



COPPER TELEPHONE CABLES

ISO 9001 : 2015
ISO 14001 : 2015
OHSAS 18001 : 2007



RIYADH CABLES GROUP COMPANY

*Based on **HIGH TECHNOLOGY** manufacturing process and the **MOST-UP-TO-DATE** production facilities incorporating Robot Reel Handling system and with the **COMMITMENT TO HIGH QUALITY** Riyadh Telephone Cables Co. started production in 1994.*

***RIYADH TELEPHONE CABLES** produces all types and sizes of Telephone Cables up to 3600 pairs in accordance with Saudi Telecom Specification as well as the following international standards.*

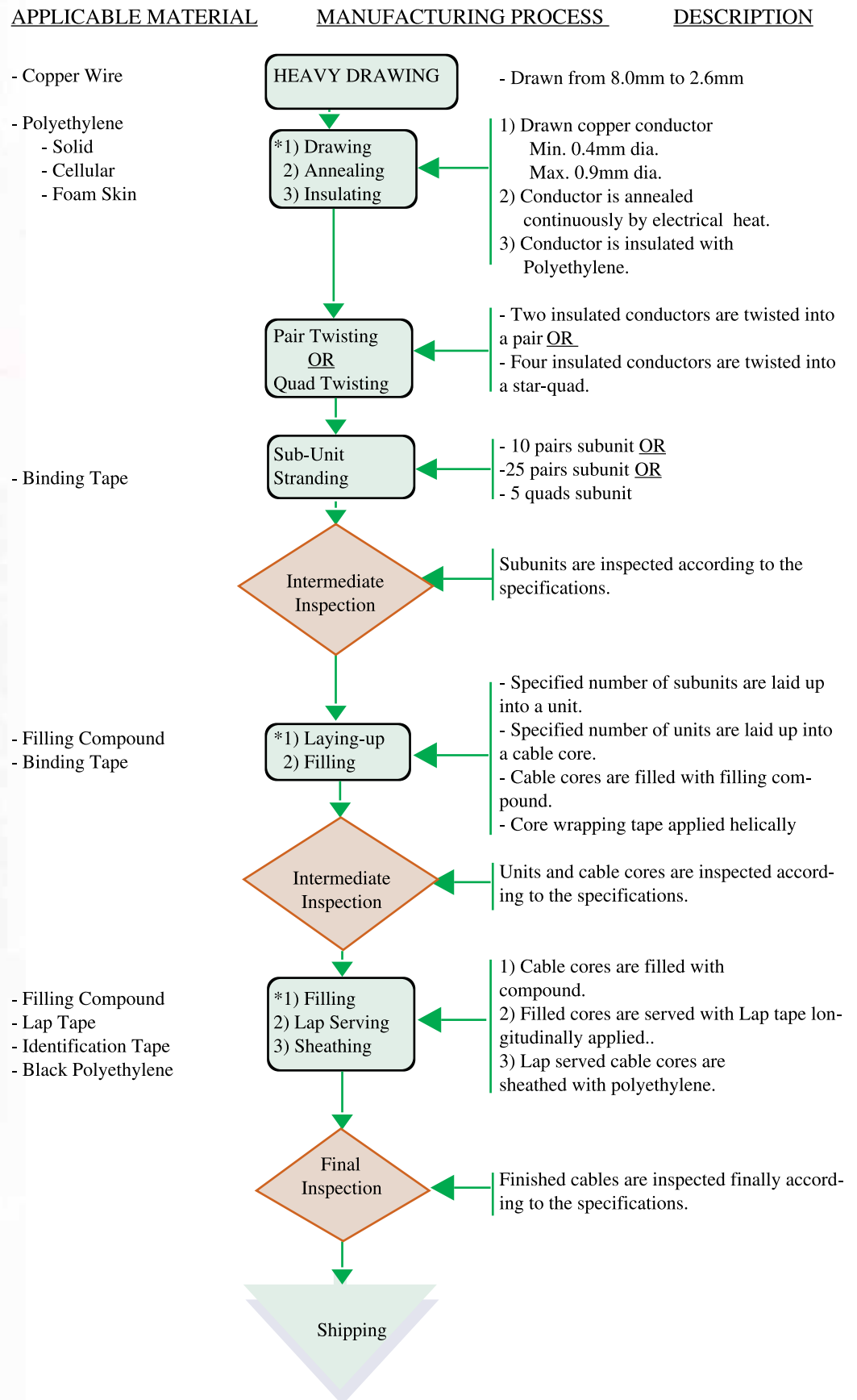
- * IEC, International*
- * VDE, Germany*
- * NF, France*
- * REA, U.S.America*
- * BS, United Kingdom*

STANDARD PRODUCTS

- * Air-Core Telephone Cables.*
- * Jelly-Filled Telephone Cables.*
- * Self Supporting Aerial Telephone Cables.*
- * Indoor PVC Telephone Cables.*
- * Buried Service Telephone Wires.*
- * Indoor Telephone Wires.*
- * Jumper Wires.*
- * Drop Wires*
- * Pilot Cables.*

PROCESS FLOW CHART

MILE STONE



* The MARK means that all manufacturing processes are in tandem operation.

QUALITY CONTROL

MEETING CUSTOMER SATISFACTION

Commitment to quality Control at all production stages as well as personnel activities.

Quality control includes the following inspections and testing:

- * In-coming raw material Inspection.*
- * On-line testing and control equipment*
- *In-between process testing of subunits, units and cable cores.*
- * Final testing equipment for low frequency and high frequency cable characteristics.*
- * Statistical records for the testing standards.*

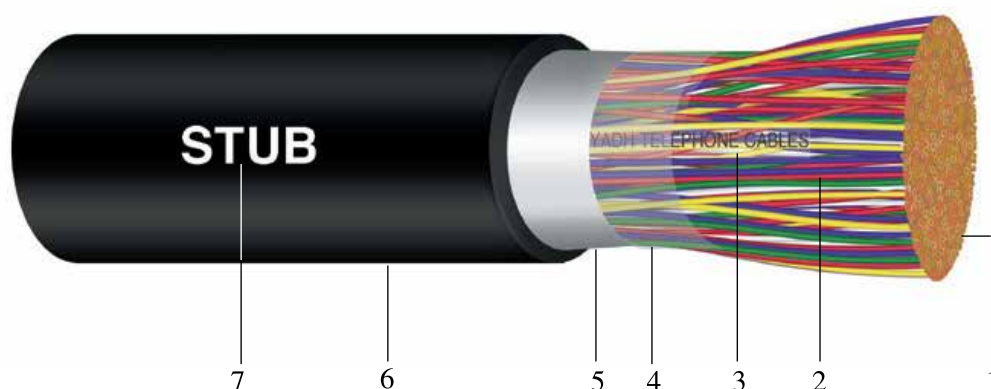
QUALITY ASSURANCE POLICY :

ZERO DEFECT

- 1- Specify quality target data.*
- 2- Recognize problems.*
- 3- Analyse*
- 4- Identify problem solution.*
- 5- Formulate action plan.*
- 6- Implement action plan.*
- 7- Check for success.*
- 8- Set new quality target data.*
- 9- Zero defect.*

STUB CABLE

PRODUCT CODE: UCEEO & UCELO



1. Copper Conductor
2. Solid PE insulation
3. Identification tape
4. Core wrapping tape
5. Aluminium moisture barrier tape (for cables over 100 pairs)
6. Black PE sheath
7. Sheath marking

Description : Plain solid annealed copper conductor, high density solid polyethylene insulated, paired, ten pairs sub-unit type, air core, polyethylene sheathed, cable cores over 100 pairs manufactured with a moisture barrier, generally complying with Saudi Telecom specification TS-2001(EES)

Application : Stub cable is used for outside plant networks, installed between manholes and cabinets. Cables up to 100 pairs are connected to cabinets or distribution pillar terminal boxes. It is suitable for tropical environmental conditions (from -10°C to + 55°C ambient).

Related Specifications : IEC 60708

Dimensions and Standard Packing :

RTC Product No.	Cable size (No. x mm)	Approx. Outer Dia. (mm)	Approx. Gross Wt. (Kg)	Shipping Length (Meter)	Drum Size (Flange Dia) (mm)
UCEEO 032	10 x 2 x 0.50	10.0	156	1000	800
UCEEO 042	20 x 2 x 0.50	12.5	252	1000	1000
UCEEO 062	50 x 2 x 0.50	17.5	473	1000	1200
UCEEO 072	100 x 2 x 0.50	24.0	851	1000	1400
UCELO 082	200 x 2 x 0.50	33.0	1664	1000	1800
UCELO 102	300 x 2 x 0.50	39.5	2363	1000	2000
UCELO 112	400 x 2 x 0.50	45.0	3005	1000	2200

STUB CABLES

ELECTRICAL AND TRANSMISSION CHARACTERISTICS

1. Conductor Resistance : **at 20 °C**

Maximum average : 92 ohms/Km

Maximum individual : 96 ohms/Km

1.1 Resistance Unbalance (%)

Maximum average : 0.75

Maximum individual : 2.5

Resistance unbalance shall be calculated with the following formula

$$R (\%) = \frac{R_{\max} - R_{\min}}{R_{\max} + R_{\min}} \times 100$$

2. Insulation Resistance

The Insulation resistance shall not be less than 10,000 mega ohms. km at 20°C

2.1 Dielectric Withstand Voltage:

DC voltage shall be applied for minimum 3 seconds.

Conductor to Conductor : 2000 volts.

Conductor to Screen : 5000 volts.

3. Mutual Capacitance :

(at 1000 ± 200 Hz)

Maximum average : 44 ± 2 n F/Km

Maximum individual : 50 nF/Km

4. Capacitance Unbalance **(at 1000 ± 200 Hz)**

4.a) Pair to Pair within sub-unit:

Maximum average : 22pF/500 m.

Maximum individual : 150 pF/500 m.

4.b) Pair to Pair between adjacent sub-units or units.

Maximum average : 20 pF/500 m.

Maximum individual : 50 pF/500 m.

4.c) Pair to Earth:

Maximum average : 500 pF/Km

Maximum individual : 2500 pF/Km

5. Attenuation :

The attenuation of cables at 1 KHz and 1MHz shall not exceed the following values when corrected to 45 °C.

Max. average attenuation (dB/Km)	
At 1 KHz	At 1 MHz
1.45	22.6

STUB CABLES

ELECTRICAL AND TRANSMISSION CHARACTERISTICS

6. Cross Talk:

6.a) Pair to Pair Near-End (NEXT)

coupling loss:

The measurement shall be performed on one randomly selected outer unit and 99% of pair combinations shall exceed the following values at the specified frequencies.

Frequency (KHz)	Min. NEXT Limit (dB/Km)
1	85
12	80
80	67
1000	48

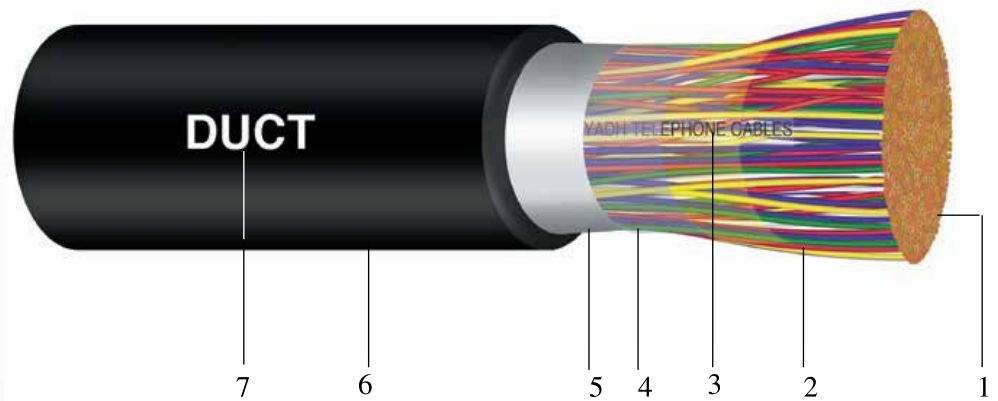
6.b) NEXT and ELFEXT Individual

Power Sums:

The near-end (NEXT) and equal level far-end (ELFEXT) individual power sums shall exceed the following values at the specified frequencies .

Frequency (KHz)	Within Unit (dB/Km)	
	Min. NEXT	Min. ELFEXT
1	70	74
12	67	71
80	55	58
1000	37	36

AIRCORE, PRESSURIZED, DUCT TYPE PRIMARY LOCAL TELEPHONE CABLE **PRODUCT CODE :ACCLO**



1. Copper Conductor
2. Cellular PE insulation
3. Identification tape
4. Core wrapping tape
5. Aluminium moisture barrier
6. Black PE sheath
7. Sheath marking

Description : Plain solid annealed copper conductor, high density cellular polyethylene insulated, paired, ten pairs sub-unit type, air core, screened with aluminium moisture barrier and polyethylene sheathed. compliance with Saudi Telecom specification TS-2001(CES)

Application : Air core duct cable is placed in duct and used for primary underground distribution network between manholes and exchanges, having a single jacket. It is suitable for tropical environmental conditions (from -10 °C to 55 °C ambient).

Related Specifications : IEC 60708

AIRCORE CABLE

Dimensions and Standard Packing

RTC Product No.	Cable size (No. x mm)	Approx. Outer Dia. (mm)	Approx. Gross Wt. (Kg)	Shipping Length (Meter)	Drum Size (Flange Dia) (mm)
ACCLO 101	300 x 2 x 0.40	29.0	1460	1000	1800
ACCLO 121	600 x 2 x 0.40	39.0	2500	1000	2000
ACCLO 131	900 x 2 x 0.40	47.0	2250	600	2000
ACCLO 141	1200 x 2 x 0.40	54.0	1550	300	1800
ACCLO 151	1500 x 2 x 0.40	60.0	1950	300	2000
ACCLO 161	1800 x 2 x 0.40	65.5	2210	300	2000
ACCLO 171	2100 x 2 x 0.40	70.0	2575	300	2200
ACCLO 181	2400 x 2 x 0.40	75.0	2850	300	2200
ACCLO 102	300 x 2 x 0.50	35.0	1960	1000	1800
ACCLO 122	600 x 2 x 0.50	47.5	2325	600	2000
ACCLO 132	900 x 2 x 0.50	57.5	1710	300	1800
ACCLO 142	1200 x 2 x 0.50	66.0	2280	300	2000
ACCLO 152	1500 x 2 x 0.50	73.5	2705	300	2200
ACCLO 162	1800 x 2 x 0.50	80.0	3110	300	2200
ACCLO 104	300 x 2 x 0.65	44.5	1850	600	1800
ACCLO 124	600 x 2 x 0.65	61.5	1900	300	1800
ACCLO 134	900 x 2 x 0.65	74.6	2750	300	2000
ACCLO 144	1200 x 2 x 0.65	85.0	3550	300	2200
ACCLO 076	100 x 2 x 0.90	36.0	1500	600	1600
ACCLO 106	300 x 2 x 0.90	59.60	2125	300	1800

AIRCORE CABLE

ELECTRICAL AND TRANSMISSION CHARACTERISTICS

1. Conductor Resistance: **at 20 °C**

Copper Conductor Dia. (mm)	Max. Resistance (Ohms/Km)	
	Average	Individual
0.40	144	150
0.50	92	96
0.65	54	57
0.90	28	30

1.1 Resistance Unbalance:

Resistance unbalance shall be calculated with the following formula

$$R (\%) = \frac{R_{\max} - R_{\min}}{R_{\max} + R_{\min}} \times 100$$

Copper Conductor Dia. (mm)	Max. Resistance Unbalance(%)	
	Average	Individual
0.40	1.00	2.5
0.50	0.75	2.5
0.65	0.75	2.0
0.90	0.75	2.0

2. Insulation Resistance:

The insulation resistance shall not be less than 5000 mega ohms. km. at 20 °C

2.1 Dielectric Withstand Voltage:

DC voltage shall be applied for minimum 3 seconds as given below.

Copper Conductor Dia. (mm)	Min. Test Voltage (Volts dc)	
	Conductor to Conductor	Conductor to Screen
0.40	1700	5000
0.50	2000	5000
0.65	2500	10000
0.90	3500	10000

3. Mutual Capacitance:

(at 1000 ± 200Hz)

Maximum average : 44 ± 2 nF/Km

Maximum individual : 50 nF/Km.

4. Capacitance Unbalance:

(at 1000 ± 200 Hz)

4.a) Pair to Earth:

Maximum average : 500 pF/km

Maximum individual : 2500 pF/km

4.b) Pair to Pair:

	Max. Capacitance Unbalance (pF/500m)	
	Average	Individual
Within a sub-unit	25	150
Between adjacent sub-units & units	17	55

5. Attenuation:

The corrected attenuation values to 45 °C shall not exceed the following values.

Copper Conductor Dia. (mm)	Max. Average attenuation (dB/Km)	
	At 1 KHz	At 1 MHz
0.40	1.81	26.5
0.50	1.45	22.6
0.65	1.11	18.5
0.90	0.80	13.3

AIRCORE CABLE
ELECTRICAL AND TRANSMISSION CHARACTERISTICS

6. Cross Talk:

**6.a) Pair to Pair Near-End (NEXT)
coupling loss:**

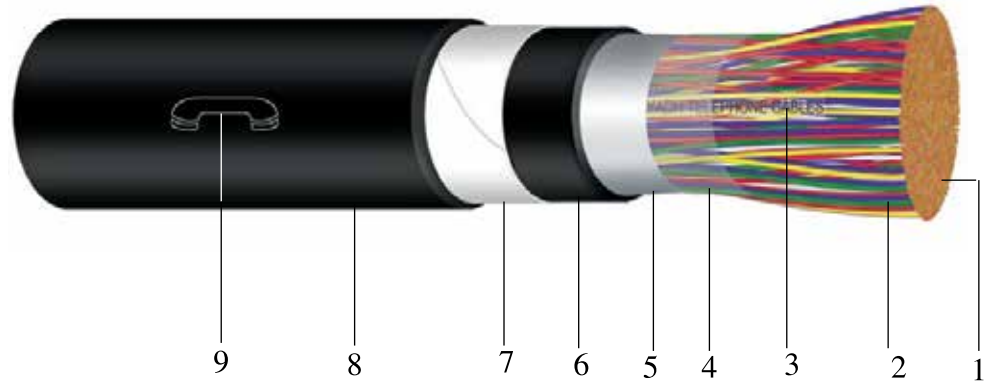
The measurement shall be performed on one randomly selected outer unit and 99% of pair combinations shall exceed the following values at the specified frequencies.

Frequency (KHz)	Min. NEXT Limit (dB/Km)
1	85
12	80
80	67
1000	48

**6.b) NEXT and ELFEXT Individual
Power Sums:**

The near-end (NEXT) and equal level far-end (ELFEXT) individual power sums shall exceed the following values at the specified frequencies.

Frequency (KHz)	Within Unit (dB/Km)	
	Min. NEXT	Min. ELFEXT
1	70	74
12	67	71
80	55	58
1000	37	36



- | | |
|---|---------------------------|
| 1. Copper Conductor | 2. Cellular PE insulation |
| 3. Identification tape | 4. Core wrapping tape |
| 5. Aluminium moisture barrier | 6. Inner sheath, black PE |
| 7. Water swellable tape/flooding compound | 8. Outer sheath, black PE |
| 9. Sheath marking | |

Description : Plain solid annealed copper conductor, high density cellular polyethylene insulated, paired, ten pairs sub-unit type, air core, screened with aluminium moisture barrier and double polyethylene sheathed with a water swellable tape or flooding compound between the sheaths, generally complying with Saudi Telecom specification TS-2001(CESE)

Application : Cellular polyethylene insulated, air core, direct buried type cable is used for primary underground distribution network between manholes and exchanges, having double polyethylene sheaths for direct buried applications. It is suitable for tropical environmental conditions (from -10 °C to + 55 °C ambient).

Related Specifications : IEC - 60708

AIRCORE CABLE DIRECT BURIED TYPE**Dimensions and Standard Packing**

RTC Product No.	Cable size (No. x mm)	Approx. Outer Dia. (mm)	Approx. Gross Wt. (Kg)	Shipping Length (Meter)	Drum Size (Flange Dia) (mm)
ACCDO 101	300 x 2 x 0.40	33.0	1585	1000	1800
ACCDO 121	600 x 2 x 0.40	43.2	2700	1000	2000
ACCDO 131	900 x 2 x 0.40	51.0	2400	600	2000
ACCDO 141	1200 x 2 x 0.40	58.10	1610	300	1800
ACCDO 151	1500 x 2 x 0.40	64.0	1880	300	1800
ACCDO 161	1800 x 2 x 0.40	69.5	2310	300	2000
ACCDO 171	2100 x 2 x 0.40	74.0	2675	300	2200
ACCDO 181	2400 x 2 x 0.40	79.0	2960	300	2200
ACCDO 102	300 x 2 x 0.50	39.0	2285	1000	2000
ACCDO 122	600 x 2 x 0.50	51.5	2470	600	2000
ACCDO 132	900 x 2 x 0.50	61.7	1720	300	1600
ACCDO 142	1200 x 2 x 0.50	70.0	2380	300	2000
ACCDO 152	1500 x 2 x 0.50	77.70	2850	300	2000
ACCDO 162	1800 x 2 x 0.50	84.0	3325	300	2200
ACCDO 104	300 x 2 x 0.65	48.5	2215	600	2000
ACCDO 124	600 x 2 x 0.65	65.7	1980	300	1800
ACCDO 134	900 x 2 x 0.65	78.8	2860	300	2000
ACCDO 144	1200 x 2 x 0.65	89.2	3670	300	2200
ACCDO 076	100 x 2 x 0.90	40.5	1500	600	1600
ACCDO 106	300 x 2 x 0.90	63.8	1910	300	1800

AIRCORE CABLE DIRECT BURIED TYPE

ELECTRICAL AND TRANSMISSION CHARACTERISTICS

1. Conductor Resistance: **at 20 °C**

Copper Conductor Dia. (mm)	Max. Resistance (Ohms/Km)	
	Average	Individual
0.40	144	150
0.50	92	96
0.65	54	57
0.90	28	30

1.1 Resistance Unbalance (%) :

Resistance unbalance shall be calculated with the following formula

$$R (\%) = \frac{R_{max} - R_{min}}{R_{max} + R_{min}} \times 100$$

Copper Conductor Dia. (mm)	Max. Resistance Unbalance(%)	
	Average	Individual
0.40	1.00	2.5
0.50	0.75	2.5
0.65	0.75	2.0
0.90	0.75	2.0

2. Insulation Resistance:

The insulation resistance shall not be less than 5000 mega ohm. km. at 20°C

2.1 Dielectric Withstand Voltage:

DC voltage shall be applied for minimum 3 seconds as given below.

Copper Conductor Dia. (mm)	Min. Test Voltage (Volts dc)	
	Conductor to Conductor	Conductor to Screen
0.40	1700	5000
0.50	2000	5000
0.65	2500	10000
0.90	3500	10000

3. Mutual Capacitance:

(at 1000 ± 200Hz)

Maximum average : 44 ± 2 nF/Km

Maximum individual : 50 nF/Km.

4. Capacitance Unbalance: **(at 1000 ± 200 Hz)**

4.a) Pair to Earth:

Maximum average : 500 pF/km

Maximum individual : 2500 pF/km

4.b) Pair to Pair:

	Max. Capacitance Unbalance (pF/500m)	
	Average	Individual
Within a sub-unit	25	150
Between adjacent units or sub-units	17	55

5. Attenuation:

The corrected attenuation values to 45°C shall not exceed the following values.

Copper Conductor Dia. (mm)	Max. Average attenuation (dB/Km)	
	At 1KHz	At 1MHz
0.40	1.81	26.5
0.50	1.45	22.6
0.65	1.11	18.5
0.90	0.80	13.3

AIRCORE CABLE DIRECT BURIED TYPE
ELECTRICAL AND TRANSMISSION CHARACTERISTICS

6. Cross Talk:

6.a) Pair to Pair Near-End (NEXT)

coupling loss:

The measurement shall be performed on one randomly selected outer unit and 99% of pair combinations shall exceed the following values .

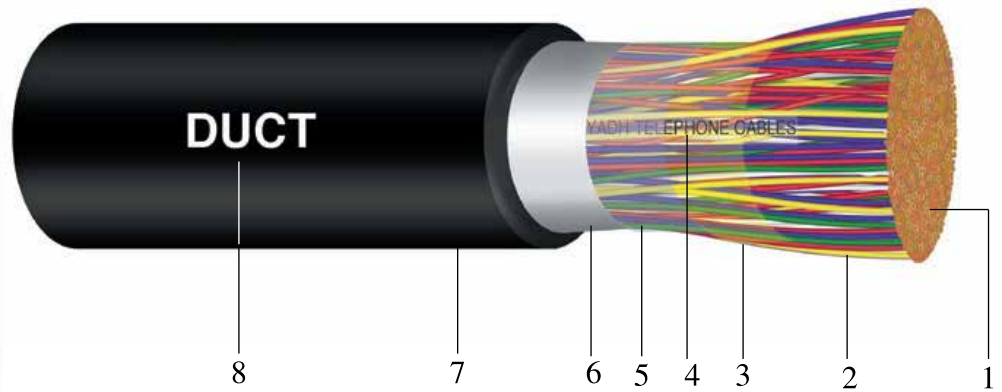
Frequency (KHz)	Min. NEXT Limit (dB/Km)
1	85
12	80
80	67
1000	48

6.b) NEXT and ELFEXT Individual

Power Sums:

The near-end (NEXT) and equal level far-end (ELFEXT) individual power sums shall exceed the following values at the specified frequencies .

Frequency (KHz)	Within Unit (dB/Km)	
	Min. NEXT	Min. ELFEXT
1	70	74
12	67	71
80	55	58
1000	37	36



- | | |
|----------------------------|-------------------------------|
| 1. Copper Conductor | 2. Insulation (Foam - skin) |
| 3. Filling compound(jelly) | 4. Identification tape |
| 5. Core wrapping tape | 6. Aluminium moisture barrier |
| 7. Outer sheath, black PE | 8. Sheath marking |

Description : Plain solid annealed copper conductor, high density polyethylene foam skin insulated, paired, ten pairs sub-unit type, jelly filled, screened and black polyethylene sheathed, duct type primary and secondary local telephone cable, generally complying with Saudi Telecom specification TS- 2002 (CEF)

Application : Polyethylene insulated water proof (jelly filled) CEF type cables are used for primary and secondary underground distribution networks, (i.e., in the secondary network between cross-connection cabinets and the subscribers connections, in the primary network between the exchange and cross-connection cabinets). CEF produced for duct installation with a single black polyethylene sheath. It is suitable for tropical environmental conditions (from- 10 °C to + 55 °C ambient).

Related Specifications : IEC 60708

JELLY FILLED CABLE DUCT TYPE**Dimensions and Standard Packing**

RTC Product No.	Cable size (No. x mm)	Approx. Outer Dia. (mm)	Approx. Gross Wt. (Kg)	Shipping Length (Meter)	Drum Size (Flange Dia) (mm)
FCKLO 041	20 x 2 x 0.40	11.0	202	1000	800
FCKLO 061	50 x 2 x 0.40	15.0	369	1000	1000
FCKLO 071	100 x 2 x 0.40	19.5	644	1000	1200
FCKLO 091	200 x 2 x 0.40	26.0	1214	1000	1600
FCKLO 101	300 x 2 x 0.40	31.0	1602	1000	1600
FCKLO 121	600 x 2 x 0.40	42.0	1879	600	1800
FCKLO 131	900 x 2 x 0.40	51.0	2717	600	2000
FCKLO 141	1200 x 2 x 0.40	58.5	1830	300	1800
FCKLO 151	1500 x 2 x 0.40	65.5	2315	300	2000
FCKLO 161	1800 x 2 x 0.40	71.5	2662	300	2000
FCKLO 032	10 x 2 x 0.50	10.0	174	1000	800
FCKLO 042	20 x 2 x 0.50	12.5	280	1000	1000
FCKLO 062	50 x 2 x 0.50	17.5	510	1000	1200
FCKLO 072	100 x 2 x 0.50	23.5	908	1000	1400
FCKLO 092	200 x 2 x 0.50	31.5	1730	1000	1800
FCKLO 102	300 x 2 x 0.50	38.0	1467	600	1600
FCKLO 122	600 x 2 x 0.50	52.5	2816	600	2000
FCKLO 132	900 x 2 x 0.50	63.0	2030	300	1800
FCKLO 142	1200 x 2 x 0.50	72.5	2720	300	2000
FCKLO 044	20 x 2 x 0.65	15.0	373	1000	1000
FCKLO 064	50 x 2 x 0.65	21.5	800	1000	1400
FCKLO 074	100 x 2 x 0.65	29.5	891	600	1400
FCKLO 094	200 x 2 x 0.65	40.5	1593	600	1600
FCKLO 104	300 x 2 x 0.65	48.0	2409	600	2000
FCKLO 124	600 x 2 x 0.65	67.0	2368	300	2000
FCKLO 046	20 x 2 x 0.90	19.5	377	600	1000
FCKLO 066	50 x 2 x 0.90	29.0	816	600	1400
FCKLO 076	100 x 2 x 0.90	39.5	1541	600	1600
FCKLO 096	200 x 2 x 0.90	54.0	1470	300	1600
FCKLO 106	300 x 2 x 0.90	65.0	2277	300	2000

JELLY FILLED CABLE DUCT TYPE ELECTRICAL AND TRANSMISSION CHARACTERISTICS

1. Conductor Resistance: **at 20 °C**

Copper Conductor Dia. (mm)	Max. Resistance (Ohms/Km)	
	Average	Individual
0.40	144	150
0.50	92	96
0.65	54	57
0.90	28	30

1.1 Resistance Unbalance (%) :

Resistance unbalance shall be calculated with the following formula

$$R (\%) = \frac{R_{\max} - R_{\min}}{R_{\max} + R_{\min}} \times 100$$

Copper Conductor Dia. (mm)	Max. Resistance Unbalance(%)	
	Average	Individual
0.40	1.00	2.5
0.50	0.75	2.5
0.65	0.75	2.0
0.90	0.75	2.0

2. Insulation Resistance:

The insulation resistance shall not be less than 2500 mega ohm. km. at 20°C

2.1 Dielectric Withstand Voltage:

DC voltage shall be applied for minimum 3 seconds as given below.

Copper Conductor Dia. (mm)	Min. Test Voltage (Volts dc)	
	Conductor to Conductor	Conductor to Screen
0.40	2400	5000
0.50	2400	5000
0.65	3000	10000
0.90	3600	10000

3. Mutual Capacitance: **(at 1000 ± 200Hz)**

Maximum average : 44 ± 2 nF/Km
Maximum individual : 50 nF/Km.

4. Capacitance Unbalance: **(at 1000 ± 200 Hz)**

4.a) Pair to Earth:

Maximum average : 500 pF/km

Maximum individual : 2500 pF/km

4.b) Pair to Pair:

	Max. Capacitance Unbalance (pF/500m)	
	Average	Individual
Within a sub-unit	25	150
Between adjacent units or sub units	17	55

5. Attenuation:

The corrected attenuation values to 45 °C shall not exceed the following values.

Copper Conductor Dia. (mm)	Max. Average attenuation (dB/Km)	
	At KHz	At MHz
0.40	1.81	25.7
0.50	1.45	21.0
0.65	1.10	16.3
0.90	0.80	13.6

JELLY FILLED CABLE DUCT TYPE
ELECTRICAL AND TRANSMISSION CHARACTERISTICS

6. Cross Talk:

6.a) Pair to Pair Near-End (NEXT)

coupling loss:

The measurement shall be performed on one randomly selected outer unit and 99% of pair combinations shall exceed the following values at the specified frequencies.

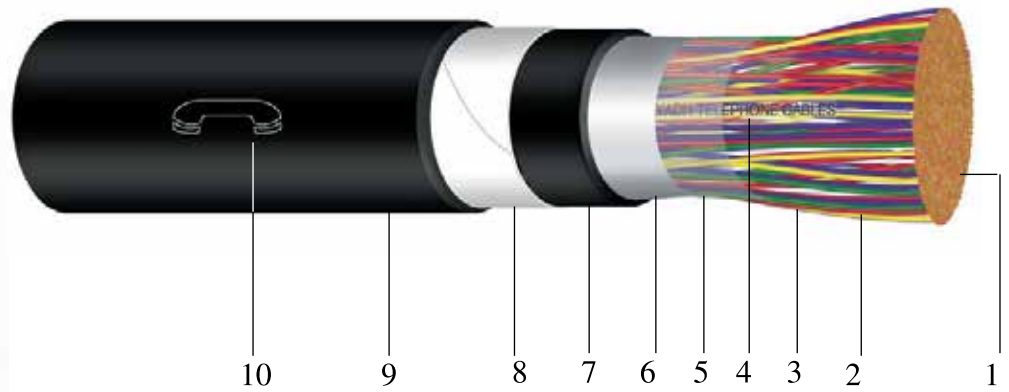
Frequency (KHz)	Min. NEXT Limit (dB/Km)
1	85
12	80
80	67
1000	48

6.b) NEXT and ELFEXT Individual

Power Sums:

The near-end (NEXT) and equal level far-end (ELFEXT) individual power sums shall exceed the following values at the specified frequencies .

Frequency (KHz)	Within Unit (dB/Km)	
	Min. NEXT	Min. ELFEXT
1	70	74
12	67	71
80	55	58
1000	37	36



- | | |
|---------------------------|---|
| . Copper Conductor | 2. Insulation (Foam - skin) |
| . Filling compound(jelly) | 4. Identification tape |
| . Core wrapping tape | 6. Aluminium moisture barrier/flooding compound |
| . Inner sheath, black PE | 8. Water swellable tape |
| . Outer sheath, black PE | 10. Sheath marking |

Description : Plain solid annealed copper conductor, high density polyethylene foam skin insulated, paired, ten pairs sub-unit type, jelly filled, screened with aluminium moisture barrier and double black polyethylene sheathed, with water swellable tape or flooding compound between the inner and outer sheaths, direct buried type, primary and secondary local telephone cable, (CEFE) generally complying with Saudi Telecom specification TS- 2002 (CEFE).

Application : Polyethylene insulated water proof (jelly filled) CEFE type cables are used for primary and secondary underground distribution networks, (i.e., in the secondary network between cross-connection cabinets and the subscribers connections, in the primary network between the exchange and cross-connection cabinets). CEFE produced for direct buried installation with double black PE sheath it is suitable for tropical environmental conditions (from- 10 °C to + 55 °C ambient).

Related Specifications : IEC 60708

JELLY FILLED CABLE DIRECT BURIED TYPE**Dimensions and Standard Packing**

RTC Product No.	Cable size (No. x mm)	Approx. Outer Dia. (mm)	Approx. Gross Wt. (KG)	Shipping Length (Meter)	Drum Size (Flange Dia) (mm)
FCKDO 041	20 x 2 x 0.40	14.5	300	1000	1000
FCKDO 061	50 x 2 x 0.40	18.5	500	1000	1200
FCKDO 071	100 x 2 x 0.40	23.0	811	1000	1400
FCKDO 091	200 x 2 x 0.40	30.0	1440	1000	1800
FCKDO 101	300 x 2 x 0.40	34.5	1985	1000	2000
FCKDO 121	600 x 2 x 0.40	46.0	2160	600	2000
FCKDO 131	900 x 2 x 0.40	55.0	2973	600	2200
FCKDO 141	1200 x 2 x 0.40	62.0	1908	300	1800
FCKDO 151	1500 x 2 x 0.40	69.0	2413	300	2000
FCKDO 161	1800 x 2 x 0.40	75.0	2870	300	2200
FCKDO 032	10 x 2 x 0.50	13.5	269	1000	1000
FCKDO 042	20 x 2 x 0.50	16.0	348	1000	1000
FCKDO 062	50 x 2 x 0.50	21.0	653	1000	1400
FCKDO 072	100 x 2 x 0.50	27.0	1134	1000	1600
FCKDO 092	200 x 2 x 0.50	35.0	2020	1000	2000
FCKDO 102	300 x 2 x 0.50	41.5	1675	600	1800
FCKDO 122	600 x 2 x 0.50	56.0	3033	600	2200
FCKDO 132	900 x 2 x 0.50	66.5	2275	300	2000
FCKDO 142	1200 x 2 x 0.50	76.0	2930	300	2200
FCKDO 044	20 x 2 x 0.65	18.5	506	1000	1200
FCKDO 064	50 x 2 x 0.65	25.0	1004	1000	1600
FCKDO 074	100 x 2 x 0.65	33.0	1087	600	1600
FCKDO 094	200 x 2 x 0.65	44.0	1794	600	1800
FCKDO 104	300 x 2 x 0.65	51.5	2553	600	2000
FCKDO 124	600 x 2 x 0.65	70.5	2467	300	2000
FCKDO 046	20 x 2 x 0.90	23.0	489	600	1200
FCKDO 066	50 x 2 x 0.90	32.5	1005	600	1600
FCKDO 076	100 x 2 x 0.90	43.0	1739	600	1800
FCKDO 086	150 x 2 x 0.90	50.5	2452	600	2000
FCKDO 096	200 x 2 x 0.90	57.5	1670	300	1800
FCKDO 106	300 x 2 x 0.90	70.0	2374	300	2000

JELLY FILLED CABLE DIRECT BURIED TYPE

ELECTRICAL AND TRANSMISSION CHARACTERISTICS

1. Conductor Resistance: **at 20 °C**

Copper Conductor Dia. (mm)	Max. Resistance (Ohms/Km)	
	Average	Individual
0.40	144	150
0.50	92	96
0.65	54	57
0.90	28	30

1.1 Resistance Unbalance(%):

Resistance unbalance shall be calculated with the following formula

$$R (\%) = \frac{R_{max} - R_{min}}{R_{max} + R_{min}} \times 100$$

Copper Conductor Dia. (mm)	Max. Resistance Unbalance(%)	
	Average	Individual
0.40	1.00	2.5
0.50	0.75	2.5
0.65	0.75	2.0
0.90	0.75	2.0

2. Insulation Resistance:

The insulation resistance shall not be less than 2500 mega ohm. km. at 20°C

2.1 Dielectric Withstand Voltage:

DC voltage shall be applied for minimum 3 seconds as given below.

Copper Conductor Dia. (mm)	Min. Test Voltage (Volts dc)	
	Conductor to Conductor	Conductor to Screen
0.40	2400	5000
0.50	2400	5000
0.65	3000	10000
0.90	3600	10000

3. Mutual Capacitance:

(at 1000 ± 200Hz)

Maximum average : 44 ± 2 nF/Km

Maximum individual : 50 nF/Km.

4. Capacitance Unbalance:

(at 1000 ± 200 Hz)

4.a) Pair to Earth:

Maximum average : 500 pF/km

Maximum individual : 2500 pF/km

4.b) Pair to Pair:

	Max. Capacitance Unbalance (pF/500m)	
	Average	Individual
Within a sub-unit	25	150
Between adjacent units or sub-units	17	55

5. Attenuation:

The corrected attenuation values to 45 °C shall not exceed the following values.

Copper Conductor Dia. (mm)	Max. Average attenuation (dB/Km)	
	At 1KHz	At 1MHz
0.40	1.81	25.7
0.50	1.45	21.0
0.65	1.10	16.3
0.90	0.80	13.6

JELLY FILLED CABLE DIRECT BURIED TYPE
ELECTRICAL AND TRANSMISSION CHARACTERISTICS

6. Cross Talk:

6.a) Pair to Pair Near-End (NEXT)

coupling loss:

The measurement shall be performed on one randomly selected outer unit and 99% of pair combinations shall exceed the following values at the specified frequencies.

Frequency (KHz)	Min. NEXT Limit (dB/Km)
1	85
12	80
80	67
1000	48

6.b) NEXT and ELFEXT Individual

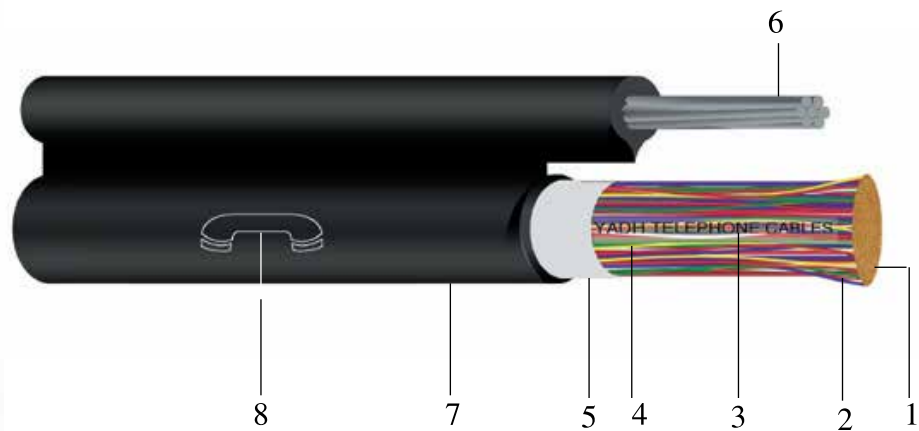
Power Sums:

The near-end (NEXT) and equal level far-end (ELFEXT) individual power sums shall exceed the following values at the specified frequencies.

Frequency (KHz)	Within Unit (dB/Km)	
	Min. NEXT	Min. ELFEXT
1	70	74
12	67	71
80	55	58
1000	37	36

SELF SUPPORTING AERIAL CABLE

PRODUCT CODE : SCEL



- | | |
|-------------------------------|---|
| 1. Copper Conductor | 2. Solid PE Insulation |
| 3. Identification tape | 4. Core Wrapping tape |
| 5. Aluminium moisture barrier | 6. Stranded Support Messenger
(galvanized steel wires) |
| 7. Polyethylene black sheath | 8. Sheath marking |

Description : Plain solid annealed copper conductor, high density solid polyethylene insulated, paired, ten pairs sub-unit type, aluminium moisture barrier screened, black polyethylene sheathed self supporting aerial cables (EEMS) generally complying with Saudi Arabia MOPTT MAT - 1201 specification.

Application : EEMS self supporting aerial cable is used in the telecommunication network, particularly in local networks on poles and walls.

Related Specifications : IEC 708-1

SELF SUPPORTING AERIAL CABLE

Dimensions and Standard Packing

RTC Product No.	Cable size (No. x mm)	Approx. Dimensions D1 X D2 X H (mm)	No. & Dia. of Steel Wire (mm)	Web Height & Width (mm)	Appr. Gross Wt. (Kg)	Shipping Length (Meter)	Drum Size (Flange Dia) (mm)
SCELO 061	50 x 2 x 0.40	15.0 x 6.6 x 24.5	7 x 1.2	3.0 x 2.8	491	1000	1200
SCELO 071	100 x 2 x 0.40	20.0 x 6.6 x 30.0	7 x 1.2	3.0 x 2.8	745	1000	1400
SCELO 081	150 x 2 x 0.40	24.0 x 7.2 x 34.2	7 x 1.2	3.0 x 2.8	1064	1000	1600
SCELO 091	200 x 2 x 0.40	27.0 x 8.4 x 38.5	7 x 1.6	3.0 x 2.8	1382	1000	1800
SCELO 062	50x 2 x 0.50	18.0 x 6.6 x 27.5	7 x 1.2	3.0 x 2.8	666	1000	1400
SCELO 072	100x 2 x 0.50	24.5 x 8.4 x 36.6	7 x 1.6	3.0 x 2.8	1142	1000	1600
SCELO 082	150x 2 x 0.50	29.0 x 8.4 x 40.5	7 x 1.6	3.0 x 2.8	1521	1000	1800
SCELO 092	200x 2 x 0.50	33.0 x 8.6 x 44.5	7 x 1.6	3.0 x 2.8	1980	1000	2000
SCELO 034	10 x 2 x 0.65	12.0 x 6.6 x 21.5	7 x 1.2	3.0 x 2.8	395	1000	1200
SCELO 044	20 x 2 x 0.65	15.5 x 6.6 x 25.0	7 x 1.2	3.0 x 2.8	502	1000	1200
SCELO 064	50 x 2 x 0.65	22.0 x 7.2 x 32.0	7 x 1.2	3.0 x 2.8	971	1000	1600
SCELO 074	100 x 2 x 0.65	30.0 x 8.4 x 41.5	7 x 1.6	3.0 x 2.8	1757	1000	2000
SCELO 084	150 x 2 x 0.65	35.5 x 8.6 x 47.0	7 x 1.6	3.0 x 2.8	2225	1000	2200
SCELO 094	200 x 2 x 0.65	41.0 x 8.8 x 52.8	7 x 1.6	3.0 x 2.8	2948	1000	2400
SCELO 036	10 x 2 x 0.90	15.0 x 6.6 x 24.5	7 x 1.2	3.0 x 2.8	492	1000	1200
SCELO 046	20 x 2 x 0.90	19.5 x 6.6 x 29.0	7 x 1.2	3.0 x 2.8	740	1000	1400
SCELO 066	50 x 2 x 0.90	29.0 x 8.4 x 40.5	7 x 1.6	3.0 x 2.8	1538	1000	1800
SCELO 076	100 x 2 x 0.90	39.5 x 8.6 x 51.0	7 x 1.6	3.0 x 2.8	3032	1000	2400
SCELO 086	150 x 2 x 0.90	48.8 x 10 x 61.8	7 x 2.0	3.0 x 2.8	4043	1000	2600

SELF SUPPORTING AERIAL CABLE ELECTRICAL AND TRANSMISSION CHARACTERISTICS

1. Conductor Resistance: **at 20 °C**

Copper Conductor Dia. (mm)	Max. Resistance (Ohms/Km)	
	Average	Individual
0.40	144	150
0.50	92	96
0.65	54	57
0.90	28	30

1.1 Resistance Unbalance(%):

Resistance unbalance shall be calculated with the following formula

$$R (\%) = \frac{R_{max} - R_{min}}{R_{max} + R_{min}} \times 100$$

Copper Conductor Dia. (mm)	Max. Resistance Unbalance(%)	
	Average	Individual
0.40	1.00	2.5
0.50	0.75	2.5
0.65	0.75	2.0
0.90	0.75	2.0

2. Insulation Resistance:

The insulation resistance shall not be less than 10000 mega ohms. km. at 20°C

2.1 Dielectric Withstand Voltage:

DC voltage shall be applied for minimum 3 seconds as given below. Each insulated conductor shall be able to withstand 220 V. d.c. for one minute.

Copper Conductor Dia. (mm)	Min. Test Voltage (Volts dc)	
	Conductor to Conductor	Conductor to Screen
0.40	1700	5000
0.50	2000	5000
0.65	2500	10000
0.90	3500	10000

3. Mutual Capacitance: **(at 1000 ± 200Hz)**

Maximum average : 44± 2 nF/Km
Maximum individual : 50 nF/Km.

4. Capacitance Unbalance: **(at 1000 ± 200 Hz)**

4.a) Pair to Earth:

Maximum average : 500 pF/km
Maximum individual : 2500 pF/km

4.b) Pair to Pair:

	Max. Capacitance Unbalance (pF/500m)	
	Average	Individual
Within a sub-unit	22	150
Between adjacent units or sub-units	20	50

5. Attenuation:

The corrected attenuation values to 45°C shall not exceed the following values.

Copper Conductor Dia. (mm)	Max. Average attenuation (dB/Km)	
	At 1KHz	At 1MHz
0.40	1.89	28.6
0.50	1.51	24.2
0.65	1.16	19.8
0.90	0.84	14.3

SELF SUPPORTING AERIAL CABLE ELECTRICAL AND TRANSMISSION CHARACTERISTICS

6. Cross Talk:

6.a) Pair to Pair Near-End (NEXT)

coupling loss:

The measurement shall be performed on one randomly selected outer unit and 99% of pair combinations shall exceed the following values at the specified frequencies.

Frequency (KHz)	Min. NEXT Limit (dB/Km)
1	85
12	80
80	67
1000	48

6.b) NEXT and ELFEXT

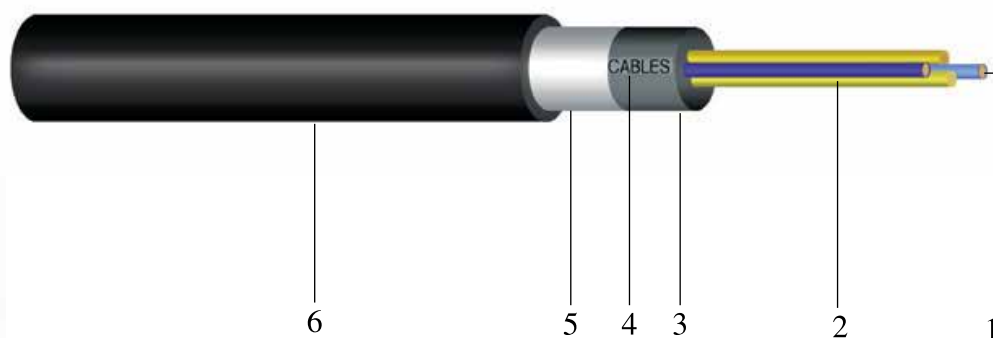
Individual Power Sums:

The near-end (NEXT) and equal level far-end (ELFEXT) individual power sums shall exceed the following values at the specified frequencies

Frequency (KHz)	Within Unit (dB/Km)	
	Min. NEXT	Min. ELFEXT
1	70	74
12	67	71
80	55	58
1000	37	36

BURIED SERVICE WIRE

PRODUCT CODE : BCEMO



1. Copper Conductor
2. High density PE Insulation
3. PVC inner sheath
4. Identification Tape.
5. Aluminium moisture barrier
6. Outer Sheath, PE black

Description : Plain solid annealed copper conductor, high density solid polyethylene insulated, quad form, air core, PVC inner sheathed moisture barrier aluminium screen and low density polyethylene outer sheathed buried service wire (BSW) complying with MOPTT MAT - 1301 specification.

Application : Buried service wire is used for direct buried installation in the outside plant network between distribution points and subscribers terminal boxes.

Dimensions and Standard Packing:

RTC Product No.	Cable size (No. x mm)	Approx. Outer Dia. (mm)	Approx. Gross Wt. (Kg)	Shipping Length (Meter)	Drum Size (Flange Dia) (mm)
BCEMO 022	1 X 4 x 0.50	8.3	110	1000	600

BURIED SERVICE WIRE ELECTRICAL AND TRANSMISSION CHARACTERISTICS

1. Conductor Resistance: **at 20 °C**

Maximum average : 92 ohms/Km
Maximum individual : 96 ohms/Km

1.1 Resistance Unbalance (%):

Maximum average : 0.75
Maximum individual : 2.5

Resistance unbalance shall be calculated with the following formula

$$R (\%) = \frac{R_{\max} - R_{\min}}{R_{\max} + R_{\min}} \times 100$$

2. Insulation Resistance:

The insulation resistance shall not be less than 10,000 mega ohm km at 20 °C

2.1 Dielectric Withstand Voltage:

DC voltage shall be applied for minimum 3 seconds.

Conductor to Conductor: 3000 Volts

Conductor to Screen : 10000 volts.

Each conductor shall be able to withstand a potential 250V dc. for 1 minute.

3. Mutual Capacitance:

(at 1000 ±200 Hz)

Maximum average : 44 ± 2 nF/Km
Maximum individual : 50 nF/Km

4. Capacitance Unbalance:

(at 1000 ± 200 Hz)

4.a) Pair to Pair:

Maximum average : 500 pF/km

Maximum individual : 2500 pF/km.

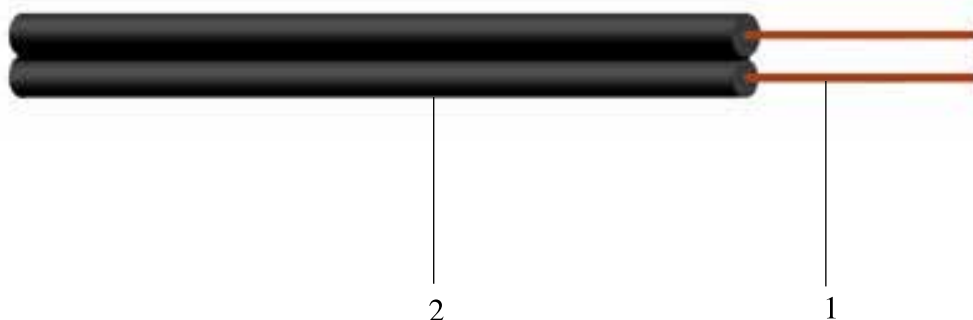
5. Attenuation:

The attenuation of cables at 1 KHz and 1 MHz shall not exceed the following values when corrected to 45 °C

Maximum average attenuation dB/Km	
1 KHz	1 MHz
1.45	22.6

DROP WIRE

PRODUCT CODE :DSEO



1. Copper coated Steel Wire
2. High density polyethylene Insulation

Description : Hard drawn copper coated steel parallel laid conductors, high density solid polyethylene insulated telephone drop wire complying with MOPTT MAT - 1311.

Application : Drop wires are used for outdoor connections between distribution points and subscribers premises.

Dimensions and Standard Packing:

RTC Product No.	Cable size (No. x mm)	Approx. Outer Dia. (mm)	Approx. Gross Wt. (Kg)	Shipping Length (Meter)	Coil Size (od/id/width) (mm)
DSEO 015	2 x 0.80	6.0 x 3.0	5.0	250	282x150 x100

DROP WIRE

ELECTRICAL AND TRANSMISSION CHARACTERISTICS

1. Conductor Resistance: **at 20 °C**

Maximum average : 88 ohms/Km

Maximum individual : 92 ohms/Km

1.1 Resistance Unbalance (%):

Maximum average : 1.0

Maximum individual : 3.6

Resistance unbalance shall be calculated with the following formula

$$R (\%) = \frac{R_{\max} - R_{\min}}{R_{\max} + R_{\min}} \times 100$$

2. Insulation Resistance:

The insulation resistance shall not be less than 500 mega ohm km at 20 °C

2.1 Dielectric Withstand Voltage:

DC voltage shall be applied for minimum 60 seconds.

Conductor to Conductor: 1500 Volts

3. Insulation Integrity between each conductor to water:

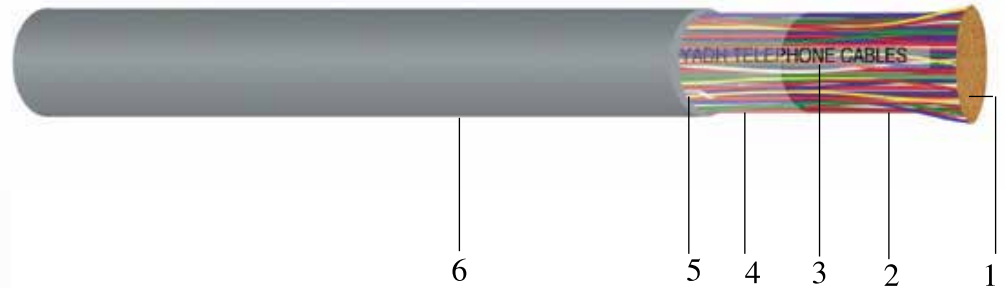
To withstand 15kv a.c. for five minutes.

4. Mutual Capacitance: **(at 1000 ± 200 Hz)**

Maximum average :40 nF/KM

FLAME RETARDANT INDOOR TELEPHONE CABLE

PRODUCT CODE : ICVHO



1. Copper Conductor
2. PVC Insulation
3. Identification Tape
4. Core Wrapping Tape
5. Sheath Rip Cord
6. Halogen free Flame Retardant Grey coloured sheath.

Description : Plain solid annealed copper conductor, PVC insulated, paired ten pairs sub-unit type, air core , flame retardant halogen free polymer sheathed indoor telephone cable with rip cord (VRB) complying with Saudi Telecom specification TS- 2004.

Application : VRB Indoor Cable is used for indoor installation in the telecommunication network.

Dimensions and Standard Packing:

RTC Product No.	Cable size (No. x mm)	Approx. Outer Dia. (mm)	Approx. Gross Wt. (Kg)	Shipping Length (Meter)	Drum Size (Flange Dia) (mm)
ICVHO 032	10 x 2 x 0.50	8.5	157	1000	800
ICVHO 042	20 x 2 x 0.50	11.5	233	1000	800
ICVHO 052	30 x 2 x 0.50	13.5	342	1000	1000
ICVHO 062	50 x 2 x 0.50	17.0	533	1000	1200
ICVHO 072	100 x 2 x 0.50	20.0	875	1000	1400
ICVHO 082	150 x 2 x 0.50	27.5	1374	1000	1600
ICVHO 092	200 x 2 x 0.50	31.5	1406	1000	1600
ICVHO 102	300 x 2 x 0.50	38.0	2585	1000	2000

FLAME RETARDANT INDOOR TELEPHONE CABLE ELECTRICAL AND TRANSMISSION CHARACTERISTICS

1. Conductor Resistance: **at 20 °C**

Maximum average : 92 ohms/Km

Maximum individual : 96 ohms/Km

1.1 Resistance Unbalance (%):

Maximum average : 0.75

Maximum individual : 2.5

Resistance unbalance shall be calculated with the following formula

$$R (\%) = \frac{R_{\max} - R_{\min}}{R_{\max} + R_{\min}} \times 100$$

2. Insulation Resistance:

The insulation resistance shall not be less than 500 mega ohm km at 20 °C

2.1 Dielectric Withstand Voltage:

DC voltage shall be applied for minimum 60 seconds.

Conductor to Conductor: 1500 Volts

3. Mutual Capacitance: **(at 1000 – 200 Hz)**

Maximum average: 75 ± 2 nF/Km

Maximum individual: 90 nF/Km

4. Capacitance Unbalance: **(at 1000 ± 200 Hz)**

4.a) Pair to Pair within a sub-unit:

Maximum average : 22 pF/500m

Maximum individual : 150 pF/500m.

4.b) Pair to Pair between adjacent sub-units or units:

Maximum average : 20 pF/500m

Maximum individual : 50 pF/500m.

JUMPER WIRE

PRODUCT CODE :JCVNO/ JCENO



1. Copper Conductor
- 2.. PVC or high density polyethylene Insulation

Description : Plain solid annealed copper conductor, PVC or high density polyethylene insulated, single pair, jumper telephone wire complying with Saudi Telecom specification TS-2223

Application : The polyethylene insulated jumper wires are generally used in outdoor cabinets for cross connection between primary and secondary terminal block. The PVC insulated jumper wires are used in main distribution frames in exchange buildings.

Dimensions and Standard Packing:

RTC Product No.	Cable Type	Cable size (No. x mm)	Insulation type	STC MIC No.	Shipping Length (Meter)	Coil Size (mm)
JCE0012	Wire Jumper Cabine/Type 1,WH/BK	1x2x0.5	Polyethylene	2620115	250	180x80x70
JCE0012	Wire Jumper Cabine/Type 2,WH/OR	1x2x0.5	Polyethylene	2620118	250	180x80x70
JCE0013	Wire Jumper Cabine/Type 3,WH/BK	1x2x0.6	Polyethylene	2620116	250	180x80x70
JCE0013	Wire Jumper Cabine/Type 4,WH/OR	1x2x0.6	Polyethylene	2620117	250	180x80x70
JCE0012	Wire Jumper MDF/Type 1,WH/BU	1x2x0.5	PVC	2620121	500	190x150x70
JCE0013	Wire Jumper MDF/Type 2,YL/BU	1x2x0.6	PVC	2620122	500	190x150x70

JUMPER WIRE

ELECTRICAL AND TRANSMISSION CHARACTERISTICS

1. Conductor Resistance: **at 20 °C**

Maximum average : 62 ohms/Km

Maximum individual : 66 ohms/Km

2. Resistance Unbalance (%):

Maximum average : 0.75

Maximum individual : 2.0

Resistance unbalance shall be calculated with the following formula

$$R (\%) = \frac{R_{\max} - R_{\min}}{R_{\max} + R_{\min}} \times 100$$

3. Insulation Resistance:

The insulation resistance for PVC shall not be less than 5000 mega ohm km and for polyethylene insulation shall not be less than 10,000 mega ohm km. at 20°C

4. Dielectric Withstand Voltage:

DC voltage shall be applied for minimum 60 seconds.

Conductor to Conductor: 1500 Volts

INDOOR WIRE

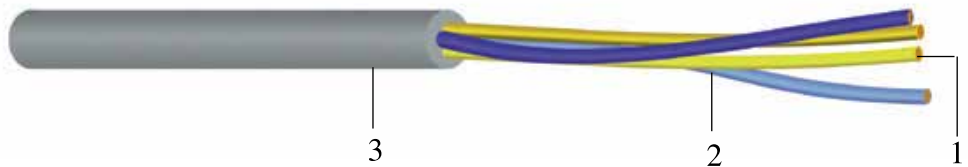
PRODUCT CODE :RCHO & RCVHO

Type - A



1. Copper Conductor
2. PVC Sheath (Flame Retardant) light grey.

Type - B



1. Copper Conductor
2. PVC Insulation
3. PVC Sheath (Flame Retardant) light grey.

Description: Two types of Indoor Telephone Wire complying to MOPTT, MAT-1411

Type A : Plain solid annealed one pair parallel copper conductors, flame retardant PVC sheathed indoor telephone wire.

Type B : Plain solid annealed copper conductor PVC insulated, quad form, flame retardant PVC sheathed indoor telephone wire.

Application : The Indoor Wires are used for installation between internal distribution points on subscribers termination blocks to the wall mounted telephone sockets.

Dimension & Standard Packing:

RTC Product No.	Cable size (No. x mm)	Approx. Outer Dia. (mm)	Approx. Gross Wt. (Kg)	Shipping Length (Meter)	Coil Size (od/id/width) (mm)
RCHO 014	A - 2 x 0.65	3.0 X 1.3	2.25	250	186 x 150 x 100
RCVHO 024	B - 1 x 4 x 0.65	6.2	12.3	250	336 x 150 x 135

INDOOR WIRE

ELECTRICAL AND TRANSMISSION CHARACTERISTICS

1. Conductor Resistance: **at 20 °C**

Maximum average : 54 ohms/Km
Maximum individual : 57 ohms/Km

1.1 Resistance Unbalance (%):

Maximum average : 1.3
Maximum individual : 3.6

Resistance unbalance shall be
calculated with the following formula

$$R (\%) = \frac{R_{\max} - R_{\min}}{R_{\max} + R_{\min}} \times 100$$

2. Insulation Resistance:

The insulation resistance shall not be
less than 500 mega ohm km. at 20 °C

2.1 Dielectric Withstand Voltage:

Conductor to Conductor: 1500 V. d.c.
for a minimum 60 seconds.

3. Mutual Capacitance: **(at 1000 ± 200 Hz)**

Type A : 100 ± 5 nF/km
Type B : 75 ± 5 nF/km