6	62.5	5810
T816A-02YS(L)2Yb2Y-StIII-Bd-400Q08	400	0.3	3.0	72.0	7515
T816A-02YS(L)2Yb2Y-StIII-Bd-500P08	500	0.3	3.4	79.0	9005
T816A-02YS(L)2Yb2Y-StIII-Bd-600P08	600	0.3	3.4	86.0	10650
T816A-02YS(L)2Yb2Y-StIII-Bd-750P08	750	0.3	3.8	95.5	12630

Foam Skin Insulated & LAP Sheathed Double Steel Tape Armoured Jelly Filled Cable

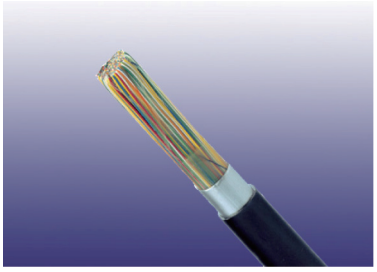
VDE CODE: A-02YSF(L)2Yb2Y…x2x 0.6/0.8mm StIII Bd

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.6mm Conductor, 1.32mm Insulated Wire					
T816A-02YSF(L)2Yb2Y-StIII-Bd-100P06	100	0.36	2.0	38.5	2100
T816A-02YSF(L)2Yb2Y-StIII-Bd-150P06	150	0.36	2.2	44.5	2870
T816A-02YSF(L)2Yb2Y-StIII-Bd-200P06	200	0.36	2.2	48.5	3355
T816A-02YSF(L)2Yb2Y-StIII-Bd-300P06	300	0.36	2.6	57.0	4670
T816A-02YSF(L)2Yb2Y-StIII-Bd-400P06	400	0.36	3.0	65.0	5850
T816A-02YSF(L)2Yb2Y-StIII-Bd-600P06	600	0.36	3.4	77.0	8200
T816A-02YSF(L)2Yb2Y-StIII-Bd-800P06	800	0.36	3.4	88.0	10500
0.8mm Conductor,1.68mm Insulated Wire					
T816A-02YSF(L)2Yb2Y-StIII-Bd-100P08	100	0.44	2.2	47.5	2960
T816A-02YSF(L)2Yb2Y-StIII-Bd-150P08	150	0.44	2.2	52.0	4010
T816A-02YSF(L)2Yb2Y-StIII-Bd-200P08	200	0.44	2.6	58.5	4985
T816A-02YSF(L)2Yb2Y-StIII-Bd-300P08	300	0.44	3.0	70.5	7180
T816A-02YSF(L)2Yb2Y-StIII-Bd-400P08	400	0.44	3.4	81.0	9130
T816A-02YSF(L)2Yb2Y-StIII-Bd-500P08	500	0.44	3.8	89.0	10915
T816A-02YSF(L)2Yb2Y-StIII-Bd-600P08	600	0.44	3.8	97.5	12620

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

Foam Skin Insulated & AP Sheathed (ALPETH) Jelly Filled Cables to GR-421

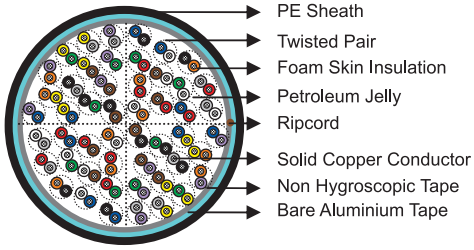
APPLICATION



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. Jelly filled option is for subscriber's cables installed underground or along the edge of pavement. An armoured option is offered for direct burial installations where additional mechanical or rodent protection is required. A figure-8 self support option is offered for aerial installation.

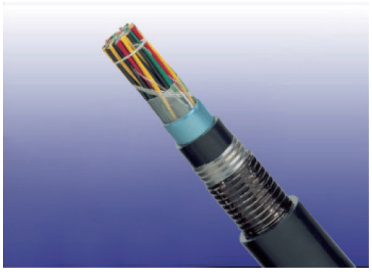
STANDARDS

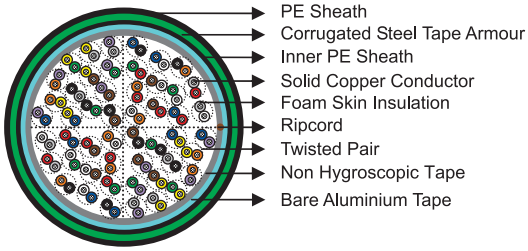
- Telcordia (Bellcore) GR-421



CONSTRUCTION

- **Conductors:** Solid annealed bare copper, 0.4/0.5/0.63/0.9mm as per ASTM B-3/class 1 of IEC 60028.
- **Insulation:** Foam skin which is a composite polyethylene insulation made of an inner cellular layer and an outer solid skin as per ASTM D 1248/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 400 pairs are composed of 25-pair units or 12/13-pair units; cables with over 400 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 GR-421 given in Cable Make Up Diagram.
- **Core Wrapping (optional):** 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 bare aluminium tape (0.2mm/8mil) is applied longitudinally with overlap over the cable core to provide 100% electrical shielding coverage and ensures a barrier against water vapor. In cables with more than 200 pairs, the aluminum tape may be corrugated for improved cable flexibility.
- **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 ASTM D 1248/IEC 60708, being able to withstand exposure to sunlight, temperature variations, ground chemicals and other environmental contaminants.
- **Ripcord (optional):** Ripcord may be provided for slitting the sheath longitudinally to facilitate its removal.
- **Spare Pairs (optional):** Spare pairs may be incorporated for large pair cables.
- **Continuity Wire (optional):** One 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 applied over an optional inner polyethylene sheath. For steel tape version, the 0.15mm/6mil thick steel tape is coated with a copolymer and applied with an overlap. An outer polyethylene sheath is applied over the armour.
- **Self-Support Cable:** A 7-strand galvanized steel strand is used as support wire. Black polyethylene sheath covers both core and support wire in a figure-8 construction.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.4	0.5	0.63	0.9
Conductor Gauge Size	AWG	26	24	22	19
Maximum Average DC Resistance	Ω/km / Ω/mile	140/225	87/140	55/88.6	27.0/43.4
Maximum Individual DC Resistance	Ω/km / Ω/mile	144.2/232	89.5/144	56.5/91.0	28.0/45.0
Minimum Insulation Resistance @500V DC	MΩ·km / MΩ·mile	1600/1000	1600/1000	1600/1000	1600/1000
Maximum Average Resistance Unbalance	%	1.5	1.5	1.5	1.5
Maximum Individual Resistance Unbalance	%	5	5	5	5
Average Mutual Capacitance	nF/km / nF/kft	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5
Maximum Individual Mutual Capacitance	nF/km / nF/kft	57/17.4	57/17.4	57/17.4	57/17.4
Maximum Individual Capacitance Unbalance pair-to-pair	pF/km / pF/kft	145/44	145/44	145/44	145/44
Capacitance Unbalance RMS pair-to-pair	pF/km / pF/kft	45/13.7	45/13.7	45/13.7	45/13.7
Maximum Individual Capacitance Unbalance pair-to-ground	pF/km / pF/kft	2625/800	2625/800	2625/800	2625/800
Maximum Average Capacitance Unbalance pair-to-ground	pF/km / pF/kft	574/175	574/175	574/175	574/175
Maximum Conductor Loop Resistance @20°C	Ω/km / Ω/mile	300/482	192/309	114/183.6	60/96.4
Impedance @1KHz	Ω	994	796	660	445
Impedance @100KHz	Ω	147	134	125	122
Impedance @512KHz	Ω	120	118	117	116
Impedance @1MHz	Ω	117	115	114	113
Maximum Average Attenuation @0.8KHz	dB/km / dB/kft	1.64/0.5	1.30/0.39	1.04/0.32	0.74/0.22
Maximum Average Attenuation @1KHz	dB/km / dB/kft	1.68/0.51	1.35/0.41	1.08/0.33	0.76/0.23
Maximum Average Attenuation @3KHz	dB/km / dB/kft	3.18/0.97	2.52/0.77	2.01/0.61	1.42/0.43
Maximum Average Attenuation @150KHz	dB/km / dB/kft	11.4/3.47	8.3/2.53	6.2/1.89	4.4/1.34
Maximum Average Attenuation @772KHz	dB/km / dB/kft	24.3/7.4	19.4/5.9	15.4/4.7	10.8/3.3
Maximum Average Attenuation @1000KHz	dB/km / dB/kft	27.1/8.25	21.4/6.52	17.5/5.33	12.8/3.89
Dielectric Strength					

(Continued from previous page)

Conductor to Conductor (3secs)	V DC	2400	3000	4000	5000
Conductor to Screen (3secs)	V DC	10000	10000	10000	10000
Minimum EL Far-end Cross-talk-Mean Power Sum					
@150KHz	dB/305m / dB/kft	61	63	63	65
@772KHz	dB/305m / dB/kft	47	49	49	57
@1.6MHz	dB/305m / dB/kft	41	42	43	44
@3.15MHz	dB/305m / dB/kft	35	37	37	39
@6.3MHz	dB/305m / dB/kft	29	31	31	33
Minimum Far-end Cross-talk-Worst Pair Power Sum					
@150KHz	dB/305m / dB/kft	57	57	57	59
@772KHz	dB/305m / dB/kft	43	43	43	45
@1.6MHz	dB/305m / dB/kft	37	37	37	39
@3.15MHz	dB/305m / dB/kft	31	31	31	33
@6.3MHz	dB/305m / dB/kft	25	25	25	27
Minimum Near-end Cross-talk-Mean Power Sum					
@150KHz	dB/305m / dB/kft	58	58	58	58
@772KHz	dB/305m / dB/kft	47	47	47	47
@1.6MHz	dB/305m / dB/kft	43	43	43	43
@3.15MHz	dB/305m / dB/kft	38	38	38	38
@6.3MHz	dB/305m / dB/kft	34	34	34	34
Minimum Near-end Cross-talk-Worst Pair Power Sum					
@150KHz	dB/305m / dB/kft	53	53	53	53
@772KHz	dB/305m / dB/kft	42	42	42	42
@1.6MHz	dB/305m / dB/kft	38	38	38	38
@3.15MHz	dB/305m / dB/kft	33	33	33	33
@6.3MHz	dB/305m / dB/kft	29	29	29	29
Nominal Insulation Thickness	mm	0.175	0.2	0.26	0.3
Nominal Insulated Conductor Diameter	mm	0.75	0.9	1.15	1.5

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

COLOUR CODE

Standard colour code is per GR-421 given in Colour Code Chart

DIMENSIONS AND WEIGHT

Foam Skin Insulated & AP Sheathed (ALPETH) Jelly Filled Cables to GR-421

Cable Code	Number of Pairs	Nominal Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
0.4mm Conductor, 0.75mm Insulated Wire				

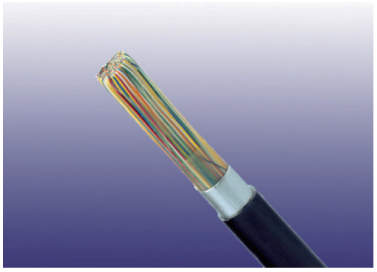
(Continued from previous page)

Cable Code	Number of Pairs	Nominal Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
TP421-02YSF(A)2Y-20P04	20	1.8/0.071	12.5/0.492	125/84
TP421-02YSF(A)2Y-25P04	25	1.8/0.071	13.5/0.531	150/101
TP421-02YSF(A)2Y-30P04	30	1.8/0.071	14.0/0.551	200/134
TP421-02YSF(A)2Y-50P04	50	1.8/0.071	16.5/0.650	280/188
TP421-02YSF(A)2Y-100P04	100	1.8/0.071	21.0/0.827	450/302
TP421-02YSF(A)2Y-200P04	200	1.9/0.075	27.0/1.06	840/564
TP421-02YSF(A)2Y-300P04	300	2.0/0.079	32.0/1.26	1205/810
TP421-02YSF(A)2Y-400P04	400	2.0/0.079	35.5/1.40	1670/1122
TP421-02YSF(A)2Y-600P04	600	2.2/0.087	42.0/1.65	2430/1633
TP421-02YSF(A)2Y-800P04	800	2.3/0.091	48.0/1.89	3155/2120
TP421-02YSF(A)2Y-900P04	900	2.3/0.091	50.5/1.99	3480/2338
TP421-02YSF(A)2Y-1000P04	1000	2.4/0.094	53.0/2.09	3930/2641
TP421-02YSF(A)2Y-1200P04	1200	2.6/0.102	57.0/2.24	4870/3272
TP421-02YSF(A)2Y-1500P04	1500	2.7/0.106	63.5/2.50	5830/3918
TP421-02YSF(A)2Y-1600P04	1600	2.7/0.106	65.5/2.58	6285/4223
TP421-02YSF(A)2Y-1800P04	1800	2.8/0.110	69.0/2.72	7000/4704
TP421-02YSF(A)2Y-2000P04	2000	2.9/0.114	72.0/2.83	7660/5147
TP421-02YSF(A)2Y-2100P04	2100	2.9/0.114	74.0/2.91	8025/5393
TP421-02YSF(A)2Y-2400P04	2400	3.0/0.118	79.0/3.11	9025/6065
0.5mm Conductor, 0.9mm Insulated Wire				
TP421-02YSF(A)2Y-200P05	200	1.7/0.067	31.0/1.22	1245/837
TP421-02YSF(A)2Y-300P05	300	1.7/0.067	38.0/1.50	1845/1240
TP421-02YSF(A)2Y-400P05	400	1.8/0.071	43.0/1.69	2490/1673
TP421-02YSF(A)2Y-600P05	600	1.8/0.071	50.0/1.97	3650/2453
TP421-02YSF(A)2Y-800P05	800	1.8/0.071	56.5/2.22	4810/3232
TP421-02YSF(A)2Y-900P05	900	1.9/0.075	59.0/2.32	5300/3561
TP421-02YSF(A)2Y-1200P05	1200	1.9/0.075	69.0/2.72	7210/4845
TP421-02YSF(A)2Y-1600P05	1600	2.0/0.079	77.0/3.03	9280/6236
0.63mm Conductor, 1.15mm Insulated Wire				
TP421-02YSF(A)2Y-10P063	10	1.2/0.047	13.5/0.531	160/108
TP421-02YSF(A)2Y-20P063	20	1.2/0.047	16.5/0.650	260/175
TP421-02YSF(A)2Y-30P063	30	1.2/0.047	19.0/0.748	360/242
TP421-02YSF(A)2Y-200P063	200	1.2/0.047	40.5/1.59	2025/1361
TP421-02YSF(A)2Y-300P063	300	1.4/0.055	48.0/1.89	3025/2033
TP421-02YSF(A)2Y-400P063	400	1.5/0.059	55.0/2.17	4025/2705
TP421-02YSF(A)2Y-600P063	600	1.6/0.063	66.0/2.60	5925/3981
TP421-02YSF(A)2Y-900P063	900	1.6/0.063	79.0/3.11	8800/5913
TP421-02YSF(A)2Y-1200P063	1200	1.8/0.071	90.0/3.54	11400/7660
0.9mm Conductor, 1.5mm Insulated Wire				
TP421-02YSF(A)2Y-25P09	25	1.2/0.047	19.8/0.78	528/355
TP421-02YSF(A)2Y-50P09	50	1.2/0.047	26.2/1.03	975/655
TP421-02YSF(A)2Y-100P09	100	1.2/0.047	34.8/1.37	1823/1225
TP421-02YSF(A)2Y-200P09	200	1.2/0.047	48.8/1.92	3578/2404
TP421-02YSF(A)2Y-300P09	300	1.4/0.055	58.4/2.30	5259/3534

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

Foam Skin Insulated & AP Sheathed (ALPETH) Jelly Filled Cables to ICEA S-84-608

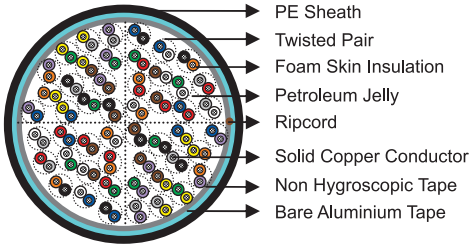
APPLICATION



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. Jelly filled option is for subscriber's cables installed underground or along the edge of pavement. An armoured option is offered for direct burial installations where additional mechanical or rodent protection is required. A figure-8 self support option is offered for aerial installation.

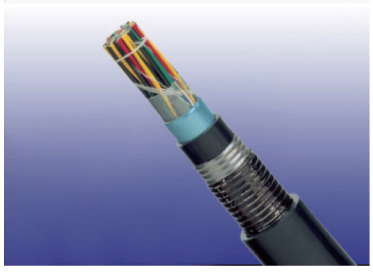
STANDARDS

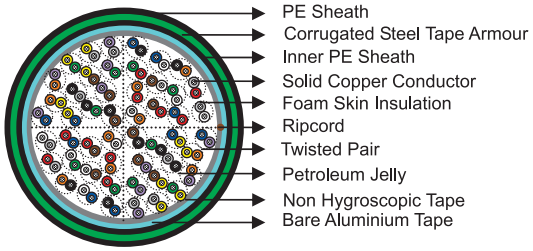
• ANSI/ICEA S-84-608



CONSTRUCTION

- **Conductors:** Solid annealed bare copper, 0.4/0.5/0.63/0.9mm as per ASTM B-3/class 1 of IEC 60228.
- **Insulation:** Foam skin which is a composite polyethylene insulation made of an inner cellular layer and an outer solid skin as per ASTM D 1248/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 of 25 pairs or less are assembled into cylindrical core. Cables larger than 25 pairs are assembled into units, which are then used to form the core. Units are identified by colour coded binders. Standard construction is per ICEA S-84-608 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:** A layer of corrugated bare aluminium tape (0.2mm/8mil) 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 ASTM D 1248/IEC 60708, being able to withstand exposure to sunlight, temperature variations, ground chemicals and other environmental contaminants.
- **Ripcord (optional):** Ripcord may be provided for slitting the sheath longitudinally to facilitate its removal.
- **Spare pairs (optional):** Spare pairs may be incorporated for large pair cables.
- **Continuity Wire (optional):** One tinned copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.





OPTIONAL CONSTRUCTION

- **Armoured Cable**: 0.15mm/6mil thick corrugated steel tape armour is applied with an overlap over an optional inner polyethylene sheath. An outer polyethylene sheath is applied over the armour.
- **Self-Support Cable:** A 7-strand galvanized steel strand is used as support wire. Black polyethylene sheath covers both core and support wire in a figure-8 construction.
- **Shield Options:** There are 8 different shield options which can be offered in this standard:
  1) 8 mil bare aluminium tape
  2) 8 mil coated aluminium tape
  3) 5 mil copper tape
  4) 5 mil copper clad alloy steel tape
  5) 5 mil copper clad stainless steel tape
  6) 6 mil & 7 mil 194 copper alloy tape
  7) 6 mil bare steel tape
  8) 6 mil coated steel tape.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.4	0.5	0.63	0.9
Conductor Gauge Size	AWG	26	24	22	19
Maximum Average DC Resistance	Ω/km / Ω/mile	140/225	87/140	55/88.6	27.0/43.4
Maximum Individual DC Resistance	Ω/km / Ω/mile	144.2/232	89.5/144	56.5/91.0	28.0/45.0
Minimum Insulation Resistance @500V DC	MΩ·km / MΩ·mile	1600/1000	1600/1000	1600/1000	1600/1000
Maximum Average Resistance Unbalance	%	1.5	1.5	1.5	1.5
Maximum Individual Resistance Unbalance	%	5	5	5	5
Average Mutual Capacitance	nF/km / nF/kft	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5
Maximum Individual Mutual Capacitance	nF/km / nF/kft	57/17.4	57/17.4	57/17.4	57/17.4
Maximum Individual Capacitance Unbalance pair-to-pair	pF/km / pF/kft	145/44	145/44	145/44	145/44
Capacitance Unbalance RMS pair-to-pair	pF/km / pF/kft	45/13.7	45/13.7	45/13.7	45/13.7
Maximum Individual Capacitance Unbalance pair-to-ground	pF/km / pF/kft	2625/800	2625/800	2625/800	2625/800
Maximum Average Capacitance Unbalance pair-to-ground	pF/km / pF/kft	574/175	574/175	574/175	574/175
Maximum Conductor Loop Resistance @20°C	Ω/km / Ω/mile	300/482	192/309	114/183.6	60/96.4
Impedance @1KHz	Ω	994	796	660	445
Impedance @100KHz	Ω	147	134	125	122
Impedance @512KHz	Ω	120	118	117	116
Impedance @1MHz	Ω	117	115	114	113

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Maximum Average Attenuation @0.8KHz	dB/km / dB/kft	1.64/0.5	1.30/0.39	1.04/0.32	0.74/0.22
Maximum Average Attenuation @1KHz	dB/km / dB/kft	1.68/0.51	1.35/0.41	1.08/0.33	0.76/0.23
Maximum Average Attenuation @3KHz	dB/km / dB/kft	3.18/0.97	2.52/0.77	2.01/0.61	1.42/0.43
Maximum Average Attenuation @150KHz	dB/km / dB/kft	11.4/3.47	8.3/2.53	6.2/1.89	4.4/1.34
Maximum Average Attenuation @772KHz	dB/km / dB/kft	24.3/7.4	19.4/5.9	15.4/4.7	10.8/3.3
Maximum Average Attenuation @1000KHz	dB/km / dB/kft	27.1/8.25	21.4/6.52	17.5/5.33	12.8/3.89
Dielectric Strength					
Conductor to Conductor (3secs)	V DC	2400	3000	4000	5000
Conductor to Screen (3secs)	V DC	10000	10000	10000	10000
Minimum EL Far-end Cross-talk-Mean Power Sum					
@150KHz	dB/305m / dB/kft	61	63	63	65
@772KHz	dB/305m / dB/kft	47	49	49	57
@1.6MHz	dB/305m / dB/kft	41	42	43	44
@3.15MHz	dB/305m / dB/kft	35	37	37	39
@6.3MHz	dB/305m / dB/kft	29	31	31	33
Minimum Far-end Cross-talk-Worst Pair Power Sum					
@150KHz	dB/305m / dB/kft	57	57	57	59
@772KHz	dB/305m / dB/kft	43	43	43	45
@1.6MHz	dB/305m / dB/kft	37	37	37	39
@3.15MHz	dB/305m / dB/kft	31	31	31	33
@6.3MHz	dB/305m / dB/kft	25	25	25	27
Minimum Near-end Cross-talk-Mean Power Sum					
@150KHz	dB/305m / dB/kft	58	58	58	58
@772KHz	dB/305m / dB/kft	47	47	47	47
@1.6MHz	dB/305m / dB/kft	43	43	43	43
@3.15MHz	dB/305m / dB/kft	38	38	38	38
@6.3MHz	dB/305m / dB/kft	34	34	34	34
Minimum Near-end Cross-talk-Worst Pair Power Sum					
@150KHz	dB/305m / dB/kft	53	53	53	53
@772KHz	dB/305m / dB/kft	42	42	42	42
@1.6MHz	dB/305m / dB/kft	38	38	38	38
@3.15MHz	dB/305m / dB/kft	33	33	33	33
@6.3MHz	dB/305m / dB/kft	29	29	29	29
Nominal Insulation Thickness	mm	0.175	0.2	0.26	0.3
Nominal Insulated Conductor Diameter	mm	0.75	0.9	1.15	1.5

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

COLOUR CODE

Standard colour code is per ICEA S-84-608 given in Colour Code Chart

DIMENSIONS AND WEIGHT

Foam Skin Insulated and AP Sheathed (Alpeth) Cable to ICEA S-84-608

Cable Code	Number of Pairs	Nominal Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
0.4mm Conductor, 0.75mm Insulated Wire				
TP608-02YSF(A)2Y-25P04	25	1.5/0.059	12.5/0.492	170/114
TP608-02YSF(A)2Y-50P04	50	1.5/0.059	16.0/0.629	280/188
TP608-02YSF(A)2Y-100P04	100	1.5/0.059	20.0/0.787	470/316
TP608-02YSF(A)2Y-200P04	200	1.5/0.059	25.0/0.984	850/571
TP608-02YSF(A)2Y-300P04	300	1.8/0.071	30.0/1.18	1230/827
TP608-02YSF(A)2Y-400P04	400	1.8/0.071	33.5/1.32	1580/1062
TP608-02YSF(A)2Y-600P04	600	2.0/0.079	40.0/1.57	2300/1546
TP608-02YSF(A)2Y-900P04	900	2.3/0.091	48.0/1.89	3380/2271
TP608-02YSF(A)2Y-1200P04	1200	2.3/0.091	54.0/2.13	4400/2957
TP608-02YSF(A)2Y-1500P04	1500	2.5/0.098	60.0/2.36	5440/3656
TP608-02YSF(A)2Y-1800P04	1800	2.8/0.110	65.5/2.58	6500/4368
TP608-02YSF(A)2Y-2100P04	2100	2.8/0.110	70.0/2.76	7500/5040
TP608-02YSF(A)2Y-2400P04	2400	2.8/0.110	74.5/2.93	8500/5712
TP608-02YSF(A)2Y-2700P04	2700	2.8/0.110	78.5/3.09	9500/6384
TP608-02YSF(A)2Y-3000P04	3000	2.8/0.110	82.0/3.23	10500/7056
0.5mm Conductor, 0.9mm Insulated Wire				
TP608-02YSF(A)2Y-25P05	25	1.5/0.059	15.0/0.591	240/161
TP608-02YSF(A)2Y-50P05	50	1.5/0.059	18.5/0.728	400/269
TP608-02YSF(A)2Y-100P05	100	1.5/0.059	23.5/0.925	720/484
TP608-02YSF(A)2Y-200P05	200	1.8/0.071	31.0/1.22	1310/880
TP608-02YSF(A)2Y-300P05	300	2.0/0.079	37.0/1.46	1890/1270
TP608-02YSF(A)2Y-400P05	400	2.0/0.079	41.5/1.63	2450/1646
TP608-02YSF(A)2Y-600P05	600	2.3/0.091	50.0/1.97	3620/2433
TP608-02YSF(A)2Y-900P05	900	2.5/0.098	59.5/2.34	5270/3541
TP608-02YSF(A)2Y-1200P05	1200	2.8/0.110	68.0/2.68	6940/4663
TP608-02YSF(A)2Y-1500P05	1500	2.8/0.110	75.0/2.95	8550/5745
TP608-02YSF(A)2Y-1800P05	1800	2.8/0.110	81.5/3.21	10160/6827
TP608-02YSF(A)2Y-2100P05	2100	2.8/0.110	87.5/3.44	11750/7896
0.63mm Conductor, 1.15mm Insulated Wire				
TP608-02YSF(A)2Y-10P063	10	1.5/0.059	12.5/0.492	110/74
TP608-02YSF(A)2Y-25P063	25	1.5/0.059	16.5/0.650	340/228
TP608-02YSF(A)2Y-50P063	50	1.5/0.059	21.0/0.827	580/390
TP608-02YSF(A)2Y-100P063	100	1.8/0.071	28.0/1.100	1090/732
TP608-02YSF(A)2Y-200P063	200	2.0/0.079	37.5/1.480	2020/1357
TP608-02YSF(A)2Y-300P063	300	2.3/0.091	45.5/1.790	2980/2002
TP608-02YSF(A)2Y-400P063	400	2.3/0.091	51.5/2.030	3870/2601
TP608-02YSF(A)2Y-600P063	600	2.5/0.098	61.5/2.420	5660/3803
TP608-02YSF(A)2Y-900P063	900	2.8/0.110	74.0/2.910	8320/5591
TP608-02YSF(A)2Y-1200P063	1200	2.8/0.110	84.0/3.310	10910/7331
0.9mm Conductor, 1.5mm Insulated Wire				
TP608-02YSF(A)2Y-10P09	10	1.5/0.059	15.5/0.610	290/195
TP608-02YSF(A)2Y-25P09	25	1.5/0.059	22.5/0.886	610/410
TP608-02YSF(A)2Y-50P09	50	1.8/0.071	29.5/1.160	1120/753
TP608-02YSF(A)2Y-100P09	100	2.0/0.079	39.0/1.540	2060/1384
TP608-02YSF(A)2Y-200P09	200	2.3/0.091	53.5/2.110	3930/2640
TP608-02YSF(A)2Y-300P09	300	2.5/0.098	63.5/2.500	5740/3857
TP608-02YSF(A)2Y-400P09	400	2.8/0.110	73.0/2.870	7560/5080
TP608-02YSF(A)2Y-600P09	600	2.8/0.110	87.5/3.440	11090/7452

Foam Skin Insulated, PE Inner Sheathed, Corrugated Steel Tape Armoured and AP Sheathed (Alpeth) Cables to ICEA S-84-608

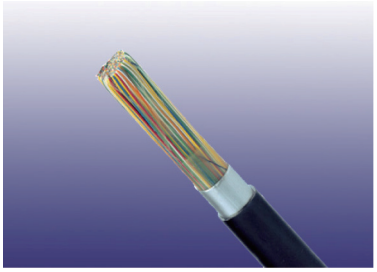
Cable Code	Number of Pairs	Nominal Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
0.4mm Conductor, 0.75mm Insulated Wire				
TP608-02YSF(A)2Y(STA)2Y-50P04	50	1.5/0.059	17.0/0.669	350/235
TP608-02YSF(A)2Y(STA)2Y-100P04	100	1.5/0.059	20.5/0.807	570/383
TP608-02YSF(A)2Y(STA)2Y-300P04	300	1.8/0.071	31.0/1.22	1400/941
TP608-02YSF(A)2Y(STA)2Y-600P04	600	2.0/0.079	40.5/1.59	2530/1700
TP608-02YSF(A)2Y(STA)2Y-900P04	900	2.3/0.091	49.5/1.95	3690/2480
TP608-02YSF(A)2Y(STA)2Y-1200P04	1200	2.3/0.091	55.5/2.19	4750/3192
TP608-02YSF(A)2Y(STA)2Y-1500P04	1500	2.5/0.098	61.5/2.42	5830/3918
TP608-02YSF(A)2Y(STA)2Y-1800P04	1800	2.8/0.110	67.0/2.64	6920/4650
TP608-02YSF(A)2Y(STA)2Y-2100P04	2100	2.8/0.110	71.5/2.81	7960/5349
TP608-02YSF(A)2Y(STA)2Y-2400P04	2400	2.8/0.110	75.5/2.97	9000/6048
TP608-02YSF(A)2Y(STA)2Y-2700P04	2700	2.8/0.110	79.5/3.13	10020/6733
TP608-02YSF(A)2Y(STA)2Y-3000P04	3000	2.8/0.110	83.0/3.27	11050/7425
0.5mm Conductor, 0.9mm Insulated Wire				
TP608-02YSF(A)2Y(STA)2Y-15P05	15	1.5/0.059	14.0/0.551	240/161
TP608-02YSF(A)2Y(STA)2Y-25P05	25	1.5/0.059	16.0/0.629	310/208
TP608-02YSF(A)2Y(STA)2Y-50P05	50	1.5/0.059	19.5/0.768	490/329
TP608-02YSF(A)2Y(STA)2Y-100P05	100	1.5/0.059	24.5/0.965	840/564
TP608-02YSF(A)2Y(STA)2Y-300P05	300	2.0/0.079	37.5/1.48	2100/1411
TP608-02YSF(A)2Y(STA)2Y-600P05	600	2.3/0.091	51.5/2.03	3930/2641
TP608-02YSF(A)2Y(STA)2Y-900P05	900	2.5/0.098	61.0/2.40	5660/3803
TP608-02YSF(A)2Y(STA)2Y-1200P05	1200	2.8/0.110	69.5/2.74	7380/4959
TP608-02YSF(A)2Y(STA)2Y-1500P05	1500	2.8/0.110	76.5/3.01	9050/6081
TP608-02YSF(A)2Y(STA)2Y-1800P05	1800	2.8/0.110	82.5/3.25	10690/7183
0.63mm Conductor, 1.15mm Insulated Wire				
TP608-02YSF(A)2Y(STA)2Y-10P063	10	1.5/0.059	14.5/0.571	240/161
TP608-02YSF(A)2Y(STA)2Y-50P063	50	1.5/0.059	23.0/0.906	700/470
TP608-02YSF(A)2Y(STA)2Y-100P063	100	1.8/0.071	30.0/1.18	1260/847
TP608-02YSF(A)2Y(STA)2Y-300P063	300	2.3/0.091	48.0/1.89	3290/2211
TP608-02YSF(A)2Y(STA)2Y-400P063	400	2.3/0.091	54.0/2.13	4220/2836
TP608-02YSF(A)2Y(STA)2Y-600P063	600	2.5/0.098	64.0/2.52	6090/4092
TP608-02YSF(A)2Y(STA)2Y-900P063	900	2.8/0.110	76.5/3.01	8840/5940
TP608-02YSF(A)2Y(STA)2Y-1200P063	1200	2.8/0.110	86.5/3.41	11500/7728
0.9mm Conductor, 1.5mm Insulated Wire				
TP608-02YSF(A)2Y(STA)2Y-10P09	10	1.5/0.059	17.5/0.689	380/255
TP608-02YSF(A)2Y(STA)2Y-50P09	50	1.8/0.071	31.5/1.24	1300/874
TP608-02YSF(A)2Y(STA)2Y-100P09	100	2.0/0.079	41.0/1.61	2310/1552
TP608-02YSF(A)2Y(STA)2Y-300P09	300	2.5/0.098	66.0/2.60	6180/4153
TP608-02YSF(A)2Y(STA)2Y-600P09	600	2.8/0.110	90.0/3.54	11700/7862

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

Foam Skin Insulated & LAP Sheathed Jelly Filled Cables to RUS (REA) PE-89

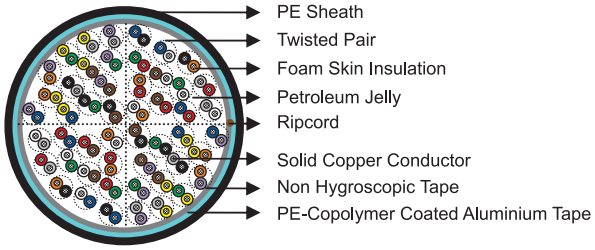
APPLICATION

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. Jelly filled option is for subscriber's cables installed underground or along the edge of pavement. An armoured option is offered for direct burial installations where additional mechanical or rodent protection is required. A figure-8 self support option is offered for aerial installation.



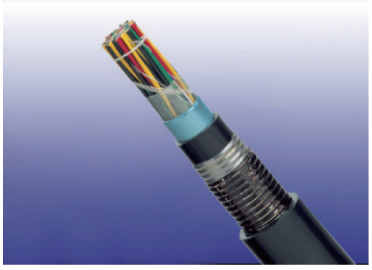
STANDARDS

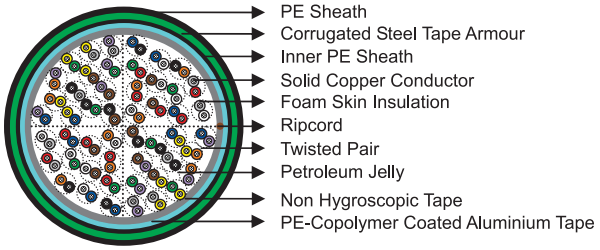
• RUS(REA) PE-89 (RUS 7 CFR 1755.890)



CONSTRUCTION

- **Conductors:** Solid annealed bare copper, 0.4/0.5/0.63/0.9mm as per ASTM B-3/class1 of IEC 60028.
- **Insulation:** Foam skin which is a composite polyethylene insulation made of an inner cellular layer and an outer solid skin as per ASTM D 1248/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 of 25 pairs or less are assembled into cylindrical core. Cables larger than 25 pairs are assembled into units, which are then used to form the core Units are identified by colour coded binders. Standard construction is per RUS(REA) PE-89 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:** A corrugated copolymer coated aluminium tape (0.2mm/8mil) is applied directly over the cable core to provide 100% electrical shielding coverage and ensure 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 ASTM D 1248/IEC 60708, being able to withstand exposure to sunlight, temperature variations, ground chemicals and other environmental contaminants.
- **Ripcord (optional):** Ripcord may be provided for slitting the sheath longitudinally to facilitate its removal.
- **Spare Pairs (optional):** Spare pairs may be incorporated for large pair cables.
- **Continuity Wire (optional):** One tinned copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.





OPTIONAL CONSTRUCTION

- **Armoured Cable**: Corrugated copolymer coated steel tape armour (0.15mm/6mil) is applied with an overlap over an optional inner polyethylene sheath. An outer polyethylene sheath is applied over the armour.
- **Self-Support Cable:** A 7-strand galvanized steel strand is used as support wire. Black polyethylene sheath covers both core and support wire in a figure-8 construction.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.4	0.5	0.63	0.9
Conductor Gauge Size	AWG	26	24	22	19
Maximum Average DC Resistance	Ω/km / Ω/mile	140/225	87/140	55/88.6	27.0/43.4
Maximum Individual DC Resistance	Ω/km / Ω/mile	144.2/232	89.5/144	56.5/91.0	28.0/45.0
Minimum Insulation Resistance @500V DC	MΩ·km / MΩ·mile	1600/1000	1600/1000	1600/1000	1600/1000
Maximum Average Resistance Unbalance	%	1.5	1.5	1.5	1.5
Maximum Individual Resistance Unbalance	%	5	5	5	5
Average Mutual Capacitance	nF/km / nF/kft	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5	48.5-54.0 /14.8-16.5
Maximum Individual Mutual Capacitance	nF/km / nF/kft	57/17.4	57/17.4	57/17.4	57/17.4
Maximum Individual Capacitance Unbalance pair-to-pair	pF/km / pF/kft	145/44	145/44	145/44	145/44
Capacitance Unbalance RMS pair-to-pair	pF/km / pF/kft	45/13.7	45/13.7	45/13.7	45/13.7
Maximum Individual Capacitance Unbalance pair-to-ground	pF/km / pF/kft	2625/800	2625/800	2625/800	2625/800
Maximum Average Capacitance Unbalance pair-to-ground	pF/km / pF/kft	574/175	574/175	574/175	574/175
Maximum Conductor Loop Resistance @20°C	Ω/km / Ω/mile	300/482	192/309	114/183.6	60/96.4
Impedance @1KHz	Ω	994	796	660	445
Impedance @100KHz	Ω	147	134	125	122
Impedance @512KHz	Ω	120	118	117	116
Impedance @1MHz	Ω	117	115	114	113
Maximum Average Attenuation @0.8KHz	dB/km / dB/kft	1.64/0.5	1.30/0.39	1.04/0.32	0.74/0.22
Maximum Average Attenuation @1KHz	dB/km / dB/kft	1.68/0.51	1.35/0.41	1.08/0.33	0.76/0.23
Maximum Average Attenuation @3KHz	dB/km / dB/kft	3.18/0.97	2.52/0.77	2.01/0.61	1.42/0.43
Maximum Average Attenuation @150KHz	dB/km / dB/kft	11.4/3.47	8.3/2.53	6.2/1.89	4.4/1.34
Maximum Average Attenuation @772KHz	dB/km / dB/kft	24.3/7.4	19.4/5.9	15.4/4.7	10.8/3.3
Maximum Average Attenuation @1000KHz	dB/km / dB/kft	27.1/8.25	21.4/6.52	17.5/5.33	12.8/3.89
Dielectric Strength					
Conductor to Conductor (3secs)	V DC	2400	3000	4000	5000
Conductor to Screen (3secs)	V DC	10000	10000	10000	10000
Minimum EL Far-end Cross-talk-Mean Power Sum					

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@150KHz	dB/305m / dB/kft	61	63	63	65
@772KHz	dB/305m / dB/kft	47	49	49	57
@1.6MHz	dB/305m / dB/kft	41	42	43	44
@3.15MHz	dB/305m / dB/kft	35	37	37	39
@6.3MHz	dB/305m / dB/kft	29	31	31	33
Minimum Far-end Cross-talk-Worst Pair Power Sum					
@150KHz	dB/305m / dB/kft	57	57	57	59
@772KHz	dB/305m / dB/kft	43	43	43	45
@1.6MHz	dB/305m / dB/kft	37	37	37	39
@3.15MHz	dB/305m / dB/kft	31	31	31	33
@6.3MHz	dB/305m / dB/kft	25	25	25	27
Minimum Near-end Cross-talk-Mean Power Sum					
@150KHz	dB/305m / dB/kft	58	58	58	58
@772KHz	dB/305m / dB/kft	47	47	47	47
@1.6MHz	dB/305m / dB/kft	43	43	43	43
@3.15MHz	dB/305m / dB/kft	38	38	38	38
@6.3MHz	dB/305m / dB/kft	34	34	34	34
Minimum Near-end Cross-talk-Worst Pair Power Sum					
@150KHz	dB/305m / dB/kft	53	53	53	53
@772KHz	dB/305m / dB/kft	42	42	42	42
@1.6MHz	dB/305m / dB/kft	38	38	38	38
@3.15MHz	dB/305m / dB/kft	33	33	33	33
@6.3MHz	dB/305m / dB/kft	29	29	29	29
Nominal Insulation Thickness	mm	0.175	0.2	0.26	0.3
Nominal Insulated Conductor Diameter	mm	0.75	0.9	1.15	1.5

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

DIMENSIONS AND WEIGHT

Foam Skin Insulated and LAP Sheathed Jelly Filled Cable to RUS(REA) PE-89

Cable Code	Number of Pairs	Nominal Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
0.4mm Conductor, 0.75mm Insulated Wire				
TP89-02YSF(L)2Y-25P04	25	1.5/0.059	11/0.43	150/101
TP89-02YSF(L)2Y-50P04	50	1.5/0.059	14/0.55	245/165
TP89-02YSF(L)2Y-100P04	100	1.5/0.059	18/0.71	430/289
TP89-02YSF(L)2Y-200P04	200	1.5/0.059	24/0.94	795/534
TP89-02YSF(L)2Y-300P04	300	1.8/0.071	28/1.10	1125/756
TP89-02YSF(L)2Y-400P04	400	1.8/0.071	32/1.26	1480/995
TP89-02YSF(L)2Y-600P04	600	2.0/0.079	38/1.49	2165/1455
TP89-02YSF(L)2Y-900P04	900	2.3/0.091	45/1.78	3155/2120
TP89-02YSF(L)2Y-1200P04	1200	2.3/0.091	52/2.05	4145/2785
TP89-02YSF(L)2Y-1500P04	1500	2.5/0.098	58/2.28	5180/3481

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Cable Code	Number of Pairs	Nominal Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
TP89-02YSF(L)2Y-1800P04	1800	2.8/0.110	63/2.48	6175/4149
TP89-02YSF(L)2Y-2400P04	2400	2.8/0.110	73/2.87	8210/5517
TP89-02YSF(L)2Y-3600P04	3600	2.8/0.110	88/3.46	12150/8164
0.5mm Conductor, 0.9mm Insulated Wire				
TP89-02YSF(L)2Y-6P05	6	1.5/0.059	9.1/0.36	80/54
TP89-02YSF(L)2Y-12P05	12	1.5/0.059	11/0.43	125/84
TP89-02YSF(L)2Y-25P05	25	1.5/0.059	13/0.52	210/141
TP89-02YSF(L)2Y-50P05	50	1.8/0.071	17/0.67	355/239
TP89-02YSF(L)2Y-100P05	100	2.0/0.079	22/0.87	640/430
TP89-02YSF(L)2Y-200P05	200	2.0/0.079	29/1.14	1205/810
TP89-02YSF(L)2Y-300P05	300	2.3/0.091	35/1.38	1755/1179
TP89-02YSF(L)2Y-400P05	400	2.5/0.098	39/1.54	2300/1546
TP89-02YSF(L)2Y-600P05	600	2.8/0.110	48/1.89	3400/2285
TP89-02YSF(L)2Y-900P05	900	2.8/0.110	57/2.24	4985/3350
TP89-02YSF(L)2Y-1200P05	1200	2.8/0.110	65/2.56	6580/4422
TP89-02YSF(L)2Y-1500P05	1500	2.8/0.110	73/2.87	8170/5490
TP89-02YSF(L)2Y-1800P05	1800	2.8/0.110	79/3.11	9765/6562
TP89-02YSF(L)2Y-2100P05	2100	2.8/0.110	86/3.40	11445/7691
TP89-02YSF(L)2Y-2400P05	2400	2.8/0.110	91/3.58	12940/8695
0.63mm Conductor, 1.15mm Insulated Wire				
TP89-02YSF(L)2Y-6P063	6	1.5/0.059	9.9/0.39	105/71
TP89-02YSF(L)2Y-12P063	12	1.5/0.059	12/0.47	170/114
TP89-02YSF(L)2Y-25P063	25	1.5/0.059	15/0.59	300/202
TP89-02YSF(L)2Y-50P063	50	1.8/0.071	20/0.79	520/349
TP89-02YSF(L)2Y-100P063	100	2.0/0.079	26/1.02	965/648
TP89-02YSF(L)2Y-200P063	200	2.3/0.091	35/1.38	1825/1226
TP89-02YSF(L)2Y-300P063	300	2.3/0.091	42/1.65	2680/1801
TP89-02YSF(L)2Y-400P063	400	2.5/0.098	48/1.88	3520/2365
TP89-02YSF(L)2Y-600P063	600	2.8/0.110	58/2.28	5215/3504
TP89-02YSF(L)2Y-900P063	900	2.8/0.110	70/2.76	7730/5194
TP89-02YSF(L)2Y-1200P063	1200	2.8/0.110	80/3.14	10185/6844
TP89-02YSF(L)2Y-1500P063	1500	2.8/0.110	89/3.51	12680/8521
0.9mm Conductor, 1.5mm Insulated Wire				
TP89-02YSF(L)2Y-6P09	6	1.5/0.059	12/0.47	180/121
TP89-02YSF(L)2Y-12P09	12	1.5/0.059	15/0.59	285/192
TP89-02YSF(L)2Y-25P09	25	1.8/0.071	20/0.79	530/356
TP89-02YSF(L)2Y-50P09	50	2.0/0.079	26/1.02	975/655
TP89-02YSF(L)2Y-100P09	100	2.3/0.091	35/1.38	1825/1226

Foam Skin Insulated, PE Inner Sheathed, Corrugated Steel Tape Armoured and LAP Sheathed cables to RUS(REA) PE-89

Cable Code	Number of Pairs	Nominal Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
0.4mm Conductor, 0.75mm Insulated Wire				
TP89-02YSF(L)2Y(STA)2Y-25P04	25	1.5/0.059	12/0.47	195/131
TP89-02YSF(L)2Y(STA)2Y-50P04	50	1.5/0.059	15/0.59	305/205

(Continued from previous page)

Cable Code	Number of Pairs	Nominal Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
TP89-02YSF(L)2Y(STA)2Y-100P04	100	1.8/0.071	19/0.74	505/339
TP89-02YSF(L)2Y(STA)2Y-200P04	200	2.0/0.079	25/0.98	910/611
TP89-02YSF(L)2Y(STA)2Y-300P04	300	2.3/0.091	29/1.13	1260/847
TP89-02YSF(L)2Y(STA)2Y-400P04	400	2.3/0.091	33/1.30	1635/1099
TP89-02YSF(L)2Y(STA)2Y-600P04	600	2.5/0.098	39/1.54	2350/1579
TP89-02YSF(L)2Y(STA)2Y-900P04	900	2.8/0.110	47/1.85	3395/2281
TP89-02YSF(L)2Y(STA)2Y-1200P04	1200	2.8/0.110	53/2.09	4405/2960
TP89-02YSF(L)2Y(STA)2Y-1500P04	1500	2.8/0.110	59/2.32	5485/3685
TP89-02YSF(L)2Y(STA)2Y-1800P04	1800	2.8/0.110	64/2.53	6535/4391
TP89-02YSF(L)2Y(STA)2Y-2100P04	2100	2.8/0.110	70/2.76	7605/5110
TP89-02YSF(L)2Y(STA)2Y-2400P04	2400	2.8/0.110	74/2.91	8610/5786
TP89-02YSF(L)2Y(STA)2Y-3000P04	3000	2.8/0.110	82/3.23	10655/7160
0.5mm Conductor, 0.9mm Insulated Wire				
TP89-02YSF(L)2Y(STA)2Y-6P05	6	1.5/0.059	9.9/0.39	120/81
TP89-02YSF(L)2Y(STA)2Y-12P05	12	1.5/0.059	11/0.43	165/111
TP89-02YSF(L)2Y(STA)2Y-25P05	25	1.5/0.059	14/0.55	270/181
TP89-02YSF(L)2Y(STA)2Y-50P05	50	1.5/0.059	18/0.71	430/289
TP89-02YSF(L)2Y(STA)2Y-100P05	100	2.0/0.079	22/0.87	745/501
TP89-02YSF(L)2Y(STA)2Y-200P05	200	2.3/0.091	30/1.18	1345/904
TP89-02YSF(L)2Y(STA)2Y-300P05	300	2.5/0.098	36/1.41	1935/1300
TP89-02YSF(L)2Y(STA)2Y-400P05	400	2.8/0.110	40/1.57	2500/1680
TP89-02YSF(L)2Y(STA)2Y-600P05	600	2.8/0.110	49/1.92	3645/2449
TP89-02YSF(L)2Y(STA)2Y-900P05	900	2.8/0.110	58/2.28	5290/3555
TP89-02YSF(L)2Y(STA)2Y-1200P05	1200	2.8/0.110	67/2.64	6935/4660
TP89-02YSF(L)2Y(STA)2Y-1500P05	1500	2.8/0.110	74/2.91	8565/5755
TP89-02YSF(L)2Y(STA)2Y-1800P05	1800	2.8/0.110	81/3.19	10200/6854
TP89-02YSF(L)2Y(STA)2Y-2100P05	2100	2.8/0.110	88/3.46	11930/8017
TP89-02YSF(L)2Y(STA)2Y-2400P05	2400	2.8/0.110	93/3.66	13445/9035
0.63mm Conductor, 1.15mm Insulated Wire				
TP89-02YSF(L)2Y(STA)2Y-6P063	6	1.5/0.059	11/0.43	140/94
TP89-02YSF(L)2Y(STA)2Y-12P063	12	1.5/0.059	13/0.52	225/151
TP89-02YSF(L)2Y(STA)2Y-25P063	25	1.8/0.071	16/0.63	365/245
TP89-02YSF(L)2Y(STA)2Y-50P063	50	2.3/0.091	20/0.79	610/410
TP89-02YSF(L)2Y(STA)2Y-100P063	100	2.3/0.091	27/1.06	1085/729
TP89-02YSF(L)2Y(STA)2Y-200P063	200	2.5/0.098	36/1.42	2000/1344
TP89-02YSF(L)2Y(STA)2Y-300P063	300	2.8/0.110	43/1.70	2895/1945
TP89-02YSF(L)2Y(STA)2Y-400P063	400	2.8/0.110	49/1.92	3775/2537
TP89-02YSF(L)2Y(STA)2Y-600P063	600	2.8/0.110	59/2.32	5520/3709
TP89-02YSF(L)2Y(STA)2Y-900P063	900	2.8/0.110	71/2.80	8120/5456
TP89-02YSF(L)2Y(STA)2Y-1200P063	1200	2.8/0.110	81/3.19	10625/7140
0.9mm Conductor, 1.5mm Insulated Wire				
TP89-02YSF(L)2Y(STA)2Y-6P09	6	1.5/0.059	13/0.52	230/155
TP89-02YSF(L)2Y(STA)2Y-12P09	12	1.8/0.071	16/0.63	350/235
TP89-02YSF(L)2Y(STA)2Y-25P09	25	2.0/0.079	21/0.83	620/417
TP89-02YSF(L)2Y(STA)2Y-50P09	50	2.5/0.098	27/1.06	1100/739
TP89-02YSF(L)2Y(STA)2Y-100P09	100	2.8/0.110	36/1.42	2000/1343

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For non-standard specifications or customized requirements, please contact us for further information.

INDOOR TELEPHONE CABLES

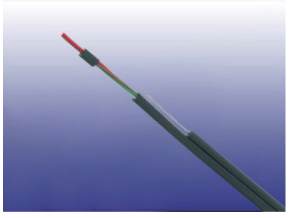
Caledonian
TELEPHONE CABLES

ADDISON

Insulated Self Supporting Drop Wires to RUS (REA) PE-7

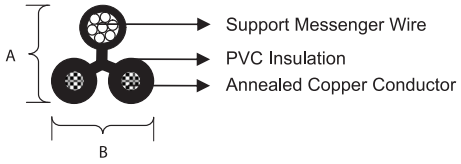
APPLICATION

The drop wires are designed for extending a distribution cable pair from a pole or cable terminal to a subscriber premises. The cables are suitable for aerial installation.



STANDARDS

• RUS (REA) PE-7



CONSTRUCTION

• **Conductors:** Solid annealed bare copper 0.64mm or 0.9mm as per ASTM B-3/class 1 of IEC 60228.
• **Steel Bearer Wire:** Galvanized steel wire, solid.
• **Insulation:** High density black PVC which can be made ultraviolet resistant by addition of carbon black.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.64	0.9
Conductor Gauge Size	AWG	22	19
Conductor Size	mm^2	0.332	0.636
Maximum Conductor Resistance @20°C	Ω/km/ Ω/mile	57.1/91.8	28/44.9
Minimum Insulation Resistance @500V DC	MΩ·km / MΩ·mile	400/249	400/249
Maximum Breaking Strength	Kg	155	155
Dielectric Strength 1min	V RMS	1500	1500
Nominal Insulation Thickness	mm/inch	1.0/0.039	1.05/0.041
Nominal Insulated Conductor Diameter	mm/inch	2.65/0.104	3.05/0.12
Nominal Diameter of Steel Wire Core	mm/inch	3.2/0.126	3.35/0.132

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

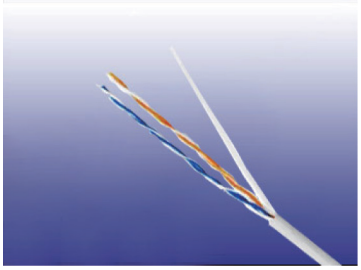
DIMENSIONS AND WEIGHT

Cable Code	Number and Diameter of Wires in Conductor	Diameter of Supporting Wire	Nominal Insulation Thickness	Nominal Insulation Diameter		Nominal Overall Dimensions		Nominal Weight
				Conductor	Supporting Wire	A	B	
	No./mm	mm/inch	mm/inch	mm/inch	mm/inch	mm/inch	mm/inch	kg/km / lbs/kft
TP7-Y-1P064-SS	2×0.64	1.2/0.047	1.00/0.039	2.65/0.104	3.20/0.125	6.1/0.24	6.1/0.24	43/28.89
TP7-Y-1P09-SS	2×0.90	1.2/0.047	1.05/0.041	3.05/0.120	3.35/0.132	8.1/0.32	6.8/0.27	52/34.94

PE Insulated & PE Sheathed Non Metallic Reinforced Drop Wires to RUS (REA) PE-7

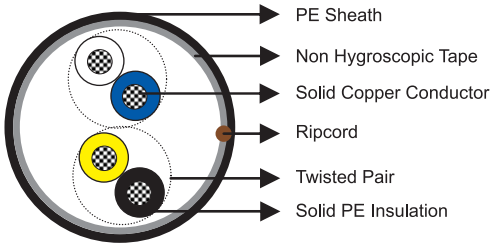
APPLICATION

The drop wires are one or two pair aerial service wires designed for use in extending telephone service to subscriber premises from the cable terminal.



STANDARDS

• RUS (REA) PE-7



CONSTRUCTION

• **Conductors:** Solid annealed bare copper 0.5/0.8mm as per ASTM B-3/IEC 60228 Class 1.
• **Insulation:** Solid polyethylene as per ASTM D 1248/IEC 60708.
• **Cable Core Assembly & Core Wrapping:** Individual conductors are twisted into pairs and wrapped with PETP tape.
• **Strength Member:** Aramid yarn as non-metallic strength member is placed inside the sheath to provide longitudinal strength.
• **Sheath:** PE is extruded over the core to provide protection against mechanical damage, degradation by sunlight and water ingress.
• **Ripcord:** A ripcord made of polyamide is placed parallel to the core to facilitate sheath removal.

ELECTRICAL PROPERTIES

Conductor Diameter	mm	0.5	0.8
Conductor Gauge Size	AWG	24	20
Maximum Conductor Resistance @20°C	Ω/km / Ω/mile	91/145.78	34.6/55.72
Minimum Insulation Resistance @500V DC	MΩ·km / MΩ·mile	10000/6214	10000/6214
Maximum Resistance Unbalance	%	2	2
Average Mutual Capacitance @1000Hz	nF/km / nF/kft	55/16.8	55/16.8
Maximum Capacitance Unbalance pair-to-pair	pF/km / pF/kft	300/91	300/91
Maximum Capacitance Unbalance pair-to-ground	pF/km / pF/kft	1000/303.4	1000/303.4
Impedance @0.8KHz	Ω/km / Ω/mile	600/965.6	600/965.6
Impedance @64KHz	Ω/km / Ω/mile	125/201.2	125/201.2

(Continued from previous page)

Impedance @772KHz	Ω/km / Ω/mile	100/160.9	100/160.9
Maximum Average Attenuation @0.8KHz	Ω/km / Ω/mile	1.5/2.4	1.5/2.4
Maximum Average Attenuation @64KHz	Ω/km / Ω/mile	8.0/12.87	8.0/12.87
Maximum Average Attenuation @772KHz	Ω/km / Ω/mile	18/28.97	18/28.97
Dielectric Strength 1min	V	1000DC/1500AC	1000DC/1500AC

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

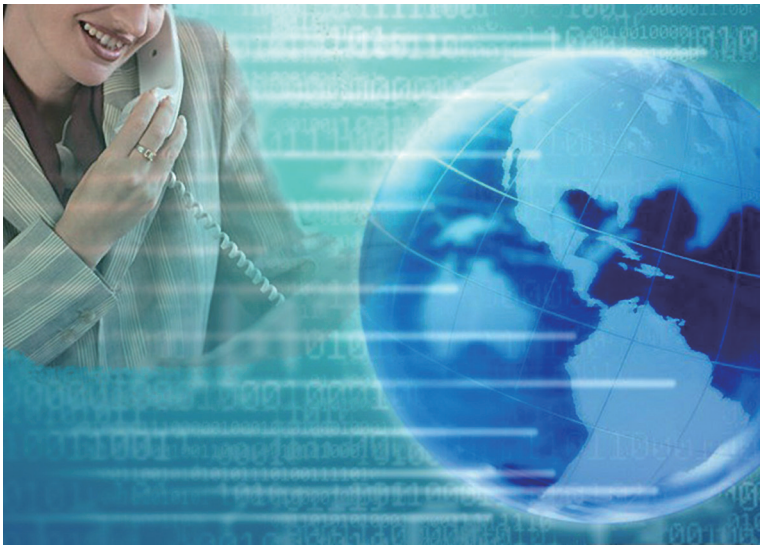
COLOUR CODE

	A wire	B Wire
1 PR	White	Blue
2 PR	Yellow	Black

DIMENSIONS AND WEIGHT

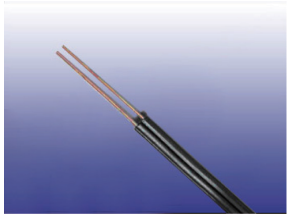
Cable Code	Number of Pairs	Nominal Insulation Thickness mm/inch	Nominal Sheath Thickness mm/inch	Nominal Overall Diameter mm/inch	Nominal Weight kg/km / lbs/kft
0.5mm Conductor, 0.9mm Insulated Wire					
TP7-2Y2Y-2P05-SS-A	2	0.2/0.0079	1.2/0.047	5.0/0.197	26.2/17.6
0.8mm Conductor, 1.36mm Insulated Wire					
TP7-2Y2Y-1P08-SS-A	1	0.28/0.0110	1.2/0.047	5.3/0.209	26.6/17.9

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.



PE/PVC Insulated Parallel Drop Wires to RUS (REA) PE-7

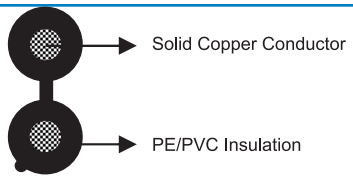
APPLICATION



The drop wires are designed for use in extending telephone circuits to subscriber premises by means of an aerial drop from distribution wire or cables. The shape may be in oval/dumbbell shape to aid in separation of conductors.

STANDARDS

- RUS (REA) PE-7
- ASTM B227, B452 & B1



CONSTRUCTION

- **Conductors:** Two conductors made of 0.9/1.0/1.023mm copper covered steel wires serve dually as conductor and strength members.
- **Bonding:** Bonding of the insulation to the conductors is made to assure the full conductor strength is transferred to the wire support clamps.
- **Insulation:** Conductors are laid in a parallel configuration and covered with low density or medium density polyethylene (PE) or polyvinyl chloride (PVC).

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.9	1.0	1.023
Conductor Gauge Size	AWG	19	18.5	18
Conductor Size	mm^2	0.636	0.785	0.827
Minimum Insulation Resistance @500V DC	MΩ·km / MΩ·kft	30/100	30/100	30/100
Dielectric Strength Conductor to Conductor(3secs)	V DC	7050	7050	7050
Nominal Insulation Thickness	mm/inch	1.02/0.039	1.02/0.039	1.02/0.039
Nominal Insulated Conductor Diameter	mm/inch	2.94/0.116	3.04/0.117	3.06/0.118

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

DIMENSIONS AND WEIGHT

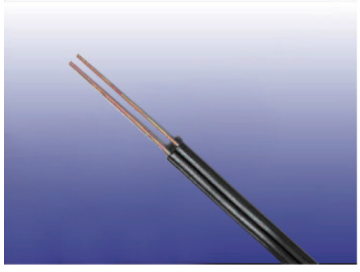
Cable Code	Number of Cores	Insulation Material	Nominal Insulation Thickness mm/inch	Nominal Overall Dimensions mm/inch	Nominal Weight kg/km / lbs/kft
1.023mm Conductor, 3.06 Insulated Wire					
TP7-2Y-1P18A-SS	2	PE	1.02/0.04	3.0x7.0/0.11x0.28	32/22
TP7-Y-1P18A-SS	2	PVC	1.45/0.06	3.9x7.6/0.15x0.30	49/33
1.0mm Conductor, 3.04 Insulated Wire					
TP7-Y-1P18/5A-SS	2	PVC	1.02/0.04	3.9x7.4/0.15x0.29	46/31
0.9mm Conductor, 2.94 Insulated Wire					
TP7-2Y-1P19A-SS	2	PE	1.02/0.04	2.9x7.7/0.11x0.30	25/17

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

Drop Wires No. 1, 2, 6 & 8 to CW 1166, CW 208, CW 1247 & CW 1320A

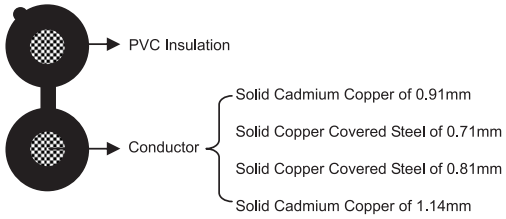
APPLICATION

The drop wires are designed for extending an open wire line or distribution pairs from a pole or cable terminal to a building. The drop wires are to be installed between distribution point and telephone subscriber premises.



STANDARDS

- CW 1166 (Drop Wires No. 1)
- CW 208 (Drop Wires No. 2)
- CW 1247 (Drop Wires No. 6)
- CW 1320A (Drop Wires No. 8)



CONSTRUCTION

- **Conductors:**
  Solid cadmium copper of 0.91mm to BS 4807 (Drop Wires No. 1)
  Solid copper covered steel of 0.71mm to BS 4807 (Drop Wires No. 2)
  Solid copper covered steel of 0.81mm to BS 4807 (Drop Wires No. 6)
  Solid cadmium copper of 1.14mm to BS 4807 (Drop Wires No. 8)
- **Insulation:**
  PVC to BS 6746 T1 (Drop Wires No. 1)
  PVC to BS 6746 T2 (Drop Wires No. 2)
  PVC to BS 7878 T1 (Drop Wires No. 6)
  PVC to BS 6746 T1 (Drop Wires No. 8)
- **Cable Core Assembly:** Two conductors are extruded parallel, figure-8 type.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.91	0.71	0.81	1.14
BT Drop Wire Reference		No. 1	No. 2	No. 6	No. 8
Conductor Size	mm^2	0.65	0.4	0.52	1.02
Minimum Insulation Resistance @500V DC	MΩ·km	24	24	50	24
Minimum Insulation Thickness	mm	0.75	1.02	0.8	1.52
Nominal Insulated Conductor Diameter	mm	2.41	2.75	2.41	4.18

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

DIMENSIONS AND WEIGHT

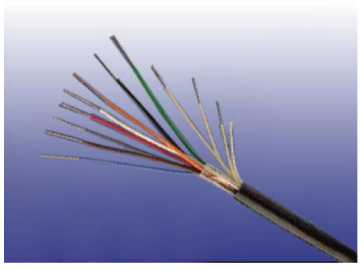
Cable Code	Number of Cores	Minimum Insulation Thickness mm	Maximum Cable Dimensions Diameter X Height mm	Nominal Weight kg/km
0.91mm Conductor, 2.41mm Insulated Wire				
TP1166-Y-1P091-DW1	2	0.75	2.7x5.6	25
0.71mm Conductor, 2.75mm Insulated Wire				
TP208-Y-1P071-DW2	2	1.02	2.75x6.0	20
0.81mm Conductor, 2.41mm Insulated Wire				
TP1247-Y-1P081-DW6	2	0.8	2.5x5.4	23
1.14mm Conductor, 4.18mm Insulated Wire				
TP1320A-Y-1P114-DW8	2	1.52	4.44x9.4	34

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

Drop Wires No. 12, 10B, CAD55M & 10 to CW 1406, CW 1411, CW 1417 & CW 1378

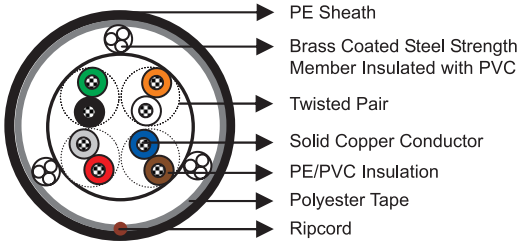
APPLICATION

The drop wires are designed for use in local area network to link between pole and building or two buildings. The high tensile steel strength member wires are incorporated inside the cable to provide support. The cables can be used for crossing high voltage cables up to 11kV.



STANDARDS

- CW 1406 (Drop Wires No.12 1 pair)
- CW 1411 (Drop Wires No.10B 2 pairs)
- CW 1417 (Drop Wires CAD55M 4 pairs)
- CW 1378 (Drop Wires No.10 2 pairs)



CONSTRUCTION

- **Conductors:** Solid annealed bare copper of 0.5/0.9mm as per class 1 of BS 6360/IEC 60228.
- **Insulation:** Solid low or medium density Polyethylene (CW 1406, CW 1411 & CW 1417) or Polyvinyl Chloride (CW 1378) to BS 7878.
- **Core Wrapping:** 23 micron Polyester Tape.
- **Strength Member:**

  1 Pair: 1 element of 3 x 0.41mm brass coated steel strength member; PVC insulated to 1.4mm.

  2 & 4 Pairs: 3 elements of 3 x 0.25mm brass coated steel strength member; PVC insulated to 1.0mm.
- **Sheath:** Black medium density polyethylene as per BS 7878.
- **Ripcord:** Nylon

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.9	0.5	0.5	0.5
BT Drop Wire Reference		No.12	No.10	No.10B	CAD55M
Standard		CW 1406	CW 1378	CW 1411	CW 1417
Number of Pairs		1	2	2	4
Maximum Conductor Resistance @20°C	Ω/km	28	95	95	95
Minimum Insulation Resistance @500V DC	MΩ·km	10000	100	10000	10000
Breaking Load	N	1350-1550	1350-1550	1350-1550	1350-1550
Maximum Mutual Capacitance @0.8KHz-3.0KHz	nF/km	-	100	56	56
Maximum Capacitance Unbalance pair-to-pair	pF/500m	-	500	275	300

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

CW 1406 Pair 1: Orange/White
CW 1411 Pair 1: Orange/White Pair 2: Green/Black
CW 1417 Pair 1: Orange/White Pair 2: Red/Grey
Pair 3: Blue/Brown Pair 4: Green/Black
CW 1378 Pair 1: Orange/White Pair 2: Green/Black

DIMENSIONS AND WEIGHT

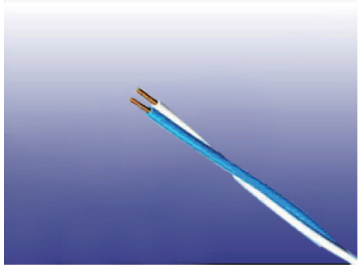
Cable Code	Number of Pairs	Insulation Material	Nominal Insulation Thickness mm	Minimum Sheath Thickness mm	Min/Max Overall Diameter mm	Nominal Weight kg/km
0.5mm Conductor						
TP1411-2Y2Y-2P05-DW10B	2	PE	0.2	0.4	5.1/5.6	32
TP1417-2Y2Y-4P05-DW55M	4	PE	0.2	0.5	5.3/5.5	35
TP1378-Y2Y-2P05-DW10	2	PVC	0.2	0.4	5.3/5.5	33
0.9mm Conductor						
TP1406-2Y2Y-1P09-DW12	1	PE	0.3	0.5	5.0/5.5	32

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

PVC Insulated Jumper Wires to IEC 60189-1

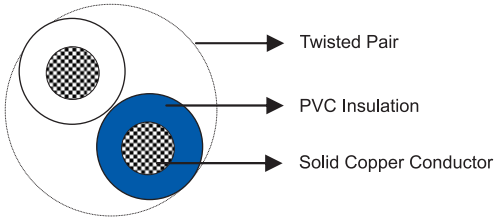
APPLICATION

The jumper wires are used for interconnection between terminal blocks at main distribution frames (MDF), cross connection cabinets (CCP) and distribution frames or boxes.



STANDARDS

- IEC 60189-1
- IEC 60332-1
- UL1581 Sec.VW-1



CONSTRUCTION

- **Conductors:** Solid annealed tinned copper 0.5/0.6/0.8mm as per IEC 60228 Class 1.
- **Insulation:** PVC
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lays to minimize crosstalk.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.5	0.6	0.8
Conductor Size	mm^2	0.196	0.283	0.5
Maximum Conductor Resistance @20°C	Ω/km	98	66	35
Minimum Insulation Resistance @500V DC	MΩ·km	50	50	50
Nominal Insulation Thickness	mm	0.225	0.225	0.275
Nominal Insulated Conductor Diameter	mm	0.95	1.05	1.35

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

Standard colour code is per IEC 60189-1.

DIMENSIONS AND WEIGHT

Cable Code	Number of Wires	Nominal Insulation Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.5mm Conductor, 0.95mm Insulated Wire				
TC189-Y-1W05	1	0.225	1.25	2.5
TC189-Y-2W05	2	0.225	1.95	5.0
TC189-Y-3W05	3	0.225	2.25	7.5
TC189-Y-4W05	4	0.225	2.40	10.0
TC189-Y-5W05	5	0.225	2.60	12.5
0.6mm Conductor, 1.05mm Insulated Wire				
TC189-Y-1W06	1	0.225	1.45	3.0
TC189-Y-2W06	2	0.225	2.15	6.0
TC189-Y-3W06	3	0.225	3.0	9.0
TC189-Y-4W06	4	0.225	3.4	12.0
0.8mm Conductor, 1.35mm Insulated Wire				
TC189-Y-1W08	1	0.275	2.05	5.8
TC189-Y-2W08	2	0.275	2.75	11.6
TC189-Y-3W08	3	0.275	3.7	17.4
TC189-Y-4W08	4	0.275	4.2	23.2

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

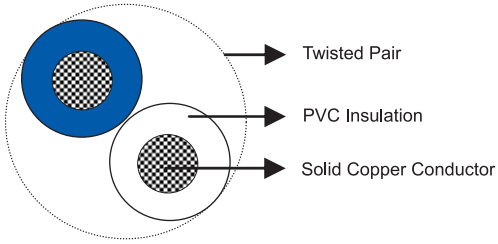
PVC Insulated Jumper Wires to CW 1109, CW 1257 & CW 1423

APPLICATION

The jumper wires are used for interconnection between terminal blocks at main distribution frames (MDF), cross connection cabinets (CCP) and distribution frames or boxes.

STANDARDS

- CW 1109 (PVC T2)
- CW 1257 (Cross linked PVC)
- CW 1423 (PVC BT M154)



CONSTRUCTION

- **Conductors:** Solid annealed tinned copper 0.32/0.4/0.5/0.6/0.8/1.0mm as per class 1 of BS 6360/IEC 60228.
- **Insulation:** PVC Type 2 to BS 6746 (CW 1109); Cross-linked PVC (CW 1257) & PVC (CW 1423).
- **Twisted Pairs:** For CW 1109 & CW 1257, two insulated conductors are twisted into pairs with varying lays to minimize crosstalk. For CW 1423, one, two, three, four or five insulated conductors are twisted together with a right hand lay.

ELECTRICAL PROPERTIES

CW 1109

Nominal Conductor Diameter	mm	0.32	0.4	0.5	0.6	0.8	1.0	7/0.2
Conductor Size	mm^2	0.08	0.126	0.196	0.283	0.5	0.785	0.22
Maximum Conductor Resistance @20°C	Ω/km	234	148	95	65.9	36.7	23.3	89.9
Minimum Insulation Resistance @500V DC	MΩ·km	50	50	50	50	50	50	50
Minimum Insulation Thickness	mm	0.12	0.15	0.15	0.15	0.25	0.25	0.15
Maximum Insulated Conductor Diameter	mm	0.7	0.85	0.95	1.05	1.5	1.7	1.05

CW 1257

Nominal Conductor Diameter	mm	0.4	0.5	0.6
Conductor Size	mm^2	0.126	0.196	0.283
Maximum Conductor Resistance @20°C	Ω/km	153	98	68.9
Minimum Insulation Resistance @500V DC	MΩ·km	50	50	50
Minimum Insulation Thickness	mm	0.25	0.25	0.25
Maximum Insulated Conductor Diameter	mm	1.0	1.10	1.20

CW 1423

Nominal Conductor Diameter	mm	0.5
Conductor Size	mm^2	0.196
Maximum Conductor Resistance @20°C	Ω/km	98
Minimum Insulation Resistance @500V DC	MΩ·km	50
Minimum Insulation Thickness	mm	0.25
Maximum Insulated Conductor Diameter	mm	1.10

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

CW 1109 - as per IEC 60189-3
CW 1257 & CW 1423:

BLUE	ORANGE	GREEN
BROWN	GREY	WHITE
RED	BLACK	PINK
VIOLET	YELLOW	TURQUOISE

DIMENSIONS AND WEIGHT

CW 1109

Cable Code	Number of Wires	Minimum Insulation Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.32mm Conductor, 0.7mm Insulated Wire				
TP1109-Y-1W032	1	0.12	0.7	1.5
TP1109-Y-2W032	2	0.12	1.3	3.0
0.4mm Conductor, 0.85mm Insulated Wire				
TP1109-Y-1W04	1	0.15	0.85	1.8
TP1109-Y-2W04	2	0.15	1.45	3.6
0.5mm Conductor, 0.95mm Insulated Wire				
TP1109-Y-1W05	1	0.15	0.95	2.2
TP1109-Y-2W05	2	0.15	1.65	4.8
TP1109-Y-3W05	3	0.15	2.35	6.6
0.6mm Conductor, 1.05mm Insulated Wire				
TP1109-Y-1W06	1	0.15	1.05	2.8
TP1109-Y-2W06	2	0.15	1.75	5.6
0.8mm Conductor, 1.5mm Insulated Wire				
TP1109-Y-1W08	1	0.25	1.50	5.5
TP1109-Y-2W08	2	0.25	2.50	11.0
1.0mm Conductor, 1.7mm Insulated Wire				

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Cable Code	Number of Wires	Minimum Insulation Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
TP1109-Y-1W10	1	0.25	1.70	6.5
TP1109-Y-2W10	2	0.25	2.60	13.0
7/0.2mm Conductor, 1.05mm Insulated Wire				
TP1109-Y-1W7/02	1	0.15	1.05	2.5
TP1109-Y-2W7/02	2	0.15	2.35	5.0

CW 1257

Cable Code	Number of Wires	Minimum Insulation Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 1.0mm Insulated Wire				
TP1257-Y-1W04	1	0.25	1.0	2.0
TP1257-Y-2W04	2	0.25	1.8	4.0
0.5mm Conductor, 1.1mm Insulated Wire				
TP1257-Y-1W05	1	0.25	1.1	2.5
TP1257-Y-2W05	2	0.25	2.0	5.0
0.6mm Conductor, 1.2mm Insulated Wire				
TP1257-Y-1W06	1	0.25	1.2	2.9
TP1257-Y-2W06	2	0.25	2.2	5.8

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

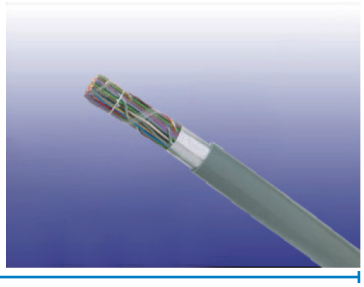
CW 1423

Cable Code	Number of Wires	Minimum Insulation Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.5mm Conductor, 1.1mm Insulated Wire				
TP1423-Y-1W05	1	0.25	1.98	2.5
TP1423-Y-2W05	2	0.25	2.5	5.0
TP1423-Y-3W05	3	0.25	3.0	7.5
TP1423-Y-4W05	4	0.25	3.8	10.0
TP1423-Y-5W05	5	0.25	4.6	12.5

Indoor Switchboard Telephone Cables to CW 1293

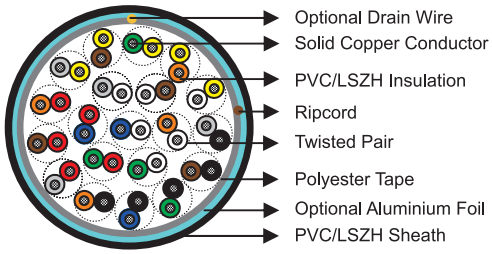
APPLICATION

The cables are designed to handle low frequency signals for short range applications, suitable for cross connecting individual items of switchboard equipment and to connect exchanges with internal distribution points. The cables are intended to be terminated in Insulation/displacement Connectors (IDC).



STANDARDS

- CW 1293
- IEC 60189-2
- IEC 60332-1
- UL1581 VW-1 & UL1666
- IEEE 383CI.IE



CONSTRUCTION

- **Conductors:** Solid annealed bare copper 0.4/0.5/0.6/0.9mm as per class 1 of BS 6360 and IEC 60228.
- **Insulation:** Colour coded PVC T154 to BS 7878 or equivalent. LSZH option can be offered upon request.
- **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 construction and unit construction. For layer construction, cables are laid up in concentric layers to form a compact and circular cable. For unit construction, the elements shall be pairs and shall be laid up as units or sub-units. Each unit shall consist of 20 pair.
- **Core Wrapping:** Cable containing more than 12 wires has a polyester tape applied over the cable core prior to sheathing.
- **Screen (optional):** An aluminium polyester foil shield can be provided for fully enclosing the core with an overlap.
- **Sheath:** PVC TM51 to BS 7878 or equivalent. Grey, White or Cream colours are standard. LSZH option can be offered upon request.
- **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.
- **Drain Wire (optional):** For screened cables, a solid tinned copper drain wire may be longitudinally laid to ensure electrical continuity of the screen.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.4	0.5	0.6	0.9
Conductor Size	mm^2	0.126	0.196	0.28	0.636
Maximum Conductor Resistance @20°C	Ω/km	153	97.8	67.9	29.6
Minimum Insulation Resistance @500V DC @20°C	MΩ·km	50	50	50	50
Maximum Capacitance Unbalance pair-to-pair *	pF/500m	*200/300	500	300	300
Minimum Insulation Thickness	mm	0.15	0.15	0.15	0.25
Maximum Insulated Conductor Diameter	mm	0.85	0.95	1.05	1.6

* For 25, 50 & 100 pair 0.4mm conductor size

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

The pair colour scheme for these cables complies with IEC 189-2 & 189-3 given in the Colour Code Chart below, with the exception of the 2 pair cable, which is constructed as a quad and a colour scheme of Blue, Green, Orange and Brown respectively.

Make-up & Unit Identification Colours – 20 Pair Unit

Pair Size	20 Pairs	40 Pairs	80 Pairs	160 Pairs	320 Pairs
	Number of Units				
Center	1	4 x ½	1	4 x ½	1
1st Layer			6 x ½	6	5
2nd Layer					10
Colours of Unit Lappings					
1	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
8				GREEN	NATURAL
9 – 15					NATURAL
16					GREEN

Note 1: ½ refers to sub-units of 10 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	41	WHITE	Orange	BLUE	81	WHITE	Brown	BLUE
2	WHITE	ORANGE	42	WHITE	Orange	ORANGE	82	WHITE	Brown	ORANGE
3	WHITE	GREEN	43	WHITE	Orange	GREEN	83	WHITE	Brown	GREEN
4	WHITE	BROWN	44	WHITE	Orange	BROWN	84	WHITE	Brown	BROWN
5	WHITE	GREY	45	WHITE	Orange	GREY	85	WHITE	Brown	GREY
6	RED	BLUE	46	ORANGE	Red	BLUE	86	RED	Brown	BLUE
7	RED	ORANGE	47	ORANGE	Red	ORANGE	87	RED	Brown	ORANGE
8	RED	GREEN	48	ORANGE	Red	GREEN	88	RED	Brown	GREEN
9	RED	BROWN	49	ORANGE	Red	BROWN	89	RED	Brown	BROWN
10	RED	GREY	50	ORANGE	Red	GREY	90	RED	Brown	GREY
11	BLACK	BLUE	51	ORANGE	Black	BLUE	91	BROWN	Black	BLUE
12	BLACK	ORANGE	52	ORANGE	Black	ORANGE	92	BROWN	Black	ORANGE
13	BLACK	GREEN	53	ORANGE	Black	GREEN	93	BROWN	Black	GREEN
14	BLACK	BROWN	54	ORANGE	Black	BROWN	94	BROWN	Black	BROWN
15	BLACK	GREY	55	ORANGE	Black	GREY	95	BROWN	Black	GREY
16	YELLOW	BLUE	56	YELLOW	Orange	BLUE	96	YELLOW	Brown	BLUE
17	YELLOW	ORANGE	57	YELLOW	Orange	ORANGE	97	YELLOW	Brown	ORANGE

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Cabling Element No.	a-wire		b-wire	Cabling Element No.	a-wire		b-wire	Cabling Element No.	a-wire		b-wire
18	YELLOW		GREEN	58	YELLOW	Orange	GREEN	98	YELLOW	Brown	GREEN
19	YELLOW		BROWN	59	YELLOW	Orange	BROWN	99	YELLOW	Brown	BROWN
20	YELLOW		GREY	60	YELLOW	Orange	GREY	100	YELLOW	Brown	GREY
21	WHITE	Blue	BLUE	61	WHITE	Green	BLUE	101	WHITE	Grey	BLUE
22	WHITE	Blue	ORANGE	62	WHITE	Green	ORANGE	102	WHITE	Grey	ORANGE
23	WHITE	Blue	GREEN	63	WHITE	Green	GREEN	103	WHITE	Grey	GREEN
24	WHITE	Blue	BROWN	64	WHITE-	Green	BROWN	104	WHITE	Grey	BROWN
25	WHITE	Blue	GREY	65	WHITE	Green	GREY	105	WHITE	Grey	GREY
26	RED	Blue	BLUE	66	GREEN	Red	BLUE	106	GREY	Red	BLUE
27	RED	Blue	ORANGE	67	GREEN	Red	ORANGE	107	GREY	Red	ORANGE
28	RED	Blue	GREEN	68	GREEN	Red	GREEN	108	GREY	Red	GREEN
29	RED	Blue	BROWN	69	GREEN	Red	BROWN	109	GREY	Red	BROWN
30	RED	Blue	GREY	70	GREEN	Red	GREY	110	GREY	Red	GREY
31	BLUE	Black	BLUE	71	GREEN	Black	BLUE	111	GREY	Black	BLUE
32	BLUE	Black	ORANGE	72	GREEN	Black	ORANGE	112	GREY	Black	ORANGE
33	BLUE	Black	GREEN	73	GREEN	Black	GREEN	113	GREY	Black	GREEN
34	BLUE	Black	BROWN	74	GREEN	Black	BROWN	114	GREY	Black	BROWN
35	BLUE	Black	GREY	75	GREEN	Black	GREY	115	GREY	Black	GREY
36	YELLOW	Blue	BLUE	76	YELLOW	Green	BLUE	116	YELLOW	Grey	BLUE
37	YELLOW	Blue	ORANGE	77	YELLOW	Green	ORANGE	117	YELLOW	Grey	ORANGE
38	YELLOW	Blue	GREEN	78	YELLOW	Green	GREEN	118	YELLOW	Grey	GREEN
39	YELLOW	Blue	BROWN	79	YELLOW	Green	BROWN	119	YELLOW	Grey	BROWN
40	YELLOW	Blue	GREY	80	YELLOW	Green	GREY	120	YELLOW	Grey	GREY

Note 1: In each triple there shall be a c-wire, coloured Turquoise.

Note 2: Uppercase letters indicate the base, solid colour of insulation, and the lower case indicates ink bands applied onto the base colour.

DIMENSIONS AND WEIGHT

Cable Code	Number of Pairs	Make Up	Minimum Insulation Thickness mm	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.85mm Insulated Wire-Pair Wires						
TP1293-YY-1P04	1	Layer	0.15	0.4	3.3	10
TP1293-YY-3P04	3	Layer	0.15	0.5	5.3	15
TP1293-YY-6P04	6	Layer	0.15	0.6	6.8	37
TP1293-YY-10P04	10	Layer	0.15	0.6	8.3	54
TP1293-YY-12P04	12	Layer	0.15	0.7	8.9	61
TP1293-YY-16P04	16	Layer	0.15	0.7	9.8	80
TP1293-YY-20P04	20	Layer	0.15	0.7	10.4	95
TP1293-YY-25P04	25	Layer	0.15	0.8	11.1	115
TP1293-YY-40P04	40	Layer	0.15	0.9	13.8	200
TP1293-YY-50P04	50	Layer	0.15	0.9	14.1	225
TP1293-YY-60P04	60	Layer	0.15	1.0	15.8	245
TP1293-YY-72P04	72	Layer	0.15	1.1	17.3	285
TP1293-YY-100P04	100	Layer	0.15	1.2	20.1	415
0.5mm Conductor, 0.95mm Insulated Wire-Pair Wires						

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Cable Code	Number of Pairs	Make Up	Minimum Insulation Thickness mm	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
TP1293-YY-1P05	1	Layer	0.15	0.4	3.3	12
TP1293-YY-2P05	2	Layer	0.15	0.4	4.0	25
TP1293-YY-3P05	3	Layer	0.15	0.5	5.3	30
TP1293-YY-4P05	4	Layer	0.15	0.5	5.8	40
TP1293-YY-6P05	6	Layer	0.15	0.6	6.8	50
TP1293-YY-8P05	8	Layer	0.15	0.6	7.6	65
TP1293-YY-10P05	10	Layer	0.15	0.6	8.3	75
TP1293-YY-12P05	12	Layer	0.15	0.7	9.1	98
TP1293-YY-15P05	15	Layer	0.15	0.7	9.8	110
TP1293-YY-16P05	16	Layer	0.15	0.7	10.0	115
TP1293-YY-20P05	20	Layer	0.15	0.7	10.7	140
TP1293-YY-20P05U	20	Unit	0.15	0.7	10.7	141
TP1293-YY-(20+1)P05	20+1	Layer	0.15	0.7	10.7	146
TP1293-YY-24P05	24	Layer	0.15	0.8	11.3	160
TP1293-YY-25P05	25	Layer	0.15	0.8	11.4	165
TP1293-YY-28P05	28	Layer	0.15	0.8	11.5	180
TP1293-YY-30P05	30	Layer	0.15	0.8	12.2	190
TP1293-YY-40P05	40	Layer	0.15	0.9	14.2	250
TP1293-YY-42P05	42	Layer	0.15	1.0	14.5	260
TP1293-YY-50P05	50	Layer	0.15	1.0	15.7	320
TP1293-YY-53P05	53	Layer	0.15	1.0	15.9	330
TP1293-YY-60P05	60	Layer	0.15	1.0	16.3	380
TP1293-YY-75P05	75	Layer	0.15	1.1	17.8	440
TP1293-YY-80P05	80	Layer	0.15	1.2	21.8	500
TP1293-YY-80P05U	80	Unit	0.15	1.2	21.8	500
TP1293-YY-100P05	100	Layer	0.15	1.4	22.6	635
TP1293-YY-120P05	120	Layer	0.15	1.5	25.2	770
TP1293-YY-160P05U	160	Unit	0.15	1.7	29.8	1175
TP1293-YY-320P05U	320	Unit	0.15	2.2	39.1	2255
0.6mm Conductor, 1.05mm Insulated Wire-Pair Wires						
TP1293-YY-3P06	3	Layer	0.15	0.5	5.3	40
TP1293-YY-6P06	6	Layer	0.15	0.6	7.1	66
TP1293-YY-10P06	10	Layer	0.15	0.7	8.9	99
TP1293-YY-20P06	20	Layer	0.15	0.8	11.2	193
TP1293-YY-40P06	40	Layer	0.15	1.0	15.5	350
TP1293-YY-50P06	50	Layer	0.15	1.1	16.5	434
TP1293-YY-60P06	60	Layer	0.15	1.1	18.0	510
TP1293-YY-80P06	80	Layer	0.15	1.3	22.0	700
TP1293-YY-100P06	100	Layer	0.15	1.5	24.6	810
0.9mm Conductor, 1.6mm Insulated Wire-Pair Wires						
TP1293-YY-1C09	1 Wire	N/A	0.25	0.4	3.0	25
TP1293-YY-2P09	2	Layer	0.25	0.5	4.5	50
TP1293-YY-6P09	6	Layer	0.25	0.6	7.6	100
TP1293-YY-12P09	12	Layer	0.25	0.8	10.1	225
TP1293-YY-20P09	20	Layer	0.25	0.9	12.7	322
TP1293-YY-24P09	24	Layer	0.25	0.9	12.9	370

Cable Code	Number of Triples	Make Up	Minimum Insulation Thickness mm	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.85mm Insulated Wire-Triple Wires						
TP1293-YY-6T04	6	Layer	0.15	0.6	7.9	50
TP1293-YY-10T04	10	Layer	0.15	0.7	9.6	80
TP1293-YY-20T04	20	Layer	0.15	0.8	11.8	145
0.5mm Conductor, 0.95mm Insulated Wire-Triple Wires						
TP1293-YY-1T05	1	Layer	0.15	0.4	3.5	20
TP1293-YY-10T05	10	Layer	0.15	0.7	9.8	115
TP1293-YY-20T05	20	Layer	0.15	0.8	12.2	190
TP1293-YY-(20+1)T05	20+1	Layer	0.15	0.8	12.2	205
TP1293-YY-25T05	25	Layer	0.15	0.9	12.9	250
TP1293-YY-35T05	35	Layer	0.15	0.9	13.4	325
TP1293-YY-40T05	40	Layer	0.15	1.0	16.3	380
TP1293-YY-46T05	46	Layer	0.15	1.1	17.2	430
TP1293-YY-50T05	50	Layer	0.15	1.1	17.8	505
TP1293-YY-100T05	100	Layer	0.15	1.7	29.0	950
0.6mm Conductor, 1.05mm Insulated Wire-Triple Wires						
TP1293-YY-1T06	1	Layer	0.15	0.4	3.7	27
TP1293-YY-10T06	10	Layer	0.15	0.8	10.1	167
TP1293-YY-20T06	20	Layer	0.15	0.9	13.4	270
TP1293-YY-25T06	25	Layer	0.15	1.0	15.0	360
TP1293-YY-40T06	40	Layer	0.15	1.1	18.0	530
TP1293-YY-46T06	46	Layer	0.15	1.2	19.3	600
TP1293-YY-50T06	50	Layer	0.15	1.2	19.3	700

Cable Code	Number of Pairs & Triples	Make Up	Minimum Insulation Thickness mm	Minimum Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.85mm Insulated Wire–Pair & Triple Wires						
TP1293-YY-10P10T04	10	Layer	0.15	0.8	11.1	115
0.5mm Conductor, 0.95mm Insulated Wire-Pair & Triple Wires						
TP1293-YY-10P10T05	10	Layer	0.15	0.8	11.4	165
TP1293-YY-20P10T05	20	Layer	0.15	1.0	15.7	320
TP1293-YY-25P10T05	25	Layer	0.15	1.1	16.7	410
TP1293-YY-50P10T05	50	Layer	0.15	1.6	27.2	950
0.6mm Conductor, 1.05mm Insulated Wire-Pair & Triple Wires						
TP1293-YY-10P10T06	10	Layer	0.15	0.9	12.9	230
TP1293-YY-20P10T06	20	Layer	0.15	1.1	16.5	430
TP1293-YY-25P10T06	25	Layer	0.15	1.2	18.5	520

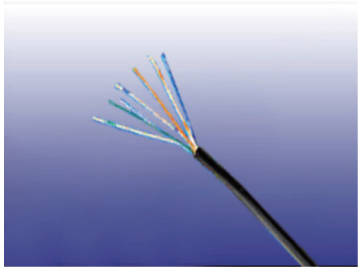
Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

ADDISON

Indoor Central Office Cables to CW 1308

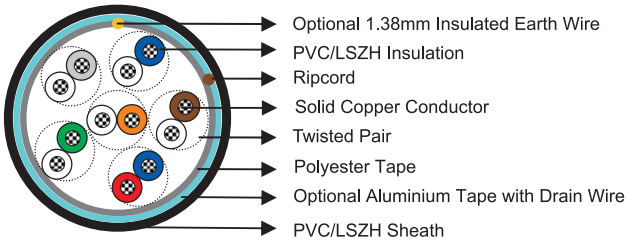
APPLICATION

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

(Continued from previous page)

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.

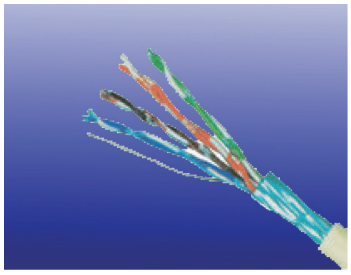
Cable Code	Number of Triples	Minimum Insulation Thickness mm	Minimum Primary Sheath Thickness mm	Minimum Secondary Sheath Thickness mm	Maximum Overall Diameter mm	Nominal Weight kg/km
0.4mm Conductor, 0.85mm Insulated Wire-Layer (Triple)						
TP1308-YY-1T04	1	0.15	0.4	—	3.8	17
TP1308-YY-5T04	5	0.15	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. The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

PE Insulated & LSZH Sheathed Cables to CW 1600

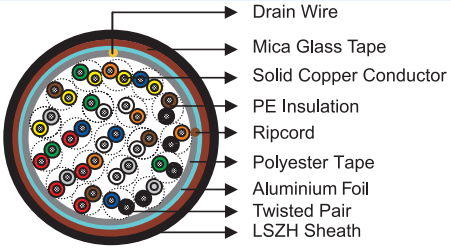
APPLICATION



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 24μ 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	MΩ·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

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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 280ºC.

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
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
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

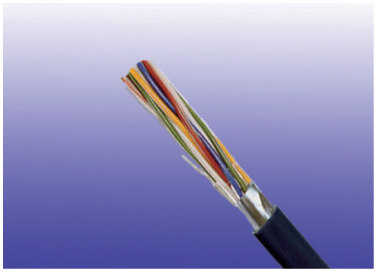
Note: The “E” in the table above indicates that the cable contains an earth-wire. The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

PVC/LSZH Insulated & PVC/LSZH Sheathed Switchboard Cables to DIN VDE 0815

J-Y(St)Y…2X0.6 Lg **J-Y(St)Y…2X0.8 Lg**
J-H(St)H…2X0.6 Lg **J-H(St)H…2X0.8 Lg**

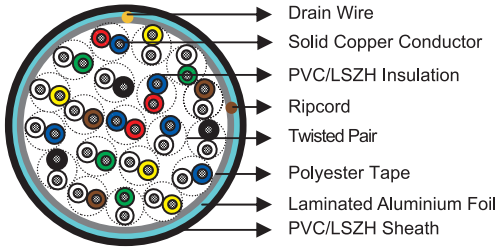
APPLICATION

The installation cables are used for telephone and signal transmission and suitable for permanent installation on and under plaster in dry and damp rooms and for permanent installation on external walls. They are designed to handle low frequency analogue or digital signals for flexible installation.



STANDARDS

• DIN VDE 0815



CONSTRUCTION

• **Conductors:** Solid annealed bare copper sized 0.6/0.8mm as per VDE 0295/IEC 60228 Class 1.
• **Insulation:** PVC YI1 type to DIN VDE 0207-4. LSZH compound can be offered as option.
• **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lay length to minimize crosstalk.
• **Cabling Element:** Twisted Pairs.
• **Cable Core Assembly:** The twisted pairs are stranded to cable core in layers.
• **Core Wrapping:** One or more non-hygroscopic polyester tapes are helically or longitudinally laid with an overlap prior to sheathing.
• **Screen:** Laminated aluminium foil is provided for fully enclosing the core with an overlap.
• **Sheath:** PVC YM1 type to DIN VDE 0207-5. LSZH sheath can be offered as option.
• **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.
• **Drain Wire:** Drain wire with a diameter of 0.4mm is provided in cables up to 10 pairs. Drain wire with a diameter of 0.6mm is provided in cables with more than 10 pairs.

TYPE CODES

J-	Installation cable
Y	Polyvinylchloride (PVC)
H	Low smoke & zero halogen
(St)	Static shield
Lg	Stranded in layers

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.6	0.8	0.6	0.8
VDE CODE		J-Y(St)Y	J-Y(St)Y	J-H(St)H	J-H(St)H
Conductor Size	mm^2	0.283	0.5	0.283	0.5
Maximum Conductor Resistance @20°C	Ω/km	63	34.6	63	34.6
Maximum Loop Resistance @20°C	Ω/km	130	73.2	130	73.2
Minimum Insulation Resistance @500V DC @20°C	MΩ·km	100	100	100	100
Maximum Average Attenuation @0.8KHz	dB/km	1.7	1.1	1.7	1.1
Maximum Mutual Capacitance @0.8KHz*	nF/km	100	100	120	120
Maximum Capacitance Unbalance K1	pF/100m	300	300	300	300
Maximum Working Voltage Peak Value	V	300	300	300	300
Insulation Material		PVC	PVC	LSZH	LSZH
Sheath Material		PVC	PVC	LSZH	LSZH
Nominal Insulation Thickness	mm	0.3	0.4	0.3	0.4
Nominal Insulated Conductor Diameter	mm	1.2	1.6	1.2	1.6

* In Cables up to 4 pairs 120nF/km

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

In 2 pair- cables:

Pair 1: a-wire red b-wire black
Pair 2: a-wire white b-wire yellow

In cables with 4 and more pairs:

a-wire of the 1st pair in each layer red, in all other pairs white
b-wire blue, yellow, green, brown, black in repeated sequence counting direction from the outside to the inside.

DIMENSIONS AND WEIGHT

VDE CODE: J-Y(St)Y …x2x0.6/0.8 Lg

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.6mm Conductor, 1.2mm Insulated Wire					
T815J-Y(St)Y-Lg-1P06	1	0.3	1.0	4.8	30
T815J-Y(St)Y-Lg-2P06	2	0.3	1.0	5.0	40
T815J-Y(St)Y-Lg-3P06	3	0.3	1.0	6.3	50
T815J-Y(St)Y-Lg-4P06	4	0.3	1.0	6.5	60
T815J-Y(St)Y-Lg-5P06	5	0.3	1.0	7.2	70
T815J-Y(St)Y-Lg-6P06	6	0.3	1.0	7.5	80
T815J-Y(St)Y-Lg-8P06	8	0.3	1.0	8.0	90
T815J-Y(St)Y-Lg-10P06	10	0.3	1.0	10.0	110
T815J-Y(St)Y-Lg-12P06	12	0.3	1.0	10.2	130
T815J-Y(St)Y-Lg-14P06	14	0.3	1.0	10.5	145
T815J-Y(St)Y-Lg-16P06	16	0.3	1.0	11.0	160
T815J-Y(St)Y-Lg-20P06	20	0.3	1.0	12.0	190

(Continued from previous page)

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
T815J-Y(St)Y-Lg-24P06	24	0.3	1.0	13.0	220
T815J-Y(St)Y-Lg-30P06	30	0.3	1.2	14.0	280
T815J-Y(St)Y-Lg-40P06	40	0.3	1.2	15.0	350
T815J-Y(St)Y-Lg-50P06	50	0.3	1.2	17.0	430
T815J-Y(St)Y-Lg-60P06	60	0.3	1.2	19.0	500
T815J-Y(St)Y-Lg-80P06	80	0.3	1.4	21.0	640
T815J-Y(St)Y-Lg-100P06	100	0.3	1.4	24.0	850
0.8mm Conductor,1.6mm Insulated Wire					
T815J-Y(St)Y-Lg-1P08	1	0.4	1.0	6.0	40
T815J-Y(St)Y-Lg-2P08	2	0.4	1.0	7.0	60
T815J-Y(St)Y-Lg-3P08	3	0.4	1.0	8.5	80
T815J-Y(St)Y-Lg-4P08	4	0.4	1.0	9.0	100
T815J-Y(St)Y-Lg-5P08	5	0.4	1.0	9.5	120
T815J-Y(St)Y-Lg-6P08	6	0.4	1.0	11.0	140
T815J-Y(St)Y-Lg-8P08	8	0.4	1.0	11.5	170
T815J-Y(St)Y-Lg-10P08	10	0.4	1.2	13.2	220
T815J-Y(St)Y-Lg-12P08	12	0.4	1.2	14.2	250
T815J-Y(St)Y-Lg-14P08	14	0.4	1.2	15.0	280
T815J-Y(St)Y-Lg-16P08	16	0.4	1.2	16.0	320
T815J-Y(St)Y-Lg-20P08	20	0.4	1.2	17.0	380
T815J-Y(St)Y-Lg-24P08	24	0.4	1.4	19.0	460
T815J-Y(St)Y-Lg-30P08	30	0.4	1.4	20.8	560
T815J-Y(St)Y-Lg-40P08	40	0.4	1.4	23.0	710
T815J-Y(St)Y-Lg-50P08	50	0.4	1.6	26.0	900
T815J-Y(St)Y-Lg-60P08	60	0.4	1.6	28.0	1050
T815J-Y(St)Y-Lg-80P08	80	0.4	1.8	31.5	1400
T815J-Y(St)Y-Lg-100P08	100	0.4	2.0	33.0	1750

VDE CODE: J-H(St)H …x2x0.6/0.8 Lg

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.6mm Conductor, 1.2mm Insulated Wire					
T815J-H(St)H-Lg-2P06	2	0.3	1.0	8.0	65
T815J-H(St)H-Lg-4P06	4	0.3	1.0	10.0	100
T815J-H(St)H-Lg-6P06	6	0.3	1.0	11.0	117
T815J-H(St)H-Lg-10P06	10	0.3	1.0	12.0	155
T815J-H(St)H-Lg-20P06	20	0.3	1.0	15.0	270
T815J-H(St)H-Lg-30P06	30	0.3	1.2	17.0	322
T815J-H(St)H-Lg-40P06	40	0.3	1.2	18.0	408
T815J-H(St)H-Lg-50P06	50	0.3	1.2	20.0	491
T815J-H(St)H-Lg-60P06	60	0.3	1.2	21.0	573
T815J-H(St)H-Lg-80P06	80	0.3	1.4	24.0	756
T815J-H(St)H-Lg-100P06	100	0.3	1.4	27.0	917
0.8mm Conductor,1.6mm Insulated Wire					
T815J-H(St)H-Lg-1P08	2	0.4	1.0	9.0	77
T815J-H(St)H-Lg-4P08	4	0.4	1.0	11.0	135
T815J-H(St)H-Lg-6P08	6	0.4	1.0	12.0	165
T815J-H(St)H-Lg-10P08	10	0.4	1.2	15.0	250
T815J-H(St)H-Lg-20P08	20	0.4	1.2	19.0	420
T815J-H(St)H-Lg-30P08	30	0.4	1.4	22.0	620
T815J-H(St)H-Lg-40P08	40	0.4	1.4	26.0	850
T815J-H(St)H-Lg-50P08	50	0.4	1.6	28.0	1000
T815J-H(St)H-Lg-60P08	60	0.4	1.6	30.0	1150
T815J-H(St)H-Lg-80P08	80	0.4	1.8	34.0	1550
T815J-H(St)H-Lg-100P08	100	0.4	2.0	38.0	1850

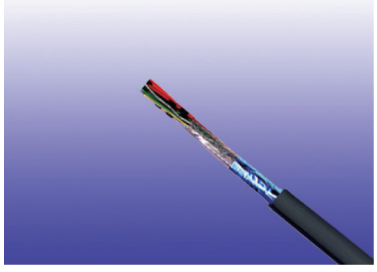
Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

PE Insulated & PVC/LSZH Sheathed Installation Cables to DIN VDE 0816/0815

J-2Y(St)Y…2X0.6 StIII Bd J-2Y(St)H…2X0.6 StIII Bd

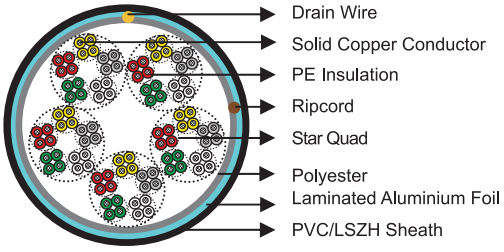
APPLICATION

The installation cables are used for telephone, signalling and data transmission for permanent surface or concealed installation in dry and damp rooms and for outdoor applications.



STANDARDS

• DIN VDE 0816/0815



CONSTRUCTION

• **Conductors:** Solid annealed bare copper sized 0.6mm as per VDE 0295/IEC 60228 class 1.
• **Insulation:** Solid polyethylene 2YI2 type as per VDE 0207-2.
• **Cabling Element:** Star Quads.
• **Cable Core Assembly:** Group of four wires is stranded into a star quad, the quads are assembled into units and the units form the core.
• **Core Wrapping:** One or more non-hygroscopic polyester tapes are helically or longitudinally laid with an overlap prior to sheathing.
• **Screen:** Laminated aluminium foil is fully enclosing the core with an overlap.
• **Sheath:** PVC YM1 type to DIN VDE 0207 part 5. LSZH sheath can be offered as option.
• **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.
• **Drain Wire:** Tinned drain wire may be applied longitudinally to provide continuity of the screen.

TYPE CODES

J-	Installation cable
2Y	Polyethylene (PE)
H	Low smoke & zero halogen
(St)	Static shield of aluminium tape
StIII	Star quad in local cables.
Bd	Unit-type stranding.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.6	0.6
VDE CODE		J-2Y(St)Y	J-2Y(St)H
Conductor Size	mm^2	0.283	0.283
Maximum Conductor Resistance @20°C	Ω/km	63	63
Maximum Loop Resistance @20°C	Ω/km	130	130
Minimum Insulation Resistance @500V DC	MΩ·km	5000	5000
Mutual Capacitance @0.8KHz (100% of all values) max	nF/km	52	52
(95% of all values) max		50	50
Capacitance Unbalance @0.8KHz	pF/300m		
K1 100% of values max	pF/300m	800	800
98% of values max	pF/300m	400	400
K9-12 100% of values max	pF/300m	300	300
98% of values max	pF/300m	100	100
Maximum Loop Resistance @20°C	Ω/km	130	130
Impedance (4 -16 Mhz)	Ω	100+/-15%	100+/-15%
Maximum Average Attenuation @1MHz	dB/km	35	35
Maximum Average Attenuation @4MHz	dB/km	55	55
Maximum Average Attenuation @10MHz	dB/km	73	73
Maximum Average Attenuation @16MHz	dB/km	86	86
Maximum Average Attenuation @20MHz	dB/km	95	95
Maximum Working Voltage Peak Value	V	225	225
Insulation Material		PE	PE
Sheath Material		PVC	LSZH
Nominal Insulation Thickness	mm	0.25	0.25
Nominal Insulated Conductor Diameter	mm	1.1	1.1

MECHANICAL AND THERMAL PROPERTIES

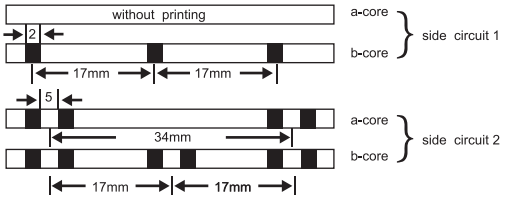
Temperature range during operation (fixed state): -30°C – +70°C
Temperature range during installation (mobile state): -20°C – +50°C
Minimum bending radius: 10 x Overall Diameter

COLOUR CODE

Quads

The single core is identified by black ring markings:

Side Circuit 1	a-wire	without marking
	b-wire	1 mark distance 17mm
Side Circuit 2	a-wire	2 marks distance 34mm
	b-wire	2 marks distance 17mm



Subunits

Basic colours of the wire insulation of the 5 star quads of a basic unit:

Quad 1 Red
Quad 2 Green
Quad 3 Grey
Quad 4 Yellow

Quad 5 White

The tracer units are coded with a red helix, all other units by a white binder.

DIMENSIONS AND WEIGHT

VDE CODE: J-2Y(St)Y…x2x 0.6 StIII Bd

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.6mm Conductor, 1.1mm Insulated Wire					
TP815J-2Y(St)Y-StIII-Bd-2P06	2	0.25	1.0	5.7	46
TP815J-2Y(St)Y-StIII-Bd-4P06	4	0.25	1.0	6.9	66
TP815J-2Y(St)Y-StIII-Bd-6P06	6	0.25	1.0	7.8	85
TP815J-2Y(St)Y-StIII-Bd-10P06	10	0.25	1.0	9.3	122
TP815J-2Y(St)Y-StIII-Bd-20P06	20	0.25	1.0	12.1	204
TP815J-2Y(St)Y-StIII-Bd-30P06	30	0.25	1.2	14.6	298
TP815J-2Y(St)Y-StIII-Bd-40P06	40	0.25	1.2	16.3	375
TP815J-2Y(St)Y-StIII-Bd-50P06	50	0.25	1.4	17.9	451
TP815J-2Y(St)Y-StIII-Bd-60P06	60	0.25	1.4	18.5	520
TP815J-2Y(St)Y-StIII-Bd-80P06	80	0.25	1.4	19.7	660
TP815J-2Y(St)Y-StIII-Bd-100P06	100	0.25	1.6	20.9	802

VDE CODE: J-2Y(St)H…x2x 0.6 StIII Bd

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.6mm Conductor, 1.1mm Insulated Wire					
TP815J-2Y(St)H-StIII-Bd-2P06	2	0.25	1.0	5.7	46
TP815J-2Y(St)H-StIII-Bd-4P06	4	0.25	1.0	6.9	66
TP815J-2Y(St)H-StIII-Bd-6P06	6	0.25	1.0	7.8	85
TP815J-2Y(St)H-StIII-Bd-10P06	10	0.25	1.0	9.3	122
TP815J-2Y(St)H-StIII-Bd-20P06	20	0.25	1.0	12.1	204
TP815J-2Y(St)H-StIII-Bd-30P06	30	0.25	1.2	14.6	298
TP815J-2Y(St)H-StIII-Bd-40P06	40	0.25	1.2	16.3	375
TP815J-2Y(St)H-StIII-Bd-50P06	50	0.25	1.4	17.9	451
TP815J-2Y(St)H-StIII-Bd-60P06	60	0.25	1.4	18.5	520
TP815J-2Y(St)H-StIII-Bd-80P06	80	0.25	1.4	19.7	660
TP815J-2Y(St)H-StIII-Bd-100P06	100	0.25	1.6	20.9	802

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

PVC Insulated & PVC Sheathed Installation Cables to DIN VDE 0815/DIN 57815

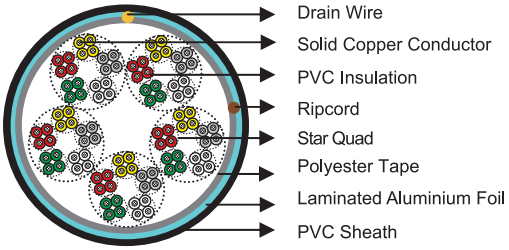
J-YY…2X0.6 Bd

APPLICATION

The installation cables are used for telephone and signal transmission for permanent surface or concealed installation in dry and damp rooms, on or under plaster, and on external walls.

STANDARDS

• DIN VDE 0815/DIN 57815



CONSTRUCTION

- **Conductors:** Solid annealed bare copper sized 0.6mm as per VDE 0295/IEC 60228 Class 1.
- **Insulation:** PVC YI1 type to DIN VDE 0207-2.
- **Cabling Element:** Star Quads.
- **Cable Core Assembly:** Each 4 wires are stranded into a star quad, the quads are stranded to units and the units are stranded to form the core.
- **Core Wrapping:** One or more non-hygroscopic polyester tapes are helically or longitudinally laid with an overlap prior to sheathing.
- **Screen:** Laminated aluminium foil is fully enclosing the core with an overlap.
- **Sheath:** PVC YM1 type to DIN VDE 0207 part 5.
- **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.
- **Drain Wire:** Tinned drain wire applied longitudinally to provide continuity of the screen.

TYPE CODES

J	Installation cable	Y	Polyvinyl chloride (PVC)	Bd	Unit stranding.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.6
VDE CODE		J-YY
Conductor Size	mm^2	0.283

(Continued from previous page)

Maximum Conductor Resistance @20°C	Ω/km	63
Minimum Insulation Resistance @500V DC @20°C	MΩ·km	100
Maximum Mutual Capacitance @0.8KHz	nF/km	100
Maximum Capacitance Unbalance @0.8KHz		
K1 max	pF/100m	300
K9-K12 max	pF/100m	100
Maximum Loop Resistance @20°C	Ω/km	130
Maximum Average Attenuation @0.8KHz	dB/km	1.7
Maximum Working Voltage Peak Value	V	300
Nominal Insulation Thickness	mm	0.2
Nominal Insulated Conductor Diameter	mm	1.0

MECHANICAL AND THERMAL PROPERTIES

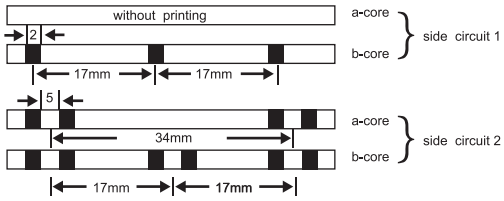
Temperature range during operation (fixed state): -30°C – +70°C
Temperature range during installation (mobile state): -20°C – +50°C
Minimum bending radius: 7.5 x Overall Diameter

COLOUR CODE

Quads

The single core is identified by black ring markings:

Side Circuit 1	a-wire	without marking
	b-wire	1 mark distance 17mm
Side Circuit 2	a-wire	2 marks distance 34mm
	b-wire	2 marks distance 17mm



Subunits

Basic colours of the wire insulation of the 5 star quads of a basic unit:

Quad 1 Red Quad 2 Green Quad 3 Grey Quad 4 Yellow Quad 5 White

The tracer units are coded with a red helix, all other units by a white binder.

DIMENSIONS AND WEIGHT

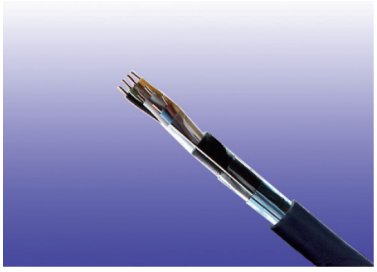
VDE CODE: J-YY…x2x 0.6 Bd

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.6mm Conductor, 1.0mm Insulted Wires					
TP815J-YY-Bd-2P06	2	0.2	1.0	4.5	34
TP815J-YY-Bd-4P06	4	0.2	1.0	6.5	59
TP815J-YY-Bd-6P06	6	0.2	1.0	7.0	74
TP815J-YY-Bd-10P06	10	0.2	1.0	8.5	111
TP815J-YY-Bd-16P06	16	0.2	1.0	10.0	160
TP815J-YY-Bd-20P06	20	0.2	1.0	11.0	200
TP815J-YY-Bd-24P06	24	0.2	1.0	11.5	224
TP815J-YY-Bd-30P06	30	0.2	1.2	13.0	284
TP815J-YY-Bd-40P06	40	0.2	1.2	15.0	364
TP815J-YY-Bd-50P06	50	0.2	1.2	16.5	451
TP815J-YY-Bd-60P06	60	0.2	1.4	17.5	529
TP815J-YY-Bd-80P06	80	0.2	1.4	20.3	700
TP815J-YY-Bd-100P06	100	0.2	1.4	22.3	850

SR Insulated & LSZH Sheathed Fire Resistant Cables to DIN VDE 0815

JE-H(St)H…Bd FE180 E30 JE-H(St)H…Bd FE180 E30 BMK

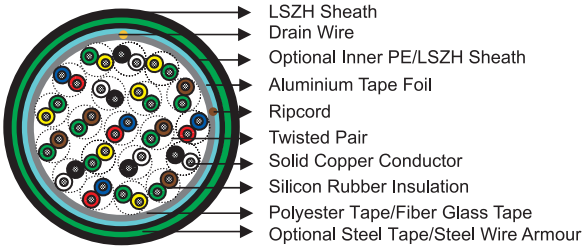
APPLICATION



The cables are similar in design and application to CW 1600, but with Silicon Rubber Insulation. They are used for the internal wiring of building when the circuit integrity during fire is paramount. The cables are intended for use in fire fighting plants with special ceramized silicon insulation, with and without aluminium foil and LSZH outer sheath .

STANDARDS

- EN 50200:2000-02
- EN 50266
- EN 50267
- EN 50268
- BS 6387
- IEC 60331
- DIN VDE 0472-814



CONSTRUCTION

- **Conductors:** Solid annealed bare or tinned copper sized 0.6/0.8/0.9mm as per class 1 of VDE 0295/IEC 60228.
- **Insulation:** Silicon Rubber compound as per DIN VDE 0266.
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lay length to minimize crosstalk.
- **Cabling Element:** Twisted Pairs.
- **Cable Core Assembly:** The twisted pairs are stranded to the core in layers.
- **Core Wrapping:** One or more non hygroscopic polyester tapes are helically or longitudinally laid with an overlap prior to sheathing.
- **Screen:** A laminated Aluminium/Polyester tape is placed in contact with solid copper 0.6mm or 0.8mm drain wire.
- **Inner Bedding (for armoured cables):** PE or LSZH compound.
- **Armour (for armoured cables):** Either corrugated steel tape armour or galvanized steel wire is applied over an inner polyethylene sheath. For steel tape armour, the 0.15mm thick steel tape is coated with a copolymer and applied with an overlap. For steel wire armour, single layer of galvanized steel wire armour is applied.
- **Sheath:** LSZH compound HM2 as per VDE 0207-24.
- **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.
- **Drain Wire:** A solid tinned earth/continuity wire shall be laid longitudinally for screened cables.

TYPE CODES

JE-	Fire alarm cable	H	Halogen free & zero halogen
Bd	Unit stranding.	(St)	Static shield of aluminium tape
FE180	Insulation integrity (950°C 180 minutes)	E30	30 minutes circuit integrity

ELECTRICAL PROPERTIES

Conductor Diameter	mm	0.6	0.8	0.9
Conductor Size	mm^2	0.283	0.5	0.312
Maximum Conductor Resistance @20°C	Ω/km	63	34.6	28.0
Maximum Loop Resistance @20°C	Ω/km	130	73.2	60
Minimum Insulation Resistance @500V DC @20°C	MΩ·km	100	100	100
Maximum Average Attenuation @0.8KHz	dB/km	1.7	1.2	0.74
Nominal Mutual Capacitance @0.8KHz	nF/km	120	120	120
Maximum Capacitance Unbalance K1 @0.8KHz pair-to-pair	pF/100m	200	200	200
Working Voltage	V	225	225	225
Nominal Insulation Thickness	mm	0.3	0.4	0.45
Nominal Insulated Conductor Diameter	mm	1.2	1.6	1.7

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

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 the standard 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) Insulation Integrity FE 180	DIN VDE 0472-814, IEC 60331,EN 50200, VDE 0482-1 These standards specify the performance requirements for cables required to maintain insulation integrity under fire conditions.
7) Circuit Integrity E30	DIN 4102-12 These standards specify the performance requirements for cables required to maintain circuit integrity under fire conditions.

COLOUR CODE

Quad colour in each bundle:

Pair 1: Blue-Red Pair 2: Green-Yellow Pair 3: Green-Brown Pair 4: White-Black

The individual bundles are identified by a numbered helix.

DIMENSIONS AND WEIGHT

VDE CODE: JE-H(St)H…x2x0.8 Bd FE180 E30

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.8mm Conductor, 1.6mm Insulated Wire					
TP815JE-H(St)H-Bd-FE180-E30-1P08	1	0.4	1.0	6.0	46
TP815JE-H(St)H-Bd-FE180-E30-2P08	2	0.4	1.0	6.6	61
TP815JE-H(St)H-Bd-FE180-E30-4P08	4	0.4	1.0	8.8	104
TP815JE-H(St)H-Bd-FE180-E30-6P08	6	0.4	1.0	10.8	160
TP815JE-H(St)H-Bd-FE180-E30-8P08	8	0.4	1.0	12.8	218
TP815JE-H(St)H-Bd-FE180-E30-10P08	10	0.4	1.2	13.1	220
TP815JE-H(St)H-Bd-FE180-E30-12P08	12	0.4	1.2	13.5	235
TP815JE-H(St)H-Bd-FE180-E30-16P08	16	0.4	1.2	14.7	297
TP815JE-H(St)H-Bd-FE180-E30-20P08	20	0.4	1.2	16.1	367
TP815JE-H(St)H-Bd-FE180-E30-24P08	24	0.4	1.4	18.1	440
TP815JE-H(St)H-Bd-FE180-E30-30P08	30	0.4	1.4	20.1	645
TP815JE-H(St)H-Bd-FE180-E30-32P08	32	0.4	1.4	20.6	645
TP815JE-H(St)H-Bd-FE180-E30-40P08	40	0.4	1.4	22.5	656
TP815JE-H(St)H-Bd-FE180-E30-50P08	50	0.4	1.6	24.3	840

VDE CODE: JE-H(St)H(SWA)H…x2x0.6/0.8/0.9 Bd FE180 E30

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Bedding/ Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.6mm Conductor,1.2mm Insulated Wire					
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-2P06	2	0.3	1.0/1.8	12.1	305
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-3P06	3	0.3	1.0/1.8	12.6	325
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-6P06	6	0.3	1.0/1.8	13.2	380
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-8P06	8	0.3	1.0/1.8	14.6	415
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-10P06	10	0.3	1.0/1.8	16.5	450
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-12P06	12	0.3	1.0/1.8	17.0	500
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-20P06	20	0.3	1.0/1.8	20.5	580
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-25P06	25	0.3	1.0/1.8	21.5	940
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-30P06	30	0.3	1.0/1.8	22.5	1300
0.8mm Conductor, 1.6mm Insulated Wire					
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-2P08	2	0.4	1.0/1.8	14.0	415
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-3P08	3	0.4	1.0/1.8	14.0	425
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-6P08	6	0.4	1.0/1.8	15.0	485
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-8P08	8	0.4	1.0/1.8	17.5	520
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-10P08	10	0.4	1.2/1.8	19.0	540
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-12P08	12	0.4	1.2/1.8	20.5	600
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-20P08	20	0.4	1.4/1.8	24.5	1050
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-25P08	25	0.4	1.4/1.8	27.0	1250
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-30P08	30	0.4	1.4/1.8	28.5	1450
0.9mm Conductor, 1.7mm Insulated Wire					
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-10P09	10	0.45	1.2/1.8	19.7	600
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-15P09	15	0.45	1.2/1.8	23.0	1020
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-20P09	20	0.45	1.4/1.8	25.3	1160
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-25P09	25	0.45	1.4/1.8	27.3	1330
TP815JE-H(St)H(SWA)H-Bd-FE180-E30-30P09	30	0.45	1.4/1.8	29.3	1520

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

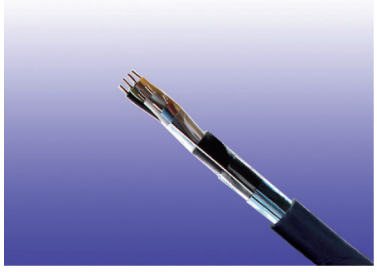
ADDISON

MICA/LSZH Insulated & LSZH Sheathed Fire Resistant Cables to DIN VDE 0815

JE-H(St)H…Bd FE180 E90 JE-H(St)H…Bd FE180 E90 BMK

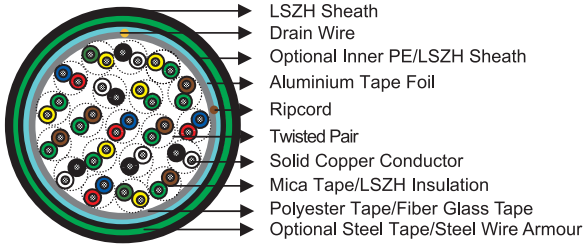
APPLICATION

The cables are similar in design and application to CW 1600, but with fire barrier tape. They are used for the internal wiring of building when the circuit integrity during fire is paramount. The cable is intended to take the place of LSZH sheathed cables and will withstand similar environments with a similar working life. The cables are intended for use in fire fighting plants with mica tapes, with and without aluminium foil and LSZH outer sheath.



STANDARDS

- EN 50200:2000-02
- EN 50266
- EN 50267
- EN 50268
- BS 6387
- IEC 60331



CONSTRUCTION

- **Conductors:** Solid annealed bare or tinned copper sized 0.8mm as per class 1 of VDE 0295/IEC 60228.
- **Fire Barrier:** Mica tape.
- **Insulation:** LSZH compound HI1 as per VDE 0207-23.
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lay length to minimize crosstalk.
- **Cabling Element:** Twisted Pairs.
- **Cable Core Assembly:** The twisted pairs are stranded to the core in layers.
- **Core Wrapping:** One or more non hygroscopic polyester tapes are helically or longitudinally laid with an overlap prior to sheathing.
- **Screen:** A laminated Aluminium/Polyester tape in contact with solid copper 0.6mm or 0.8mm drain wire.
- **Inner Bedding (for armoured cables):** PE or LSZH compound HM2 as per VDE 0207-24
- **Armour (for armoured cables):** Either corrugated steel tape armour or galvanized steel wire is applied over an inner polyethylene sheath. For steel tape armour, the 0.15mm thick steel tape is coated with a copolymer and applied with an overlap. For steel wire armour, single layer of galvanized steel wire armour is applied.
- **Sheath:** LSZH compound HM2 as per VDE 0207-24.
- **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.
- **Drain Wire:** A solid tinned earth/continuity wire shall be laid longitudinally for screened cables.

TYPE CODES

JE-	Fire alarm cable
H	Halogen free & zero halogen

Bd	Unit stranding.
(St)	Static shield of aluminium tape
FE180	Insulation integrity (950°C 180 minutes)
E90	90 minutes circuit integrity.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.8
Conductor Size	mm^2	0.5
Maximum Conductor Resistance @20°C	Ω/km	34.6
Maximum Loop Resistance @20°C	Ω/km	73.2
Minimum Insulation Resistance @500V DC @20°C	MΩ·km	100
Maximum Average Attenuation @0.8KHz	dB/km	1.1
Average Mutual Capacitance	nF/km	120
Capacitance Unbalance K1 @0.8KHz pair-to-pair	pF/100m	200
Working Voltage	V	300
Nominal Insulation Thickness	mm	0.4
Nominal Insulated Conductor Diameter	mm	1.6

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)

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) Insulation Integrity FE 180	DIN VDE 0472-814, IEC 60331, EN 50200, VDE 0482-1

These standards specify the performance requirements for cables required to maintain insulation integrity under fire conditions.

7) Circuit Integrity E30 DIN 4102-12

These standards specify the performance requirements for cables required to maintain circuit integrity under fire conditions.

COLOUR CODE

Quad colour in each bundle:

Pair 1: Blue-Red

Pair 2: Green-Yellow

Pair 3: Green-Brown

Pair 4: White-Black

The individual bundles are identified by a numbered helix.

DIMENSIONS AND WEIGHT

VDE CODE: JE-H(St)H…x2x0.8 Bd FE180 E90

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.8mm Conductor, 1.6mm Insulated Wirez					
TP815JE-H(St)H-Bd-FE180-E90-2P08	2	0.4	1.0	12.8	177
TP815JE-H(St)H-Bd-FE180-E90-4P08	4	0.4	1.0	16.3	284
TP815JE-H(St)H-Bd-FE180-E90-8P08	8	0.4	1.0	20.3	447
TP815JE-H(St)H-Bd-FE180-E90-12P08	12	0.4	1.2	23.9	615
TP815JE-H(St)H-Bd-FE180-E90-16P08	16	0.4	1.2	26.6	756
TP815JE-H(St)H-Bd-FE180-E90-20P08	20	0.4	1.2	29.4	921
TP815JE-H(St)H-Bd-FE180-E90-32P08	32	0.4	1.4	30.7	1074
TP815JE-H(St)H-Bd-FE180-E90-40P08	40	0.4	1.4	33.6	1278
TP815JE-H(St)H-Bd-FE180-E90-52P08	52	0.4	1.6	43.7	2011

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

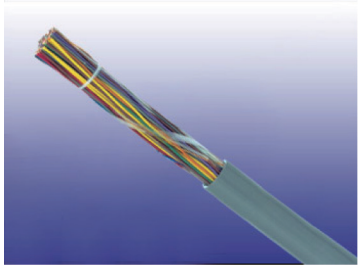
INDOOR/OUTDOOR TELEPHONE CABLES

Caledonian
TELEPHONE CABLES

PE Insulated Category 3 UTP/FTP Cables

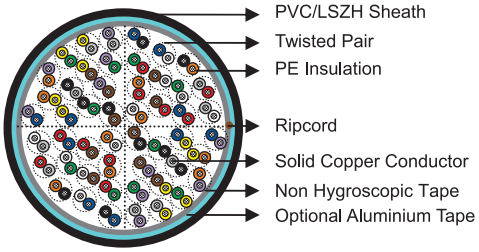
APPLICATION

The cables are designed for medium frequency data or telephone systems, suitable for indoor or outdoor insulations.



STANDARDS

- TIA/EIA-568B
- IEC 61156-4
- UL-444
- ANSI/ICEA S-80-576



CONSTRUCTION

- **Conductors:** Solid annealed bare copper sized 0.5mm (24 AWG) as per ASTM-B3/class 1 of IEC 60228.
- **Insulation:** Solid polyethylene as per ASTM D 1248/IEC 60708.
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lay length to minimize crosstalk.
- **Cable Core Assembly:** The 50-pair cable is composed of 4 units having 12 or 13 pairs each. All other cables are composed of 25-pair units. Units are identified by colour coded binders.
- **Core Wrapping:** Non-hygroscopic dielectric tape fully enclosing the core with an overlap.
- **Screen (optional):** An optional Aluminium/Polyester tape placed in contact with solid copper drain wire may be provided as an option.
- **Sheath:** PVC or LSZH.
- **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.5
Maximum DC Resistance	Ω/100m	9.38
Maximum Resistance Unbalance	%	5
Maximum Capacitance Unbalance pair-to-ground @1KHz	pF/100m	330
Minimum Worst Pair Structural Return Loss (SRL):		
Up to 10 MHz	dB	12
Between 10 and 16 MHz	dB	10
Impedance @1-16 MHz	Ω	85 - 115
Maximum Attenuation at 20°C		
@64KHz	dB/100m	0.9
@256KHz	dB/100m	1.3

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@512KHz	dB/100m	1.8
@772KHz	dB/100m	2.2
@1MHz	dB/100m	2.6
@4MHz	dB/100m	5.6
@8MHz	dB/100m	8.5
@10MHz	dB/100m	9.7
@16MHz	dB/100m	13.1
Minimum Worst pair-to-pair NEXT Loss		
@772KHz	dB	43
@1MHz	dB	41
@4MHz	dB	32
@8MHz	dB	28
@10MHz	dB	26
@16MHz	dB	23
Minimum Relative Velocity of Propagation @10MHz	dB	0.585

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 TIA/EIA 568B or ICEA S-80-576 as given in Colour Code Chart.

DIMENSIONS AND WEIGHT

PE Insulated Category 3 UTP Cables

Cable Code	Number of Pairs	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.5mm Conductor, 0.9mm Insulated Wire, UTP, PVC Sheathed, Indoor				
TP568-2YY-10P05-UTPC3	10	0.9	9.5	77
TP568-2YY-25P05-UTPC3	25	0.9	12.5	155
TP568-2YY-50P05-UTPC3	50	1.0	17.0	260
TP568-2YY-100P05-UTPC3	100	1.1	21.5	530
TP568-2YY-200P05-UTPC3	200	1.2	29.5	1100
TP568-2YY-300P05-UTPC3	300	1.3	33.5	1550
0.5mm Conductor, 0.9mm Insulated Wire, UTP, LSZH Sheathed, Indoor & Outdoor				
TP568-2YH-10P05-UTPC3	10	0.9	10.0	80
TP568-2YH-25P05-UTPC3	25	0.9	14.0	150

(Continued from previous page)

Cable Code	Number of Pairs	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
TP568-2YH-50P05-UTPC3	50	1.1	16.5	280
TP568-2YH-100P05-UTPC3	100	1.4	21.5	530
TP568-2YH-200P05-UTPC3	200	1.7	30.0	900
TP568-2YH-300P05-UTPC3	300	1.7	36.0	1300
0.5mm Conductor, 0.9mm Insulated Wire, UTP, PE Sheathed, Outdoor				
TP568-2Y2Y-10P05-UTPC3	10	0.9	9.5	80
TP568-2Y2Y-25P05-UTPC3	25	0.9	13.0	150
TP568-2Y2Y-50P05-UTPC3	50	1.0	16.0	280
TP568-2Y2Y-100P05-UTPC3	100	1.1	21.5	550
TP568-2Y2Y-200P05-UTPC3	200	1.2	28.5	1050
TP568-2Y2Y-300P05-UTPC3	300	1.3	34.5	1550

PE Insulated Category 3 FTP Cables

Cable Code	Number of Pairs	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.5mm Conductor, 0.9mm Insulated Wire, FTP, PVC Sheathed, Indoor				
TP568-2Y(St)Y-10P05-FTPC3	10	0.9	10.0	85
TP568-2Y(St)Y-25P05-FTPC3	25	0.9	13.5	170
TP568-2Y(St)Y-50P05-FTPC3	50	1.0	17.0	300
TP568-2Y(St)Y-100P05-FTPC3	100	1.1	22.0	570
TP568-2Y(St)Y-200P05-FTPC3	200	1.2	30.0	1120
TP568-2Y(St)Y-300P05-FTPC3	300	1.3	36.6	1630
0.5mm Conductor, 0.9mm Insulated Wire, FTP, LSZH Sheathed, Indoor& Outdoor				
TP568-2Y(St)H-25P05-FTPC3	25	0.9	14.0	170
TP568-2Y(St)H-50P05-FTPC3	50	1.0	17.5	300
TP568-2Y(St)H-100P05-FTPC3	100	1.2	23.0	580
TP568-2Y(St)H-200P05-FTPC3	200	1.6	32.0	1120
TP568-2Y(St)H-300P05-FTPC3	300	1.6	35.0	1320
0.5mm Conductor, 0.9mm Insulated Wire, FTP, PE Sheathed, Outdoor				
TP568-2Y(St)2Y-10P05-FTPC3	10	0.9	11.0	85
TP568-2Y(St)2Y-25P05-FTPC3	25	0.9	13.5	170
TP568-2Y(St)2Y-50P05-FTPC3	50	1.0	16.5	300
TP568-2Y(St)2Y-100P05-FTPC3	100	1.1	22.6	570
TP568-2Y(St)2Y-200P05-FTPC3	200	1.2	31.0	1070
TP568-2Y(St)2Y-300P05-FTPC3	300	1.3	35.5	1570

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

SPECIAL TELEPHONE CABLES

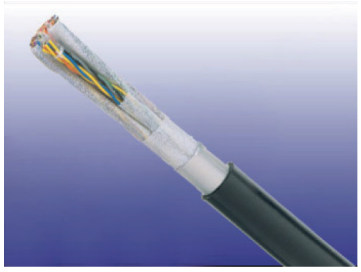
Caledonian
TELEPHONE CABLES

ADDISON

ADSL Connecting Cables

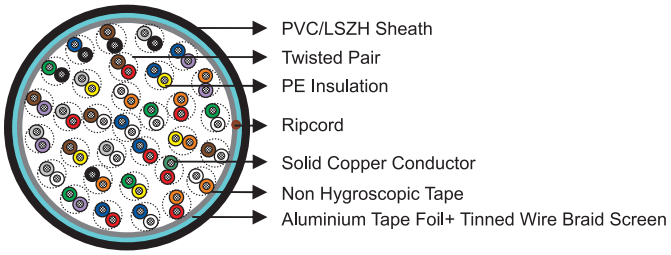
APPLICATION

The cables are designed for ADSL transmission system. The cables are characterized by guaranteed data speeds up to 10MHz. The cables have a small cable diameter with an easily removable sheath.



STANDARDS

- IEC 61156-1 Part 1
- ANSI/ICEA S-80-576



CONSTRUCTION

- **Conductors:** Solid annealed bare copper sized 0.4mm as per ASTM B-3/IEC 60228 Class 1.
- **Insulation:** Solid polyethylene as per ASTM D 1248/IEC 60708.
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lays to minimize crosstalk.
- **Cable Core Assembly:** The pairs are cabled in concentric layer to form the cable core.
- **Core Wrapping:** One or more non-hygroscopic polyester tapes are helically or longitudinally laid with an overlap.
- **Screen:** An aluminium polyester foil is applied in close contact with tinned copper braid screen.
- **Sheath:** PVC or LSZH compound.
- **Ripcord:** Ripcord may be placed to facilitate sheath removal.

ELECTRICAL PROPERTIES

Number of Pairs		24	32	64	72	96	128
Maximum Conductor Resistance @20°C	Ω/km	143	143	143	143	143	143
Minimum Insulation Resistance @500V DC	MΩ·km	1000	1000	1000	1000	1000	1000
Maximum Mutual Capacitance @800Hz	nF/km	80	80	80	80	80	80
Maximum Capacitance Unbalance pair-to-pair	pF/500m	250	250	250	250	250	250
Impedance	Ω	120	120	105	105	100	105
Maximum Average Attenuation @1MHz	dB/km	32	32	32	32	32	32
Maximum Average Attenuation @10MHz	dB/km	110	110	110	110	110	110
Minimum NEXT pair-to-pair @1MHz	dB	55	55	55	55	55	55
Minimum NEXT pair-to-pair @10MHz	dB	40	40	40	40	40	40
Dielectric Strength 1min	V DC	1500	1500	1500	1500	1500	1500

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

COLOUR CODE

Standard colour code is per ANSI/ICEA S-80-576 given in Colour Code Chart.

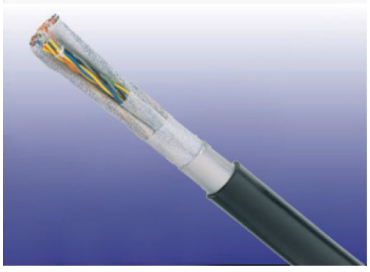
DIMENSIONS AND WEIGHT

Cable Code	Number of Pairs	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
TP576-2Y(St)Y-24P04-ADSL	24 / 3X4Q	0.2	0.9	11.0	139
TP576-2Y(St)Y-32P04-ADSL	32 / 4X4Q	0.2	0.9	12.0	180
TP576-2Y(St)Y-64P04-ADSL	64	0.15	1.0	15.0	300
TP576-2Y(St)Y-72P04-ADSL	72	0.15	1.0	16.0	330
TP576-2Y(St)Y-96P04-ADSL	96	0.15	1.1	19.5	450
TP576-2Y(St)Y-128P04-ADSL	128	0.15	1.2	20.0	528

XDSL Connecting Cables

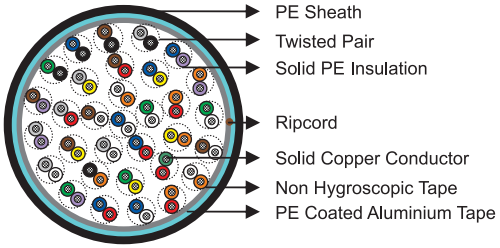
APPLICATION

The cables are designed for XDSL transmission system. The cables are characterized by guaranteed data speeds up to 40MHz.



STANDARDS

• ER.f5.113



CONSTRUCTION

- **Conductors:** Solid annealed bare copper sized 0.5mm as per ASTM B-3/IEC 60228 Class1.
- **Insulation:** Solid polyethylene as per ASTM D 1248/IEC 60708.
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lays to minimize crosstalk.
- **Cable Core Assembly:** The pairs are cabled together in layers of 12, 13 & 25 pair unit to form the cable core. Units are identified by colour coded binders.
- **Core Wrapping:** One or more non-hygroscopic polyester tapes are helically or longitudinally laid with an overlap.
- **Screen:** An aluminium polyster foil is applied longitudinally with an overlap.
- **Sheath:** Black low density polyethylene as per BS 6234/IEC 60708.
- **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.

ELECTRICAL PROPERTIES

Conductor Diameter	mm	0.5
Maximum Conductor Resistance @20°C	Ω/km	91
Minimum Insulation Resistance @500V DC	MΩ·km	20000
Maximum Resistance Unbalance	%	2
Average Mutual Capacitance	nF/km	52
Maximum Capacitance Unbalance @1KHz pair-to-pair	pF/500m	45
Maximum Capacitance Unbalance @1KHz pair-to-ground	pF/500m	400
Impedance @0.3 – 1MHz	Ω	100+/- 20
Impedance @1 – 40MHz	Ω	100+/- 15
Maximum Average Attenuation @0.1MHz	dB/km	0.81
Maximum Average Attenuation @0.3MHz	dB/km	1.15
Maximum Average Attenuation @0.6MHz	dB/km	1.65

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Maximum Average Attenuation @1MHz	dB/km	2.1
Maximum Average Attenuation @4MHz	dB/km	4.3
Maximum Average Attenuation @10MHz	dB/km	6.6
Maximum Average Attenuation @16MHz	dB/km	8.2
Maximum Average Attenuation @20MHz	dB/km	9.2
Maximum Average Attenuation @31.25MHz	dB/km	11.8
Maximum Average Attenuation @40MHz	dB/km	13.9
Minimum Return Loss @1-20MHz	dB/100m	23
Minimum Return Loss @20-40MHz	dB/km	23-10log (f/20)
Minimum ELFEXT pair-to-pair @0.16MHz	dB	69
Minimum ELFEXT pair-to-pair @1MHz	dB	55
Minimum ELFEXT pair-to-pair @20MHz	dB	29
Minimum ELFEXT pair-to-pair @40MHz	dB	23
Minimum NEXT pair-to-pair @0.16MHz	dB	68
Minimum NEXT pair-to-pair @1MHz	dB	59
Minimum NEXT pair-to-pair @20MHz	dB	39
Minimum NEXT pair-to-pair @40MHz	dB	35
Dielectric Strength	dB	
Conductor to Conductor 3secs	V DC	3000
Conductor to Screen 3secs	V DC	5000

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

COLOUR CODE

Standard colour code is per ANSI/ICEA S-80-576 given in Colour Code Chart.

DIMENSIONS AND WEIGHT

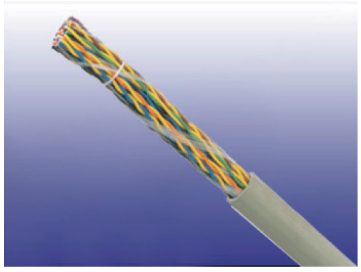
Cable Code	Number of Pairs/Quads	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
TP113-2Y(St)Y-26P05-XDSL	26	0.2	0.9	18.5	265
TP113-2Y(St)Y-51P05-XDSL	51	0.2	1.0	24.2	460
TP113-2Y(St)Y-101P05-XDSL	101	0.2	1.1	31.5	790
TP113-2Y(St)Y-202P05-XDSL	202	0.2	1.2	41.5	1415

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

PE Insulated ISDN Primary Access Air Core Cables

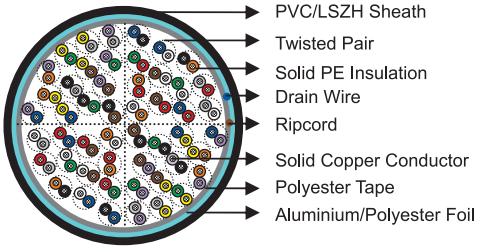
APPLICATION

The cables are designed for digital communications where 120Ω impedance are required during copper interconnection. They are used as primary access for ISDN services inside buildings between network termination equipment and subscriber termination equipment (G703 E1/T1 systems 2.048 or 1.544 Mbps).



STANDARDS

• ER.f5.101



CONSTRUCTION

- **Conductors:** Solid annealed bare copper sized 0.4/0.5mm as per ASTM B-3/class 1 of IEC 60228.
- **Insulation:** Solid polyethylene as per ASTM D 1248/IEC 60708.
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lays to minimize crosstalk.
- **Cable Core Assembly:** The pairs are cabled together in layers of 12, 13 & 25 pair unit to form the cable core. Units are identified by colour coded binders.
- **Core Wrapping:** One or more non-hygroscopic polyester tapes are helically or longitudinally laid with an overlap.
- **Screen:** Aluminium/Polyester tape is applied longitudinally with an overlap.
- **Sheath:** PVC or LSZH compound.
- **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.
- **Armour (optional):** Corrugated steel tape armour.
- **Additional Outer Sheath:** PVC (for NYY Cables); PE (for Armoured Cables); LSZH.
- **Drain Wire:** Solid tinned copper 0.5mm drain wire may be laid longitudinally under the screen.

ELECTRICAL PROPERTIES

Conductor Diameter	mm	0.4	0.5
Conductor Gauge Size	AWG	26	24
Conductor Size	mm^2	0.126	0.196
Maximum Conductor Resistance @20°C	Ω/km	143	91
Minimum Insulation Resistance @500V DC	MΩ·km	10000	8000
Maximum Resistance Unbalance	%	2	2
Maximum Average Mutual Capacitance @1000Hz	nF/km	46	46
Maximum Capacitance Unbalance @1KHz pair-to-pair	pF/500m	45	45
Impedance @200KHz	Ω	120 +/- 24	120 +/- 24
Impedance @1000KHz	Ω	120 +/- 12	120 +/- 12
Maximum Average Attenuation @51KHz	dB/km	8.9	6.5
Maximum Average Attenuation @128KHz	dB/km	9.86	7.2
Maximum Average Attenuation @256KHz	dB/km	12.6	9.5
Maximum Average Attenuation @512KHz	dB/km	15.6	12.5

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Maximum Average Attenuation @768KHz	dB/km	19.5	15.5
Maximum Average Attenuation @1024KHz	dB/km	24.6	19.0
Maximum Average Attenuation @1280KHz	dB/km	27	21
Maximum Average Attenuation @1536KHz	dB/km	27.8	22.2
Maximum Average Attenuation @1792KHz	dB/km	30	24
Maximum Average Attenuation @2048KHz	dB/km	32.8	26.3
Minimum NEXT pair-to-pair @1000KHz	dB	62	62
Dielectric Strength Conductor to Conductor 3secs	V DC	500	500
Nominal Insulation Thickness	mm	0.3	0.35
Nominal Insulated Conductor Diameter	mm	1.0	1.2

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

COLOUR CODE

Standard colour code is per BT CW 110J given in Colour Code Chart.

DIMENSIONS AND WEIGHT

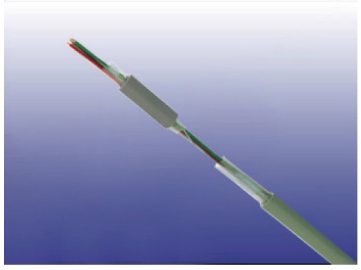
Cable Code	Number of Pairs	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
120Ω Twinaxial cable				
0.4mm Conductor, 1.0mm Insulated Wire				
TX101-2Y(St)Y1P04-ISDN-P	1	0.3	3.0	10.5
0.5mm Conductor, 1.5mm Insulated Wire				
TX101-2Y(St)Y1P05-ISDN-P	1	0.7	4.5	18.0
Multipair 120Ω cable				
0.5mm Conductor, 1.2mm Insulated Wire, PVC Sheathed Indoor Cable				
TP101-2Y(St)Y2P05-ISDN-P	2	1.0	7.0	31
TP101-2Y(St)Y4P05-ISDN-P	4	1.0	8.2	57
TP101-2Y(St)Y8P05-ISDN-P	8	1.0	10.0	86
TP101-2Y(St)Y12P05-ISDN-P	12	1.0	10.5	113
TP101-2Y(St)Y16P05-ISDN-P	16	1.0	11.8	142
TP101-2Y(St)Y18P05-ISDN-P	18	1.0	12.5	152
TP101-2Y(St)Y20P05-ISDN-P	20	1.0	13.2	157
TP101-2Y(St)Y24P05-ISDN-P	24	1.0	13.5	191
TP101-2Y(St)Y28P05-ISDN-P	28	1.0	14.0	219
TP101-2Y(St)Y32P05-ISDN-P	32	1.0	16.5	260
TP101-2Y(St)Y50P05-ISDN-P	50	1.2	19.2	370
TP101-2Y(St)Y75P05-ISDN-P	75	1.2	23.2	530
TP101-2Y(St)Y100P05-ISDN-P	100	1.2	26.5	720
0.4mm Conductor, 1.0mm Insulated Wire, PVC Sheathed Indoor Cable				
TP101-2Y(St)Y4P04-ISDN-P	4	0.7	6.4	38
0.5mm Conductor, 1.2mm Insulated Wire, LSZH Sheathed Indoor Cable				
TP101-2Y(St)H8P05-ISDN-P	8	1.0	10.0	87
TP101-2Y(St)H16P05-ISDN-P	16	1.0	12.0	132
TP101-2Y(St)H32P05-ISDN-P	32	1.0	16.0	260
0.5mm Conductor, 1.2mm Insulated Wire, PVC Double Sheathed (NYY) Outdoor Cable				
TP101-2Y(St)YY4P05-ISDN-P	4	1.0+1.2	10.0	105
TP101-2Y(St)YY8P05-ISDN-P	8	1.0+1.2	11.6	145
TP101-2Y(St)YY16P05-ISDN-P	16	1.0+0.6	13.0	170
TP101-2Y(St)YY32P05-ISDN-P	32	1.0+1.3	18.5	325
0.5mm Conductor, 1.2mm Insulated Wire, PVC Inner Sheathed, Corrugated Steel Armour, PE Sheathed, Outdoor Cable				
TP101-2Y(St)Y(STA)2Y16P05-ISDN-P	16	1.0+1.2	17.0	310

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

PE Insulated ISDN Basic Access Air Core Cables

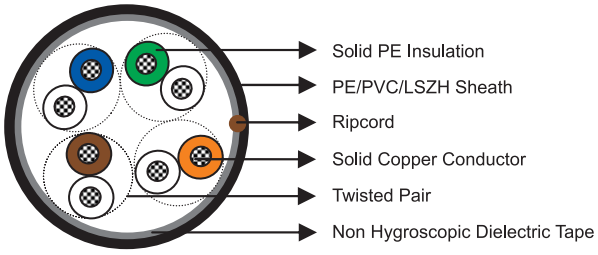
APPLICATION

The cables are used as basic access for ISDN services in central office wiring and cabling for ISDN basic access installation.



STANDARDS

• ER.f5.058



CONSTRUCTION

- **Conductors:** Solid annealed bare copper sized 0.5/0.6mm as per ASTM B-3/IEC 60228 class 1.
- **Insulation:** Solid polyethylene as per ASTM D 1248/IEC 60708.
- **Twisted Pairs:** Insulated conductors are twisted into pairs with varying lays to minimize crosstalk.
- **Cable Core Assembly:** The pairs are cabled together in layers of 12, 13 & 25 pair unit to form the cable core. Units are identified by colour coded binders.
- **Core Wrapping:** One or more non-hygroscopic polyester tapes are helically or longitudinally laid with an overlap.
- **Sheath:** PVC/LSZH.
- **Ripcord (optional):** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.5	0.6
Conductor Gauge Size	AWG	24	-
Conductor Size	mm^2	0.196	0.283
Maximum Conductor Resistance @20°C	Ω/km	91	63
Minimum Insulation Resistance @500V DC	MΩ·km	16000	16000
Maximum Resistance Unbalance	%	2.5	2.5
Average Mutual Capacitance	nF/km	52	52
Maximum Capacitance Unbalance @1KHz pair-to-pair	pF/km	260	260
Maximum Capacitance Unbalance @1KHz pair-to-ground	pF/km	2625	2625
Maximum Average Attenuation @20KHz	dB/km	4.9	3.9
Maximum Average Attenuation @40KHz	dB/km	6.2	4.8
Maximum Average Attenuation @60KHz	dB/km	7.0	5.6

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Maximum Average Attenuation @80KHz	dB/km	7.7	6.0
Maximum Average Attenuation @100KHz	dB/km	7.9	6.3
Minimum ELFEXT pair-to-pair @20KHz	dB	56	56
Minimum ELFEXT pair-to-pair @40KHz	dB	52	52
Minimum ELFEXT pair-to-pair @60KHz	dB	50	50
Minimum ELFEXT pair-to-pair @80KHz	dB	49	49
Minimum ELFEXT pair-to-pair @100KHz	dB	48	48
Minimum NEXT pair-to-pair @20KHz	dB	61	61
Minimum NEXT pair-to-pair @40KHz	dB	57	57
Minimum NEXT pair-to-pair @60KHz	dB	55	55
Minimum NEXT pair-to-pair @80KHz	dB	54	54
Minimum NEXT pair-to-pair @100KHz	dB	51	51
Dielectric Strength Conductor to Conductor 3secs	V DC	3600	3600
Nominal Insulation Thickness	mm	0.2	0.25
Nominal Insulated Conductor Diameter	mm	0.9	1.1

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: 15 x Overall Diameter

COLOUR CODE

Standard colour code is per BT CW 110J given in Colour Code Chart.

DIMENSIONS AND WEIGHT

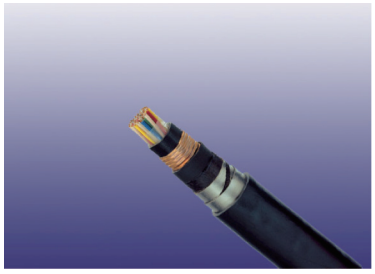
Cable Code	Number of Pairs	Nominal Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.5mm Conductor, 0.9mm Insulated Wire				
TP58-2Y(St)Y2P05-ISDN-B	2	0.8	4.5	23.0
TP58-2Y(St)Y4P05-ISDN-B	4	0.8	5.0	33.5
0.6mm Conductor, 1.1mm Insulated Wire				
TP58-2Y(St)Y2P06-ISDN-B	2	1.0	5.5	30.0
TP58-2Y(St)Y4P06-ISDN-B	4	1.0	6.0	45.0

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

PE Insulated Air Core/Jelly Filled Paired Railway Signalling Cables (RF 0.3)

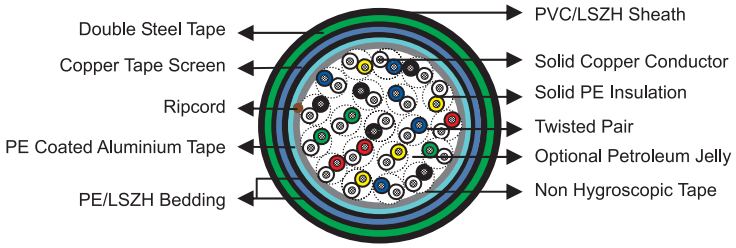
APPLICATION

The cables are designed to give good protection to the cable cores against inductive interference (RF=0.3). The cables are used for outdoor signalling equipment.



STANDARDS

• RENFE E.T. 03.365.051.6



CONSTRUCTION

- **Conductors:** Solid annealed bare copper 0.9/1.4mm as per ASTM B-3/class 1 of IEC 60228.
- **Insulation:** Solid polyethylene as per ASTM D 1248/IEC 60708.
- **Twisted Pairs:** Two insulated conductors are twisted into pairs with varying lays to minimize crosstalk.
- **Cable Core Assembly:** The cores are cabled together in concentric layers to form the cable core. Units are identified by colour coded binders.
- **Core Filling (optional):** The cable core interstices can be filled with petroleum jelly to avoid longitudinal water penetration inside the cable.
- **Core Wrapping:** One or more non-hygroscopic polyester tapes are helically or longitudinally laid with an overlap.
- **Moisture Barrier (optional):** An optional copolymer coated aluminium tape of 0.2mm is applied longitudinally with an overlap.
- **Bedding:** PE or LSZH.
- **Electrostatic Screen:** Corrugated copper tape of 0.12mm is applied longitudinally with overlap.
- **Bedding:** PE or LSZH.
- **Electrostatic Armour:** Two high permeability steel tapes of 0.5mm are helically applied with gap. The outer tape will cover the gap left by the inner one.
- **Sheath:** PVC or LSZH.
- **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.9	1.4
Conductor Size	mm^2	0.636	1.539
Maximum Conductor Resistance @20°C	Ω/km	28	12.1

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Minimum Insulation Resistance @500V DC	MΩ·km	35000	5000
Reduction Factor Rk (50Hz) Induced Voltage Em 100V/Km		0.3	0.3
Induced Voltage Em 500V/Km		0.5	0.5
Maximum Resistance Unbalance	%	2.5	2.5
Maximum Mutual Capacitance @0.8KHz	nF/km	59	64
Maximum Capacitance Unbalance @1KHz pair-to-pair	pF/500m	275	275
Maximum Capacitance Unbalance @1KHz pair-to-ground	pF/500m	1200	1200
Maximum Average Attenuation @1KHz	dB/km	0.7	0.46
Maximum Average Attenuation @10KHz	dB/km	1.6	0.85
Maximum Average Attenuation @20KHz	dB/km	2.1	1.3
Dielectric Strength Conductor to Conductor 1 min	V DC	1500	1500
Conductor to Screen 1min	V DC	2000	2000
Dielectric Strength Conductor to Conductor 3secs	V DC	3000	3000
Conductor to Screen 3secs	V DC	4500	4500
Nominal Insulation Thickness	mm	0.45	0.65
Nominal Insulated Conductor Diameter	mm	1.8	2.7

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: 15 x Overall Diameter

COLOUR CODE

Position	Number of pairs									
	1(Pilot)		2(Direct)		3		4		5	
Centre	BLACK	NATURAL	BLUE	NATURAL	YELLOW	NATURAL	RED	NATURAL		
Layers	BLACK	NATURAL	BLUE	NATURAL	YELLOW	NATURAL	RED	NATURAL	GREEN	NATURAL

DIMENSIONS AND WEIGHT

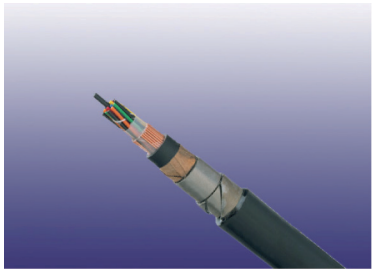
Cable Code	Number of Pairs	Nominal Bedding/ Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.9mm Conductor, 1.8mm Insulated Wire				
TP365-2Y2Y(CTS)2Y(DSTA)Y2P09-RF03	2	1.5/1.6	18.3	1300
TP365-2Y2Y(CTS)2Y(DSTA)Y6P09-RF03	6	1.5/1.6	21.7	1425
TP365-2Y2Y(CTS)2Y(DSTA)Y10P09-RF03	10	1.5/1.6	25.2	1650
TP365-2Y2Y(CTS)2Y(DSTA)Y14P09-RF03	14	1.5/1.6	26.7	1800
TP365-2Y2Y(CTS)2Y(DSTA)Y20P09-RF03	20	1.5/1.6	29.2	2275
TP365-2Y2Y(CTS)2Y(DSTA)Y28P09-RF03	28	1.6/1.8	32.3	2450
TP365-2Y2Y(CTS)2Y(DSTA)Y38P09-RF03	38	1.7/1.8	36.0	2895
TP365-2Y2Y(CTS)2Y(DSTA)Y54P09-RF03	54	1.7/1.8	40.5	3275
TP365-2Y2Y(CTS)2Y(DSTA)Y74P09-RF03	74	1.8/2.0	45.6	3775
TP365-2Y2Y(CTS)2Y(DSTA)Y96P09-RF03	96	1.9/2.0	49.8	4275
1.4mm Conductor, 2.7mm Insulated Wire				
TP365-2Y2Y(CTS)2Y(DSTA)Y2P14-RF03	2	1.5/1.6	20.2	1615
TP365-2Y2Y(CTS)2Y(DSTA)Y6P14-RF03	6	1.5/1.6	25.7	1775
TP365-2Y2Y(CTS)2Y(DSTA)Y10P14-RF03	10	1.6/1.8	30.8	2200
TP365-2Y2Y(CTS)2Y(DSTA)Y14P14-RF03	14	1.6/1.8	32.8	2525
TP365-2Y2Y(CTS)2Y(DSTA)Y20P14-RF03	20	1.7/1.8	36.5	2975
TP365-2Y2Y(CTS)2Y(DSTA)Y28P14-RF03	28	1.7/1.8	40.5	3150
TP365-2Y2Y(CTS)2Y(DSTA)Y38P14-RF03	38	1.8/2.0	45.6	3695
TP365-2Y2Y(CTS)2Y(DSTA)Y54P14-RF03	54	2.0/2.2	52.3	3975
TP365-2Y2Y(CTS)2Y(DSTA)Y74P14-RF03	74	2.1/2.2	59.1	4475
TP365-2Y2Y(CTS)2Y(DSTA)Y96P14-RF03	96	2.2/2.3	66.0	4975

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

PE Insulated Air Core/Jelly Filled Star Quad Railway Signalling Cables (RF 0.3)

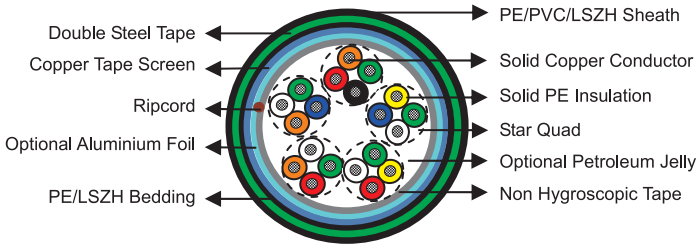
APPLICATION

The cables are designed to give good protection to the core against inductive interference (RF=0.3).The cables are used for outdoor signalling equipment.



STANDARDS

• RENFE E.T. 03.365.051.6



CONSTRUCTION

- **Conductors:** Solid annealed bare copper 0.9/1.4mm as per ASTM B-3/class 1 of IEC 60228.
- **Insulation:** Solid polyethylene as per ASTM D 1248/IEC 60708.
- **Cabling Element:** Four insulated conductors are twisted together to form a quad.
- **Cable Core Assembly:** The cores are cabled together in concentric layers to form the cable core. Units are identified by colour coded binders.
- **Core Wrapping:** One or more non-hygroscopic polyester tapes are helically or longitudinally laid with an overlap.
- **Electrostatic Screen:** Corrugated copper tape of 0.12mm is applied longitudinally with overlap.
- **Bedding:** PE or LSZH.
- **Electrostatic Armour:** Two steel tapes of 0.5mm are helically applied with gap. The outer tape will cover the gap left by the inner one.
- **Sheath:** PE, PVC or LSZH.
- **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.9	1.4
Conductor Size	mm^2	0.636	1.539
Maximum Conductor Resistance @20°C	Ω/km	28	12.1
Minimum Insulation Resistance @500V DC	MΩ·km	35000	5000
Reduction Factor Rk (50Hz) Induced Voltage Em 100V/Km		0.3	0.3
Induced Voltage Em 500V/Km		0.5	0.5
Maximum Resistance Unbalance	%	2.5	2.5
Maximum Mutual Capacitance @0.8Hz	nF/km	45	50
Maximum Capacitance Unbalance @1KHz pair-to-pair	pF/500m	250	250

(Continued from previous page)

Maximum Capacitance Unbalance @1KHz pair-to-ground	pF/500m	1200	1200
Maximum Average Attenuation @1KHz	dB/km	0.7	0.46
Maximum Average Attenuation @10KHz	dB/km	1.6	0.85
Maximum Average Attenuation @30KHz	dB/km	2.1	1.3
Dielectric Strength Conductor to Conductor 3secs	V DC	3000	3000
Conductor to Screen 3secs	V DC	3500	3500
Nominal Insulation Thickness	mm	0.45	0.65
Nominal Insulated Conductor Diameter	mm	1.8	2.7

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: 15 x Overall Diameter

COLOUR CODE

Layer	Quad Position	Colour of conductors			
		1	2	3	4
Centre and even layers	First	ORANGE	GREEN	RED	WHITE
	Even	YELLOW	GREEN	BLUE	WHITE
	Odd	YELLOW	GREEN	RED	WHITE
	Last	ORANGE	GREEN	BLUE	WHITE
Odd Layers	First	ORANGE	GREEN	RED	BLACK
	Even	YELLOW	GREEN	BLUE	BLACK
	Odd	YELLOW	GREEN	RED	BLACK
	Last	ORANGE	GREEN	BLUE	BLACK

DIMENSIONS AND WEIGHT

Cable Code	Number of Quads	Nominal Bedding/Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.9mm Conductor, 1.8mm Insulated Wire				
TP365-2Y(CTS)2Y(DSTA)Y1Q09-RF03	1	1.5/1.6	18.3	1300
TP365-2Y(CTS)2Y(DSTA)Y3Q09-RF03	3	1.5/1.6	21.7	1425
TP365-2Y(CTS)2Y(DSTA)Y5Q09-RF03	5	1.5/1.6	25.2	1650
TP365-2Y(CTS)2Y(DSTA)Y7Q09-RF03	7	1.5/1.6	26.7	1800
TP365-2Y(CTS)2Y(DSTA)Y10Q09-RF03	10	1.5/1.6	29.2	2275
TP365-2Y(CTS)2Y(DSTA)Y14Q09-RF03	14	1.6/1.8	32.3	2450
TP365-2Y(CTS)2Y(DSTA)Y19Q09-RF03	19	1.7/1.8	36.0	2895
TP365-2Y(CTS)2Y(DSTA)Y27Q09-RF03	27	1.7/1.8	40.5	3275
TP365-2Y(CTS)2Y(DSTA)Y37Q09-RF03	37	1.8/2.0	45.6	3775
TP365-2Y(CTS)2Y(DSTA)Y48Q09-RF03	48	1.9/2.0	49.8	4275
1.4mm Conductor, 2.7mm Insulated Wire				
TP365-2Y(CTS)2Y(DSTA)Y1Q14-RF03	1	1.5/1.6	20.2	1615
TP365-2Y(CTS)2Y(DSTA)Y3Q14-RF03	3	1.5/1.6	25.7	1775
TP365-2Y(CTS)2Y(DSTA)Y5Q14-RF03	5	1.6/1.8	30.8	2200
TP365-2Y(CTS)2Y(DSTA)Y7Q14-RF03	7	1.6/1.8	32.8	2525
TP365-2Y(CTS)2Y(DSTA)Y10Q14-RF03	10	1.7/1.8	36.5	2975
TP365-2Y(CTS)2Y(DSTA)Y14Q14-RF03	14	1.7/1.8	40.5	3150
TP365-2Y(CTS)2Y(DSTA)Y19Q14-RF03	19	1.8/2.0	45.6	3695
TP365-2Y(CTS)2Y(DSTA)Y27Q14-RF03	27	2.0/2.2	52.3	3975
TP365-2Y(CTS)2Y(DSTA)Y37Q14-RF03	37	2.1/2.2	59.1	4475
TP365-2Y(CTS)2Y(DSTA)Y48Q14-RF03	48	2.2/2.3	66.0	4975

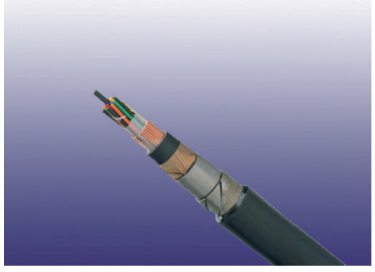
Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

ADDISON

PE Insulated Air Core/Jelly Filled Star Quad Railway Signalling Cables (RF 0.1)

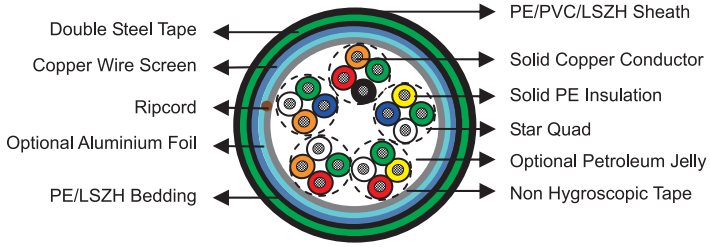
APPLICATION

The cables are designed to give good protection to the core against inductive interference (RF=0.1).The cables are used for outdoor signalling equipment.



STANDARDS

• RENFE E.T. 03.365.051.6



CONSTRUCTION

- **Conductors:** Solid annealed bare copper 0.9/1.4mm as per ASTM B-3/class 1 of IEC 60228.
- **Insulation:** Solid polyethylene as per ASTM D 1248/IEC 60708.
- **Cabling Element:** Four insulated conductors are twisted together to form a quad.
- **Cable Core Assembly:** The cores are cabled together in concentric layers to form the cable core. Units are identified by colour coded binders.
- **Core Wrapping:** One or more non-hygroscopic polyester tapes are helically or longitudinally laid with an overlap.
- **Electrostatic Screen:** One layer of copper wires 0.12mm is applied helically.
- **Bedding:** PE or LSZH.
- **Electrostatic Armour:** Two steel tapes of 0.5mm are helically applied with gap. The outer tape will cover the gap left by the inner one.
- **Sheath:** PE/PVC or LSZH.
- **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.9	1.4
Conductor Size	mm^2	0.636	1.539
Maximum Conductor Resistance @20°C	Ω/km	28	12.1
Minimum Insulation Resistance @500V DC	MΩ·km	35000	5000
Reduction Factor Rk (50Hz) Induced Voltage Em 100V/Km		0.1	0.1
Induced Voltage Em 500V/Km		0.16	0.16
Maximum Resistance Unbalance	%	2.5	2.5
Maximum Mutual Capacitance @0.8KHz	nF/km	45	50

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Maximum Capacitance Unbalance @1KHz pair-to-pair	pF/500m	250	250
Maximum Capacitance Unbalance @1KHz pair-to-ground	pF/500m	1200	1200
Maximum Average Attenuation @1KHz	dB/km	0.7	0.46
Maximum Average Attenuation @10KHz	dB/km	1.6	0.85
Maximum Average Attenuation @20KHz	dB/km	2.1	1.3
Dielectric Strength Conductor to Conductor 3secs	V DC	3000	3000
Conductor to Screen 3secs	V DC	3500	3500
Minimum Insulation Thickness	mm	0.45	0.65
Maximum Insulated Conductor Diameter	mm	1.8	2.7

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: 15 x Overall Diameter

COLOUR CODE

Layer	Quad Position	Colour of conductors			
		1	2	3	4
Centre and even layers	First	ORANGE	GREEN	RED	WHITE
	Even	YELLOW	GREEN	BLUE	WHITE
	Odd	YELLOW	GREEN	RED	WHITE
	Last	ORANGE	GREEN	BLUE	WHITE
Odd Layers	First	ORANGE	GREEN	RED	BLACK
	Even	YELLOW	GREEN	BLUE	BLACK
	Odd	YELLOW	GREEN	RED	BLACK
	Last	ORANGE	GREEN	BLUE	BLACK

DIMENSIONS AND WEIGHT

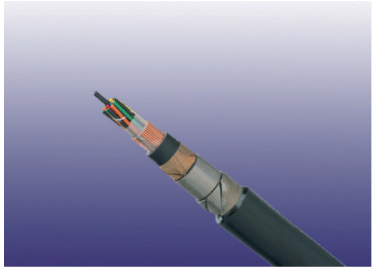
Cable Code	Number of Quads	Nominal Bedding/ Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
0.9mm Conductor, 1.8mm Insulated Wire				
TP365-2Y(CTS)2Y(DSTA)Y1Q09-RF01	1	1.5/1.6	24.5	1300
TP365-2Y(CTS)2Y(DSTA)Y3Q09-RF01	3	1.5/1.6	25.5	1425
TP365-2Y(CTS)2Y(DSTA)Y5Q09-RF01	5	1.5/1.6	28.0	1650
TP365-2Y(CTS)2Y(DSTA)Y7Q09-RF01	7	1.5/1.6	29.5	1800
TP365-2Y(CTS)2Y(DSTA)Y25Q09-RF01	25	1.7/1.8	41.0	3175
1.4mm Conductor, 2.7mm Insulated Wire				
TP365-2Y(CTS)2Y(DSTA)Y3Q14-RF01	3	1.5/1.6	28.5	1775
TP365-2Y(CTS)2Y(DSTA)Y5Q14-RF01	5	1.6/1.8	33.0	2200
TP365-2Y(CTS)2Y(DSTA)Y7Q14-RF01	7	1.6/1.8	35.5	2525
TP365-2Y(CTS)2Y(DSTA)Y10Q14-RF01	10	1.6/1.8	39.0	2975

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

PE Insulated Air Core/Jelly Filled Star Quad Railway Signalling Cables to VDE 0816/DIN 57816

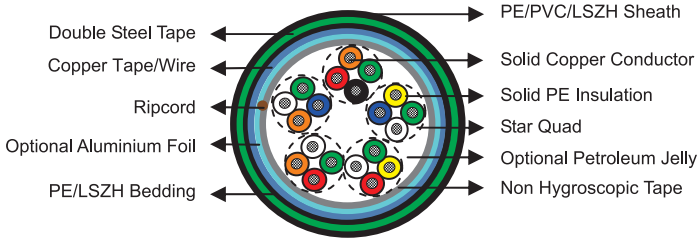
APPLICATION

The cables are designed to give good protection to the core against inductive interference. The cables are used for outdoor signalling equipment.



STANDARDS

• VDE 0816/DIN 57816



CONSTRUCTION

- **Conductors:** Solid annealed bare copper 0.9/1.4mm as per ASTM B-3/IEC 60228 Class 1.
- **Insulation:** Solid polyethylene as per ASTM D 1248/IEC 60708.
- **Cabling Element:** Four insulated conductors are twisted together to form a quad.
- **Cable Core Assembly:** The cores are cabled together in concentric layers to form the cable core. Units are identified by colour coded binders.
- **Core Wrapping:** One or more non-hygroscopic polyester tapes are helically or longitudinally laid with an overlap.
- **Electrostatic Screen:** Copper tape or copper wire braid with wire diameter of 0.12mm.
- **Bedding:** PE or LSZH.
- **Electrostatic Armour:** Two steel tapes of 0.5mm or 0.8mm are helically applied with gap. The outer tape will cover the gap left by the inner one.
- **Sheath:** PE/PVC or LSZH.
- **Ripcord:** Nylon ripcord may be placed parallel to the cores to facilitate sheath removal.

ELECTRICAL PROPERTIES

Nominal Conductor Diameter	mm	0.9	1.4
Conductor Size	mm^2	0.636	1.539
Maximum Conductor Resistance @20°C	Ω/km	28	12.1
Minimum Insulation Resistance @500V DC	MΩ·km	35000	5000
Maximum Resistance Unbalance	%	2.5	2.5
Maximum Mutual Capacitance @0.8KHz	nF/km	45	50
Maximum Capacitance Unbalance @1KHz pair-to-pair	pF/500m	250	250
Maximum Capacitance Unbalance @1KHz pair-to-ground	pF/500m	1200	1200

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Maximum Average Attenuation @1KHz	dB/km	0.7	0.46
Maximum Average Attenuation @10KHz	dB/km	1.6	0.85
Maximum Average Attenuation @30KHz	dB/km	2.1	1.3
Dielectric Strength Conductor to Conductor 3secs	V DC	3000	3000
Conductor to Screen 3secs	V DC	3500	3500
Nominal Insulation Thickness	mm	0.45	0.65
Nominal Insulated Conductor Diameter	mm	1.8	2.7

Reduction Factor

Type group	Frequency Hz	Cable reduction factor(planning values)at field strength		
		70V/km	100V/km	350V/km
1,5	$16\frac{2}{3}$	0.70	0.60	0.92
2,3,6,7		0.55	0.45	0.80
4,8		0.30	0.25	0.70
1,5	50	0.45	0.38	0.52
2,6		0.21	0.17	0.29
3,7		0.42	0.37	0.30
4,8		0.17	0.14	0.12

Reference length is 300m. Conversion factor for different lengths L (at least 200m): L/300

TYPE CODES

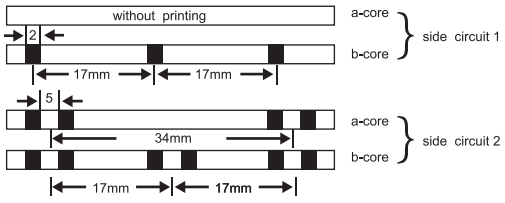
AJ-	Outdoor cable with protection against inductive influences
2Y	Solid PE
Y	PVC
H	LSZH
(St)	Static shield of plastic-backed aluminum tape for indoor cables
D	Shield of copper wire whipping.
S	Railway signalling cable
Lg	Stranded in layers
(…Cu)	Total cross section of copper shield in mm sq
(fK)	Longitdinally applied copper tape, supplement to (St)
2B…	Two layers of steel tape, thickness of steel tape in mm

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: 15 x Overall Diameter

COLOUR CODE

Coloured rings on the insulation
The tracer quad in each layer has a red helix.



DIMENSIONS AND WEIGHT

VDE CODE:

Copper tape screen & steel tape thickness of 0.5/0.8mm

AJ-2Y(St)YbY…x4x0.9/1.4 S Lg (fK) (2B 0.5) AJ-2Y(St)YbY…x4x0.9/1.4 S Lg (fK) (2B 0.8)

Copper wire screen (wire diameter of 1.2mm) & steel tape thickness of 0.8mm

AJ-2YDYbY…x4x0.9/1.4 S Lg (…Cu/2B 0.5) AJ-2YDYbY…x4x0.9/1.4 S Lg (…Cu/2B 0.8)

Cable Code	Number of Quads	Nominal Bedding/ Sheath Thickness mm	Nominal Overall Diameter mm	Nominal Weight kg/km
Type 1: 0.9mm Conductor, 1.8mm Insulated Wire, Copper Tape Screened, RF 0.6 Steel tape thickness 0.5mm				
TP816AJ-2Y(St)YbY-S Lg (fK)(2B0.5)-3Q09	3	1.7/1.8	22.0	810
TP816AJ-2Y(St)YbY-S Lg (fK)(2B0.5)-5Q09	5	1.7/1.8	25.5	1035
TP816AJ-2Y(St)YbY-S Lg (fK)(2B0.5)-7Q09	7	1.7/1.8	26.5	1150
TP816AJ-2Y(St)YbY-S Lg (fK)(2B0.5)-10Q09	10	1.8/2.0	32.5	1550
TP816AJ-2Y(St)YbY-S Lg (fK)(2B0.5)-14Q09	14	1.8/2.0	35.5	1870
Type 2: 0.9mm Conductor, 1.8mm Insulated Wire, Copper Wire Screened, RF 0.45 Steel tape thickness 0.5mm				
TP816AJ-2YDYbY-S Lg (23/2B0.5)-7Q09	7	1.7/1.8	28.5	1410
TP816AJ-2YDYbY-S Lg (25/2B0.5)-10Q09	10	1.8/2.0	33.0	1745
TP816AJ-2YDYbY-S Lg (25/2B0.5)-14Q09	14	1.8/2.0	36.6	2060
Type 3: 0.9mm Conductor, 1.8mm Insulated Wire, Copper Tape Screened, RF 0.45 Steel tape thickness 0.8mm				
TP816AJ-2Y(St)YbY-S Lg (fK) (2B0.8)-20Q09	20	1.8/2.0	40.0	2610
TP816AJ-2Y(St)YbY-S Lg (fK) (2B0.8)-30Q09	30	2.0/2.2	46.5	3425
TP816AJ-2Y(St)YbY-S Lg (fK) (2B0.8)-40Q09	40	2.0/2.2	50.5	4015
Type 4: 0.9mm Conductor, 1.8mm Insulated Wire, Copper Wire Screened, RF 0.25 Steel tape thickness 0.8mm				
TP816AJ-2YDYbY-S Lg (29/2B0.8)-20Q09	20	1.8/2.0	40.5	2840
TP816AJ-2YDYbY-S Lg (33/2B0.8)-30Q09	30	2.0/2.2	47.5	3655
TP816AJ-2YDYbY-S Lg (33/2B0.8)-40Q09	40	2.0/2.2	51.5	4230
Type 5: 1.4mm Conductor, 2.7mm Insulated Wire, Copper Tape Screened, RF 0.6 Steel tape thickness 0.5mm				
TP816AJ-2Y(St)YbY-S Lg (fK) (2B0.5)-3Q14	3	1.7/1.8	26.5	1140
TP816AJ-2Y(St)YbY-S Lg (fK) (2B0.5)-5Q14	5	1.7/1.8	29.5	1430
TP816AJ-2Y(St)YbY-S Lg (fK) (2B0.5)-7Q14	7	1.8/2.0	33.5	1790
TP816AJ-2Y(St)YbY-S Lg (fK) (2B0.5)-10Q14	10	1.8/2.0	39.0	2330
TP816AJ-2Y(St)YbY-S Lg (fK) (2B0.5)-14Q14	14	1.8/2.0	42.5	2805
Type 6: 1.4mm Conductor, 2.7mm Insulated Wire, Copper Wire Screened, RF 0.45 Steel tape thickness 0.5mm				
TP816AJ-2YDYbY-S Lg (25/2B0.5)-25Q14	25	1.8/2.0	35.0	2050
Type 7: 1.4mm Conductor, 2.7mm Insulated Wire, Copper Tape Screened, RF 0.45 Steel tape thickness 0.8mm				
TP816AJ-2Y(St)YbY-S Lg (fK) (2B0.8)-20Q14	20	2.0/2.2	49.0	4085
TP816AJ-2Y(St)YbY-S Lg (fK) (2B0.8)-30Q14	30	2.4/2.6	58.5	5585
TP816AJ-2Y(St)YbY-S Lg (fK) (2B0.8)-40Q14	40	2.4/2.6	64.0	6720
Type 8: 1.4mm Conductor, 2.7mm Insulated Wire, Copper Wire Screened, RF 0.25 Steel tape thickness 0.8mm				
TP816AJ-2YDYbY-S Lg (29/2B0.5)-10Q14	10	1.8/2.0	41.0	2950
TP816AJ-2YDYbY-S Lg (33/2B0.5)-14Q14	14	2.0/2.2	46.0	3615
TP816AJ-2YDYbY-S Lg (33/2B0.5)-20Q14	20	2.0/2.2	50.0	4310
TP816AJ-2YDYbY-S Lg (38/2B0.5)-30Q14	30	2.4/2.6	59.5	5850
TP816AJ-2YDYbY-S Lg (43/2B0.5)-40Q14	40	2.4/2.6	65.0	7005

Note: The parameters listed above are nominal values as per cable standards. Actual values may vary due to material and manufacturing process variations. For precise specifications or customized requirements, please contact us for further information.

ORDERING INFORMATION

Caledonian
TELEPHONE CABLES