

# CAVEL



N.2/04

Coaxial Cables

CAVEL<sup>®</sup>



Coaxial Cables

**CAVEL<sup>®</sup>**

since 1968

Italiana Conduitori have 35 years of experience in coaxial technology and are amongst the top manufacturers at world level.

Continuous investment in production development and production technology are reflected in the superior quality of all CAVEL coaxial cables.

Many cables satisfy both national and international standards, and stringent control of raw material suppliers ensure the best possible product and its presentation.

ISO9001-2000, the so called VISION 2000, disciplines are applied stringently throughout the company, but also environmental standards have led to remarkable developments in reel and box design, and to the introduction of CABLEBOX packing system, probably a world first.

The factory, located 30 km South West of Milan, generates over 400 km of cable per day and is regularly visited by representatives from OEM's, Telecom Corporations, cable manufacturers and agents from many parts of the world.



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4, 5      **DIGITAL TV DROPS**  
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We are pleased to present to professional contractors the ideal coaxial cable for the Digital TV reception and distribution.

It is Certified by R.N. Electronics Ltd. in strict conformity to RNE678 dimensional, electrical and physical requirements as well as fully in accordance to BS EN 50117-1 Specifications.

Main features are as follows:

- The dielectric is manufactured with gas injected foam which uses the ultimate technology of skin+foam+skin. This gives excellent mechanical strength which is demonstrated in the Flexing, Bending and Crushing tests, and in addition, also the best life span, lower ageing and stable attenuation values.
- A superior screen, of copper tape & braid, gives optimised screening attenuation values as shown in the diagram below. In fact, before and after the specified Multiple Bend Test you can see the overstepping features, > 85 dB, in the full frequency window from 30 to 2150 MHz.
- The ecological sheath which can be either Black, Brown or White, is manufactured using a Lead Free PVC compound.

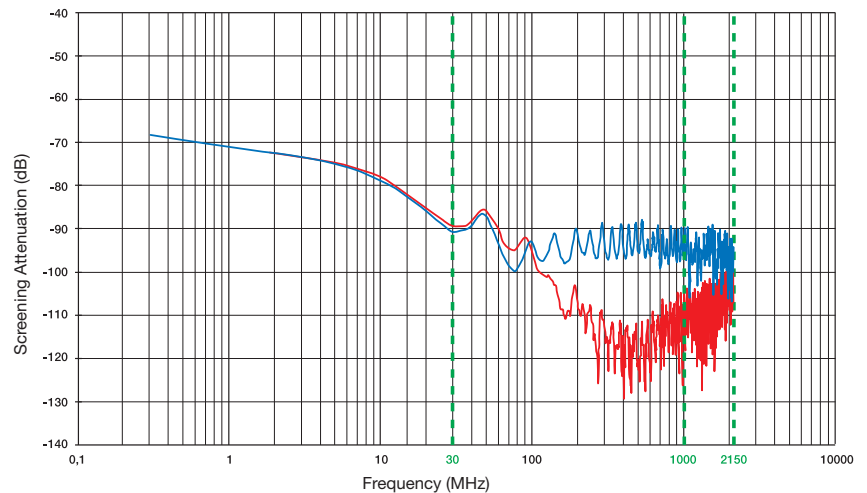
Besides the standard cables, we can also supply either LSF and LSZH versions.



**CAVEL QF100**

**Screening attenuation**

Cable types: QC100D, QF100 — before bending — after bending



## AIR-SPACED QC100D

CAVEL code		QF100	QC100D
<b>ELECTRICAL DATA</b>			
Impedance	Ohm	75+/-3	75+/-2,5
Velocity ratio	%	82	82
Capacitance	pF/m	54	54
<b>Attenuation (at 20°C)</b>			
at 5MHz	dB/100m	1.6	1.6
at 50MHz	dB/100m	4.1	4.1
at 100MHz	dB/100m	5.8	5.8
at 200MHz	dB/100m	8.4	8.4
at 300MHz	dB/100m	10.3	10.3
at 460MHz	dB/100m	12.8	12.8
at 860MHz	dB/100m	18.0	18.0
at 1000MHz	dB/100m	19.6	19.6
at 1350MHz	dB/100m	22.9	22.9
at 1750MHz	dB/100m	26.3	26.3
at 2150MHz	dB/100m	29.9	29.9
<b>Structural Return Loss SRL</b>			
from 5 to 470 MHz	dB	>23	>23
from 470 to 862 MHz	dB	>20	>20
from 862 to 2150 MHz	dB	>18	>18
<b>Screening attenuation</b>			
from 30 to 1000 MHz	dB	>85	>85
from 1000 to 2150 MHz	dB	>85	>85
Inn.cond.DC resistance	Ohm/km	22.5	22.5
Out.cond.DC resistance	Ohm/km	14.2	14.2
<b>CONSTRUCTION DATA</b>			
Inner conductor	material	Cu	Cu
	dia. mm	1.00	1.00
Dielectric	material	FOAM PE	PEAS
	dia. mm	4.75	4.70
Screen			
copper overlapped tape	material	Cu	Cu
braid	material	Cu	Cu
braid coverage	%	54	54
	dia. mm	5.28	5.23
Outer sheath	material	PVC	PVC
	colour	blk/brw/wht	blk/brw/wht
	dia. mm	6.65	6.65
<b>PHYSICAL DATA</b>			
Min.bend.radius	single	r mm	35
	repeated	r mm	70
Max. pulling strength		N	90
Copper weight		kg/km	19.1
Cable weight		kg/km	45.4
SPECIFICATIONS	EN 50117	part 2	part 2
CERTIFICATION	CAI	0019B	0005C
<b>TOOLS AND CONNECTORS</b>			
Stripper		CS00	CS00
F crimp connector		F703	F703



**CAVEL QC100D**

<b>CAVEL code</b>		<b>QC125</b>	<b>QC165</b>	<b>QC233</b>	<b>QC270</b>
<b>ELECTRICAL DATA</b>					
Impedance	Ohm	75+/-2.5	75 +/-2.5	75+/-2.5	75+/-2
Velocity ratio	%	82	85	85	85
Capacitance	pF/m	55	52	52	52
<b>Attenuation (at 20°C)</b>					
at 5MHz	dB/100m	1.1	0.9	0.6	0.5
at 50MHz	dB/100m	3.4	2.6	1.9	1.6
at 100MHz	dB/100m	4.8	3.7	2.7	2.3
at 200MHz	dB/100m	6.8	5.4	4.1	3.5
at 300MHz	dB/100m	8.4	6.7	5.1	4.3
at 460MHz	dB/100m	11.1	8.8	6.2	5.3
at 860MHz	dB/100m	15.1	12.0	9.0	8.0
at 1000MHz	dB/100m	16.4	13.0	9.9	8.6
at 1350MHz	dB/100m	19.5	15.5	12.0	10.0
at 1750MHz	dB/100m	22.5	18.0	13.9	11.3
at 2150MHz	dB/100m	25.6	20.3	15.6	12.4
<b>Structural Return Loss SRL</b>					
from 5 to 470 MHz	dB	> 25	> 25	> 23	> 23
from 470 to 862 MHz	dB	> 20	> 20	> 20	> 23
from 862 to 2150 MHz	dB	> 20	> 20	> 18	> 20
<b>Screening attenuation</b>					
from 30 to 1000 MHz	dB	> 85	> 85	> 85	> 85
from 1000 to 2150 MHz	dB	> 75	> 75	> 75	> 75
Inn.cond.DC resistance	Ohm/km	14.0	8.7	5.0	3.4
Out.cond.DC resistance	Ohm/km	11.5	7.5	5.6	5.7
<b>CONSTRUCTION DATA</b>					
Inner conductor	material	Cu	Cu	Cu	Cu
	dia.mm	1.25	1.63	2.20	2.70
Dielectric	material	PEAS	PEAS	PEAS	PEAS
	dia.mm	5.60	7.25	9.90	11.50
Screen					
copper overlapped tape	material	Cu	Cu	Cu/Pet	Cu/Pet
braid	material	Cu	Cu	Cu	Cu
braid coverage	%	48	48	59	50
	dia.mm	6.25	7.95	10.60	12.30
Outer sheath	material	PE	PE	PE	PE
	colour	blk	blk	blk	blk
	dia.mm	7.80	10.10	12.70	15.00
<b>PHYSICAL DATA</b>					
Min.bend.radius	single	r mm	40	50	75
	repeated	r mm	80	100	150
Max.pulling strength		N	150	220	340
Copper weight		Kg/km	25.7	43.5	66.0
Cable weight		Kg/km	53.0	90.7	135.0
SPECIFICATIONS		BS 5425	550	725	1000
					1150

LSF and LSZH sheath

**OPTIONS**

DATA SAME AS QC SERIES, EXCEPT THE FOLLOWING

<b>CAVEL code</b>		<b>QC125 LSF</b>	<b>QC165 LSF</b>	<b>QC233 LSF</b>
Outer sheath	material	LSF PVC	LSF PVC	LSF PVC
	colour	blk	blk	blk
	dia.mm	7.80	10.10	12.70
<b>CAVEL code</b>		<b>QC125 ZH</b>	<b>QC165 ZH</b>	<b>QC233 ZH</b>
Outer sheath	material	LSZH comp.	LSZH comp.	LSZH comp.
	colour	blk	blk	blk
	dia.mm	7.80	10.10	12.70



A range of cables designed for use on broadband systems, cable TV, MATV, CCTV and quality satellite reception. They are manufactured in accordance with BS5425 standards where stated.

The cables are designed to work at frequencies in excess of 2000 Mhz whilst offering excellent Attenuation and SRL figures.

The construction is 5 cell semi air spaced with a longitudinally overlapped copper tape and plain copper braid, facilitating good bending radius characteristics and very efficient screening in areas with high electrical noise presence. The largest cables of the series are provided with a longitudinally overlapped copper tape bonded on polyester film (Cu/Pet), improving the flexibility of the screening in relationship to bending radius.

The PE sheath of this range of cables gives improved durability and high level of impermeability, non only to water and humidity but also to oils and some solvents. Used mainly for outdoor installations, the black carbon substance in PE increases the cable resistance to ultraviolet rays.

#### Low Smoke Emissions

Many local authorities and government bodies specify that cables installed must be of "Low Smoke and Fume" (LSF) construction. The QC series LSF sheath cables are generally available from stock.

#### Low Smoke Zero Halogen Emissions

Latest Legislation for improved safety in case of fire requires the use of "Zero Halogen" materials to prevent the inhalation of toxic gases and therefore the risk to life. The special compound of the QC series LSZH sheath cables prevents such a risk. These cables are generally available from stock.

<b>Legend</b>	<b>Cu</b>	<b>plain copper</b>
	<b>Cu/Pet</b>	<b>copper tape/polyester film</b>
	<b>LSF</b>	<b>Low Smoke and Fume</b>
	<b>LSZH</b>	<b>Low Smoke Zero Halogen</b>
	<b>PE</b>	<b>polyethylene</b>
	<b>PEAS</b>	<b>5 cell semi air spaced polyethylene</b>
	<b>PVC</b>	<b>polyvinyl chloride</b>

Min. installation temperature		- 5°C
Operating and storage temp.	PVC sheath	- 30 to 80°C
	LSF sheath	- 25 to 80°C
	PE sheath	- 40 to 80°C
	LSZH sheath	- 25 to 80°C





<b>CAVEL code</b>		<b>11/50FC</b>	<b>QF125</b>	<b>17/73FC (QF165)</b>	<b>22/99FC (QF233)</b>	<b>27/115FC</b>	<b>34/145FC</b>
<b>ELECTRICAL DATA</b>							
Impedance	Ohm	75+/-3	75+/-3	75 +/--3	75 +/--3	75 +/--3	75 +/--3
Velocity ratio	%	85	82	84	84	85	85
Capacitance	pF/m	52	55	53	53	53	53
<b>Attenuation (at 20°C)</b>							
at 5MHz	dB/100m	1.2	1.1	0.7	0.6	0.4	0.4
at 50MHz	dB/100m	3.8	3.4	2.6	1.9	1.6	1.4
at 100MHz	dB/100m	5.5	4.8	3.7	2.7	2.3	2.0
at 200MHz	dB/100m	8.0	7.0	5.4	4.1	3.4	2.9
at 300MHz	dB/100m	10.0	8.7	6.8	5.2	4.4	3.7
at 460MHz	dB/100m	12.4	10.8	8.4	6.4	5.5	4.6
at 860MHz	dB/100m	17.1	15.1	11.8	9.1	7.7	6.4
at 1000MHz	dB/100m	18.5	16.4	12.8	9.8	8.4	6.9
at 1350MHz	dB/100m	21.5	19.5	14.9	11.4	9.8	8.0
at 1750MHz	dB/100m	24.8	22.5	17.2	13.3	11.4	9.4
at 2150MHz	dB/100m	27.6	25.6	19.2	14.9	12.8	10.5
<b>Structural Return Loss SRL</b>							
from 5 to 470 MHz	dB	> 30	> 23	> 30	> 26	> 26	> 26
from 470 to 862 MHz	dB	> 28	> 20	> 28	> 22	> 22	> 22
from 862 to 2150 MHz	dB	> 26	> 18	> 26	> 20	> 20	> 22
<b>Screening attenuation</b>							
from 30 to 1000 MHz	dB	> 85	> 85	> 85	> 85	> 95	> 90
from 1000 to 2150 MHz	dB	> 85	> 75	> 95	> 85	> 95	> 80
Inn.cond.DC resistance	Ohm/km	18.0	14.0	8.5	5.0	3.4	2.0
Out.cond.DC resistance	Ohm/km	13.5	12.5	9.5	8.5	6.5	2.5
<b>CONSTRUCTION DATA</b>							
Inner conductor	material	Cu	Cu	Cu	Cu	Cu	Cu
	dia.mm	1.13	1.25	1.63	2.20	2.70	3.40
Dielectric	material	FOAM PE	FOAM PE	FOAM PE	FOAM PE	FOAM PE	FOAM PE
	dia.mm	4.80	5.40	7.20	9.90	11.50	14.50
Screen							
copper overlapped tape	material	Cu/Pet	Cu/Pet	Cu/Pet	Cu/Pet	Cu/Pet	Cu
braid	material	Cu	Cu	Cu	Cu	Cu	Cu
braid coverage	%	61	49	65	55	52	65
	dia.mm	5.40	6.10	7.80	10.50	12.20	15.20
Flooding compound filling		PJ	PJ	PJ	PJ	PJ	PJ
Outer sheath	material	PE	PE	PE	PE	PE	PE
	colour	black	black	black	black	black	black
	dia.mm	7.60	7.80	10.10	12.70	15.00	19.80
<b>PHYSICAL DATA</b>							
Min.bend.radius	single r mm	50	75	100	150	200	250
	repeated r mm	50	75	100	150	200	250
Max.pulling strength	N	200	250	300	600	800	1200
Copper weight	Kg/km	22.6	25.9	39.7	60.0	83.0	151.0
Cable weight	Kg/km	51.5	51.5	87.5	132.2	181.1	327.0
<b>PACKING</b>							
Unit length	m	500	250	500	500	500	700
Model	No.	4	4	4	4	5	5
SPECIFICATIONS	EN 50117	part 3	part 3	part 4	part 4	part 4	part 4

**OPTIONS**

Messengered outdoor installation

DATA SAME AS FC SERIES, EXCEPT THE FOLLOWING AND WITHOUT JELLY FILLING

<b>CAVEL code</b>		<b>17/73AP</b>	<b>22/99AP</b>	<b>27/115AP</b>	<b>34/145AP</b>
Outer sheath	material	PE	PE	PE	PE
	colour	blk	blk	blk	blk
	dia.mm	10.1 x 17.0	12.7 x 18.5	15.0 x 22.5	19.8 x 25.5





Foam Dielectric + Petrol Jelly Filling

## FC SERIES Distribution cables for CATV SYSTEMS

This range of coaxial cables provide:

- low loss;
- high screening attenuation;
- long lasting stability of attenuation due to the physical gas injected foam dielectric technology.

These cables are suitable for laying the branch structures of long TV distribution systems, again for both terrestrial and satellite reception, which are systems very close in complexity and as extensions to actual cable television networks.

Only cables provided with petrol-jelly flooding compound filling (PJ) between the braid and the PE sheath should be used for underground installation. We suggest they are installed in any environment where the presence of water and/or a high ratio of moisture are likely. For instance, tunnels, underground car parks, etc.

- Cable type 34/145FC gives the lowest attenuation values and must be considered the most suitable for the installation of long trunk runs.

## Legend

Cu	plain copper
Cu/Pet	copper tape/polyester film
FeZn	zinc-plated steel
PE	polyethylene
PJ	petrol jelly filling compound

Min. installation temperature

- 5°C

Operating and storage temp.

PE sheath

- 40 to 80°C

Foam Dielectric without Jelly Filling

Messenger Rope construction and physical data

Rope	material	FeZn
	dia.mm	7 x 0.80
Breaking Strength	kg	500



**CAVEL**  
17/73FC  
**CAVEL**  
17/73AP

**DB SERIES**

<b>CAVEL code</b>		<b>DB100</b>	<b>DB125</b>	<b>DB165</b>	<b>DB233</b>
<b>ELECTRICAL DATA</b>					
Impedance	Ohm	75+/-3	75+/-2.5	75 +/--2.5	75+/-2.5
Velocity ratio	%	82	82	85	85
Capacitance	pF/m	54	55	52	52
<b>Attenuation (at 20°C)</b>					
at 5MHz	dB/100m	1.6	1.1	0.9	0.6
at 50MHz	dB/100m	4.1	3.4	2.6	1.9
at 100MHz	dB/100m	5.8	4.8	3.7	2.7
at 200MHz	dB/100m	8.4	6.8	5.4	4.1
at 300MHz	dB/100m	10.3	8.4	6.7	5.1
at 460MHz	dB/100m	12.8	11.1	8.8	6.2
at 860MHz	dB/100m	18.0	15.1	12.0	9.0
at 1000MHz	dB/100m	19.6	16.4	13.0	9.9
at 1350MHz	dB/100m	22.9	19.5	15.5	12.0
at 1750MHz	dB/100m	26.3	22.5	18.0	13.9
at 2150MHz	dB/100m	29.9	25.6	20.3	15.6
<b>Structural Return Loss SRL</b>					
from 5 to 470 MHz	dB	> 23	> 25	> 25	> 23
from 470 to 862 MHz	dB	> 20	> 20	> 20	> 20
from 862 to 2150 MHz	dB	> 18	> 20	> 20	> 18
<b>Screening attenuation</b>					
from 30 to 1000 MHz	dB	> 85	> 85	> 85	> 85
from 1000 to 2150 MHz	dB	> 85	> 75	> 75	> 75
Inn.cond.DC resistance	Ohm/km	22.5	14.0	8.7	5.0
Out.cond.DC resistance	Ohm/km	14.2	11.5	7.5	5.6
<b>CONSTRUCTION DATA</b>					
Inner conductor	material	Cu	Cu	Cu	Cu
	dia.mm	1.00	1.25	1.63	2.20
Dielectric	material	PEAS	PEAS	PEAS	PEAS
	dia.mm	4.70	5.60	7.25	9.90
Screen					
copper overlapped tape	material	Cu	Cu	Cu	Cu/Pet
braid	material	Cu	Cu	Cu	Cu
braid coverage	%	54	48	48	59
	dia.mm	5.23	6.25	7.95	10.60
Outer sheath					
first layer	material	PE	PE	PE	PE
second layer	material	PP	PP	PP	PP
	colour	green	green	green	green
	dia.mm	7.90	9.60	11.50	14.50
<b>PHYSICAL DATA</b>					
Min.bend.radius	single	r mm	40	50	60
	repeated	r mm	80	100	120
Max.pulling strength		N	120	150	220
Copper weight		Kg/km	19.1	25.7	43.5
Cable weight		Kg/km	55.6	76.4	112.3
SPECIFICATIONS		BS 5425	550	725	1000

**DUCT SERIES**

DATA SAME AS DB SERIES, EXCEPT THE FOLLOWING

<b>CAVEL code</b>		<b>DUCT100</b>	<b>DUCT125</b>	<b>DUCT165</b>
Outer sheath	material	PE	PE	PE
	colour	green	green	green
	dia.mm	7.90	9.60	11.50

**Direct Burial**

Where a situation calls for cables to be buried, the DB series is ideal. These cables have the same construction characteristics of the QC series, except that the sheath is made of two layers, the inner being of polyethylene (PE) and the outer layer of polypropylene (PP).

The PP layer has a harder surface than the PE and provides a useful abrasion resistance when pulled through pipes and ducts.

These cables carry a 15 year guarantee.

**Duct**

Ducts and alkathene tube are ideal for the insertion of the DUCT brand cables, which are by their design cheaper and more flexible than direct burial.

**Legend**

<b>Cu</b>	<b>plain copper</b>
<b>Cu/Pet</b>	<b>copper tape/polyester film</b>
<b>PE</b>	<b>polyethylene</b>
<b>PEAS</b>	<b>5 cell semi air spaced polyethylene</b>
<b>PP</b>	<b>polypropylene</b>

Min. installation temperature	- 5°C
Operating and storage temp. PE and PP sheath	- 40 to 80°C





REFERENCE code		2002	2003	3002
<b>ELECTRICAL DATA</b>				
Impedance	Ohm	75+/-4	75+/-1,5	75+/-4
Velocity ratio	%	82	66	66
Capacitance	pF/m	54	68	67
<b>Attenuation (at 20°C)</b>				
at 5MHz	dB/100m	3.2	2.4	4.5
at 10MHz	dB/100m	4.4	3.5	6.4
at 20MHz	dB/100m	6.5	4.7	9.1
at 30MHz	dB/100m	7.9	5.8	11.2
at 50MHz	dB/100m	10.3	7.7	14.5
at 60MHz	dB/100m	11.3	8.5	15.9
at 75MHz	dB/100m	12.8	9.5	17.3
at 100MHz	dB/100m	14.7	11.1	20.6
at 150MHz	dB/100m	18.2	13.5	25.3
at 200MHz	dB/100m	21.1	15.7	29.5
<b>Structural Return Loss SRL</b>				
from 3 to 30 MHz	dB	>25	>30	>30
from 30 to 60 MHz	dB	>25	>30	>30
from 60 to 100 MHz	dB	>25	>30	>30
<b>Screening attenuation</b>				
from 30 to 1000 MHz	dB	>65	>90	>80
Inn.cond.DC resistance	Ohm/km	84	61	220
Out.cond.DC resistance	Ohm/km	7.0	6.0	15.0
<b>CONSTRUCTION DATA</b>				
<b>Inner conductor</b>		material	Cu	Cu
		dia. mm	7x0.20	0.61
<b>Dielectric</b>		material	PEE	PE
		dia. mm	2.40	3.75
<b>Screen</b>				
<b>braid 1</b>		material	Cu	Cu
		braid coverage	%	95
<b>braid 2</b>		material	Cu	Cu
		braid coverage	%	94
		dia. mm	3.60	4.95
<b>Outer sheath</b>		material	PVC	PVC
		colour	wht	wht
		dia. mm	5.00	6.80
<b>PHYSICAL DATA</b>				
<b>Min.bend.radius</b>		single	r mm	20
		repeated	r mm	40
<b>Copper weight</b>		kg/km	32.2	48.2
<b>Cable weight</b>		kg/km	49.1	84.2
<b>SPECIFICATIONS</b>		BT	CW1229C	CW1229C
				CW1383A



A range of 75 Ohm coaxials in accordance to British Telecom specifications CW1229C and CW1383A has been developed.

They are mainly used for indoor installation in transmission equipment for digital telephone exchange system.

Due to their miniature size they can also be used for other applications where high performance is essential.

After many years of experience manufacturing the single BT coaxial cables, a programme was introduced for a range of multicores.

Whilst the most popular are 8 and 16 multicores in BT cable 3002, LSF and LSZH versions are available as are other combinations, including the overall screened multicore.

**Legend**

<b>Cu</b>	<b>plain copper</b>
<b>CuSn</b>	<b>tinned copper</b>
<b>PE</b>	<b>polyethylene</b>
<b>PEE</b>	<b>polyethylene foam</b>
<b>Pet</b>	<b>polyester</b>
<b>PVC</b>	<b>polyvinyl chloride</b> (TM1 compound to BS6746 and BT M235)

Min. installation temperature	- 5°C
Operating and storage temp.	PVC sheath - 30 to 80°C
	LSF sheath - 25 to 80°C
	LSZH sheath - 25 to 80°C





**BT 8 x 3002**

**REFERENCE code**

**4 x 2003**

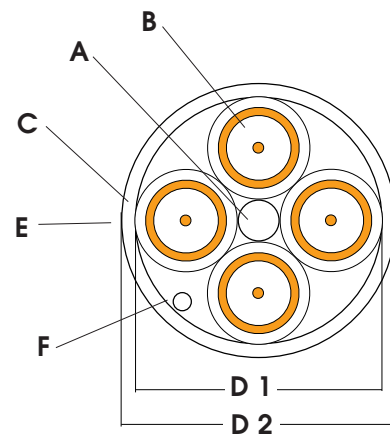
**CONSTRUCTION DATA**

Central filler

dwg

Coaxial cables  
 BT specification  
 Spirally wounded film  
 Non metallic rip cord  
 Outer sheath  
 Inner diametre  
 Outer diametre  
 Copper weight  
 Cable weight

A	material	TM1 wht PVC
	dia.mm	6.70
B	no.	4 x 2003
	no.	none
C	material	Pet
F		provided
E	material	TM1 wht PVC
D1	mm	16.20
D2	mm	18.75
	kg/km	197
	kg/km	820

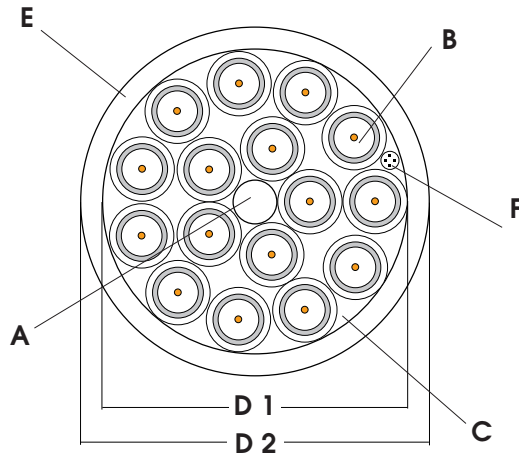
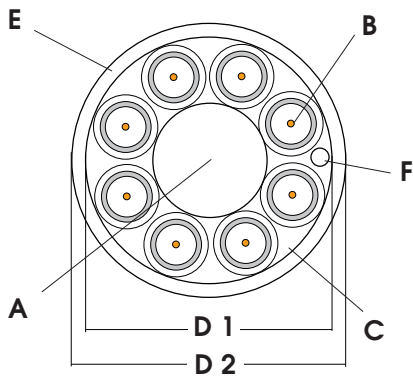


**8 x 3002**

TM1 wht PVC  
 6.25  
 8 x 3002  
 CW1383A  
 Pet  
 provided  
 TM1 wht PVC  
 13.40  
 16.00  
 119  
 326

**16 x 3002**

TM1 wht PVC  
 2.50  
 5+11 x 3002  
 CW1383A  
 Pet  
 provided  
 TM1 wht PVC  
 16.70  
 19.30  
 238  
 505



**BT 16 x 3002**



# Multicore Coaxials

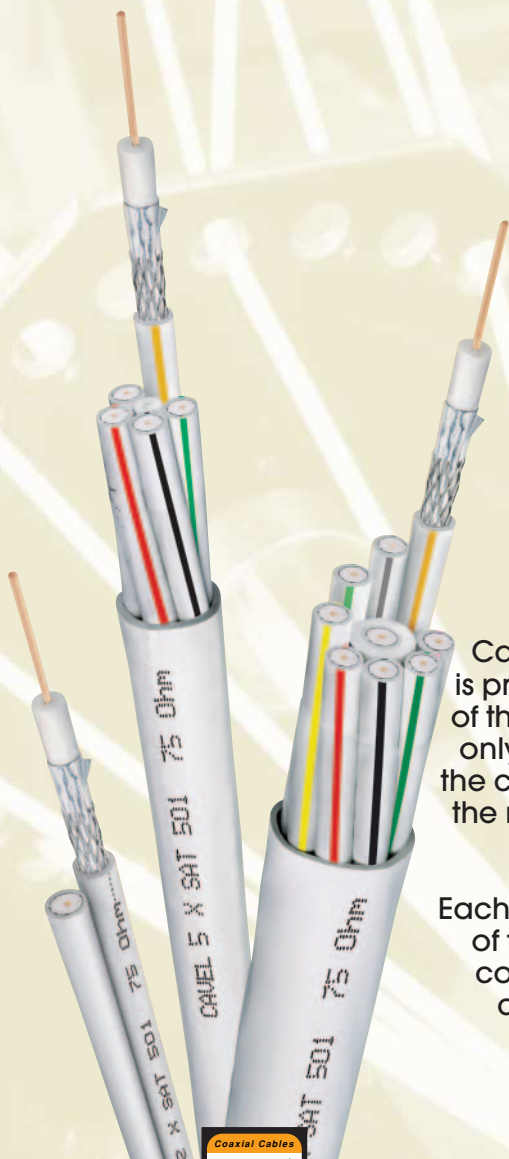
## For SMATV Reception and 1st IF Distribution.

Today, both single and community satellite reception systems are often provided with a dual-feed parabolic antenna i.e. where the satellite dish is provided with two LNBS suitable for receiving signals from two different satellites or groups of them. In this case the drop line requires two coaxial cables, one for each LNB. Today, the multiswitch distribution system makes it possible to distribute independently, among all users of the same building, a wide range of both satellite and terrestrial television signals. For this reason, the need for the so called "light cabling system" is carried out by the use of multicore coaxials. Due to this technology, the signals distribution requires:

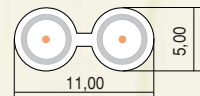
- 4 coaxials for the satellite distribution and 1 coaxial for the terrestrial distribution, where the dish is provided with one converter.
- two groups of 4 coaxials for the satellite distribution and 1 coaxial for the terrestrial distribution, where the dish is provided with two converters.

With the aim of offering the easiest solutions to the professional installer we designed the multicore shown here. The use of such cables allows the installer to save time when laying the distribution network.

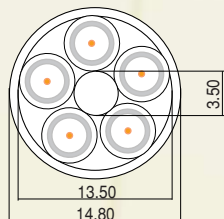
To get details of cable SAT501 and more CAVEL standard Multicore Coaxials please ask to your Distributor for the appropriate Catalogue.



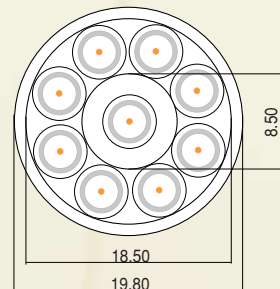
**2xSAT501**  
2 coaxials  
for dual feed  
parabolic antenna.



**5xSAT501**  
4 coaxials  
for 1 satellite  
drop line  
1 coaxial  
for terrestrial  
drop line



**9xSAT501**  
4+4 coaxials  
for 2 satellite  
drop lines  
1 coaxial  
for terrestrial  
drop line



Cable 2xSAT501 is printed on one of the two cables only; that makes the connection of the remote poles easier.

Each single cable of the multicore coaxials will be colour coded to make the cables connection easier.





## FLEXIBLE SMATV MULTICORE with EARTH WIRE

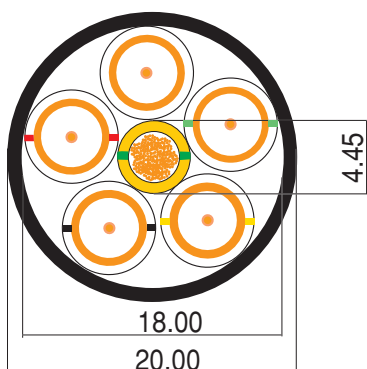
<b>CAVEL code</b>	<b>5x QF100+EW</b>	
<b>CONSTRUCTION DATA</b>		
Central lead	mode	4.0 sq.mm Cu / PVC
	dia.mm	4,45
Coaxial cable (*)	type	QF100
Single sheath	material	white PVC
	dia.mm	6,65
Film spirally wound	material	polyester
Outer sheath	material	black PVC
Inner diameter	mm	18.0
Outer diameter	mm	20.0

### PHISICAL DATA

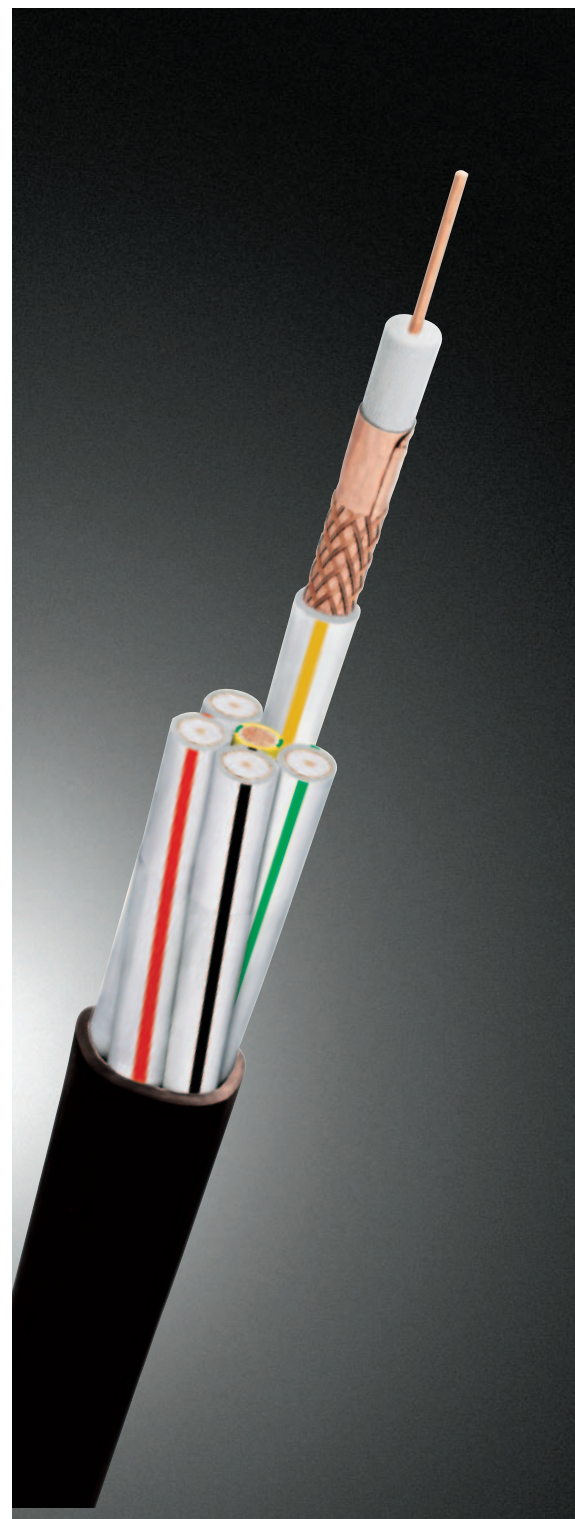
Copper weight	kg/km	95,5
Cable weight	kg/km	372,0

### STANDARD PACKING

unit length	m	100
packing	mod.	4
unit packing weight	kg	44,2



(\*) single cable's data as per page 5.



## drop cables only



mod. 8A  
fits **Cablebox DS100**  
100 m shrinked coil  
6 coils in a box = 600 m



mod. 10  
fits **Cablebox DS250**  
250 m shrinked coil  
2 coils in a box = 500m

## drop bulk lengths and trunk cables



mod. 4  
*plywood drum*



mod. 5  
*wooden drum*

Until recently coils in a box or on non-returnable cardboard and plastic reels have been the most popular means of packaging TV coaxial cables, usually supplied in 100 and 250 m lengths. In spite of some inconvenience, these packages have become accepted as the norm.

Today, due to environmental studies and concerns, the concept of recycling has become a paramount issue.

CAVEL, as policy, use fully recyclable materials for packing coaxial cables. Nevertheless, a total solution was sought and resulted in benefits of efficiency, economy and ecology.

This has led to the introduction of a revolutionary presentation - CABLEBOX Dispensers - a project based on the concept of reduction and re-utilization.

A CABLEBOX dispenser is basically a stand containing one reel, which can be easily opened into two parts.

These pieces, made of a shock resistant, very strong plastic material, become a cable dispenser with a very long life expectancy.

The refill is represented by a coil of coaxial cable supplied by CAVEL.

The dispensers are available in two sizes, suitable either for the 100 and 250 m coils of cable.

The refill coil is packed with only binding straps and is presented in a shrinkwrap PE film. One recyclable master box contains six coils of 100 or two coils of 250m.

The dispensers can be hand carried but are also provided with a belt to pass over the shoulder. This is a safety feature for the installer, who can move with both his hands free.

The cable coil when mounted in the dispenser can be unrolled starting from the outer end, with the installer dispensing cable from the point of attachment, thereby avoiding damage to the cable. The cable will always unroll perfectly, without assuming the spiral shape, which is annoying and makes installation into ducts very difficult.

This is most useful when installing a bundle of cables together in a duct or conduit. Rewinding excess cable back into the dispenser is very straightforward due to access through a central hole.



The sheath of all the CAVEL cables supplied in shrink-pack form is provided with metre marking, allowing the installer to pre-calculate the length of a run or drop against the remaining contents of the dispenser.

With the shrinkpack coils, there is no reel disposal to consider, only a small piece of shrinkwrap, an important environmental consideration.

Supplying installers with CABLEBOX dispensers, offers the following advantages:

- making installation easier
- saving on time and material wastage
- the opportunity to support environmental problems
- improvement of safety.





**FC02**

**Nickel plated scissors**

suitable to the preparation of any coaxial cable to the connector insertion



**CS00**

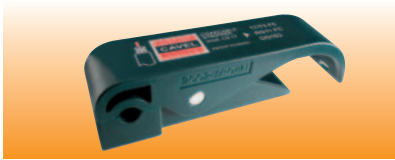
**Stripper**

suitable to cables Ø 5,0 - 7,0 mm

**CS02J - CS03J - CS70 - CS41**

**Strippers**

in just one operation they prepare drops ready to the F male connector insertion; each stripper is dedicated to cables of same size



**CS17 - CS22 - CS27 - CS34**

**Strippers for trunk and distribution cables**

These models have been studied to guarantee a perfect cutting of each cable for underground installation (FC series) or messengered (AP series). They make easier the removal of the PE sheath and the precise cutting of dielectric and outer screen. It facilitates the further mounting of the connectors, offered by CAVEL, suitable for outdoor and underground installations.



**MT04**

**Mounting tool**

suitable to fix tightly any F male connector to the drop cable



**CRT03 (hex .262" and .324")**

**CRT04 (hex .324" and .360")**

**CRT05 (hex .324" and .475")**

**Crimping tools for F male connectors**

for multipurpose use of the most common F male crimp connectors



**CK11**

**Screwdriver**

suitable to screw and unscrew any F male connector to female side



**LUB01 Lubri Cavel®**

**Cable pulling lubricant**

high performance lubricant suitable for any type of cable to be run through conduits, ducts and pipes; it reduces pulling strength, is clean, water based and harmless to the user; it is stable at temperatures up to 82°C (180°F) and freezes at -5°C (23°F)



*F male crimp connectors*



F41 - F70 - F501



F602 - F602J - F703 - F11/50



F163

**Typical crimp connectors data**

Material	Nitin-plated brass
Tensile strength	134 N
Screening Effectiveness	equivalent to the cable one
Insertion Attenuation	
5 - 1000 MHz	< 0,02 dB
1000 - 2000 MHz	< 0,11 dB
Reflection Loss	
5 - 500 MHz	> 43 dB
500 - 1000 MHz	> 34 dB



FA501 - FA602 - FA70  
FA703 - FA17VA1C - FA11/50



FA17/73

*F male twist-on connectors*

*Adapters*

FF 81-HQ



FM-FF90



**Waterproof**

The main feature of this set of connectors is the secure water tightness. This is performed thanks to the excellent pressure over the cable sheath through the central body part of the connector after the compression and it is sealed in the front part by the presence of an O-ring. The use of this connector is suggested in all the installations made in critical environment, which is: outdoor, sites with high rate of dampness or danger of water flood.

**FC703SL**

*fits the full range of cables with insulation 1,13/4,80mm, the so called RG6 types, as the series: SAT703x, DG113x, KF11x, QF100BL, SAT752F, TS703J, 11/50FC*



**FC11**

*fits the full range of distribution cables with insulation 1,63/7,20 mm, the so called RG11 types, they include the series: DG163x, CATV11x, RG11x, 17/73x*



*F male compression connectors and tools*



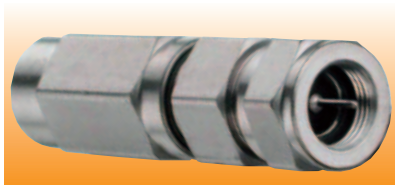
**CRT07**

*compression tool suitable to FC703SL connector*



**CRT08**

*compression tool suitable to FC703SL and FC11 connectors (and to any RG59, 6,11 F and IEC compression connector)*



**SERIES F**



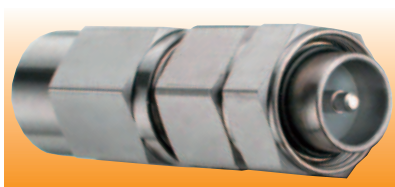
**SERIES IEC**



**SERIES N**



**SERIES 5/8"**



**SERIE 3,5/12"**

**Typical connectors data**

Impedance	75 +/- 2 Ohm
Frequency	5 - 2000 MHz
Screening Effectiveness	>100 dB
Insertion Attenuation	< 0,1 dB
5 - 2000 MHz	< 0,1 dB
Reflection Loss	> 29 dB
5 - 1000 Mhz	> 19 dB
1000 - 2000 Mhz	> 19 dB
Max power	1 Amp.



**ADAPTERS**

**TOOLS AND CONNECTORS FOR**

CABLE	STRIPPER	TWIST-ON CONNECTOR
QF100	CS00	FA703
QC100D	CS00	FA703
QC125	-	-
QC165	CS17	FA17/73
11/50FC	-	FA11/50
(QF125)	-	-
17/73FC	CS17	FA17/73
(QF165)	CS17	FA17/73
2xSAT501	CS00	FA501
5xSAT501	CS00	FA501
9xSAT501	CS00	FA501
5xQF100+EW	CS00	FA703

**TOOLS AND CONNECTO**

CABLE	STRIPPER	F CONNECTOR
QC165	CS17	FM-32
QC233	CS22	FM-13
QC270	CS27	FM-44
11/50FC	-	FM-21
17/73FC	CS17	FM-32
(QF165)	CS17	FM-32
17/73AP	CS17	FM-32
22/99FC	CS22	FM-13
(QC233)	CS22	FM-13
22/99AP	CS22	FM-13
27/115FC	CS27	FM-44
27/115AP	CS27	FM-44
34/145FC	CS34	FM-46
34/145AP	CS34	FM-46

**from CABLE**

QC165	17/73xx	QF165
	11/50FC	
	11/50FC	
	11/50FC	

## CROSS REFERENCE CHARTS

## INDOOR INSTALLATION

CRIMP CONNECTOR	CRIMPING TOOL	COMPRESSION CONNECTOR	COMPRESSION TOOL
F703	CRT 03-04-05	FC703 SL	CRT 07-08
F703	CRT 03-04-05	FC703 SL	CRT 07-08
F125	CRT 05	-	-
F163	CRT 05	FC703 SL	CRT 08
F11/50	CRT 04	FC703 SL	CRT 07-08
F125	CRT 05	-	-
F163		FC11	CRT 08
F163	CRT 05	FC11	CRT 08
F501	CRT 03-04-05	-	-
F501	CRT 03-04-05	-	-
F501	CRT 03-04-05	-	-
F703	CRT 03-04-05	FC703 SL	CRT 07-08

## OUTDOOR INSTALLATION

## CONNECTORS FOR OUTDOOR AND UNDERGROUND INSTALLATION

IEC CONNECTOR	N CONNECTOR	5/8" CONNECTOR	3,5/12" CONNECTOR
IEC14M-32	NM-32	5/8MU-32	3,5/12M-32
IEC14M-13	NM-13	5/8MU-13	3,5/12M-13
IEC14M-44	NM-44	5/8MU-44	3,5/12M-44
-	-	-	-
IEC14M-32	NM-32	5/8MU-32	3,5/12M-32
IEC14M-32	NM-32	5/8MU-32	3,5/12M-32
IEC14M-32	NM-32	5/8MU-32	3,5/12M-32
IEC14M-13	NM-13	5/8MU-13	3,5/12M-13
IEC14M-13	NM-13	5/8MU-13	3,5/12M-13
IEC14M-13	NM-13	5/8MU-13	3,5/12M-13
IEC14M-44	NM-44	5/8MU-44	3,5/12M-44
IEC14M-44	NM-44	5/8MU-44	3,5/12M-44
IEC14M-46	-	5/8MU-46	3,5/12M-46
IEC14M-46	-	5/8MU-46	3,5/12M-46

ADAPTER	to CABLE
SP-32	QC165 17/73xx QF165
SR01-32	QC165 17/73xx QF165
SR21-44	27/115xx
SR01-46	34/145xx

## LIMIT OF RESPONSIBILITY

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# Qing

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REGISTERED COMPANY

  
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