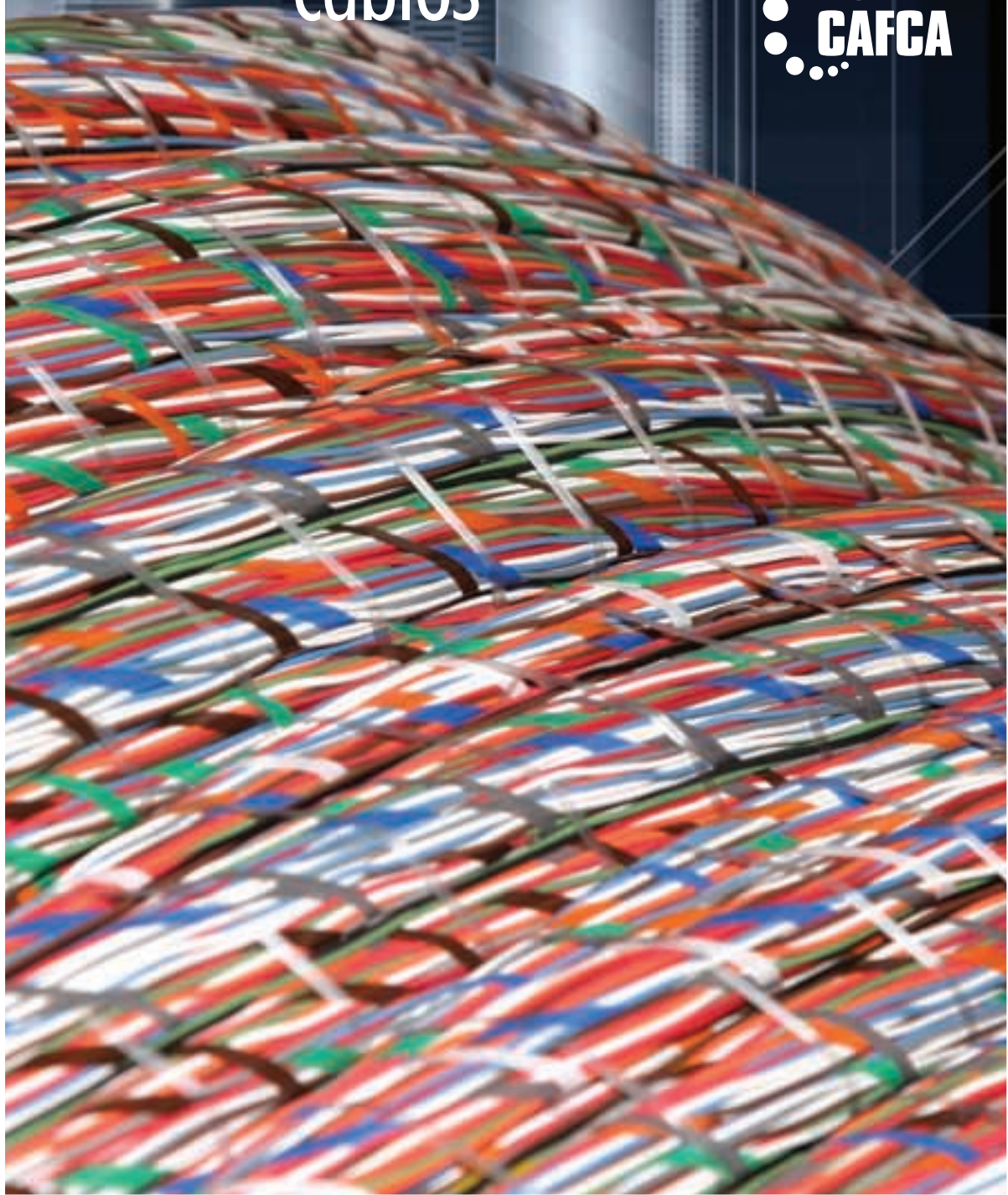


# Metallic telecommunication cables



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The information in this publication is correct and current at the time of going to press. We do, however, reserve the right to modify specifications and designs in the light of revisions or ongoing technical developments.

CAFCA manufactures and supplies a comprehensive range of metallic communication cables as well as the limited number of power cables required by the telecommunications industry. Our metallic telecommunication cables range from internal cables including irradiated jumper wires to high-pair-count external telephone cables.



# CORPORATE

CAFCA is the only cable manufacturer in Zimbabwe. It was established in 1947 and is listed on the Zimbabwe, Johannesburg and London stock exchanges. CAFCA is part of CBI Electric African Cables (RSA), which in turn is owned by Reunert Limited (RSA).

## PRODUCTS & MARKETS ■■■■■

CAFCA manufactures and supplies cable and allied products for the transmission and distribution of electrical energy and information primarily in Southern and Central Africa. We manufacture over 900 cabling products including 11kV XLPE

cables, all to British, South African and Zimbabwe quality standards.

CAFCA offers a toll manufacturing option to all its customers who can access key raw materials such as copper and aluminium,

which are converted at the cost of value addition.

We also recover decommissioned cables for recycling that can be exchanged for other products within our manufacturing range.

# MANUFACTURING STANDARDS

## Standards Association of Zimbabwe (SAZ)

SAZ 240-Electrical cables with extruded solid dielectric 300/500V, 1900/3300V  
South African National Standards (SANS, formerly SABS)  
SANS 1507-PVC distribution cable rated 300/500V and 1900/3300V  
SANS 1418-2 aerial bundled conductor  
SANS 1339-XLPE insulated cable rated 3.8/6.6kV and 19/33kV

## British Standards (BS)

BS 215 Part 1:1970 – Specification for aluminium conductors

## International Electro-technical Commission (IEC)

IEC 502-Extruded solid dielectric insulated power cables 1kV and 30kV

## South African Post Office (SAPO)

BS 215 Part 1:1970 – Specification for aluminium conductors

## British Post Office (BPO)

BPO CW 1127 – Aerial distribution telephone cable (self-supporting)  
BPO CW 1128 – Jelly-filled cellular polyethylene telephone cable

## Post & Telecommunications (PTC)

Underground cables and aerial distribution copper cables  
We also make product to customer's own specification.

## QUALITY MANAGEMENT STANDARDS

Accredited to ISO 9001: 2000  
(First company to gain accreditation  
in Zimbabwe: year 1999)

## ENVIRONMENT MANAGEMENT STANDARDS

Accredited to ISO 9002:2000  
(Design and manufacture)  
(First cable company in sub-Saharan Africa  
to achieve the international quality  
standard.)

Accredited to ISO 14001:2004  
(First company to gain accreditation in  
Zimbabwe: year 1999)

## OCCUPATIONAL HEALTH AND SAFETY STANDARD

Accredited to OHSAS 18,001:2007

# MILESTONES

CAFCA was the first company in Zimbabwe to achieve ISO 9002 accreditation, later upgraded to ISO 9001:2000, which enables us to design as well as produce cabling to international standards

In 1999 CAFCA became the first cable company in sub-Saharan Africa to be awarded the environmental standard, ISO 14,001:2004.

### Zimbabwe Electricity Supply Authority annual supply contracts

- Low voltage armoured cables: 1985-98, 2000-03
- All aluminium conductor: 1988-99, 2001-03
- Aluminium conductor steel reinforced 1988-99, 2001-03

### Anglo American Corporation annual supply contract 1985-2000

### BHP annual supply contract 1996-1999

### Botswana Power Corporation

- Split concentric annual supply contract 2000-2004

### Botswana Ministry of Health

- Annual supply of low smoke and fume white stripe cables 2002-2004

### African Cables (South Africa)

- Monthly delivery of 600/1000V red stripe to SANS 1507 2003 specifications to date

### Confederation of Zimbabwe Industries (CZI)

- Industrial Exporter of the Year 1<sup>st</sup> Runner up 2005

**Product group**

Bare copper conductor, solid or stranded



**Salient features and applications**

Available as either hard drawn or annealed for equipment and circuit earthing or sold out to enamellers for motor and transformer and motor wire.

**Product group**

Flexible cords (cabtyre) and welding cables



**Salient features and applications**

Flexible cords for connecting portable equipment and for use in internal wiring.

**Product group**

Auto and instrument wire



**Salient features and applications**

Bunched fine wire conductors insulated for use as auto or instrument wire.

**Product group**

Indoor switchboard cable



**Salient features and applications**

Telephone cable for wiring distribution boards and switchboards.

**Product group**

Single cores



**Salient features and applications**

Colour coded and used in internal wiring of fixtures.

**Product group**

Armoured cables

**Salient features and applications**

Available from 1.5mm<sup>2</sup> to 300mm<sup>2</sup>, 2 – 4 cores and in the 0.6/1kV and 3.3kV ranges. Other options available are flame retardant, low-tox or zero-tox to meet various safety considerations in the case of a fire.



**Product group**

Jumper and blasting wire



**Salient features and applications**

Twisted pair or triple PVC insulated conductors for electronic panel wiring or for use as blasting wire.

**Product group**

Underground petroleum jelly-filled cables



**Salient features and applications**

Cross-linked polyethylene insulated communication cables with petroleum jelly as an agent against moisture ingress.

## Product range

### Product group

Aluminium conductors  
(with or without steel  
reinforcement)  
AAC and ACSR



### Salient features and applications

Overhead conductor for HT and LV power transmission and distribution.

### Product group

Coaxial cable



### Salient features and applications

Radio frequency cables, available in the 50 and 75 ohm specifications

### Product group

Aerial bundled conductor

### Salient features and applications

Twisted and insulated overhead aluminium conductor for overhead distribution



### Product group

Aerial distribution cable



### Salient features and applications

Overhead conductor for HT and LV power transmission and distribution. Self-supporting overhead telephone service cable (polythene insulated)

### Product group

Medium voltage XLPE cables



### Salient features and applications

XLPE insulated cable rated up to 11kV for underground power distribution networks.

### Product group

Multi-core cables



### Salient features and applications

Cables for control, panel wiring and signalling.

### Product group

14.4mm copper rod



### Salient features and applications

For equipment earthing or further drawing down to smaller wire for various applications.

## OTHER PRODUCTS IN OUR RANGE

Aerial distribution cable – Self-supporting (with catenary wire) overhead service cable, polyethylene insulated

Coaxial cables – Radio frequency cables available in the 50 and 75 ohm specifications

Aerial bundled conductor – Twisted and insulated aluminium conductor for overhead power distribution

Copper rod – We convert copper cathode into 14.4 mm copper rod.

# Metallic Telecommunication Cables

In the traditional and well-proven area of metallic cables, the varied requirements of our many customers constantly place challenging demands on our capability to research, design, manufacture and supply against a host of international user specifications.

## Research and development the key to advancement

The massive growth of telecommunication services demanded by today's business and private consumers has placed unparalleled pressure on network operators everywhere. The technology has developed rapidly, accompanied by increased transmission speeds and a need for enhanced reliability and quality of both product and support service.

CAFCA has constantly addressed these issues as part of its own development strategy to remain at the forefront of technological growth. Our unceasing quest for improvement has earned CAFCA its reputation as a regional leader in cable making technology especially in the field of insulating and sheathing material where much of our development work has centred around reducing the dangers to people and equipment in fire risk areas.

## Quality and customer service

CAFCA's business philosophy is based on a firm commitment to quality and customer service. We are aware that our success is inextricably linked to that of our customers and are therefore totally dedicated to achieving high standards of product performance, reliability and safety. We will not compromise on this stance.

## External telephone cables

Our external cables are designed for use in primary and secondary telephone distribution networks. They can be directly buried, installed in ducts, or used aurally on poles and as dropwires for final customer connection. They comprise plain annealed solid copper conductors insulated with any one of a number of materials appropriate to the required performance parameters. Insulated conductors are paired or quadded and assembled in concentric layers or units with or without transverse screens.

Environmental and physical protection is provided by jelly filling, aluminium moisture barriers and steel wire armour as required, and an outer polyethylene sheath.

## Internal telephone cables

These are designed for use in building the interconnection or distribution of voice and data signals, and include:-

- \* Switchboard cables
- \* UTP high performance data cables
- \* Jumper wires (including irradiated types)
- \* Equipment wires
- \* Coaxial cables

They comprise PVC, polyethylene or LFH (limited fire hazard) insulated conductors assembled within a PVC or FLU sheath. Designs may also incorporate metallic screens according to type.

## Technical help

Our highly qualified design engineers are at your service to advise and assist in all matters concerning cable design and application. They are also deeply involved in developing modifications and the introduction of completely new designs in response to ongoing worldwide technological evolution.

The cables detailed on the following pages are the most popular types of internal and external telecommunications cable. We also manufacture a comprehensive range of associated products including jumper wires, coaxial cables and equipment wires, details of which can be supplied on request.



## Internal telecommunication cables

### Switchboard cable (CW 1293) 1-400 pair cables

The cables detailed here are to British Telecom Specification BTSCW 1308. CAFCA can, however, produce a wide range of telecommunication cables for worldwide applications to national and international standards or customised to meet operators' specific requirements.

Cable sheath is printed with identification legend and sequential length marking .

#### Construction

Multipair and multitriple cables used internally for connecting telephone exchange equipment or for interconnecting between the exchange and internal distribution points.

**Conductor** Tinned solid copper wire  
0.4, 0.5, 0.6, and 0.9mm diameter

**Insulation** PVC to BS 6746

**No. of pairs** 1 to 400

**Formation** Concentric layer or Unit construction

**Identification** Pairs/triples/units are identified by colour in accordance with

**Specofaction** BTS CW1308

**Sheath** Cream PVC (standard).  
Other colours available are black, grey or cream.  
A non-metallic rip cord is incorporated.

#### Insulation resistance at 20°C

Minimum 50 megaohm.km (tested at 500V dc for 60 seconds)

*Note: The insulation resistance of PVC varies with temperature as shown below*

Temperature	Minimum insulation resistance	Temperature	Minimum insulation resistance
°C	megaohm.km	°C	megaohm.km
10	500	22	32
12	310	24	23
14	190	26	16
16	120	28	11
18	79	30	8
20	50		

Not more than 1 per cent of corrected measurements exceed the values given above.

Correction factor: divide the measured values by

$$\frac{(L/500) + \sqrt{(L/500)}}{2}$$

where L is cable length (in meters) under test and lengths less than 100 meters are taken to be 100 meters.

Note: In triples the first and second conductors constitute the pair for capacitance unbalance measurement.

#### Capacitance unbalance

Conductor diameter	Capacitance unbalance
°C	pF
0,4 *	200
0,4 +	300
0,5	500

\* Unit construction cables

+ Concentric construction cables'





## PVCFR tele cable 60/120V - Standard: BTS CW 1308

### Circuit applications

Used internally for connecting telephone exchange equipment or for interconnecting between the exchange and internal distribution points.

### Construction

PVC insulated multipair and multitriple cables with tinned copper conductors.

### Technical data

Conductor diameter (nominal)	Diameter of insulated conductor (max)	Conductor resistance for 1 km of cable at 20°C (max)
mm	mm	ohm
0.4	0.85	153
0.5	0.95	97.8
1.38	3.50	12.0

### Identification

Colour scheme for pairs in a 25-pair unit

Pair Number	A Wire		B Wire	
	Base	Ink Band	Base	Ink Band
1	WHITE	Blue	BLUE	White
2	WHITE	Orange	ORANGE	White
3	WHITE	Green	GREEN	White
4	WHITE	Brown	BROWN	White
5	WHITE	Grey	GREY	White
6	RED	Blue	BLUE	Red
7	RED	Orange	ORANGE	Red
8	RED	Green	GREEN	Red
9	RED	Brown	BROWN	Red
10	RED	Grey	GREY	Red
11	BLACK	Blue	BLUE	Black
12	BLACK	Orange	ORANGE	Black
13	BLACK	Green	GREEN	Black
14	BLACK	Brown	BROWN	Black
15	BLACK	Grey	GREY	Black
16	YELLOW	Blue	BLUE	Yellow
17	YELLOW	Orange	ORANGE	Yellow
18	YELLOW	Green	GREEN	Yellow
19	YELLOW	Brown	BROWN	Yellow
20	YELLOW	Grey	GREY	Yellow
21	VIOLET	Blue	BLUE	Violet
22	VIOLET	Orange	ORANGE	Violet
23	VIOLET	Green	GREEN	Violet
24	VIOLET	Brown	BROWN	Violet
25	VIOLET	Grey	GREY	Violet
26	PINK	Blue	BLUE	Pink
27	PINK	Orange	ORANGE	Pink
28	PINK	Green	GREEN	Pink
29	PINK	Brown	BROWN	Pink
30	PINK	Grey	GREY	Pink

Capital letters indicate base colours. The other colours are ink bands applied onto the base colour.

**Binder colours for units**  
 First unit in a layer is orange.  
 Intermediate units in a layer are neutral  
 Last unit in a layer is green.  
 The only exception to this is the 150 pair cable where the outer layer unit binders are orange, natural, blue and green.

Each unit (16,20 and 30 pairs) may be split into two sub-units (8, 10 or 15 pairs).  
 Each sub-unit of a unit has the same coloured binder as the unit in that position would have.

# Switchboard Cable

## PVCFR tele cable 60/120V - Standard: BTS CW 1308

### Range and dimensions

Number of pairs	Minimum sheath thickness mm	Maximum cable diameter mm
<b>0.4mm diameter conductor</b>		
2	0.4	3.9
3	0.5	5.3
4	0.5	5.8
6	0.6	6.8
10	0.6	8.3
12	0.7	8.9
20	0.7	10.4
25	0.8	11.1
30 a	0.8	11.8
32 b	0.8	12.0
64 b	1.1	16.0
120 a	1.6	24.8
150 a	1.7	26.0
<b>0.5mm diameter conductor</b>		
3	0.65	4.8
4	0.6	5.8
6	0.6	6.8
8 b	0.6	7.6
10	0.6	8.3
10 c	0.6	8.6
12	0.7	9.1
15	0.7	9.8
16 b	0.7	10.2
20 *	0.8	10.7
20 c	0.7	12.0
25	0.8	11.4
30 a	0.8	12.2
32 b	0.8	12.4
40 c	0.9	15.0
64 b	1.1	16.5
80 c	1.2	22.5
120 a	1.6	25.1
128 b	1.6	25.4
150 a	1.7	26.0
160 c	1.7	30.3
256 b	2.0	35.2
320 c	2.2	39.5

### Make-up for unit cables

No of pairs	Make-up and size of unit			No of pairs	Make-up and size of unit			No of pairs	Make-up and size of unit		
	<b>16 Pair unit cables</b>				<b>20 Pair unit cables</b>				<b>30 Pair unit cables</b>		
	Centre	Layer 1	Layer 2		Centre	Layer 1	Layer 2		Centre	Layer 1	Layer 2
8	1x8pr	-	-	10	1x10pr	-	-	30	1x30pr	-	-
16	1x16pr	-	-	20	1x20pr	-	-	120	1x30pr	6x15pr	-
32	4x8pr	-	-	40	4x10pr	-	-	150	1x30pr	8x15pr	-
64	1x16pr	6x8pr	-	80	80x20pr	6x10pr	-				
128	4x8pr	6x16pr	-	160	4x10pr	6x20pr	-				
256	1x16pr	5x16pr	10x16pr	320	1x20pr	5x20pr	10x20pr				

**CPE SCR Jelly PE U/A tele cable 60/120V - Standard: BTS CW 1236  
2-100 pair cable**

The cables detailed here are to British Telecom Specification BTSW1236 and to Zimbabwe's Posts and Telecommunications (PTC) specification. CAFCA can, however, produce a wide range of telecommunication cables for worldwide applications to national and international standards or customised to meet operators' specific requirements.

Cable sheath can be printed with identification legend, or sequential length marking on request.

**Construction**

**Conductor** Plain solid copper wire  
0.4, 0.5, 0.6, 0.63, 0.65,  
0.9mm diameter

**Insulation** Cellular polyethylene  
**No. of pairs** 2 to 100  
**Formation** Unit type

**Identification** Pairs and units are identified by colour in accordance with BTSW1236

**Cable core** Paper tapes wrap

**Sheath** Black polyethylene

Note: For screened cables up to 20 pairs the maximum average mutual capacitance does not apply and the maximum average for 99 of cases is increased by 3nF.

**Insulation resistance:**  
Minimum 1500 megohm.km (tested at 500V dc for 60 seconds)

**Capacitance unbalance:**

Note: more than 1 per cent of corrected measurements exceed  
2 pair cable 800pF  
Other cables 275pF

Correction factor: divide the measured values by

$$\frac{(L/500) + \sqrt{(L/500)}}{2}$$

where L is cable length (in meters) under test and lengths less than 100 meters are taken to be 100 meters.



**Technical Data**

Conductor diameter (nominal)	Diameter of insulated conductor (nominal)	Conductor resistance for 1km of cable at 20°C		Mutual capacitance for 1km of of cable	
		Maximum average	Maximum of 9% of cases	Maximum average	Maximum of 9% of cases
mm	mm	ohm	ohm	nF	nF
0.4	0.75	143	150	56	64
0.5	0.90	91	96	56	64
0.63	1.15	58	60	56	64
0.65	1.17	53	54	56	64
0.9	1.50	28	30	59	65

## Jelly-Filled

### CPE SCR Jelly PE U/A Tele Cable 60/120V - Standard: BTS CW 1236 2-400 pair cable

#### Circuit applications

Local main telecommunications network.

#### Construction

Fully-filled cellular-polyethylene-insulated unit-twin cable with copper conductors.

#### Identification

Colour scheme for pairs in a 25-pair unit

Pair Number	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
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

#### Colour of binders in centre and layers

1st unit in layer	Red
Intermediate units	Natural
Last unit in a layer	Green

#### Colour of binder tapes in 50 and 100 pair units

Number of pairs	Position of sub-unit or unit			
	First	Second	Third	Fourth
50	Blue	Blue	Orange	Orange
100	Blue	Orange	Green	Brown

#### Range and dimensions

Number of pairs	Minimum sheath thickness mm	Maximum cable diameter mm
<b>0.4mm diameter conductor</b>		
50	1.6	16.0
100	1.7	20.5
200	1.8	26.0
400	1.9	35.0
<b>0.5mm diameter conductor</b>		
50	1.6	19.0
100	1.7	23.5
200	1.9	30.5
400	2.1	42.5
<b>0.63mm diameter conductor</b>		
50	1.7	22.0
100	1.8	28.0
200	2.0	37.5
400	2.3	52.5
<b>0.65mm diameter conductor</b>		
50	1.8	22.33
100	2.0	29.41
200	2.2	39.26
400	2.6	53.42
<b>0.9mm diameter conductor</b>		
50	1.8	27.5
100	2.0	38.0
200	2.2	50.0
300	2.4	60.0
400	2.6	67.0

**Note:** Sub-units of five pairs may be formed from a unit of 10 pairs. In all such cases, sub-unit number 1 shall be pairs 1 to 5 and sub-unit number 2 shall be pairs 6 to 10.

Both sub units formed from a unit have the same colour binder tape.

#### Options available

**Screens:** BT specification CW1179.

A polymer coated aluminium tape 0.15mm thick acts both as a moisture barrier (in unfilled cables) and an electrostatic screen in all designs.

The tape is applied over the cable core longitudinally with the polymer uppermost so that it bonds the cable sheath.

**Armour:** BT specification CW1198. Cables for direct burial in the ground are usually protected against damage from sharp stones or rocks and installation tools (spades etc.) by the application of a layer of galvanised steel wires applied directly over the cable sheath and protected by a second sheath and protected by a second sheath of either polyethylene or PVC.

**Catenaries:** BT specifications CW1252. Self supporting cables for aerial installations are available containing an integral steel support strand of catenary.

The cross-section of the complete cable resembles a figure-of 8 with the upper lobe containing the catenary and the lower lobe containing the cable.

PE SCR PE + CAT Tele Cable 60/120V - Standard: BTS CW 1171

Circuit applications

Local main telecommunications network.

Construction

Solid-polyethylene-insulated unit-twin cable with copper conductors.

Technical data

Conductor diameter (nominal)	Diameter of insulated conductor (nominal)	Conductor resistance for 1km of cable at 20°C		Mutual capacitance for 1 km of cable	
		Maximum average	Maximum 9% of cases	Maximum average	Maximum 9% of cases
mm	mm	ohm	ohm	nF	nF
0.4	0.75	143	150	53	60
0.5	0.9	91	96	53	60
0.63	1.15	58	60	56	60
0.65	1.17	53	54	56	64
0.9	1.5	28	30	59	64

Identification

Colour scheme for pairs in a 25-pair unit

Pair Number	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
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

\* Cables over 100 pairs may include spare pairs if required at the rate of 4 pairs per cable.

+ For screened cables the same thickness applies except that the sheath thickness includes one screen thickness. The maximum diameter applies in both instances.

Range and dimensions

Number of pairs *	Minimum sheath thickness mm	Maximum cable diameter mm
<b>0.4mm diameter conductor</b>		
50	1.6	16.0
100	1.7	20.5
200	1.8	26.0
400	1.9	35.0
600	2.1	40.5
800	2.2	46.5
1000	2.3	51.5
1200	2.4	56.0
<b>0.5mm diameter conductor</b>		
50	1.6	19.0
100	1.7	23.5
200	1.9	30.5
400	2.1	42.5
600	2.2	49.5
800	2.4	56.5
1000	2.5	62.5
1200	2.6	69.0
<b>0.63mm diameter conductor</b>		
50	1.7	22.0
100	1.8	28.0
200	2.0	37.5
400	2.3	52.5
600	2.5	61.0
800	2.7	70.5
1000	2.7	75.0
1200	2.7	80.0
<b>0.65mm diameter conductor</b>		
50	1.8	22.33
100	2.0	29.41
200	2.2	39.26
400	2.6	53.42
600	2.5	63.07
800	2.7	72.21
1000	2.7	79.83
1200	2.7	86.71
<b>0.9mm diameter conductor</b>		
50	1.8	27.5
100	2.0	38.0
200	2.2	50.0
400	2.6	67.0
600	2.7	80.0

## PE SCR PE + CAT tele cable 60/120V - Standard: BTS CW 1171

### Colour of binders in centre and layers

1st unit in layer	Red
Intermediate units	Natural
Last unit in a layer	Green

### Colour of binder tapes in 50 and 100 pair units

Number of pairs	Position of sub-unit or unit			
	First	Second	Third	Fourth
50	Blue	Blue	Orange	Orange
100	Blue	Orange	Green	Brown

**Note:** Sub-units of 12 pairs and 13 pairs may be formed from a unit of 25 pairs. In all such cases sub-unit number 1 shall be pairs 1-12 and sub-unit number 2 shall be pairs 13-25. Both sub-units formed from a unit have the same colour binder tape. Four sub-units (2x12 pairs) and (2x13 pairs) are stranded together to form a 50 pair unit.

Four 25 pair units are stranded together to form a 100 pair unit.

Colour of unit binders in center and layers

Colour of binder tapes in 50 and 100 pair units

### Options available

**Screens:** BT specifications CW1179. A polymer coated aluminium tape 0.15mm thick acts both as a moisture barrier (in unfilled cables) and an electrostatic screen in all designs. The tape is applied over the cable core longitudinally with the polymer uppermost so that it bonds the cable sheath.

## Drop wire

The cable detailed here is drop wiring No. 10 to British Telecom specification CW1378. CAFCA can, however, produce a wide range of drop wires for worldwide applications to national and international standards or customised to meet operators' specific requirements.

Cable sheath can be printed with identification legend or sequential length marking on request.

### Construction

Cable drop wiring No. 10 is a circular cross-section overhead 2 pair cable designed to connect subscribers' premises with distribution poles. Tensile strength is provided by stranded steel wire strength members and spans of up to approximately 50 meters are possible. Two insulated conductors are twisted together to form a pair. Two such pairs are laid together with three insulated strength members and a rip cord to form the cable core. The overall assembly is sheathed with black polyethylene, applied under pressure to fill the outer interstices of the cable core, and give a regular, round appearance.

**Conductors** 0.5, 0.9 and 1.25mm diameter tinned solid copper wire

**Insulation** PVC to BS 6746

**No. of pairs** 2

**Insulation** Black polyethylene

### Technical data

Conductor resistance at 20°C: 95 ohms/km (max)

Insulation resistance at 20°C: Minimum 50 megohm.km

Note: the insulation resistance of PVC varies with temperature as shown by the following values:

### Capacitance unbalance:

Maximum 300pF/500 meters for corrected measurements.

### Correction factor:

divide the measured values by

$$\frac{(L/500 + \sqrt{L/500})}{2}$$

where L is cable length (in meters) under test and lengths less than 100 meters are taken to be 100 meters.

### Tensile strength

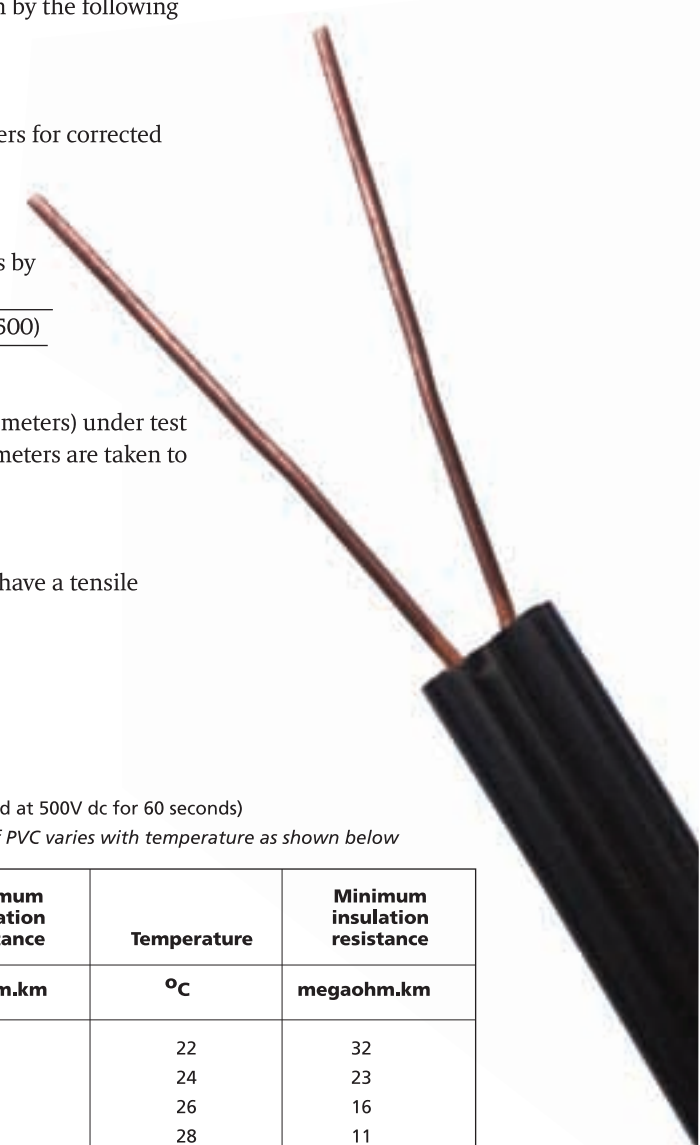
The completed cable shall have a tensile strength of  
Minimum 1350N  
Maximum 1550N

### Insulation resistance at 20°C

Minimum 50 megaohm.km (tested at 500V dc for 60 seconds)

Note: The insulation resistance of PVC varies with temperature as shown below

Temperature	Minimum insulation resistance	Temperature	Minimum insulation resistance
°C	megaohm.km	°C	megaohm.km
10	500	22	32
12	310	24	23
14	190	26	16
16	120	28	11
18	79	30	8
20	50		





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