

ASH TELEPHONE SINGLE JACKET DUCT TYPE (CEF) JELLY FILLED CABLES

APPLICATION

These Filled Cables are used in Telecommunication Network. It is intended for use in Secondary Network between Cross Connection Cabinet and Distribution Points and Primary Network between the Exchange and Cross-Connection Cabinets. Filled Cables having Single Polyethylene Sheath with Moisture Barrier are used in DUCT Installation.

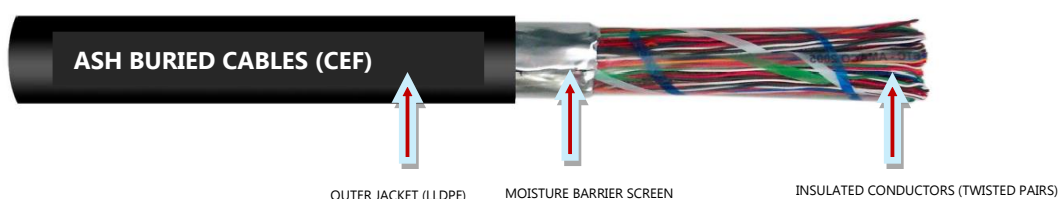
STANDARDS

TS-2002 (MAT-1101)	Saudi Telecom Specification
IEC 60708	Low-frequency cables with polyolefin insulation and moisture barrier polyolefin sheath

CONSTRUCTION DETAILS

CONDUCTOR	Plain annealed high quality solid copper conductor to ASTM B3 Nominal Conductor dia. (mm): 0.40, 0.50, 0.65 & 0.90
INSULATION	Each conductor shall be covered with continuous layer of Cellular Foam-Skin High Density Polyethylene conforming to ASTM D 1248, Type III, Category 4 or 5, Grade E8 or E9. Color of insulated conductors shall be identified in Table-1 & Table-2.
PAIR FORMATION	Two insulated conductors are uniformly twisted to form a pair with a suitable lay.
ASSEMBLY / LAYING-UP	-10 pairs are assembled to form a sub-unit; each sub-unit shall be bound with a colored binding tape for sub-unit identification. -5 sub-units shall be assembled to form a 50-pair unit and 10 sub-units shall be assembled to form a 100-pair unit. -Cables of 100 pairs or less, a 10-pair sub-unit shall be assembled together. Cables of more than 100 pairs, a 50-pair unit or a 100-pair unit shall be assembled together.
JELLY FILLING	The interstices are filled with a Petro jelly compound compatible with the insulation and other cable materials.
WRAPPING	The assembled core shall be covered by one or more non-hygroscopic and non-wicking dielectric polyester tape(s) applied longitudinally and/or helically with an overlap of not less than 5 mm.
MOISTURE BARRIER	Aluminum Tape, coated on both sides with co-polymer conforming to ASTM B736, Type 1, Class 1. Applied longitudinally with a suitable overlap to prevent the ingress of water to the cable.
OUTER JACKET	Extruded black Linear Low Density Polyethylene conforming to ASTM D 1248, Type I or 2, Class C, Category 4 or 5, Grade J3. Continuously bonded to the aluminum tape to prevent of water penetration to the core and the transport of water between the sheath and the tape.
Cable Marking	ASH BURIED CABLES No. of pairs X (size) MM ASHCABLES KSA (Year of manufacture) (Meter Marking)

Figure 1



ASH TELEPHONE SINGLE JACKET DUCT TYPE (CEF) JELLY FILLED CABLES

DIMENSIONS AND WEIGHTS

S/N	ASH CABLES ITEM CODE	No. of Pairs	Conductor dia. (mm)	Approx. Overall Dia. (mm)	Approx. Net Weight (Kg/Km)	Standard Drum (m)±5%
1	DO16-05P004MM-UBK62	5	0.40	8.00	57	2000
2	DO16-06P004MM-UBK62	6	0.40	8.30	61	2000
3	DO16-08P004MM-UBK62	8	0.40	8.90	73	2000
4	DO16-10P004MM-UBK62	10	0.40	10.10	92	1000
5	DO16-12P004MM-UBK62	12	0.40	10.60	101	1000
6	DO16-15P004MM-UBK62	15	0.40	11.30	118	1000
7	DO16-20P004MM-UBK62	20	0.40	12.30	141	1000
8	DO16-25P004MM-UBK62	25	0.40	13.00	164	1000
9	DO16-30P004MM-UBK62	30	0.40	13.90	189	1000
10	DO16-40P004MM-UBK62	40	0.40	15.30	237	1000
11	DO16-50P004MM-UBK62	50	0.40	16.50	282	1000
12	DO16-70P004MM-UBK62	70	0.40	18.50	370	1000
13	DO16-100P04MM-UBK62	100	0.40	21.50	500	1000
14	DO16-150P04MM-UBK62	150	0.40	25.50	718	1000
15	DO16-200P04MM-UBK62	200	0.40	28.50	916	1000

S/N	ASH CABLES ITEM CODE	No. of Pairs	Conductor dia. (mm)	Approx. Overall Dia. (mm)	Approx. Net Weight (Kg/Km)	Standard Drum (m)±5%
1	DO16-05P005MM-UBK62	5	0.50	8.80	72	2000
2	DO16-06P005MM-UBK62	6	0.50	9.80	87	2000
3	DO16-08P005MM-UBK62	8	0.50	10.50	101	1000
4	DO16-10P005MM-UBK62	10	0.50	11.30	120	1000
5	DO16-12P005MM-UBK62	12	0.50	11.80	133	1000
6	DO16-15P005MM-UBK62	15	0.50	12.70	156	1000
7	DO16-20P005MM-UBK62	20	0.50	14.00	199	1000
8	DO16-25P005MM-UBK62	25	0.50	15.10	224	1000
9	DO16-30P005MM-UBK62	30	0.50	16.30	272	1000
10	DO16-40P005MM-UBK62	40	0.50	18.00	339	1000
11	DO16-50P005MM-UBK62	50	0.50	19.50	406	1000
12	DO16-70P005MM-UBK62	70	0.50	22.20	539	1000
13	DO16-100P05MM-UBK62	100	0.50	25.50	726	1000
14	DO16-150P05MM-UBK62	150	0.50	30.30	1095	500
15	DO16-200P05MM-UBK62	200	0.50	33.00	1417	500

S/N	ASH CABLES ITEM CODE	No. of Pairs	Conductor dia. (mm)	Approx. Overall Dia. (mm)	Approx. Net Weight (Kg/Km)	Standard Drum (m)±5%
1	DO16-05P006MM-UBK62	5	0.60	9.70	88	2000
2	DO16-06P006MM-UBK62	6	0.60	10.20	101	1000
3	DO16-08P006MM-UBK62	8	0.60	11.70	129	1000
4	DO16-10P006MM-UBK62	10	0.60	12.50	152	1000
5	DO16-12P006MM-UBK62	12	0.60	13.30	170	1000
6	DO16-15P006MM-UBK62	15	0.60	14.60	204	1000
7	DO16-20P006MM-UBK62	20	0.60	16.00	262	1000
8	DO16-25P006MM-UBK62	25	0.60	17.30	299	1000
9	DO16-30P006MM-UBK62	30	0.60	18.50	360	1000
10	DO16-40P006MM-UBK62	40	0.60	20.50	453	1000
11	DO16-50P006MM-UBK62	50	0.60	22.40	545	1000
12	DO16-70P006MM-UBK62	70	0.60	25.50	729	500
13	DO16-100P06MM-UBK62	100	0.60	29.50	992	500

S/N	ASH CABLES ITEM CODE	No. of Pairs	Conductor dia. (mm)	Approx. Overall Dia. (mm)	Approx. Net Weight (Kg/Km)	Standard Drum (m)±5%
1	DO16-05P065MM-UBK62	5	0.65	10.80	101	1000
2	DO16-06P065MM-UBK62	6	0.65	11.30	112	1000
3	DO16-08P065MM-UBK62	8	0.65	12.30	146	1000
4	DO16-10P065MM-UBK62	10	0.65	13.30	170	1000
5	DO16-12P065MM-UBK62	12	0.65	14.10	194	1000
6	DO16-15P065MM-UBK62	15	0.65	15.40	232	1000
7	DO16-20P065MM-UBK62	20	0.65	17.00	299	1000
8	DO16-25P065MM-UBK62	25	0.65	18.40	341	1000
9	DO16-30P065MM-UBK62	30	0.65	19.70	409	1000
10	DO16-40P065MM-UBK62	40	0.65	21.90	522	1000
11	DO16-50P065MM-UBK62	50	0.65	23.90	632	500
12	DO16-70P065MM-UBK62	70	0.65	27.50	842	500
13	DO16-100P65MM-UBK62	100	0.65	31.60	1152	600

Dimensions and Weights are subject for manufacturing Tolerance.

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DIMENSIONS AND WEIGHTS

S/N	ASH CABLES ITEM CODE	No. of Pairs	Conductor dia. (mm)	Approx. Overall Dia. (mm)	Approx. Net Weight (Kg/Km)	Standard Drum (m) ±5%
1	DO16-05P009MM-UBK62	5	0.90	13.20	160	1000
2	DO16-06P009MM-UBK62	6	0.90	14.00	183	1000
3	DO16-08P009MM-UBK62	8	0.90	16.30	244	1000
4	DO16-10P009MM-UBK62	10	0.90	17.60	288	1000
5	DO16-12P009MM-UBK62	12	0.90	18.80	332	1000
6	DO16-15P009MM-UBK62	15	0.90	20.40	395	1000
7	DO16-20P009MM-UBK62	20	0.90	22.70	525	600
8	DO16-25P009MM-UBK62	25	0.90	24.80	596	500
9	DO16-30P009MM-UBK62	30	0.90	26.70	745	500
10	DO16-40P009MM-UBK62	40	0.90	30.00	945	500
11	DO16-50P009MM-UBK62	50	0.90	33.00	1150	600

COLOUR CODE OF INSULATED WIRES

TABLE 1
10 Pair Count

PAIR NO.	WIRE (A)	WIRE (B)
01	White	Blue
02	White	Orange
03	White	Green
04	White	Brown
05	White	Grey
06	Red	Blue
07	Red	Orange
08	Red	Green
09	Red	Brown
10	Red	Grey

TABLE 2
25 Pair Count

PAIR NO.	WIRE (A)	WIRE (B)
01	White	Blue
02	White	Orange
03	White	Green
04	White	Brown
05	White	Grey
06	Red	Blue
07	Red	Orange
08	Red	Green
09	Red	Brown
10	Red	Grey
11	Black	Blue
12	Black	Orange
13	Black	Green
14	Black	Brown
15	Black	Grey
16	Yellow	Blue
17	Yellow	Orange
18	Yellow	Green
19	Yellow	Brown
20	Yellow	Grey
21	Violet	Blue
22	Violet	Orange
23	Violet	Green
24	Violet	Brown
25	Violet	Grey

ASH TELEPHONE SINGLE JACKET DUCT TYPE (CEF) JELLY FILLED CABLES

ELECTRICAL AND TRANSMISSION CHARACTERISTICS (STC – 2002)

S/N	PARAMETERS	UNITS	0.40 mm	0.50 mm	0.65 mm	0.90 mm
1	Conductor Resistance (max.)	Ω /Km	150	96	57	30
2	Resistance Unbalance (max.)	%	2.50	2.50	2.0	2.0
3	Insulation Resistance (min.)	M. Ω .Km	2500	2500	2500	2500
4	Dielectric Strength					
4.1	Conductor to Conductor	DC Volt	2400	2400	3000	3600
4.2	Conductor to Shield	DC Volt	5000	5000	10000	10000
5	Mutual Capacitance (max.)	nF/Km	50.0	50.0	50.0	50.0
6	CUPP (max.)	pF/500 M	150	150	150	150
7	CUPG (max.)	pF/Km	2500	2500	2500	2500
8	Attenuation @1 Khz (max.)	dB/Km	1.81	1.45	1.10	0.80
9	Attenuation @1 Mhz (max.)	dB/Km	25.7	21.0	16.30	13.60
10	PS NEXT @ 1KHz (min.)	dB/Km	70	70	70	70
11	PS NEXT @ 12KHz (min.)	dB/Km	67	67	67	67
12	PS NEXT @ 80KHz (min.)	dB/Km	55	55	55	55
13	PS NEXT @ 1000KHz (min.)	dB/Km	37	37	37	37
14	PS ELFEXT @ 1KHz (min.)	dB/Km	74	74	74	74
15	PS ELFEXT @ 12KHz (min.)	dB/Km	71	71	71	71
16	PS ELFEXT @ 80KHz (min.)	dB/Km	58	58	58	58
17	PS ELFEXT @ 1000KHz (min.)	dB/Km	36	36	36	36

ELECTRICAL AND TRANSMISSION CHARACTERISTICS (IEC 60708)

S/N	PARAMETERS	UNITS	0.40 mm	0.50 mm	0.60 mm
1	Conductor Resistance (max.)	Ω /Km	150	96	66.60
2	Resistance Unbalance (max.)	%	2.0	2.0	2.0
3	Insulation Resistance (min.)	M. Ω .Km	1500	1500	1500
4	Dielectric Strength				
4.1	Conductor to Conductor	DC Volt	1000	1000	1000
4.2	Conductor to Shield	DC Volt	2000	2000	2000
5	Mutual Capacitance (max.)	nF/Km	64	64	64
6	CUPP (max.)	pF/500 M	150	150	150
7	CUPG (max.)	pF/Km	2500	2500	2500
8	PS NEXT @ 150KHz (min.)	dB/Km	49	49	49
9	PS NEXT @ 300KHz (min.)	dB/Km	45	45	45
10	PS NEXT @ 1000KHz (min.)	dB/Km	37	37	37
11	PS ELFEXT @ 150KHz (min.)	dB/Km	54	54	54
12	PS ELFEXT @ 300KHz (min.)	dB/Km	48	48	48
13	PS ELFEXT @ 1000KHz (min.)	dB/Km	38	38	38