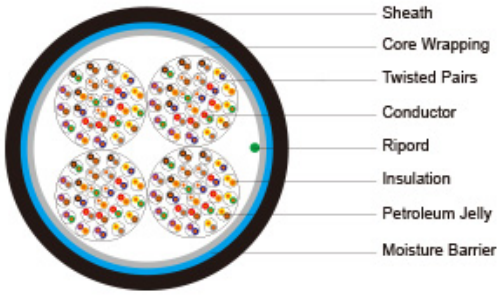
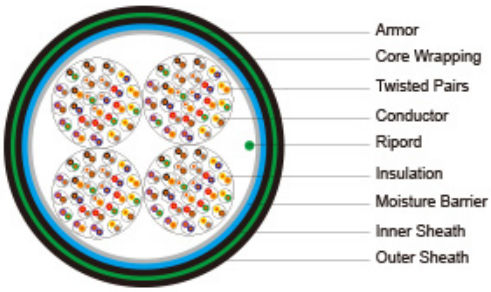
Foam Skin Insulated & AP Sheathed (ALPETH) Jelly Filled Cables to ICEA S-84-608





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.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 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)	A ripcord made of polyamide is placed parallel to the core to facilitate sheath 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 Cables	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
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