



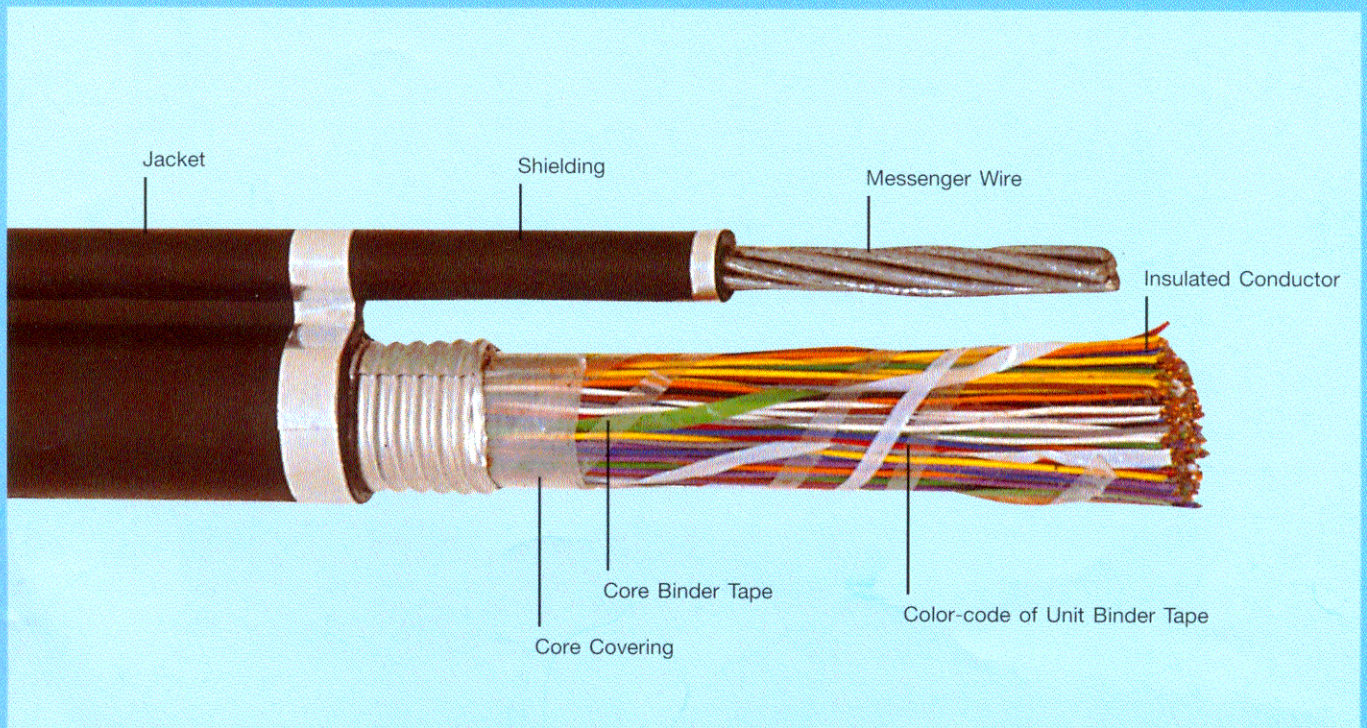
BANGKOK TELECOM CO., LTD.



BTS-M-005

Type: AP (8)

FIGURE 8 ALPETH SHEATHED CABLE



GENERAL

This specification covers the requirements for telephone cable 0.4, 0.5, 0.65 and 0.9 mm. gauges copper conductor. Fully color coded even count polyethylene insulated twinned unit stranded, and alpeth sheathed for aerial installation. The cable shall be used on subscriber and junction line.

CONSTRUCTION

Conduction : Annealed copper conductor, 0.40, 0.50, 0.65 and 0.90 mm (26, 24, 22, 19 AWG) in size.

Insulation : Polyethylene insulation.

Twisted Pairs : The insulated conductors are twisted into pairs with specified color combinations to provide pairs identification.

Cable Assembly : Cables having 25 pairs and less are assembled in a single group. Cables having more than 25 pairs are assembled in units each being identification by color coded unit binders.

Identification Tape : A tape, indelibly marked with the following details, shall be laid over the cable core or under the outer lapping tape (nonhygroscopic dielectric material)

- a. Manufacturers Name
- b. Year of Manufacture (Duration of two years)

Or the marking shall be printed on the outer lapping tape.

The marking shall appear at intervals not more than 50 cm throughout the cable length.

Core covering : Nonhygroscopic dielectric tape.

Shielding : A corrugated polyethylene coated 0.2 mm aluminum tape is applied longitudinally with overlap.

Messenger Wire : Galvanized steel wire. No. of wire x Dia. of wire = 7 x 2.03 mm.

Outer Jacket : High molecular weight, low or medium density polyethylene colored black.

Length Marker : Each length of cable shall be permanently identified as, manufacturer name, year of manufacturer, type and size of cable, and sequentially numbered length. The marking shall be printed on the outer jacket. An alternate method of marking may be used if acceptable to the Client.

OPTION AND OTHER CONSTRUCTIONS

Cables of other conductor size or having other mutual capacitance than shown in this catalogue are available on request.

No. of Pairs nominal	Conductor Diameter : 0.40 mm (26 AWG)		
	Overall Dia. approx. (mm) (A x B x C)	Cable Wt. approx. (kg/km)	Standard Length (m)
10	9.7 x 9.6 x 21.9	319	1,000
12	10.1 x 9.6 x 22.3	328	1,000
13	10.3 x 9.6 x 22.5	332	1,000
15	10.6 x 9.6 x 22.8	341	1,000
16	10.8 x 9.6 x 23.0	345	1,000
20	11.4 x 9.6 x 23.6	361	1,000
25	12.2 x 9.6 x 24.5	381	1,000
30	12.8 x 9.6 x 25.1	401	1,000
40	13.9 x 9.6 x 26.2	439	1,000
50	15.0 x 9.6 x 27.3	475	1,000
75	17.1 x 9.6 x 29.4	563	1,000
100	18.9 x 9.6 x 31.2	648	1,000
150	21.5 x 9.6 x 33.8	816	500
200	24.0 x 9.6 x 36.3	979	500
300	29.9 x 9.6 x 42.2	1,338	500
400	33.4 x 9.6 x 45.7	1,656	500
500	37.2 x 9.6 x 49.5	1,992	500
600	40.0 x 9.6 x 52.3	2,297	500
700	42.6 x 9.6 x 54.9	2,608	250
800	45.6 x 9.6 x 57.9	2,955	250
900	47.9 x 9.6 x 60.3	3,265	250

All cable dimensions and weights are subject to manufacturing tolerances. Spare pairs may be included at the manufacturer's discretion.

No. of Pairs nominal	Conductor Diameter : 0.50 mm (24 AWG)		
	Overall Dia. approx. (mm) (A x B x C)	Cable Wt. approx. (kg/km)	Standard Length (m)
4	9.4 x 9.6 x 21.6	307	1,000
5	9.8 x 9.6 x 22.0	313	1,000
6	10.0 x 9.6 x 22.2	320	1,000
8	10.5 x 9.6 x 22.7	334	1,000
10	10.9 x 9.6 x 23.1	345	1,000
12	11.3 x 9.6 x 23.5	357	1,000
13	11.5 x 9.6 x 23.7	363	1,000
15	12.0 x 9.6 x 24.3	376	1,000
16	12.2 x 9.6 x 24.5	382	1,000
20	13.0 x 9.6 x 25.3	406	1,000
25	13.9 x 9.6 x 26.2	436	1,000
30	14.7 x 9.6 x 27.0	466	1,000
40	16.2 x 9.6 x 28.5	524	1,000
50	17.4 x 9.6 x 29.7	576	1,000
75	20.1 x 9.6 x 32.4	711	1,000
100	22.4 x 9.6 x 34.7	845	1,000
150	26.8 x 9.6 x 39.1	1,109	500
200	30.5 x 9.6 x 42.8	1,388	500
250	33.3 x 9.6 x 45.6	1,638	500
300	36.2 x 9.6 x 48.5	1,912	500
400	40.9 x 9.6 x 53.2	2,407	500
500	44.8 x 9.6 x 57.1	2,897	250
600	49.0 x 9.6 x 61.4	3,422	250

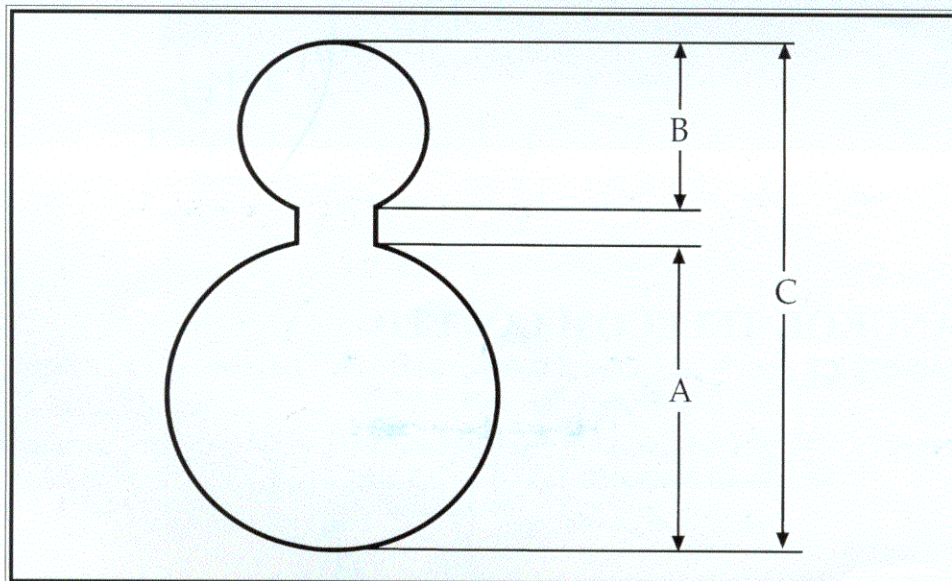
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No. of Pairs nominal	Conductor Diameter : 0.65 mm (22 AWG)		
	Overall Dia. approx. (mm) (A x B x C)	Cable Wt. approx. (kg/km)	Standard Length (m)
3	9.7 x 9.6 x 22.0	312	1,000
4	10.3 x 9.6 x 22.6	323	1,000
5	10.8 x 9.6 x 23.1	334	1,000
6	11.0 x 9.6 x 23.3	342	1,000
8	11.7 x 9.6 x 24.0	361	1,000
10	12.1 x 9.6 x 24.4	379	1,000
12	12.6 x 9.6 x 24.9	397	1,000
13	12.9 x 9.6 x 25.2	406	1,000
15	13.5 x 9.6 x 25.8	425	1,000
16	13.7 x 9.6 x 26.0	434	1,000
20	14.7 x 9.6 x 27.0	469	1,000
25	15.8 x 9.6 x 28.1	513	1,000
30	16.8 x 9.6 x 29.1	556	1,000
40	18.6 x 9.6 x 30.9	641	1,000
50	20.1 x 9.6 x 32.5	723	1,000
75	23.4 x 9.6 x 35.8	931	500
100	27.3 x 9.6 x 39.7	1,137	500
150	31.9 x 9.6 x 44.3	1,547	500
200	36.2 x 9.6 x 48.6	1,953	500
225	38.2 x 9.6 x 50.6	2,144	500
250	39.9 x 9.6 x 52.3	2,336	500
300	42.9 x 9.6 x 55.3	2,719	250
350	46.4 x 9.6 x 58.8	3,138	250
400	49.0 x 9.6 x 61.4	3,519	250

All cable dimensions and weights are subject to manufacturing tolerances. Spare pairs may be included at the manufacturer's discretion.

No. of Pairs nominal	Conductor Diameter : 0.90 mm (19 AWG)		
	Overall Dia. approx. (mm) (A x B x C)	Cable Wt. approx. (kg/km)	Standard Length (m)
2	10.5 x 9.6 x 22.8	326	1,000
3	11.5 x 9.6 x 23.8	346	1,000
4	12.4 x 9.6 x 24.7	368	1,000
5	13.3 x 9.6 x 25.6	388	1,000
6	13.7 x 9.6 x 26.0	406	1,000
8	14.5 x 9.6 x 26.8	440	1,000
10	15.3 x 9.6 x 27.6	474	1,000
12	16.0 x 9.6 x 28.3	507	1,000
13	16.4 x 9.6 x 28.7	525	1,000
15	17.3 x 9.6 x 29.6	559	1,000
16	17.7 x 9.6 x 30.0	577	1,000
20	19.1 x 9.6 x 31.5	643	1,000
25	20.7 x 9.6 x 33.1	729	1,000
30	22.2 x 9.6 x 34.6	816	500
40	24.8 x 9.6 x 37.2	979	500
50	28.8 x 9.6 x 41.2	1,170	500
75	33.6 x 9.6 x 46.0	1,563	500
100	38.4 x 9.6 x 50.8	1,972	500
150	45.6 x 9.6 x 58.0	2,774	250
200	51.3 x 9.6 x 63.7	3,538	200

All cable dimensions and weights are subject to manufacturing tolerances. Spare pairs may be included at the manufacturer's discretion.



ELECTRICAL CHARACTERISTICS

Conductor Diameter mm (AWG)			0.40 (26)	0.50 (24)	0.65 (22)	0.90 (19)
Mutual Capacitance, Average, nF./km		≤ 25 Pairs	52 ± 4			
		> 25 Pairs	52 ± 2			
Mutual Capacitance Deviation, %		rms. Maximum	3			
Capacitance Unbalance pF/km	Pair to pair	6 pairs or less	Individual Maximum			
		More than 6 pairs	rms. Maximum			
	Pair to Ground	All cables	Individual Maximum			
		6 pairs and larger	Maximum Average			
Far End Crosstalk Loss at 150 kHz, dB/km		rms. Minimum	67.8			
		Individual Minimum	57.8			
Near End Crosstalk Loss M-S at 772 kHz, dB		Within Unit	13 pairs or less		56	
			18 and 25 pairs		60	
		Between Units	Adjacent 13 pairs or less		65	
			Adjacent 25 pairs		66	
		Non-adjacent	81			
Attenuation Nominal dB/km at 20°C		at 150 kHz	11.35	8.31	6.20	4.40
		at 772 kHz	22.83	18.52	14.63	10.40
Insulation Resistance, MegOhm-km		Minimum	16,000			
High Voltage Test dc for 3 sec., volts		Conductor to Conductor	2,400	3,000	3,600	4,500
		Conductor to Shield	10,000			
DC Conductor Resistance, Ohms/km, at 20°C		Maximum	144.4	90.2	57.1	28.5
Resistance Unbalance %		Maximum Average	2.0	1.5	1.5	1.5
		Individual Maximum	5.0	5.0	4.0	4.0
Parameter Variations are Allowed as Follows:						
Maximum Number of Pairs with Electrical Variation						
Nominal Pair Count		Maximum Number of Pairs with Electrical Variation				
up to - 100		1				
101 - 300		2				
301 - 400		3				
401 - 600		4				
601 and above		6				
Variation Values						
Capacitance Unbalance Pair to Ground, pF/km		Individual Maximum	3,280			
DC Conductor Resistance at 20°C, ohms/km		Maximum	151.6	94.5	60.0	29.9
Resistance Unbalance, %		Individual Maximum	7.0			
Far End Crosstalk Loss at 150 kHz, dB/km		Individual	51.8			



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