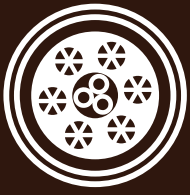




**Caledonian**

# Composite Cables





# Company Profile

Caledonian, established in 1978, offers one of the most complete lines of fiber and copper cabling system solutions with over hundreds of different cabling system products. Our superior products provide leading edge within every cable series and for every application.

Among the national and international standards with which our cables could comply are: BS - British Standard; LPCB Fire Performance Standard. ISO Standard etc. Caledonian Cables offers a comprehensive stock of cables and cabling products through its nationwide network of resellers and distributors. Caledonian Cables has continually expanded its global presence in Europe and Asia.

Caledonian & Addison, produces a wide range of cables for communication, power and electronics in its primary plants in UK, Italy and Spain. To stay in front, we continually keep expanding our manufacturing capabilities in more low cost region such as Romania, Taiwan, Malaysia etc. This low-cost manufacturing facilities enable us provide a flexible, scalable global system that delivers superior operational performance and optimal results for our customers.

Our extensive global network of manufacturing facilities gives us significant scale and the flexibility to fulfill our customer requirements. This global presence provides design and consultancy solutions that are combined with core cable manufacturing, logistic services, and vertically integrated with our E-commerce technologies, to optimize customer operations by lowering costs and reducing time to market.

Caledonian & Addison has been respected for its high standards of quality, excellent service level, competitive pricing and a unique and innovative spirit. With our latest technologies, we are both inspired and well-positioned to meet the changing needs of our customers. We have the resources to diversify and to enhance our product lines and services. We understand the need for change and with our accurate planning, we are ready for the future and the promise of new marketing opportunities. Our tradition of growth through excellence is assured.

Our Design Centers work closely with customers to constantly improve its standard range of products and technologies and to develop customized, country and industry-specific solutions. Caledonian & Addison has established an extensive network of design, manufacturing, and logistics facilities in the world's major markets to serve the growing outsourcing needs of both multinational and regional customers.



# Our Certificate



## Registration Certificate

*This document certifies that the administration systems of*

*Caledonian Cables Limited / Addison Technology Limited  
Marchants Industrial Centre, Mill Lane, Laughton, Lewes, Sussex, BN8 6AJ, United Kingdom*

*have been assessed and approved by QAS International  
to the following management systems, standards and guidelines:*

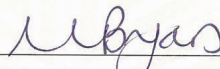
**ISO 9001 : 2008**

*With the permitted exclusion of clauses 7.3 Design and Development*

**The approved administration systems apply to the following:**

*The manufacture and supply of electrical cables and  
ancillary power equipment to customers internationally.*

Original Approval ..... **6<sup>th</sup> September 1997** .....  
Current Certificate ..... **7<sup>th</sup> February 2013** .....  
Certificate Expiry ..... **7<sup>th</sup> February 2014** .....  
Certificate Number ..... **A6211** .....



**On behalf of QAS International**

[www.qas-international.com](http://www.qas-international.com)

This certificate remains valid while the holder maintains their quality administration systems in accordance with the standards and guidelines stated above, which will be audited annually by QAS International. The holder is entitled to display the above registration mark for the duration of this certificate.

This certificate must be returned to QAS International on reasonable request.  
Issuing Office: QAS International, 20A Oxford Street, Malmesbury, Wiltshire, SN16 9AX



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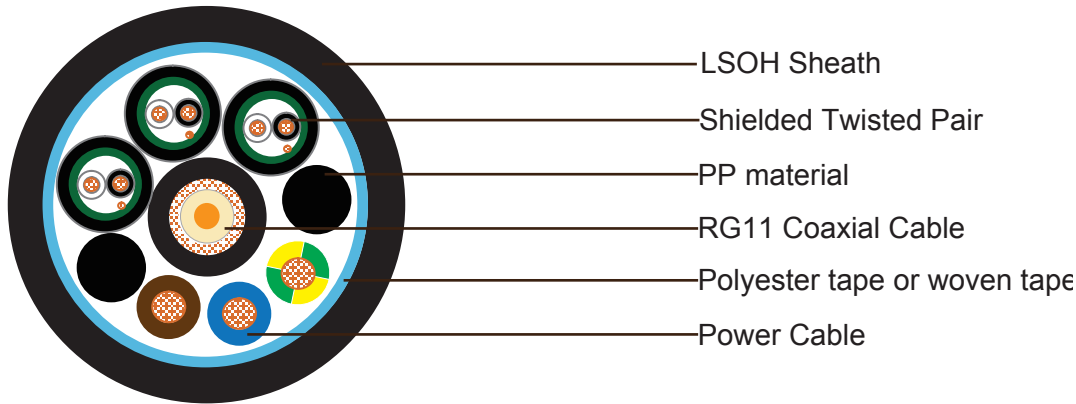
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### 1x RG11 + 3x2.5 Power Cable + 3x1x2x22AWG Data Pairs Unarmoured PVC Sheathed Composite Cable

#### Construction:

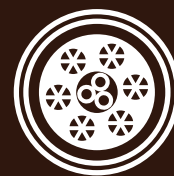


#### 1x750hm RG11 Coaxial Cable ( in the center of the cable core)

<b>Conductor</b>	1.63mm Solid bare copper
<b>Insulation</b>	Polyethylene. Thickness 7.25mm.
<b>Shield</b>	Braid of bare copper wire. Coverage 95%
<b>Sheath</b>	PVC sheath. Nominal outer diameter is 10.3mm.
<b>Sheath Color</b>	Black

#### 3x1x2x22AWG Shielded Twisted Pair ( around coaxial cable)

<b>Conductor</b>	7/0.254mm Stranded tinned copper.
<b>Insulation</b>	PVC material. Thickness 0.50mm.
<b>Insulation Color</b>	White and black
<b>Individual Shield</b>	Aluminum polyester tape
<b>Drain Wire</b>	24 AWG stranded tinned copper
<b>Sheath</b>	PVC sheath. Nominal outer diameter 4.8mm. Thickness 0.76mm.
<b>Sheath Color</b>	Black with white number code



## Composite Cables

### 3x2.5mm<sup>2</sup> Power Cable ( around coaxial cable)

<b>Conductor</b>	2.5mm <sup>2</sup> Stranded tinned copper wire.
<b>Insulation</b>	XLPE. Outer diameter 3.41mm
<b>Insulation Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PP material (around coaxial cable)
<b>Wrapping Tape</b>	Polyester tape or woven tape
<b>Outer Sheath</b>	PVC, thickness 1.6mm, nominal outer diameter 25.0mm
<b>Sheath Color</b>	Black
<b>Cable weight</b>	480kg/km

## Electrical and Physical Properties@20°C:

### Coaxial Cable

Impedance: 75±3Ohm (@1MHz)

Max. Attenuation: 3.3dB/100m @50MHz

### Power Cable

**Electrical Resistance:** 7.41Ohm/km

**Insulation Resistance:** ≥5500 MOhm×km

### Data Pairs

**Electrical Resistance:** 49Ohm/km

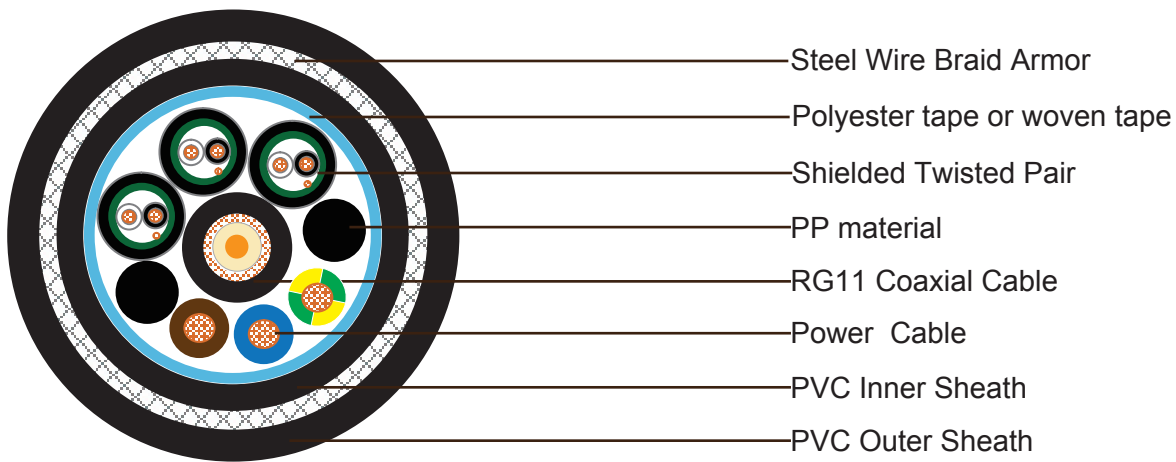
**Insulation Resistance:** ≥1000 MOhm×km

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### 1x RG11 + 3x2.5 Power Cable + 3x1x2x22AWG Data Pairs SWB PVC Sheathed Composite Cable

#### Construction:



#### 1x750hm RG11 Coaxial Cable ( in the center of the cable core)

<b>Conductor</b>	1.63mm Solid bare copper
<b>Insulation</b>	Polyethylene. Thickness 7.25mm.
<b>Shield</b>	Braid of bare copper wire. Coverage 95%
<b>Sheath</b>	PVC sheath. Nominal outer diameter is 10.3mm.
<b>Sheath Color</b>	Black

#### 3x1x2x22AWG Shielded Twisted Pair ( around coaxial cable)

<b>Conductor</b>	7/0.254mm Stranded tinned copper.
<b>Insulation</b>	PVC material. Thickness 0.50mm.
<b>Insulation Color</b>	White and black
<b>Individual Shield</b>	Aluminum polyester tape
<b>Drain Wire</b>	24 AWG stranded tinned copper



## Composite Cables

<b>Sheath</b>	PVC sheath. Thickness 0.8mm.
<b>Sheath Color</b>	Black with white number code

### 3x2.5mm<sup>2</sup> Power Cable ( around coaxial cable)

<b>Conductor</b>	2.5mm <sup>2</sup> Stranded tinned copper wire.
<b>Insulation</b>	XLPE. Outer diameter 3.41mm
<b>Insulation Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PP material (around coaxial cable)
<b>Wrapping Tape</b>	Polyester tape or woven tape.
<b>Inner Sheath</b>	Black PVC, thickness 1.0mm
<b>Aarmor</b>	Steel wire braid, dia. 0.2mm, coverage 85%
<b>Outer Sheath</b>	PVC, thickness 1.8mm, nominal outer diameter 28.3mm
<b>Sheath Color</b>	Black
<b>Cable weight</b>	550kg/km

## Electrical and Physical Properties@20°C:

### Coaxial Cable

**Impedance:** 75±3Ohm (@1MHz)

**Max. Attenuation:** 3.3dB/100m @50MHz

### Power Cable

**Electrical Resistance:** 7.41Ohm/km

**Insulation Resistance:** ≥5500 MOhm×km

### Data Pairs

**Electrical Resistance:** 49Ohm/km

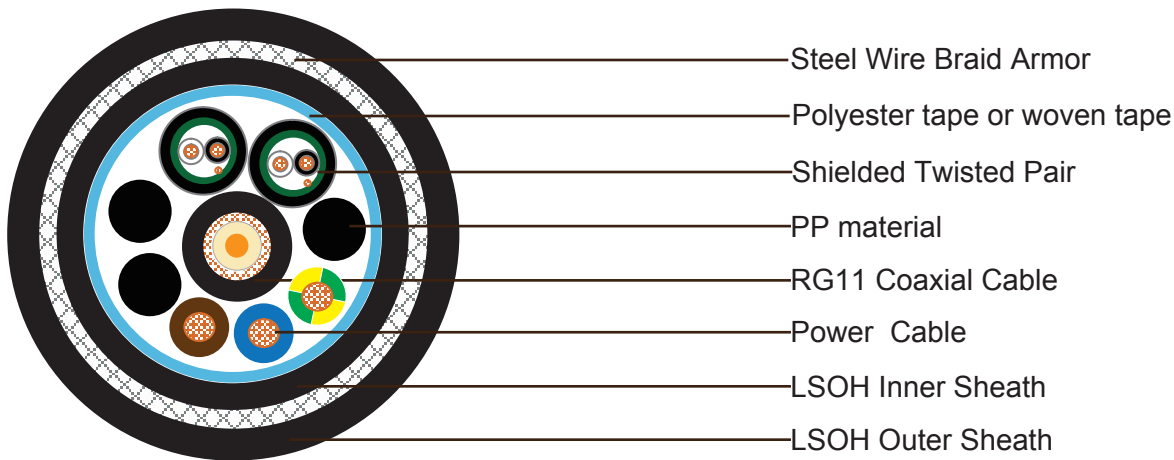
**Insulation Resistance:** ≥1000 MOhm×km

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### 1xRG11 + 3x3 Power Cable + 2x1x2x24AWG Data Pairs SWB LSZH Sheathed Composite Cable

#### Construction:

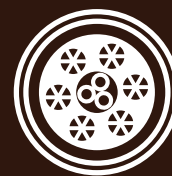


#### 1x750hm RG11 Coaxial Cable( in the center of the cable core)

<b>Conductor</b>	1.63mm Solid bare copper
<b>Insulation</b>	Polyethylene. Thickness 7.25mm.
<b>Shield</b>	Braid of bare copper wire. Coverage 95%
<b>Sheath</b>	LSZH sheath. Nominal outer diameter is 10.3mm.
<b>Sheath Color</b>	Black

#### 2x1x2x24AWG Shielded Twisted Pair ( around coaxial cable)

<b>Conductor</b>	7/0.2mm Stranded tinned copper.
<b>Insulation</b>	PVC material. Thickness 0.47mm.
<b>Insulation Color</b>	White and black
<b>Individual Shield</b>	Aluminum polyester tape
<b>Drain Wire</b>	24 AWG stranded tinned copper



## Composite Cables

<b>Sheath</b>	LSZH sheath. Nominal outer diameter 4.8mm. Thickness 0.76mm.
<b>Sheath Color</b>	Black and Grey

### 3x3mm<sup>2</sup> Power Cable ( around coaxial cable)

<b>Conductor</b>	12AWG (3mm <sup>2</sup> Stranded tinned copper wire.
<b>Insulation</b>	XLPE. Thickness 0.85mm. Outer diameter 3.65mm
<b>Insulation Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PP material (around coaxial cable)
<b>Wrapping Tape</b>	Polyester tape.
<b>Inner Sheath</b>	Black LSZH, thickness 0.8mm
<b>Aarmor</b>	Stainless steel wire braid, coverage 85%
<b>Outer Sheath</b>	LSZH, thickness 1.5mm, nominal outer diameter 26.0mm
<b>Sheath Color</b>	Black

## Electrical and Physical Properties@20°C:

### Coaxial Cable

**Impedance:** 75±3Ohm (@1MHz)

**Max. Attenuation:** 3.3dB/100m @50MHz

### Power Cable

**Electrical Resistance:** 6.6Ohm/km

**Insulation Resistance:** ≥5500 MOhm×km

### Data Pairs

**Electrical Resistance:** 90Ohm/km

**Insulation Resistance:** ≥1000 MOhm×km

### Element Assembly

**Min Bending Radius:** 420mm

**Operating Temperature:** -35°C/+80°C



### Fire Performance:

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**Flame Propagation:** IEC60332-1

**Low Smoke Capacity:** IEC61034-1/2

**Halogen Free:** IEC60754-1/2

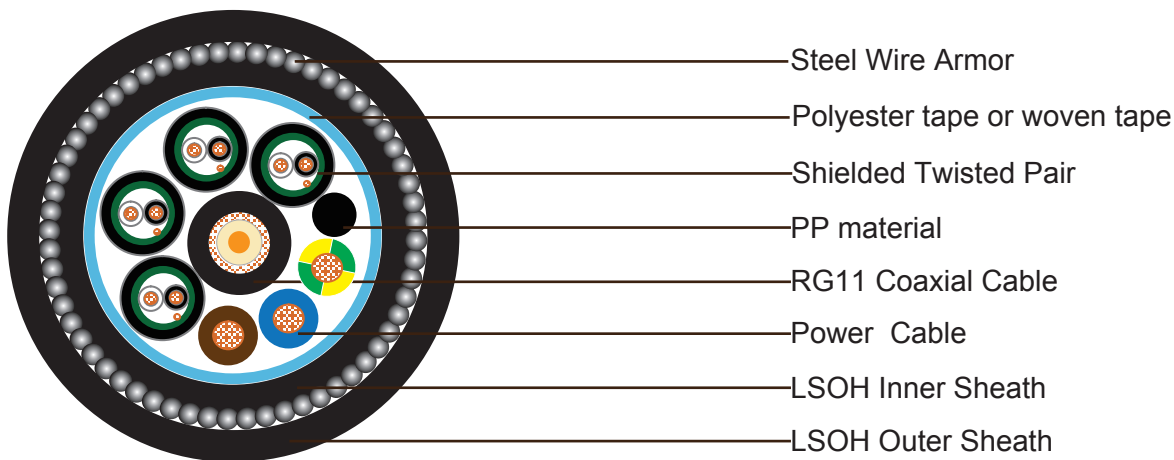
\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



## Composite Cables

### 1x RG11 + 3x2.5 Power Cable + 4x1x2x24AWG Data Pairs SWA LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG11 Coaxial Cable ( in the center of the cable core)

<b>Conductor</b>	1.63mm Solid bare copper
<b>Insulation</b>	Polyethylene. Diameter 7.25mm.
<b>Shield</b>	Braid of bare copper wire. Coverage 95%
<b>Sheath</b>	LSZH sheath. Nominal outer diameter is 10.3mm.
<b>Sheath Color</b>	Black

#### 4x1x2x24AWG Shielded Twisted Pair data cable ( around coaxial cable)

<b>Conductor</b>	7/0.2mm Stranded tinned copper.
<b>Insulation</b>	PVC material. Thickness 0.5mm.
<b>Insulation Color</b>	White and black
<b>Individual Shield</b>	Aluminum polyester tape
<b>Drain Wire</b>	24 AWG stranded tinned copper



<b>Sheath</b>	LSZH sheath. Thickness 0.80mm.
<b>Sheath Color</b>	Black with white number code

### 3x2.5mm<sup>2</sup> Power Cable ( around coaxial cable)

<b>Conductor</b>	2.5mm <sup>2</sup> Stranded tinned copper wire.
<b>Insulation</b>	XLPE. Outer diameter 3.41mm
<b>Insulation Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PP material (around coaxial cable)
<b>Wrapping Tape</b>	Polyester tape or woven tape
<b>Inner Sheath</b>	Black LSZH, thickness 1.1mm
<b>Aarmor</b>	Steel wire armor, dia. 1.25mm
<b>Outer Sheath</b>	LSZH, thickness 1.8mm, nominal outer diameter 26.0±1.0mm
<b>Sheath Color</b>	Black
<b>Cable Weight</b>	1100kg/km

## Electrical and Physical Properties@20°C:

### Coaxial Cable

**Impedance:** 75±3Ohm (@1MHz)

**Max. Attenuation:** 3.3dB/100m @50MHz

### Power Cable

**Electrical Resistance:** 7.41Ohm/km

**Insulation Resistance:** ≥5500 MOhm×km

### Data Pairs

**Electrical Resistance:** 90Ohm/km

**Insulation Resistance:** ≥1000 MOhm×km



## Composite Cables

### Element Assembly

**Conductor DC resistance per km@20°C:**

24AWG: 95.8ohm/km

2.5mm<sup>2</sup>: 7.4ohm/km

1.63mm: 9.26ohm/km

**Minimum Bending Radius:** 312mm

**Temperature Range:** -10°C~70°C

### Fire Performance:

---

**Flame Propagation:** IEC60332-1

**Low Smoke Capacity:** IEC61034-1/2

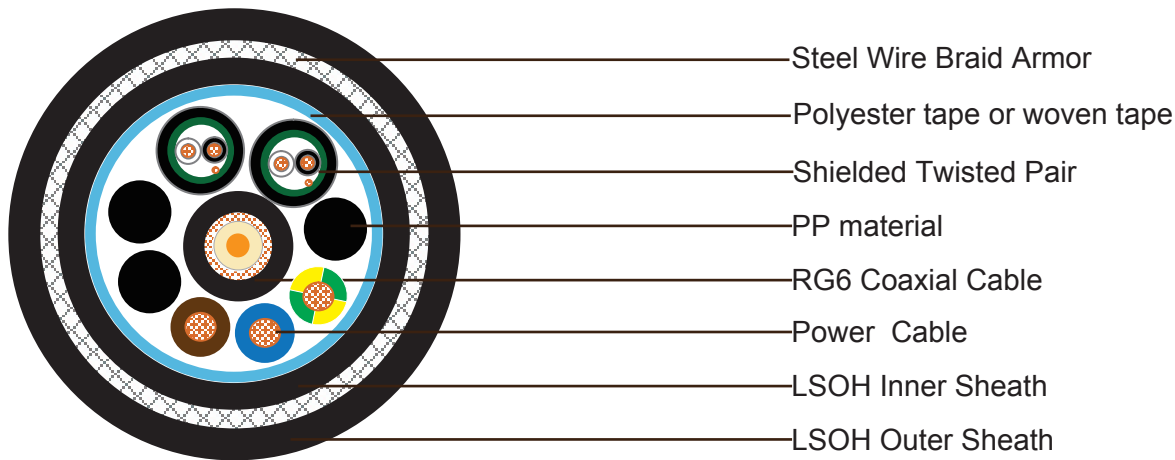
**Halogen Free:** IEC60754-1/2

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### 1xRG6 + 3x2.5 Power cable + 2x1x2x22AWG Data Pairs SWB LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG6 Coaxial Cable ( in the center of the cable core)

<b>Conductor</b>	1.02mm Solid bare copper
<b>Insulation</b>	Polyethylene. Diameter 4.57mm.
<b>Shield 1</b>	Al-Polyester Tape
<b>Shield 2</b>	Braid of bare copper wire. Coverage: 95%
<b>Sheath</b>	LSZH sheath. Nominal outer diameter is 6.91mm.
<b>Sheath Color</b>	Black

#### 2x1x2x22AWG Shielded Twisted Pair ( around coaxial cable)

<b>Conductor</b>	7/0.254mm Stranded tinned copper.
<b>Insulation</b>	PVC material. Thickness 0.50mm.
<b>Insulation Color</b>	White and black
<b>Individual Shield</b>	Aluminum polyester tape



## Composite Cables

<b>Drain Wire</b>	24 AWG stranded tinned copper
<b>Sheath</b>	LSZH sheath. Thickness 0.5mm.
<b>Sheath Color</b>	Black with white number code

### 3x2.5mm<sup>2</sup> Power Cable ( around coaxial cable)

<b>Conductor</b>	2.5mm <sup>2</sup> Stranded tinned copper wire.
<b>Insulation</b>	XLPE. Outer diameter 3.6mm
<b>Insulation Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PE or PP material
<b>Wrapping Tape</b>	Polyester tape or woven tape
<b>Inner Sheath</b>	Black LSZH, thickness 0.75mm
<b>Armor</b>	Steel wire braid, dia. 0.2mm, coverage 95%
<b>Outer Sheath</b>	LSZH, thickness 1.5mm, nominal outer diameter 21.0mm. Approx.
<b>Sheath Color</b>	Black
<b>Cable Weight</b>	485kg/km

## Electrical and Physical Properties@20°C:

### Coaxial Cable

**Conductor Resistance @ 20°C :** 22 ohm/km

**Impedance:** 75±3Ohm (@1MHz)

**Max. Attenuation:** 5.2dB/100m @50MHz

### Power Cable

**Conductor Resistance @ 20°C:** 7.41Ohm/km

**Insulation Resistance:** ≥5500 MOhm<sup>2</sup>/km

### Data Pairs

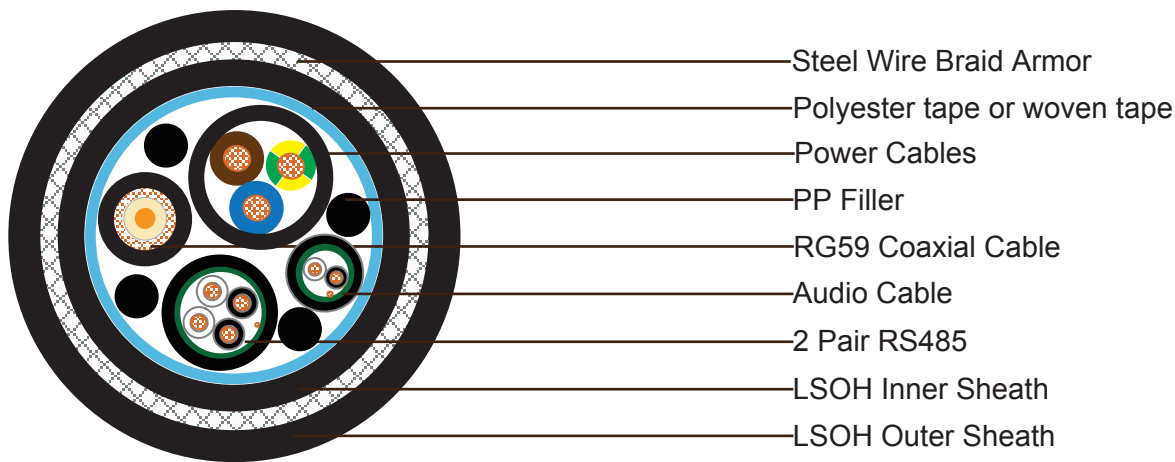
**Electrical Resistance:** 49Ohm/km

**Insulation Resistance:** ≥1000 MOhm<sup>2</sup>/km



### RG59 + 3x2.5 Power cable + 2x2x24AWG RS485 + 1x2x18AWG Audio Cable SWB LSZH Sheathed Composite Cable

#### Construction:

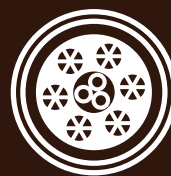


#### 750hm RG59 Coaxial Cable

<b>Conductor</b>	0.81mm Copper Covered Steel Wire
<b>Insulation</b>	Polyethylene. Diameter 3.65mm
<b>Shield</b>	Bonded Al screen and braid of Al-Mg wire. Coverage: 80%
<b>Sheath</b>	LSZH sheath. Nominal outer diameter is 6.1mm
<b>Sheath Color</b>	Black

#### 24AWG RS485

<b>Conductor</b>	24AWG (7/0.2mm Stranded tinned copper to IEC 60228 Class 2 2 pairs
<b>Insulation</b>	Polyethylene. Thickness 0.6mm
<b>Shield</b>	Aluminium polyester tape
<b>Drain Wire</b>	24 AWG stranded tinned copper drain wire
<b>Sheath</b>	LSZH sheath. Nominal outer diameter is 9.0mm
<b>Sheath Color</b>	Black



## Composite Cables

### 3x2.5mm<sup>2</sup> Power Cable

<b>Conductor</b>	2.5mm <sup>2</sup> Stranded tinned copper wire to IEC 60228 Class 2
<b>Insulation</b>	XLPE. Thickness 0.7mm
<b>Sheath</b>	LSZH sheath. Nominal outer diameter is 12.0mm
<b>Sheath Color</b>	Black

### 18AWG Audio Cable

<b>Conductor</b>	1 pair 18AWG (16/0.254mm Stranded tinned copper
<b>Insulation</b>	Polyethylene
<b>Shield</b>	Aluminium polyester tape
<b>Drain Wire</b>	24 AWG stranded tinned copper drain wire
<b>Sheath</b>	LSZH sheath. Nominal outer diameter is 6.5mm
<b>Sheath Color</b>	Black

### Element Assembly

<b>Filler</b>	PP, PVC or PE
<b>Wrapping Tape</b>	Polyester tape
<b>Inner Sheath</b>	Black LSZH, thickness 0.8-1.0mm
<b>Aarmor</b>	Steel wire braid, coverage 95%
<b>Outer Sheath</b>	LSZH, thickness 1.6- 1.8mm, nominal outer diameter is 24±2mm
<b>Sheath Color</b>	Black
<b>Cable Weight</b>	730kg/km

## Electrical and Physical Properties @20°C:

### Coaxial Cable

**Impedance:** 75±3Ohm (@1MHz)

**Nominal Attenuation:** 6.72dB/100m @50MHz



### RS485

**Nominal Impedance:**  $120 \pm 10 \Omega$

**Nominal Conductor DC Resistance @20°C:** 78.7 Ohm/km

**Nominal Attenuation:** 1MHz 2.3dB/100m

### Power Cable

**Electrical Resistance:** 7.41Ohm/km

**Insulation Resistance:**  $\geq 5500 \text{ MOhm} \cdot \text{km}$

### Audio Cable

**Electrical Resistance:** 18.1Ohm/km

**Insulation Resistance:**  $\geq 1.1 \text{ MOhm} \cdot \text{km}$

### Element Assembly

**Min Bending Radius:** 360mm

**Operating Temperature:**  $-35^\circ\text{C}/+90^\circ\text{C}$

## Fire Performance:

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**Low Smoke Capacity:** IEC61034-1/2

**Halogen Free:** IEC60754-1/2

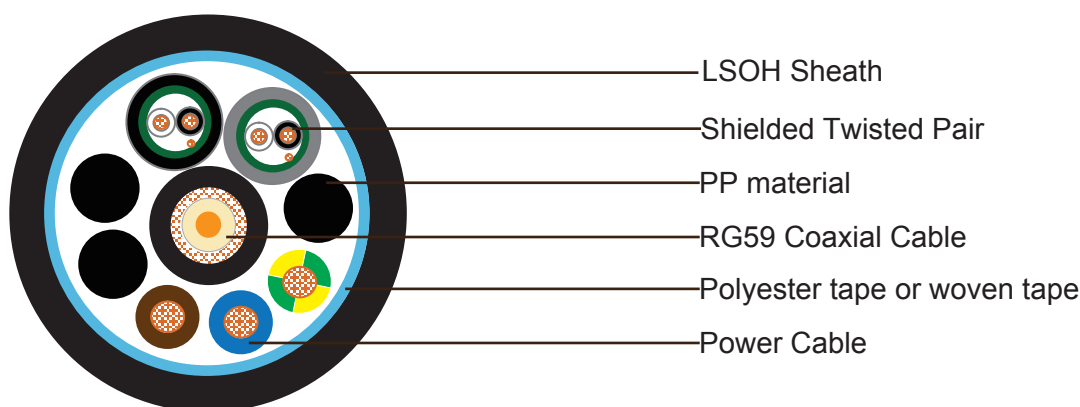
**Flame Propagation:** IEC60332

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### 1x RG59 + 3x1.5 Power Cable + 2x1x2x24AWG Data Pairs Unarmored LSZH Sheathed Composite cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable( in the center of the cable core)

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage $\geq 95\%$
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 6.15mm
<b>Sheath Color</b>	Black

#### 2x1x2x24AWG Shielded Twisted Pair ( around coaxial cable)

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Insulation</b>	PVC material. Thickness 0.4mm
<b>Insulation Color</b>	Black and white
<b>Shield</b>	Aluminium polyester tape
<b>Drain Wire</b>	24 AWG stranded tinned copper drain wire
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 4.8mm. Thickness 0.76mm
<b>Sheath Color</b>	Black and Grey



### 3x1.5mm<sup>2</sup> Power Cable ( around coaxial cable)

<b>Conductor</b>	1.5mm <sup>2</sup> Stranded tinned copper wire
<b>Insulation</b>	XLPE. Nominal outer diameter 3.0mm
<b>Insultion Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PE or PP material
<b>Wrapping Tape</b>	Polyester tape or woven tape
<b>Outer Sheath</b>	LSZH, nominal outer diameter 16.0±1.0mm
<b>Sheath Color</b>	Black

## Electrical and Physical Properties @20°C:

### Coaxial Cable

**Impedance:** 75±3Ohm (@1MHz)

**Max. Attenuation:** 7.5dB/100m @50MHz

### Power Cable

**Electrical Resistance:** 12.1Ohm/km

**Insulation Resistance:** ≥5500 MOhm<sup>2</sup>/km

### Data Pairs

**Electrical Resistance:** 90Ohm/km

**Insulation Resistance:** ≥1000 MOhm<sup>2</sup>/km

### Element Assembly

**Min Bending Radius:** 160mm

**Operating Temperature:** -35°C/+80°C



## Composite Cables

### Fire Performance:

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**Low Smoke Capacity:** IEC61034-1/2

**Halogen Free:** IEC60754-1/2

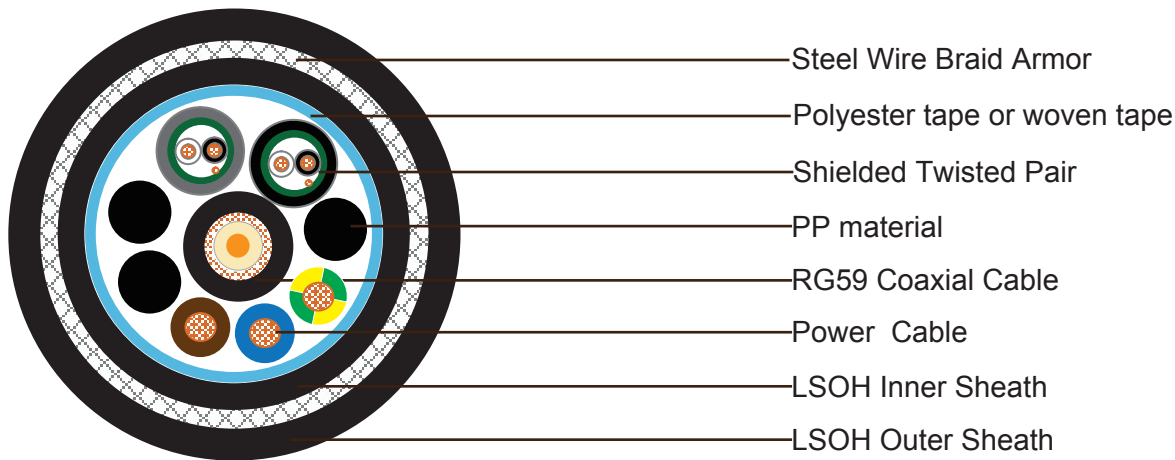
**Flame Propagation:** IEC60332

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### 1x RG59 + 3x1.5 Power Cable + 2x1x2x24AWG Data Pairs SWB LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable( in the center of the cable core)

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage ≥ 95%
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 6.15mm
<b>Sheath Color</b>	Black

#### 2x1x2x24AWG Shielded Twisted Pair (around coaxial cable)

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Insulation</b>	PVC material. Thickness 0.4mm
<b>Insulation Color</b>	Black and white
<b>Shield</b>	Aluminium polyester tape
<b>Drain Wire</b>	24 AWG stranded tinned copper drain wire
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 4.8mm. Thickness 0.76mm



## Composite Cables

<b>Sheath Color</b>	Black and Grey
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### 3x1.5mm<sup>2</sup> Power Cable ( around coaxial cable)

<b>Conductor</b>	1.5mm <sup>2</sup> Stranded tinned copper wire
<b>Insulation</b>	XLPE. Nominal outer diameter 3.0mm
<b>Insulation Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PE or PP material
<b>Wrapping Tape</b>	Polyester tape or woven tape
<b>Inner Sheath</b>	Black LSZH, thickness 0.8mm
<b>Aarmor</b>	Steel wire braid, coverage 85%
<b>Outer Sheath</b>	LSZH, thickness 1.5mm, nominal outer diameter 21.5±2.0mm
<b>Sheath Color</b>	Black

## Electrical and Physical Properties @20°C:

### Coaxial Cable

**Impedance:** 75±3Ohm (@1MHz)

**Max. Attenuation:** 7.5dB/100m @50MHz

### Power Cable

**Electrical Resistance:** 12.1Ohm/km

**Insulation Resistance:** ≥5500 MOhm×km

### Data Pairs

**Electrical Resistance:** 90Ohm/km

**Insulation Resistance:** ≥1000 MOhm×km

### Element Assembly:

**Min Bending Radius:** 420mm

**Operating Temperature:** -35°C/+80°C



### Fire Performance:

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**Low Smoke Capacity:** IEC61034-1/2

**Halogen Free:** IEC60754-1/2

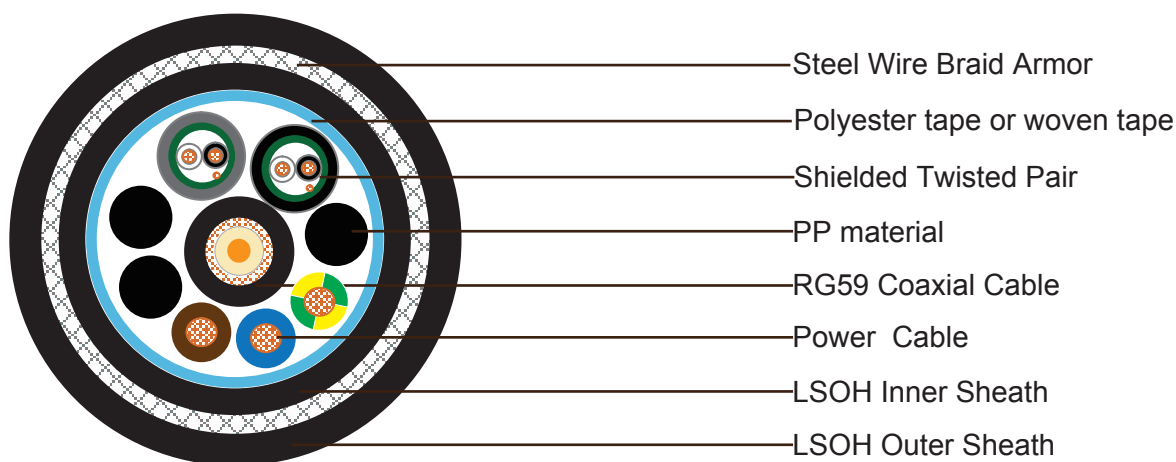
**Flame Propagation:** IEC60332

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### 1xRG59 + 3x3 Power Cable + 2x1x2x24AWG Data Pairs SWB LSZH Sheathed Composite Cable

#### Construction:



#### 1x75Ohm RG59 Coaxial Cable( in the center of the cable core)

<b>Conductor</b>	0.58 Solid copperweld (CCS).
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage ≥ 92%
<b>Sheath</b>	LSZH sheath, nominal outer diameter 6.2mm
<b>Sheath Color</b>	Black

#### 2x1x2x24/7 AWG Shielded Twisted Pair ( around coaxial cable)

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Insulation</b>	PVC material. Thickness 0.47mm
<b>Insulation Color</b>	Black and white
<b>Shield</b>	Aluminium polyester tape
<b>Drain Wire</b>	24 AWG stranded tinned copper drain wire
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 4.8mm. Thickness 0.76mm
<b>Sheath Color</b>	Black and Grey



### 3x3mm<sup>2</sup> Power Cable ( around coaxial cable)

<b>Conductor</b>	12AWG (3mm <sup>2</sup> Stranded tinned copper wire)
<b>Insulation</b>	XLPE. Thickness 0.85mm. Outer diameter 3.65mm
<b>Insultion Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PP material (around coaxial cable)
<b>Wrapping Tape</b>	Polyester tape
<b>Inner Sheath</b>	Black LSZH, thickness 0.8mm
<b>Aarmor</b>	Steel wire braid, coverage 95%
<b>Outer Sheath</b>	LSZH, thickness 1.5mm, norminal outer diameter 22.0mm
<b>Sheath Color</b>	Black

## Electrical and Physical Properties @20°C:

### Coaxial Cable

**Impedance:** 75±3Ohm (@1MHz)

**Max. Attenuation:** 7.5dB/100m @50MHz

### Power Cable

**Electrical Resistance:** 6.6Ohm/km

**Insulation Resistance:** ≥5500 MOhm×km

### Data Pairs

**Electrical Resistance:** 90Ohm/km

**Insulation Resistance:** ≥1000 MOhm×km

### Element Assembly

Min Bending Radius: 420mm

Operating Temperature: -35°C/+80°C



## Composite Cables

### Fire Performance:

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**Flame Propagation:** IEC60332-1

**Low Smoke Capacity:** IEC61034-1/2

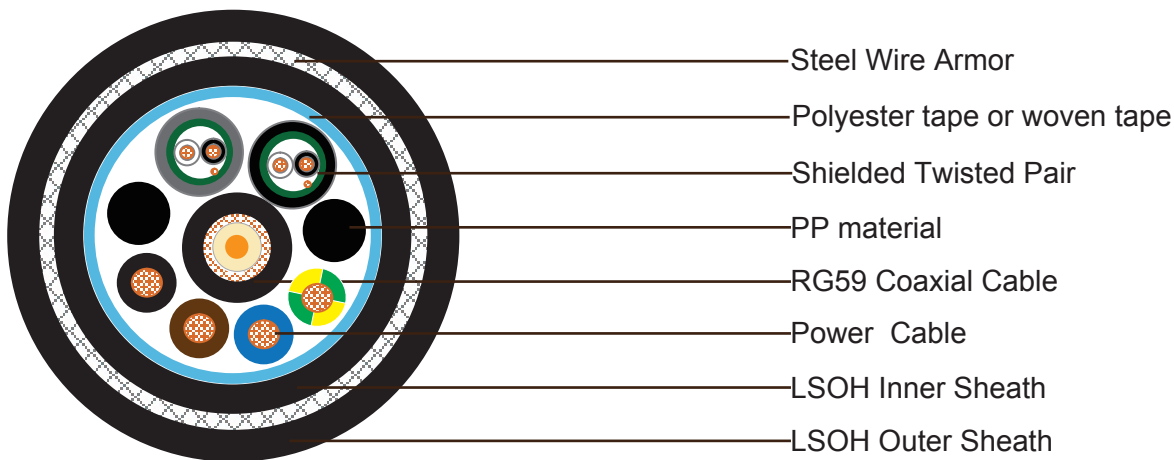
**Halogen Free:** IEC60754-1/2

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### 1xRG59 + 4x2.5 Power Cable + 2x1x2x22AWG Data Pairs SWB LSZH Sheathed Composite Cable

#### Construction:

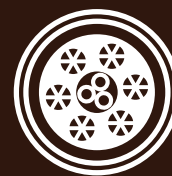


#### 1x750hm RG59 Coaxial Cable( in the center of the cable core)

Conductor	0.58mm Solid copper conductor
Insulation	Polyethylene. Thickness 1.56mm
Shield	Braid of bare copper wire. Coverage ≥ 95%
Sheath	LSZH sheath. Nominal outer diameter 6.15mm
Sheath Color	Black

#### 2x1x2x22AWG Shielded Twisted Pair ( around coaxial cable)

Conductor	7/0.254mm Stranded bare copper
Insulation	PVC material. Thickness 0.4mm
Insulation Color	Black and white
Shield	Aluminium polyester tape
Drain Wire	24 AWG stranded tinned copper drain wire
Sheath	LSZH sheath. Nominal outer diameter 5.23mm. Thickness 0.76mm
Sheath Color	Black and Grey



## Composite Cables

### 4x2.5mm<sup>2</sup> Power Cable ( around coaxial cable)

<b>Conductor</b>	2.5mm <sup>2</sup> Stranded bare copper wire
<b>Insulation</b>	XLPE. Nominal outer diameter 3.41mm
<b>Insultion Color</b>	Blue, Brown, Black and Green/Yellow

### Element Assembly

<b>Filler</b>	PE or PP material
<b>Wrapping Tape</b>	Polyester tape
<b>Inner Sheath</b>	Black LSZH, thickness 0.8mm
<b>Armor</b>	Steel wire braid, coverage 85%
<b>Outer Sheath</b>	LSZH, thickness 1.5mm, nominal outer diameter is 22.34±2.0mm
<b>Sheath Color</b>	Black
<b>Cable Weight</b>	740kg/km

## Electrical and Physical Properties @20°C:

### Coaxial Cable

**Impedance:** 75±3Ohm (@1MHz)

**Max. Attenuation:** 7.5dB/100m @50MHz

### Power Cable

**Electrical Resistance:** 7.41Ohm/km

**Insulation Resistance:** ≥5500 MOhm×km

### Data Pairs

**Electrical Resistance:** 48.4Ohm/km

**Insulation Resistance:** ≥1000 MOhm×km

### Element Assembly

**Min Bending Radius:** 420mm

**Operating Temperature:** -35°C/+80°C



### Fire Performance:

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Low Smoke Capacity: IEC61034-1/2

Halogen Free: IEC60754-1/2

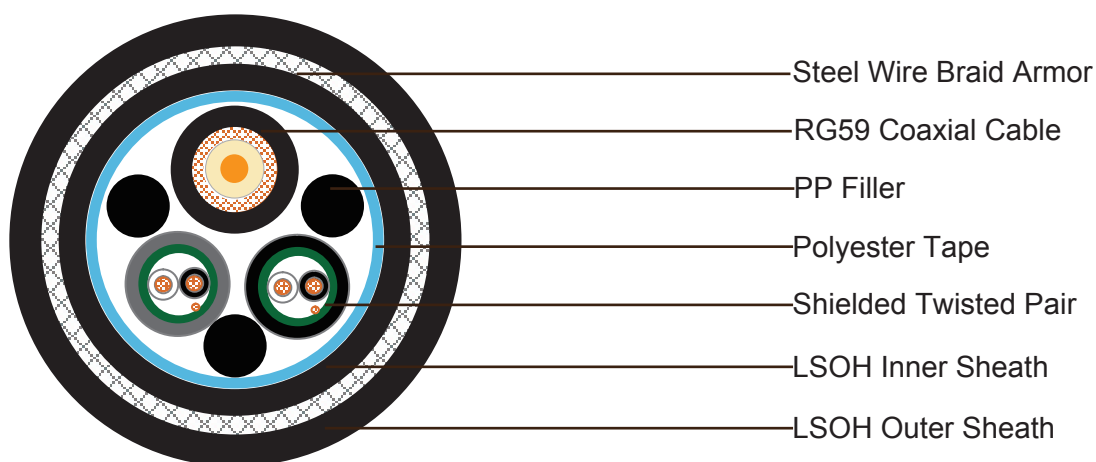
Flame Propagation: IEC60332

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### 1xRG59 + 2x1x2x24AWG Data Pairs SWB LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage $\geq 95\%$
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 6.15mm
<b>Sheath Color</b>	Black

#### 2 x (1 x 2 x 24AWG) Shielded Twisted Pair

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Insulation</b>	PVC material. Thickness 0.6mm
<b>Insulation Color</b>	Black and white
<b>Shield</b>	Aluminium polyester tape
<b>Drain Wire</b>	24 AWG stranded tinned copper drain wire
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 4.8mm. Thickness 0.76mm
<b>Sheath Color</b>	Black and Grey



### Element Assembly

<b>Filler</b>	PE or PP material when necessary
<b>Wrapping Tape</b>	Polyester tape or woven tape
<b>Inner Sheath</b>	Black LSZH, thickness 0.8mm
<b>Aarmor</b>	Steel wire braid, coverage 85%
<b>Outer Sheath</b>	LSZH, thickness 1.5mm, nominal outer diameter is 16.25±2.0mm
<b>Sheath Color</b>	Black
<b>Cable Weight</b>	400kg/km

## Electrical and Physical Properties @20°C:

### Coaxial Cable

**Impedance:** 75±3Ohm (@1MHz)

**Max. Attenuation:** 7.5dB/100m @50MHz

### Data Pairs

**Electrical Resistance:** 90Ohm/km

**Insulation Resistance:** ≥1000 MOhm×km

### Element Assembly

**Min Bending Radius:** 420mm

**Operating Temperature:** -35°C/+80°C

## Fire Performance:

**Low Smoke Capacity:** IEC61034-1/2

**Halogen Free:** IEC60754-1/2

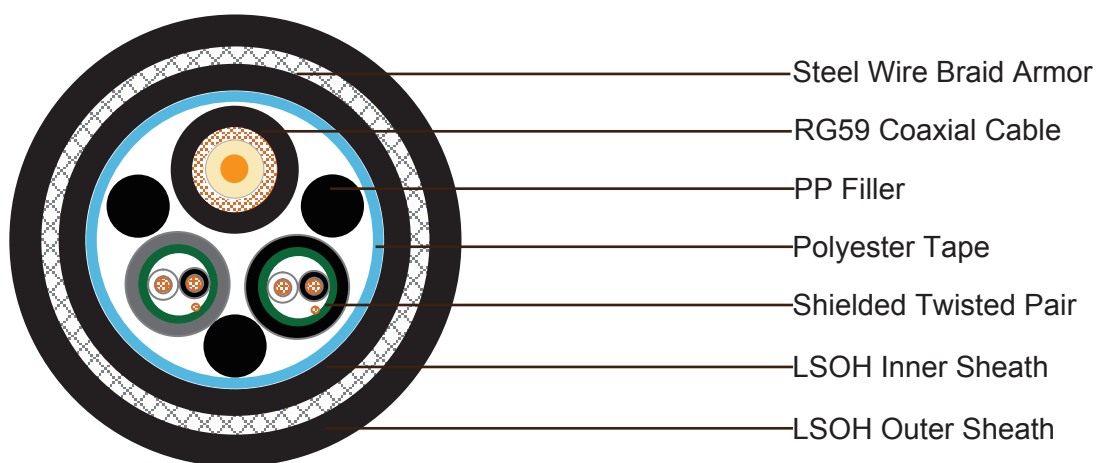
**Flame Propagation:** IEC60332

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### 1xRG59 + 2x1x2x22AWG Data Cable SWB LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage $\geq 85\%$
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 6.2mm
<b>Sheath Color</b>	Black

#### 2 Pair 22AWG Data Cable

<b>Conductor</b>	7/0.254mm Stranded tinned copper
<b>Insulation</b>	PVC material. Thickness 0.4mm
<b>Insulation Color</b>	Black and white
<b>Shield</b>	Aluminium polyester tape
<b>Drain Wire</b>	7/0.2mm stranded tinned copper drain wire
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 4.8mm.
<b>Sheath Color</b>	Black



### Element Assembly

<b>Filler</b>	PP material (around coaxial cable)
<b>Wrapping Tape</b>	Polyester tape
<b>Inner Sheath</b>	Black LSZH, thickness 0.8mm
<b>Aarmor</b>	Steel wire braid, coverage 95%
<b>Outer Sheath</b>	LSZH, thickness 1.5mm, nominal outer diameter is 18.5mm
<b>Sheath Color</b>	Black

### Electrical and Physical Properties @20°C:

---

#### Coaxial Cable

**Impedance:** 75±3Ohm (@1MHz)

**Nominal Attenuation:** 8.2dB/100m @50MHz

#### Data Cable

**Nominal Conductor Resistance @20°C:** 48.4 Ohm/km

### Fire Performance:

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**Flame Propagation:** IEC60332

**Low Smoke Capacity:** IEC61034-1/2

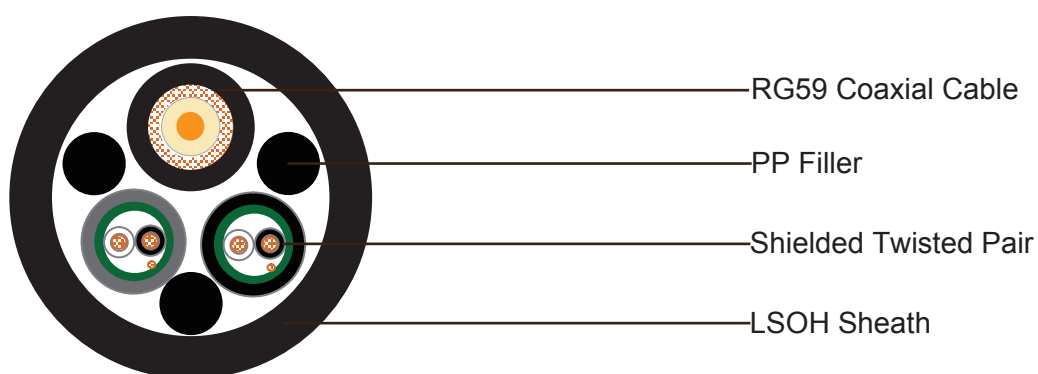
**Halogen Free:** IEC60754-1/2

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### 1xRG59 + 2x1x2x22AWG Data Cable Unarmored LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage $\geq 85\%$
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 6.2mm
<b>Sheath Color</b>	Black

#### 2 Pair 22AWG Data Cable

<b>Conductor</b>	7/0.254mm Stranded tinned copper
<b>Insulation</b>	PE material. Thickness 0.4mm
<b>Insulation Color</b>	Black and white
<b>Shield</b>	Aluminium polyester tape
<b>Drain Wire</b>	7/0.2mm stranded tinned copper drain wire
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 4.8mm.
<b>Sheath Color</b>	Black



### Element Assembly

<b>Outer Sheath</b>	LSZH, thickness 1.6- 1.8mm, nominal outer diameter is 15.6mm
<b>Sheath Color</b>	Black

## Electrical and Physical Properties @20°C:

---

### Coaxial Cable

**Impedance:** 75±3Ohm (@1MHz)

**Nominal Attenuation:** 8.2dB/100m @50MHz

### Data Cable

**Nominal Conductor Resistance @20°C:** 48.4 Ohm/km

## Fire Performance:

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Flame Propagation: IEC60332

Low Smoke Capacity: IEC61034-1/2

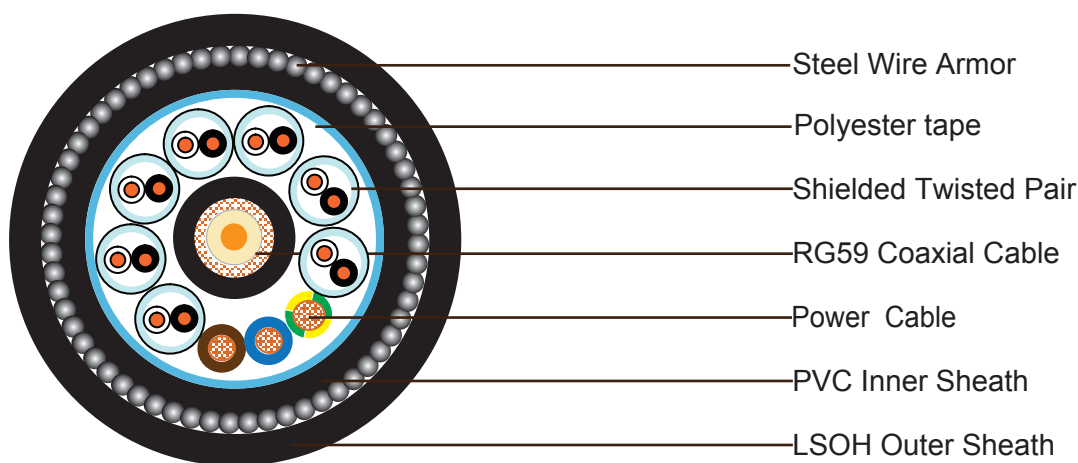
Halogen Free: IEC60754-1/2

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### 1xRG59 + 7x1x2x22AWG Pairs Data Cable+ 3xPower Cable SWA LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage ≥ 95%
<b>Sheath</b>	PVC sheath. Nominal outer diameter 6.15mm
<b>Sheath Color</b>	Black

#### 7x1x2x22 AWG Shielded Twisted Pair Data Cables

<b>Conductor</b>	22AWG Stranded tinned copper
<b>Insulation</b>	PE material. Thickness 0.6mm
<b>Insulation Color</b>	Black and white with numbering
<b>Individual Shield</b>	Aluminium polyester tape with stranded tinned copper drain wire



### 3x16AWG Power Cable

<b>Conductor</b>	16AWG Stranded tinned copper wire
<b>Insulation</b>	XLPE. Thickness 0.7mm
<b>Insultion Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PP material if necessary
<b>Wrapping Tape</b>	Polyester tape
<b>Inner Sheath</b>	1.2mm PVC compound
<b>Aarmor</b>	Galvanized steel wire
<b>Outer Sheath</b>	An outer protection of extruded UV resisting, anti-rodent and anti-termite LSZH compound is applied over armor. Thickness: 2.0mm. Nominal outer diameter is 28.0mm.
<b>Sheath Color</b>	Black
<b>Cable Weight</b>	510kg/km

## Physical Characteristic:

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**Min Bending Radius:** 560mm

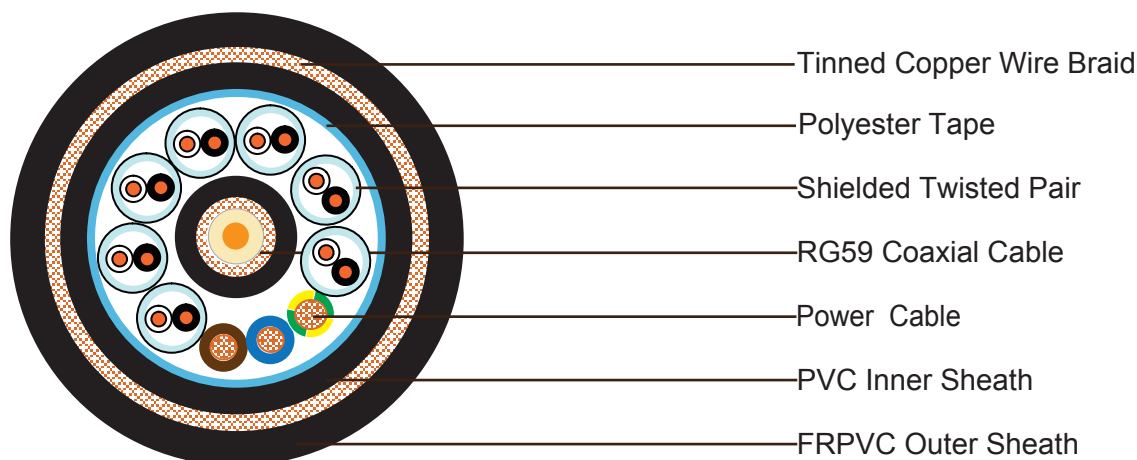
**Operating Temperature:** -30°C/+70°C

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### 1xRG59 + 7x1x2x22AWG Data Cable + 3x16 AWG Power Cable TCWB FRPVC Sheathed Composite Cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable( in the center of the cable core)

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage ≥ 95%
<b>Sheath</b>	PVC sheath. Nominal outer diameter 6.2mm
<b>Sheath Color</b>	Black

#### 7x1x2x22 AWG Shielded Twisted Pair ( around coaxial cable)

<b>Conductor</b>	7/0.254mm Stranded tinned copper
<b>Insulation</b>	PE material. Thickness 0.6mm
<b>Insulation Color</b>	Black and white
<b>Shield</b>	Aluminium polyester tape
<b>Drain Wire</b>	24 AWG stranded tinned copper drain wire



### 3x16AWG Power Cable ( around coaxial cable)

<b>Conductor</b>	19/0.287mm Stranded tinned copper wire
<b>Insulation</b>	XLPE. Thickness 0.7mm

### Element Assembly

<b>Filler</b>	PP material if necessary
<b>Wrapping Tape</b>	Polyester tape
<b>Shield</b>	Tinned copper wire braid, coverage 80%
<b>Outer Sheath</b>	UV resisting FRPVC, thickness 1.8mm, nominal outer diameter 25.0mm
<b>Sheath Color</b>	Black
<b>Cable Weight</b>	850kg/km

## Electrical and Physical Properties @20°C:

### Coaxial Cable

**Impedance:** 75±3Ohm (@1MHz)

**Max. Attenuation:** 7.5dB/100m @50MHz

### Power Cable

**Electrical Resistance:** 6.6Ohm/km

**Insulation Resistance:** ≥5500 MOhm $\times$ km

### Data Pairs

**Electrical Resistance:** 90Ohm/km

**Insulation Resistance:** ≥1000 MOhm $\times$ km

### Element Assembly

**Min Bending Radius:** 420mm

**Operating Temperature:** -35°C/+80°C



## Composite Cables

### Fire Performance:

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**Flame Propagation:** IEC60332-1

**Low Smoke Capacity:** IEC61034-1/2

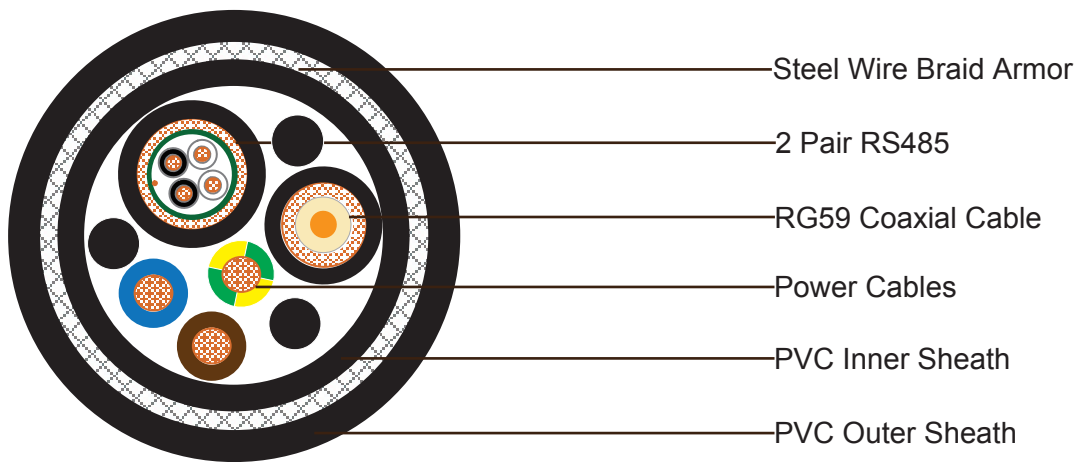
**Halogen Free:** IEC60754-1/2

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### 1xRG59 + 3x2.5 Power Cable + 2x1x2x24AWG RS485 SWB PVC Sheathed Composite Cable

#### Construction:

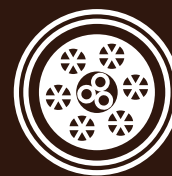


#### 1x750hm RG59 Coaxial Cable

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage $\geq 85\%$
<b>Sheath</b>	PVC sheath. Nominal outer diameter 6.2mm
<b>Sheath Color</b>	Black

#### 2 Pair 24AWG RS485

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Insulation</b>	PE material. Thickness 0.6mm
<b>Shield 1</b>	Aluminium polyester tape with 24 AWG stranded tinned copper drain wire
<b>Shield 2</b>	Tinned copper wire braiding
<b>Sheath</b>	PVC sheath. Nominal outer diameter is 9.0mm
<b>Sheath Color</b>	Black



## Composite Cables

### 3x2.5mm<sup>2</sup> Power Cable

<b>Conductor</b>	2.5mm <sup>2</sup> Stranded tinned copper wire
<b>Insulation</b>	PVC. Thickness 0.7mm
<b>Insultion Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Inner Sheath</b>	Black PVC, thickness 0.8mm
<b>Aarmor</b>	Steel wire braid, coverage 95%
<b>Outer Sheath</b>	PVC, thickness 1.8mm, nominal outer diameter is 26.0mm
<b>Sheath Color</b>	Black

## Electrical and Physical Properties @20°C:

### Coaxial Cable

**Impedance:** 75±3Ohm (@1MHz)

**Nominal Attenuation:** 8.2dB/100m @50MHz

### RS485

**Nominal Impedance:** 120±10Ω

**Nominal Conductor DC Resistance @20°C:** 78.7 Ohm/km

**Nominal Attenuation:** 1MHz 2.3dB/100m

### Power Cable

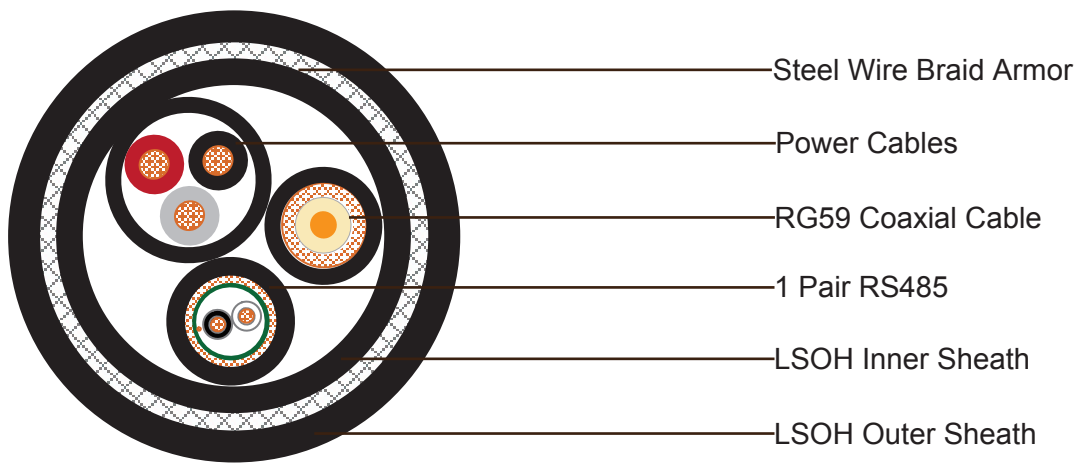
**Electrical Resistance:** 7.56Ohm/km

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### 1xRG59+ 3xPower Cable +1x2x24AWG RS485 SWB LSZH Sheathed Composite Cable

#### Construction:



#### 1x750ohm RG59 Coaxial Cable

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage ≥ 85%
<b>Sheath</b>	PVC sheath. Nominal outer diameter 6.2mm
<b>Sheath Color</b>	Black

#### 1 Pair 24AWG RS485

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Insulation</b>	PE material. Thickness 0.6mm
<b>Insulation Color</b>	Black and white
<b>Shield 1</b>	Aluminium polyester tape with 24 AWG stranded tinned copper drain wire
<b>Shield 2</b>	Tinned copper wire braiding
<b>Sheath</b>	PVC sheath. Nominal outer diameter is 6.0mm
<b>Sheath Color</b>	Black



## Composite Cables

### 3x2.5mm<sup>2</sup> Power Cable

Conductor	2.5mm <sup>2</sup> Stranded tinned copper wire
Insulation	XLPE. Thickness 0.7mm
Sheath	LSZH compound. Nominal diameter is 11.0mm

### Element Assembly

Inner Sheath	Black LSZH, thickness 1.0mm
Aarmor	Steel wire braid, coverage 85%
Outer Sheath	LSZH, thickness 1.8mm, nominal outer diameter is 25.0mm
Sheath Color	Black

## Electrical and Physical Properties @20°C:

---

### Coaxial Cable

Impedance: 75±3Ohm (@1MHz)

Nominal Attenuation: 8.2dB/100m @50MHz

### RS485

Nominal Impedance: 120±10Ω

Nominal Conductor DC Resistance @20°C: 78.7 Ohm/km

Nominal Attenuation: 1MHz 2.3dB/100m

### Power Cable

Electrical Resistance: 7.56Ohm/km

## Fire Performance:

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Flame Propagation: IEC60332-1

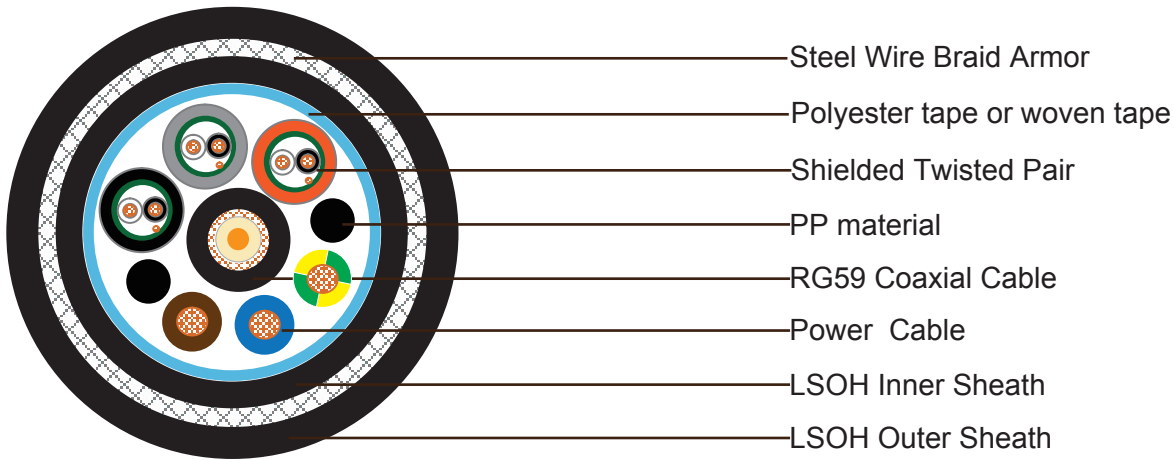
Low Smoke Capacity: IEC61034-1/2

Halogen Free: IEC60754-1/2



### 1xRG59 + 3x12AWG Power Cable + 3x1x2x24 AWG Shield Pairs SWB LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable( in the center of the cable core)

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage ≥ 92%
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 6.2mm
<b>Sheath Color</b>	Black

#### 3x1x2x24/7 AWG Shielded Twisted Pair ( around coaxial cable)

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Insulation</b>	PVC material. Thickness 0.47mm
<b>Insulation Color</b>	Black and white
<b>Shield</b>	Aluminium polyester tape
<b>Drain Wire</b>	24 AWG stranded tinned copper drain wire



## Composite Cables

<b>Sheath</b>	LSZH sheath. Nominal outer diameter 4.8mm. Thickness 0.76mm
<b>Sheath Color</b>	Black , Grey and Orange

### 3x3mm<sup>2</sup> Power Cable ( around coaxial cable)

<b>Conductor</b>	3.0mm <sup>2</sup> Stranded tinned copper wire
<b>Insulation</b>	XLPE. Thickness 0.85mm. Outer diameter 3.65mm
<b>Insulation Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PVC or PE material (around coaxial cable)
<b>Wrapping Tape</b>	Polyester tape
<b>Inner Sheath</b>	Black LSZH, thickness 0.8mm
<b>Aarmor</b>	Steel wire braid, coverage 85%
<b>Outer Sheath</b>	LSZH, thickness 1.5mm, nominal outer diameter is 22.0mm
<b>Sheath Color</b>	Black

## Electrical and Physical Properties @20°C:

### Coaxial Cable

**Max. Electrical Resistance:** 158Ohm/km

**Impedance:** 75±3Ohm (@1MHz)

**Max. Attenuation:** 7.5dB/100m @50MHz

### Power Cable

**Electrical Resistance:** 6.6Ohm/km

**Insulation Resistance:** ≥5500 MOhm<sup>2</sup>/km

### Data Pairs

**Electrical Resistance:** 90Ohm/km

**Insulation Resistance:** ≥1000 MOhm<sup>2</sup>/km



### Element Assembly

**Min Bending Radius:** 420mm

**Operating Temperature:** -35°C/+80°C

### Fire Performance:

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**Flame Propagation:** IEC60332-1 & IEC60332-2

**Low Smoke Capacity:** IEC61034-1/2

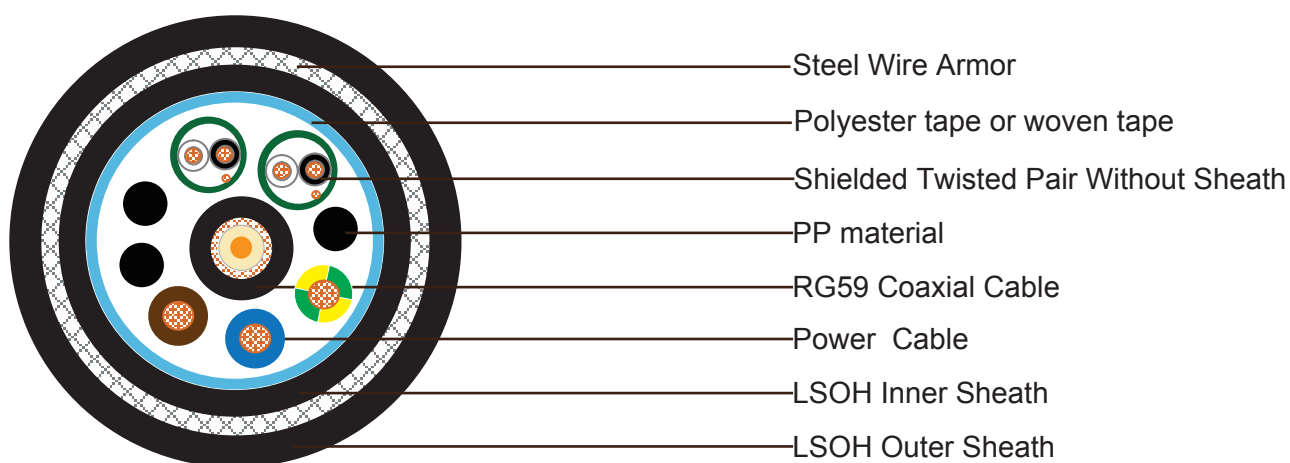
**Halogen Free:** IEC60754-1/2

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### 1xRG59 + 3x1.5 Power Cable + 2x1x2x24AWG Shielded Control Cable Without Sheath SWB LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage $\geq 95\%$
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 6.15mm
<b>Sheath Color</b>	Black

#### 2x1x2x24 AWG Shielded Control Cable Without Sheath

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Insulation</b>	PVC material. Thickness 0.4mm
<b>Insulation Color</b>	White and black
<b>Shield</b>	Aluminium polyester tape with 24 AWG stranded tinned copper drain wire



### 3x1.5mm<sup>2</sup> Power Cable

<b>Conductor</b>	1.5mm <sup>2</sup> Stranded tinned copper wire to IEC 60228 Class 2 or BS 6360
<b>Insulation</b>	XLPE compound to BS6234. Nominal outer diameter 3.0mm
<b>Insulation Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PP, PVC or PE
<b>Wrapping Tape</b>	Polyester tape
<b>Inner Sheath</b>	Black LSZH, thickness 0.76mm
<b>Aarmor</b>	0.2mm steel wire interwoven braid, coverage 95%
<b>Outer Sheath</b>	LSZH, thickness 1.4mm, nominal outer diameter is 19.0mm
<b>Sheath Color</b>	Black

## Physical Characteristic:

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**Min Bending Radius:** 360mm

**Operating Temperature:** -35°C/+90°C

## Fire Performance:

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**Flame Retardant:** IEC60332 part 1 & 2

**Halogen Free:** IEC 60754

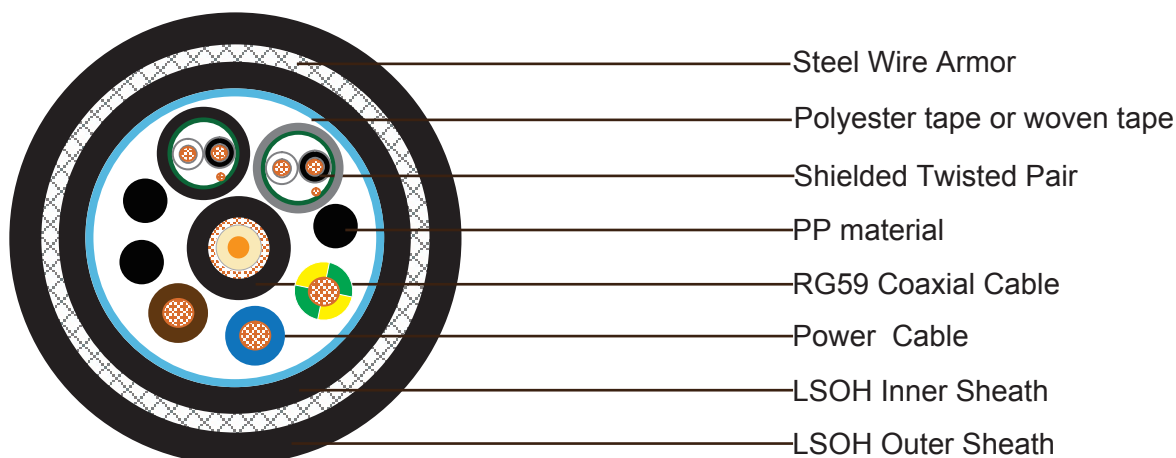
**Low Smoke Emission:** IEC 61034

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### 1xRG59 + 3x1.5 Power Cable + 2x1x2x24AWG Shielded Control Cable SWB LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage $\geq 95\%$
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 6.15mm
<b>Sheath Color</b>	Black

#### 2x1x2x24 AWG Shielded Control Cable

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Insulation</b>	PVC material. Thickness 0.4mm
<b>Insulation Color</b>	White and black
<b>Shield</b>	Aluminium polyester tape with 24 AWG stranded tinned copper drain wire
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 4.8mm. Thickness: 0.76mm
<b>Sheath Color</b>	Black and Grey



### 3x1.5mm<sup>2</sup> Power Cable

<b>Conductor</b>	1.5mm <sup>2</sup> Stranded tinned copper wire to IEC 60228 Class 2 or BS 6360
<b>Insulation</b>	XLPE compound to BS6234. Nominal outer diameter 3.0mm
<b>Insulation Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PP, PVC or PE
<b>Wrapping Tape</b>	Polyester tape
<b>Inner Sheath</b>	Black LSZH, thickness 0.76mm
<b>Aarmor</b>	0.2mm steel wire interwoven braid, coverage 95%
<b>Outer Sheath</b>	LSZH, thickness 1.4mm, nominal outer diameter is 22.6mm
<b>Sheath Color</b>	Black

## Physical Characteristic:

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**Min Bending Radius:** 360mm

**Operating Temperature:** -35°C/+90°C

## Fire Performance:

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**Flame Retardant:** IEC60332 part 1 & 2

**Halogen Free:** IEC 60754

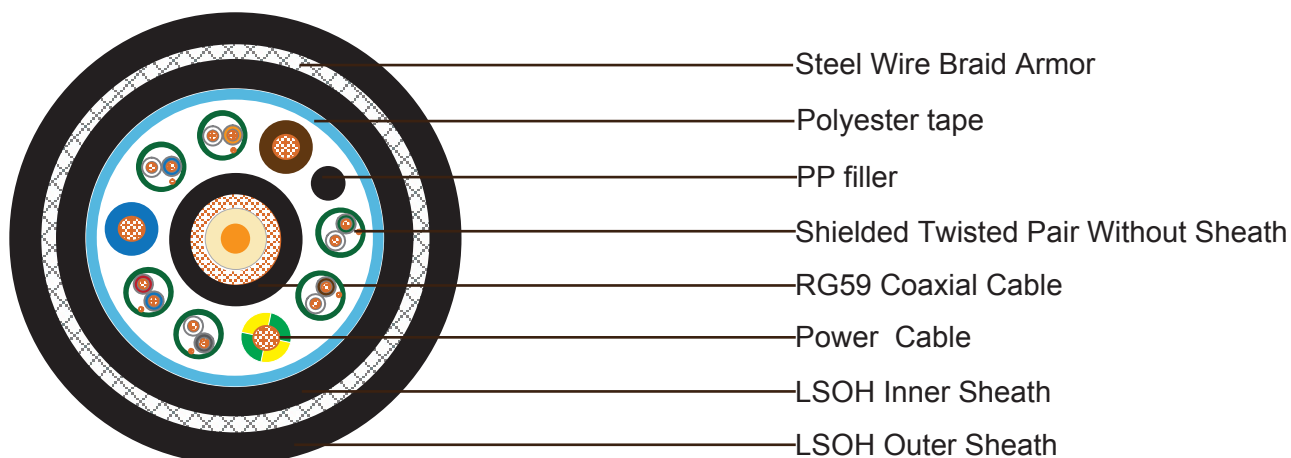
**Low Smoke Emission:** IEC 61034

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### 1xRG59 + 3x1.5 Power Cable + 6x1x2x24AWG Shielded Control Cable Without Sheath SWB LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage $\geq 95\%$
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 6.15mm
<b>Sheath Color</b>	Black

#### 6x1x2x24 AWG Shielded Control Cable Without Sheath

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Insulation</b>	PVC material. Thickness 0.4mm
<b>Insulation Color</b>	White and blue, White and orange, White and green, White and brown, White and grey, Red and blue according to IEC60708-1
<b>Shield</b>	Aluminium polyester tape with 24 AWG stranded tinned copper drain wire



### 3x1.5mm<sup>2</sup> Power Cable

<b>Conductor</b>	1.5mm <sup>2</sup> Stranded tinned copper wire to IEC 60228 Class 2 or BS 6360
<b>Insulation</b>	XLPE compound to BS6234. Nominal outer diameter 3.0mm
<b>Insultion Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PP, PVC or PE
<b>Wrapping Tape</b>	Polyester tape
<b>Inner Sheath</b>	Black LSZH, thickness 0.76mm
<b>Aarmor</b>	0.2mm steel wire interwoven braid, coverage 95%
<b>Outer Sheath</b>	LSZH, thickness 1.4mm, nominal outer diameter is 22.6mm
<b>Sheath Color</b>	Black

## Physical Characteristic:

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**Min Bending Radius:** 360mm

**Operating Temperature:** -35°C/+90°C

## Fire Performance:

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**Flame Retardant:** IEC60332 part 1 & 2

**Halogen Free:** IEC 60754

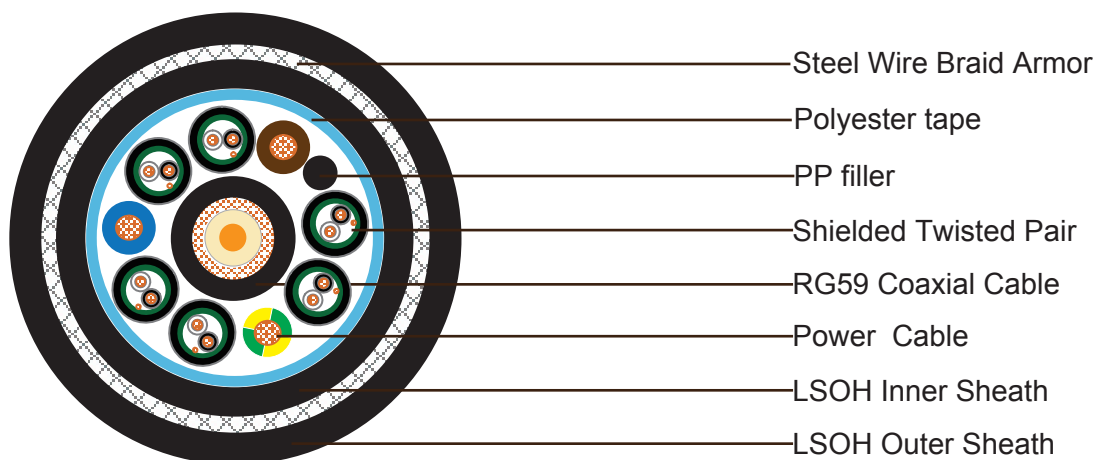
**Low Smoke Emission:** IEC 61034

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### 1xRG59 + 3x1.5 Power Cable + 6x1x2x24AWG Shielded Control Cable SWB LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage $\geq 95\%$
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 6.15mm
<b>Sheath Color</b>	Black

#### 6x1x2x24 AWG Shielded Control Cable

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Insulation</b>	PVC material. Thickness 0.4mm
<b>Insulation Color</b>	White and black
<b>Shield</b>	Aluminium polyester tape with 24 AWG stranded tinned copper drain wire
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 4.8mm. Thickness: 0.76mm
<b>Sheath Color</b>	Black and Grey



### 3x1.5mm<sup>2</sup> Power Cable

<b>Conductor</b>	1.5mm <sup>2</sup> Stranded tinned copper wire to IEC 60228 Class 2 or BS 6360
<b>Insulation</b>	XLPE compound to BS6234. Nominal outer diameter 3.0mm
<b>Insulation Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PP, PVC or PE
<b>Wrapping Tape</b>	Polyester tape
<b>Inner Sheath</b>	Black LSZH, thickness 0.76mm
<b>Aarmor</b>	0.2mm steel wire interwoven braid, coverage 95%
<b>Outer Sheath</b>	LSZH, thickness 1.4mm, nominal outer diameter is 24.5mm
<b>Sheath Color</b>	Black

## Physical Characteristic:

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**Min Bending Radius:** 360mm

**Operating Temperature:** -35°C/+90°C

## Fire Performance:

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**Flame Retardant:** IEC60332 part 1 & 2

**Halogen Free:** IEC 60754

**Low Smoke Emission:** IEC 61034

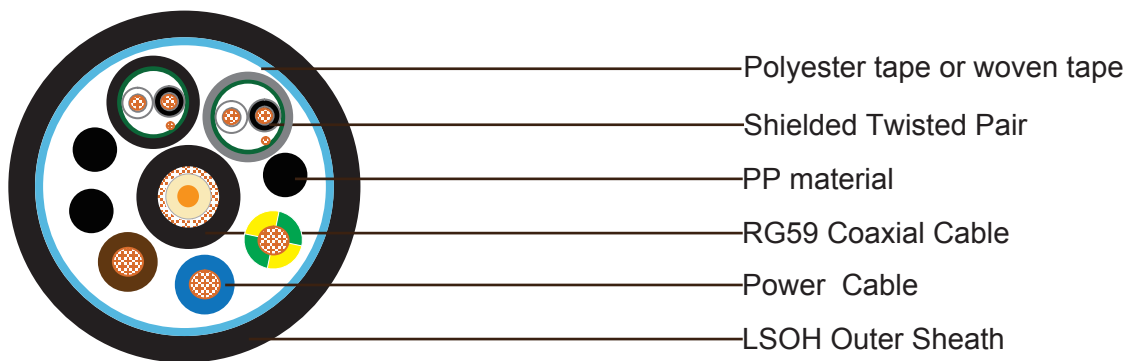
\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



## Composite Cables

### 1xRG59 + 3x3 Power Cable + 2x1x2x24AWG Shielded Control Cable Unarmored LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage $\geq 95\%$
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 6.15mm
<b>Sheath Color</b>	Black

#### 2x1x2x24 AWG Shielded Control Cable

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Insulation</b>	PVC material. Thickness 0.4mm
<b>Insulation Color</b>	White and black
<b>Shield</b>	Aluminium polyester tape with 24 AWG stranded tinned copper drain wire
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 4.8mm. Thickness: 0.76mm
<b>Sheath Color</b>	Black and Grey



### 3x3mm<sup>2</sup> Power Cable

<b>Conductor</b>	3mm <sup>2</sup> Stranded tinned copper wire to IEC 60228 Class 2 or BS 6360
<b>Insulation</b>	XLPE, Thickness 0.66mm. Outer diameter 3.63mm
<b>Insulation Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PP, PVC or PE
<b>Wrapping Tape</b>	Polyester tape
<b>Outer Sheath</b>	LSZH, thickness 1.2mm, nominal outer diameter is 18.5mm
<b>Sheath Color</b>	Black

## Physical Characteristic:

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**Min Bending Radius:** 200mm

**Operating Temperature:** -35°C/+90°C

## Fire Performance:

---

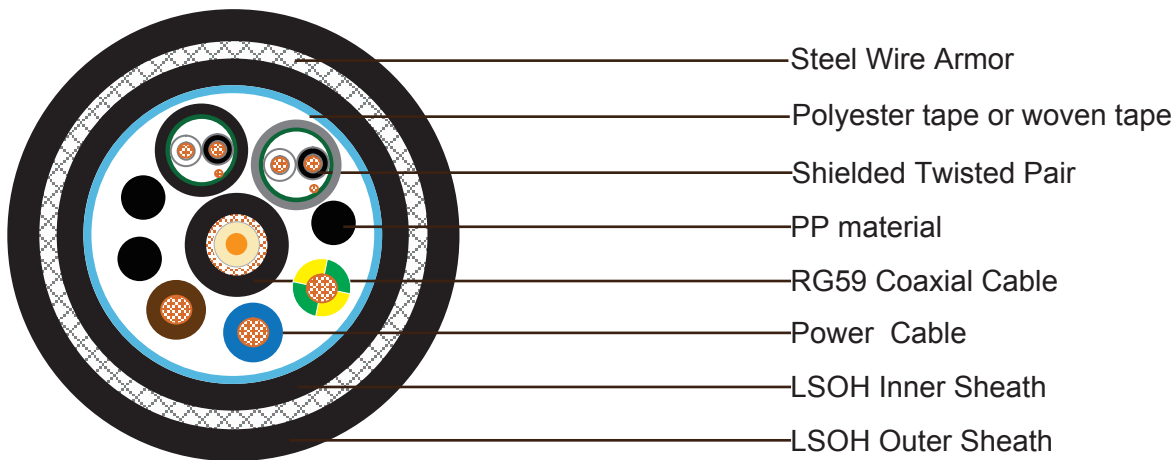
**Flame Retardant:** IEC60332 part 1 & 2

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### 1xRG59 + 3x3 Power Cable + 2x1x2x24AWG Shielded Control Cable SWB LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage $\geq 95\%$
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 6.15mm
<b>Sheath Color</b>	Black

#### 2x1x2x24 AWG Shielded Control Cable

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Insulation</b>	PVC material. Thickness 0.4mm
<b>Insulation Color</b>	White and black
<b>Shield</b>	Aluminium polyester tape with 24 AWG stranded tinned copper drain wire
<b>Sheath</b>	LSZH sheath. Nominal outer diameter 4.8mm. Thickness: 0.76mm
<b>Sheath Color</b>	Black and Grey



### 3x3mm<sup>2</sup> Power Cable

<b>Conductor</b>	3mm <sup>2</sup> Stranded tinned copper wire to IEC 60228 Class 2 or BS 6360
<b>Insulation</b>	XLPE, Thickness 0.66mm. Outer diameter 3.63mm
<b>Insulation Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PP, PVC or PE
<b>Wrapping Tape</b>	Polyester tape
<b>Inner Sheath</b>	Black LSZH, thickness 0.76mm
<b>Aarmor</b>	0.2mm steel wire interwoven braid, coverage 95%
<b>Outer Sheath</b>	LSZH, thickness 1.4mm, nominal outer diameter is 21.0mm
<b>Sheath Color</b>	Black

## Physical Characteristic:

---

**Min Bending Radius:** 360mm

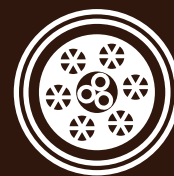
**Operating Temperature:** -35°C/+90°C

## Fire Performance:

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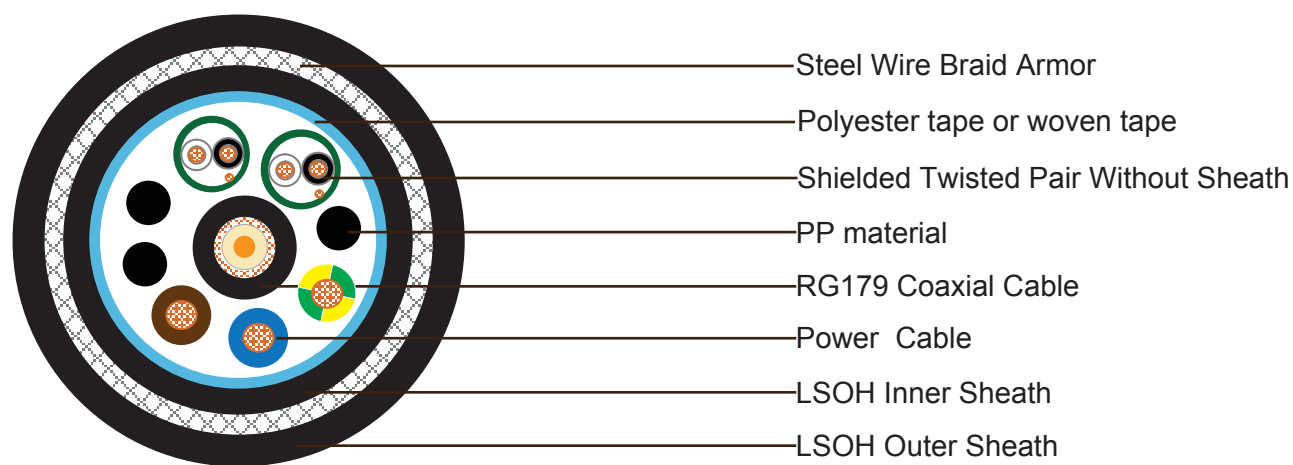
**Flame Retardant:** IEC60332 part 1 & 2

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### 1xRG179 + 3x1.5mm<sup>2</sup> Power Cable + 2x1x2x24 AWG Data Pairs SWB LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG179 Coaxial Cable

<b>Conductor</b>	7/0.1mm Silver plated copper conductor
<b>Insulation</b>	Solid PTFE. Diameter: 1.6mm
<b>Shield</b>	Braid of silver plated copper wire. Coverage ≥ 95%
<b>Sheath</b>	FEP sheath. Nominal outer diameter 2.5mm
<b>Sheath Color</b>	Black

#### 2x1x2x24AWG Shielded Twisted Pair

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Insulation</b>	PVC material. Thickness 0.4mm
<b>Insulation Color</b>	Black and white with pair number
<b>Shield</b>	Aluminium polyester tape with 24 AWG stranded tinned copper drain wire. Nominal outer diameter 3.5mm



### 3x1.5mm<sup>2</sup> Power Cable

<b>Conductor</b>	1.5mm <sup>2</sup> Stranded tinned copper wire
<b>Insulation</b>	XLPE. Nominal outer diameter 3.0mm
<b>Insulation Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

<b>Filler</b>	PE or PP material
<b>Wrapping Tape</b>	Polyester tape or woven tape
<b>Inner Sheath</b>	Black LSZH, thickness 0.8mm. Diameter Over Bedding: 11.2mm±0.8mm
<b>Aarmor</b>	Steel wire braid, coverage 85%
<b>Outer Sheath</b>	LSZH, thickness 1.5mm, nominal outer diameter is 15.8±2.0mm
<b>Sheath Color</b>	Black

## Electrical and Physical Properties @20°C:

### Coaxial Cable

**Impedance:** 75±5Ohm (@1MHz)

**Nominal capacitance:** 63pF/m

**Max. Attenuation:** 28dB/100m @50MHz

### Power Cable

**Electrical Resistance:** 12.1Ohm/km

**Insulation Resistance:** ≥5500 MOhm×km

### Data Pairs

**Electrical Resistance:** 90Ohm/km

**Insulation Resistance:** ≥1000 MOhm×km

### Physical Characteristic:

**Min Bending Radius:** 420mm

**Operating Temperature:** -35°C/+80°C



## Composite Cables

### Fire Performance:

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**Low Smoke Capacity:** IEC61034-1/2

**Halogen Free:** IEC60754-1/2

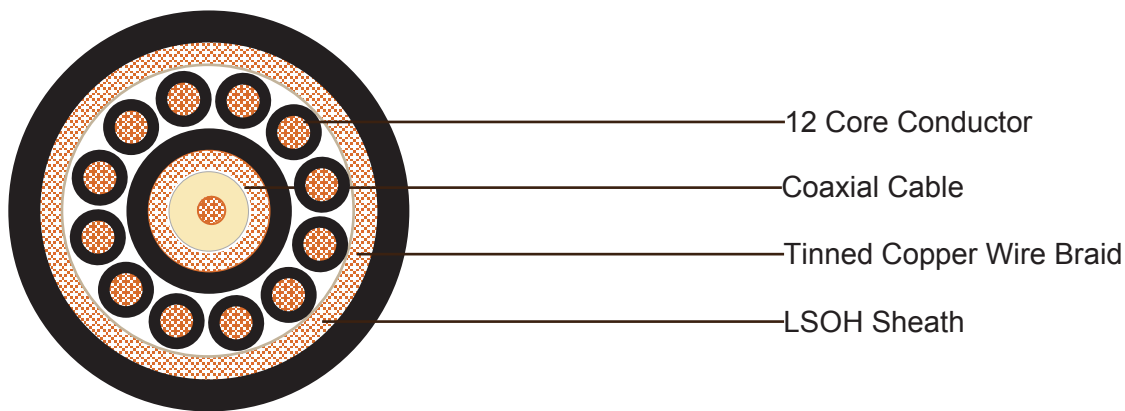
**Flame Propagation:** IEC60332

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### 1C Coaxial Cable + 12 Core Conductors TCWB PVC Sheathed Composite Cable

#### Construction:



#### 1x750hm Coaxial Cable

<b>Conductor</b>	7/0.254mm stranded tinned copper wires
<b>Insulation</b>	Foamed polyethylene. Thickness is 1.46mm
<b>Shield</b>	Braid of bare copper wire. Coverage ≥ 95%
<b>Sheath</b>	PVC sheath. Nominal outer diameter: 5.28mm
<b>Sheath Color</b>	Black

#### 12 Core Conductor

<b>Conductor</b>	7/0.32mm Stranded tinned copper. wires
<b>Insulation</b>	PVC material. Thickness is 0.4mm
<b>Insultion Color</b>	Blue, Brown and Green/Yellow

#### Element Assembly

<b>Shield</b>	Tinned copper wire braid, coverage 80%
<b>Outer Sheath</b>	LSZH, thickness 0.8mm, nominal outer diameter is 11.05mm
<b>Sheath Color</b>	Black



### Electrical and Physical Properties @20°C:

#### Coaxial Cable

**Nom. Impedance:** 75Ohm

**Nom. Capacitance Conductor to Shield:** 56.7pF/m (17.3pF/ft)

**Nom. Velocity of Propagation:** 78%

**Nom. Delay:** 4.26ns/m (1.3ns/ft)

**Nom. Conductor DC Resistance:** 0.047 Ohm/m (14.4 Ohm/1000ft)

**Nom. Inner Shield DC Resistance:** 0.0084 Ohm/m (2.55 Ohm/1000ft)

#### Nom. Attenuation:

Freq. (MHz)	Attenuation (dB/100m)	Attenuation (dB/100ft)
0.5	0.8	0.24
1	1.1	0.34
5	2.4	0.73
10	3.4	1.04
100	10.6	3.23
200	15.3	4.67
400	21.69	6.62

#### 12C Conductor

**Max. Operating Voltage:** 300V

**Max. Operating Voltage (overall):** 300V

#### Element Assembly

**Operating Temperature Range:** -30°C to +75°C

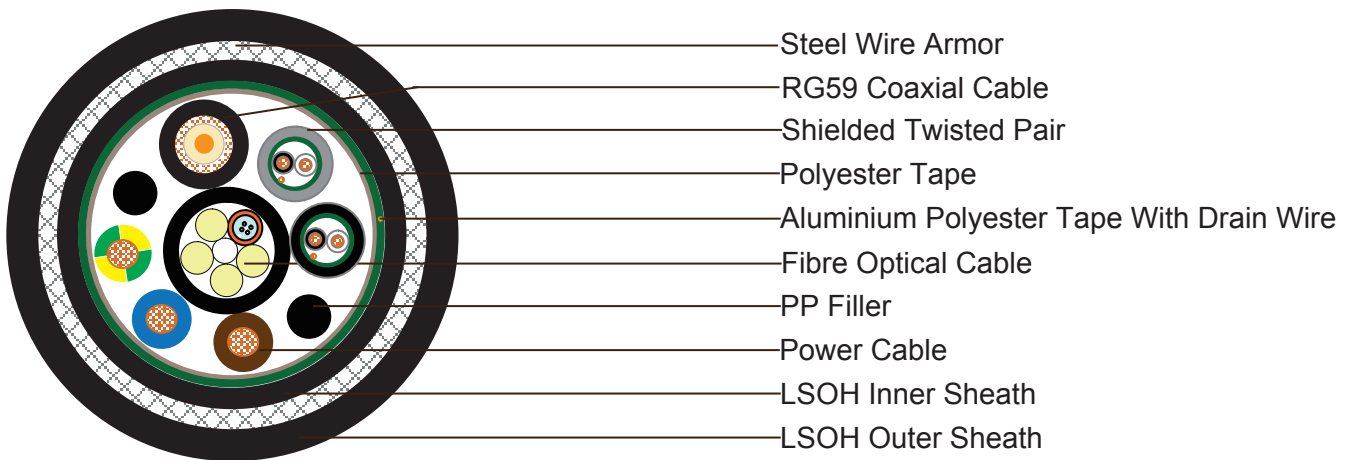
**Min Bending Radius:** 127mm

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### 1xRG59 + 4 Core 62.5 Fiber Cable + 3xPower Cable + 2x1x2x24AWG Pairs SWB LSZH Sheathed Composite Cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage ≥ 95%
<b>Sheath</b>	LSZH SHF1)sheath. Norminal outer diameter 6.2mm
<b>Sheath Color</b>	Black

#### 4 core 62.5/125 Multi Loose Tube Type Fiber Cable

<b>Fibers</b>	4Cx62.5/125
<b>Central Member</b>	Galvanized steel wire
<b>Sheath</b>	Nominal outer diameter 9.6mm
<b>Sheath Color</b>	Black



## Composite Cables

### 2x1x2x24 AWG Shielded Twisted Pair ( around coaxial cable)

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Insulation</b>	PVC material. Thickness 0.47mm
<b>Insulation Color</b>	Black and white with pair number
<b>Shield</b>	Aluminium polyester tape with 0.5mm <sup>2</sup> stranded tinned copper drain wire. Nominal outer diameter 3.5mm
<b>Sheath</b>	LSZH (SHF1) sheath. Norminal outer diameter 5.2mm

### 3x2.5mm<sup>2</sup> Power Cable

<b>Conductor</b>	2.5mm <sup>2</sup> Stranded tinned copper wire
<b>Insulation</b>	XLPE. Thickness 0.85mm. Outer diameter 3.6mm
<b>Insultion Color</b>	Blue, Brown and Green/Yellow

### Element Assembly

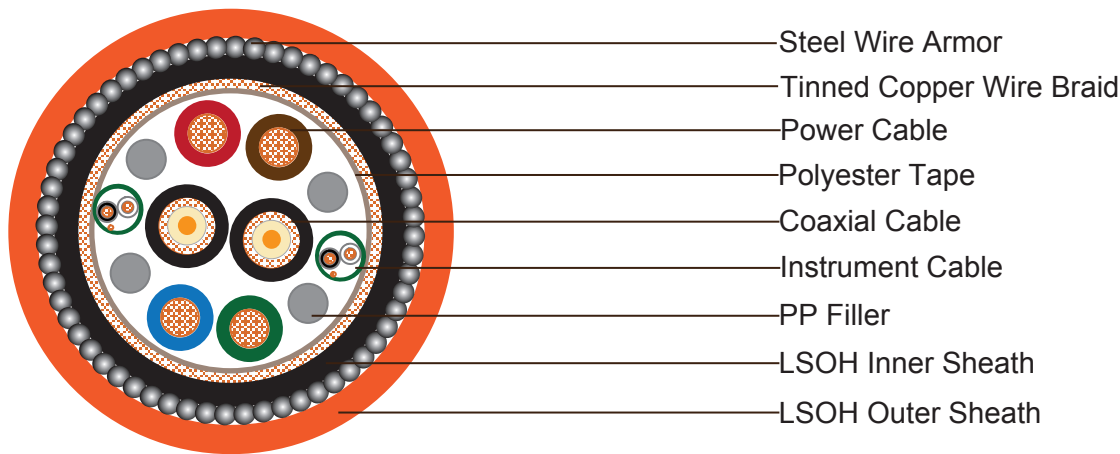
<b>Filler</b>	PP material around cable core
<b>Wrapping Tape</b>	Polyester tape
<b>Shield</b>	Aluminium polyester tape with 0.5mm <sup>2</sup> tinned copper drain wire
<b>Inner Sheath</b>	Black LSZH (SHF1) , thickness 1.0-1.2mm
<b>Aarmor</b>	Steel wire braid, coverage 85%
<b>Outer Sheath</b>	LSZH (SHF1), thickness 1.8-2.0mm. norminal outer diameter 28.5mm
<b>Sheath Color</b>	Black

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### 4x2.5 Power Cable +2 Instrument Pair+2 Coax Cable SWA LSOH Sheathed Composite cables

#### Construction:



#### 2 Core Coaxial Cable

<b>Conductor</b>	7/0.22mm no oxygen copper conductor
<b>Insulation</b>	Polyethylene. Thickness 0.92mm
<b>Shield</b>	0.12mm bare copper wire braided, coverage ca.85%
<b>Sheath</b>	LSZH, thickness: 0.8mm; Nominal outer diameter 4.5±0.3mm
<b>Sheath Color</b>	Black

#### 4x 2.5mm<sup>2</sup> Power Cable

<b>Conductor</b>	7/0.68mm stranded no oxygen copper
<b>Insulation</b>	LSZH material. Thickness 0.8mm; outer diameter 3.7±0.2mm
<b>Insulation Color</b>	Red, blue, green, yellow

#### 2 Pair Instrument Cable

<b>Conductor</b>	7/0.22mm stranded tinned copper
<b>Insulation</b>	PE material. Thickness 0.50mm, outer diameter 1.6±0.2mm
<b>Insulation Color</b>	White/ blue; white/orange



## Composite Cables

<b>Shield</b>	Aluminum-plastic compounded tape with 7/0.22mm tinned copper draining wire
---------------	--

### Element Assembly

<b>Filler</b>	Non-absorbent Polypropylene
<b>Wrapping Tape</b>	Polyestertape
<b>Shield</b>	Tinned copper wire braided, coverage ca.80%
<b>Inner Sheath</b>	Black LSOH, thickness: 1.0mm
<b>Aarmor</b>	0.30mm galvanized steel(single $\phi$ wire braided; coverage ca.80%)
<b>Outer Sheath</b>	LSZH , thickness: 1.7mm, Norminal outer diameter23.1 $\pm$ 1.0mm
<b>Sheath Color</b>	Orange
<b>Cable Weight</b>	735 kg/km

## Electrical and Physical Properties @20°C:

### Coaxial Cable

**Impedance:** 75 $\pm$ 3Ohm (@1MHz)

**Max. Attenuation:** 3dB/100m

**Capacity:** 55pF/m nominal at 1kHz

### Power Cable

**Electrical Resistance:** 6.6Ohm/km

**Insulation Resistance:**  $\geq$ 5500 MOhm $\times$ km

### Data Pairs

**Electrical Resistance:** 90Ohm/km

**Insulation Resistance:**  $\geq$ 1000 MOhm $\times$ km

### Element Assembly

**Min Bending Radius:** 280mm

**Operating Temperature:** -35°C/+90°C

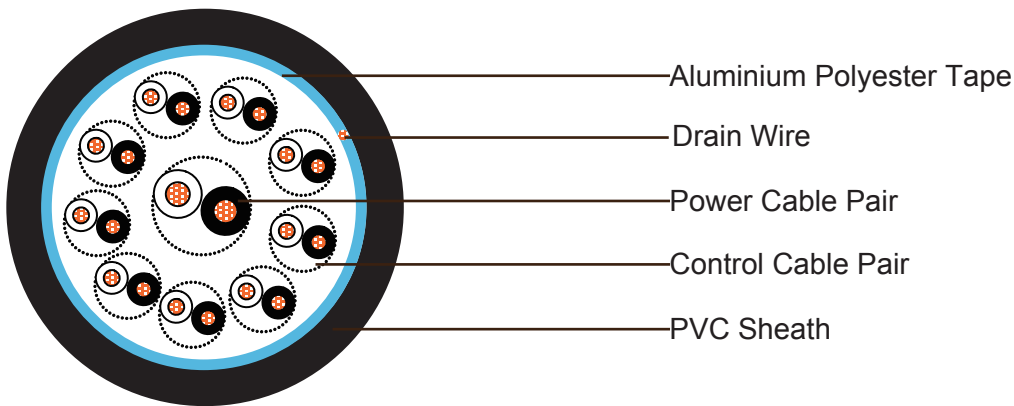
**Long term operation temperature of cable conductor:** 90°C

**Max temperature of cable conductor during short circuit:**  $\leq$ 250°C



### 1x2x2.5 Power Cable + 9x1x2x1.0 Control Cable Unarmored PVC Sheathed Composite Cable

#### Construction:



#### 1x2x2.5mm<sup>2</sup> Power Cable

<b>Conductor</b>	2.5mm <sup>2</sup> annealed copper
<b>Insulation</b>	XLPE material.
<b>Insulation Color</b>	Black and white

#### 9x1x2x1.0mm<sup>2</sup> Control Cable

<b>Conductor</b>	1.0mm <sup>2</sup> annealed copper
<b>Insulation</b>	PE material.
<b>Insulation Color</b>	Black and white with pair number

#### Element Assembly

<b>Shield</b>	Aluminium polyester tape
<b>Drain Wire</b>	24 AWG stranded tinned copper drain wire
<b>Sheath</b>	PVC sheath. Nominal outer diameter 25.5mm. Thickness 1.8mm



## Composite Cables

Sheath Color	Black
Cable Weight	477 kg/km

### Electrical and Physical Properties @20°C:

---

#### Power Cable

**Max. Conductor Resistance:** 7.41Ohm/km at 20°C

#### Control Cable

**Max. Conductor Resistance:** 18.5Ohm/km at 20°C

**Operating Temperature:** -20°C/+90°C

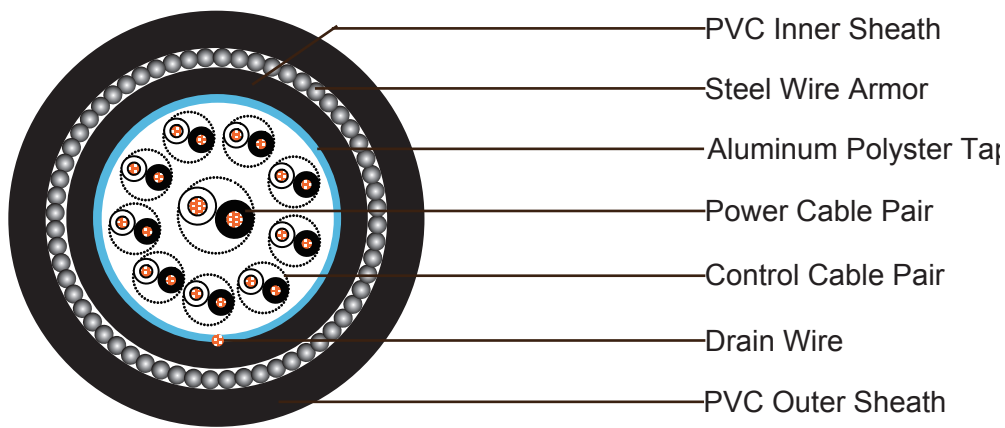
**Voltage Rating:** 600/1000V

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### 1x2x2.5 Power Cable + 9x1x2x1.0 Control Cable SWA PVC Sheathed Composite Cable

#### Construction:



#### 1x2x2.5mm<sup>2</sup> Power Cable

<b>Conductor</b>	2.5mm <sup>2</sup> annealed copper
<b>Insulation</b>	XLPE material.
<b>Insulation Color</b>	Black and white

#### 9x1x2x1.0mm<sup>2</sup> Control Cable

<b>Conductor</b>	1.0mm <sup>2</sup> annealed copper
<b>Insulation</b>	PE material.
<b>Insulation Color</b>	Black and white with pair number
<b>Overall Screen</b>	Aluminium polyester tape with 24 AWG stranded tinned copper drain wire

#### Element Assembly

<b>Shield</b>	Aluminium polyester tape
<b>Drain Wire</b>	24 AWG stranded tinned copper drain wire
<b>Bedding</b>	PVC



## Composite Cables

<b>Armour</b>	1.6mm Steel wire armor.
<b>Sheath</b>	PVC sheath. Nominal outer diameter 31.0mm. Thickness 2.0mm
<b>Sheath Color</b>	Black
<b>Cable Weight</b>	1415 kg/km

## Electrical and Physical Properties @20°C:

### Power Cable

**Max. Conductor Resistance:** 7.41Ohm/km at 20°C

### Control Cable

**Max. Conductor Resistance:** 18.5Ohm/km at 20°C

**Operating Temperature:** -20°C/+90°C

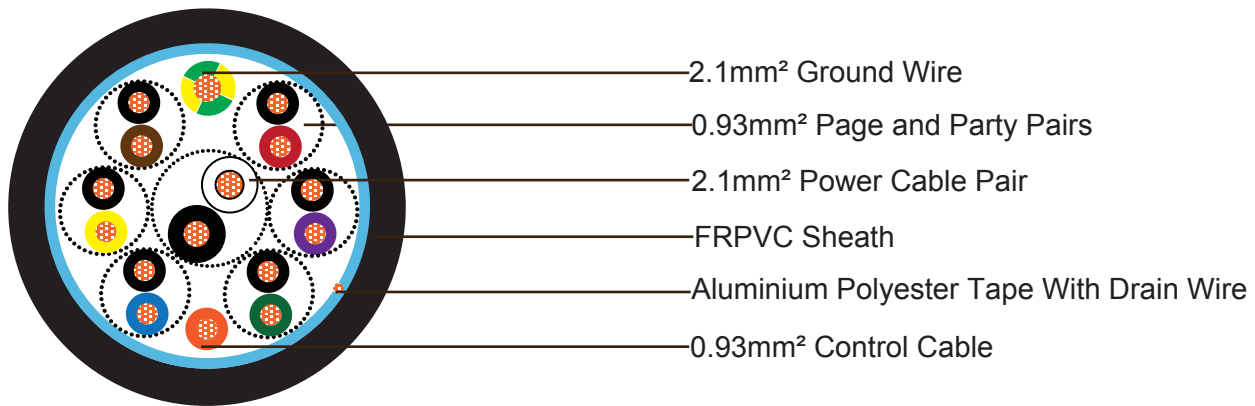
**Voltage Rating:** 600/1000V

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### Fire Resistant Unarmoured 16 Conductors UV Resistant & Vermin Proof FRPVC Composite Cable

#### Construction:



#### 1 Pair Power cable and 1 ground wire

<b>Conductor</b>	2.10mm <sup>2</sup> (42/0.25mm) annealed copper
<b>Insulation</b>	PVC material. Thickness 0.5mm
<b>Insulation Color</b>	Black and white
<b>Ground wire color</b>	Yellow-Green

#### 6 Page and party pairs, 1 control wire

<b>Conductor</b>	0.93mm <sup>2</sup> (19/0.25mm) annealed copper
<b>Insulation</b>	PVC material. Thickness 0.5mm
<b>Insulation Pair Color</b>	Red-Black/Red, Violet-black/violet, Green-black/green, Blue-black/blue, Yellow-black/yellow, Brown-black/brown
<b>Control wire color</b>	Orange

#### Element Assembly

<b>Core make-up</b>	Six pairs and control wire laid around power pair and ground wire
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## Composite Cables

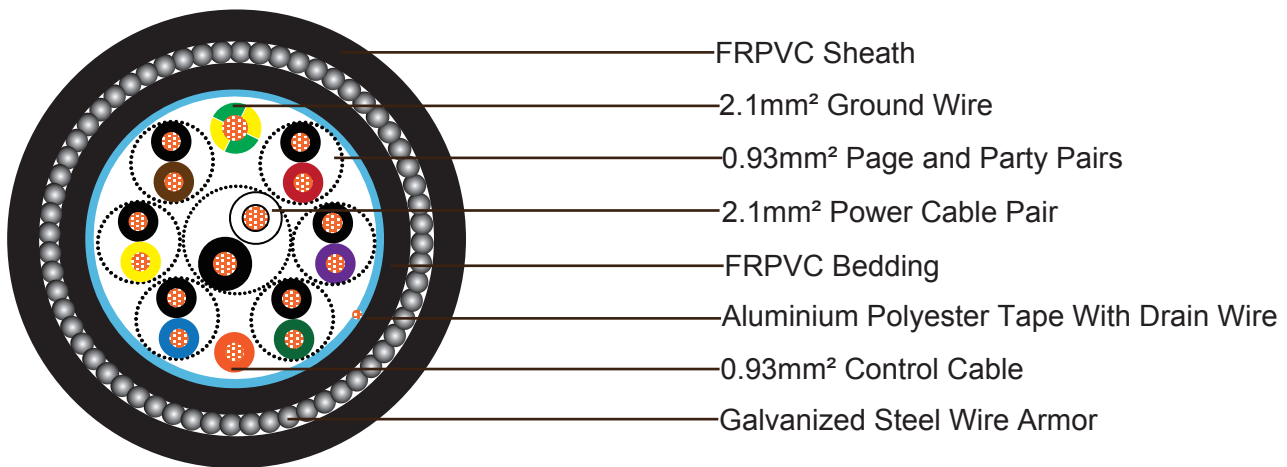
<b>Collective screen</b>	Aluminium/p.e.t.p. laminated tape applied with the metallic side down in electrical contact with 7 stranded 0.25mm copper drain wire over the p.e.t.p. binder tape
<b>Sheath</b>	UV Resistant & Vermin Proof FRPVC compound. Thickness 1.8mm, Overall diameter 21.5±1.0mm.
<b>Sheath Color</b>	Black

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### Fire Resistant SWA 16 Conductors UV Resistant & Vermin Proof FRPVC Composite Cable

#### Construction:



#### 1 Pair Power cable and 1 ground wire

Conductor	2.10mm <sup>2</sup> (42/0.25mm) annealed copper
Insulation	PVC material. Thickness 0.5mm
Insulation Color	Black and white
Ground wire color	Yellow-Green

#### 6 Page and party pairs, 1 control wire

Conductor	0.93mm <sup>2</sup> (19/0.25mm) annealed copper
Insulation	PVC material. Thickness 0.5mm
Insulation Pair Color	Red-Black/Red, Violet-black/violet, Green-black/green, Blue-black/blue, Yellow-black/yellow, Brown-black/brown
Control wire color	Orange



## Composite Cables

### Element Assembly

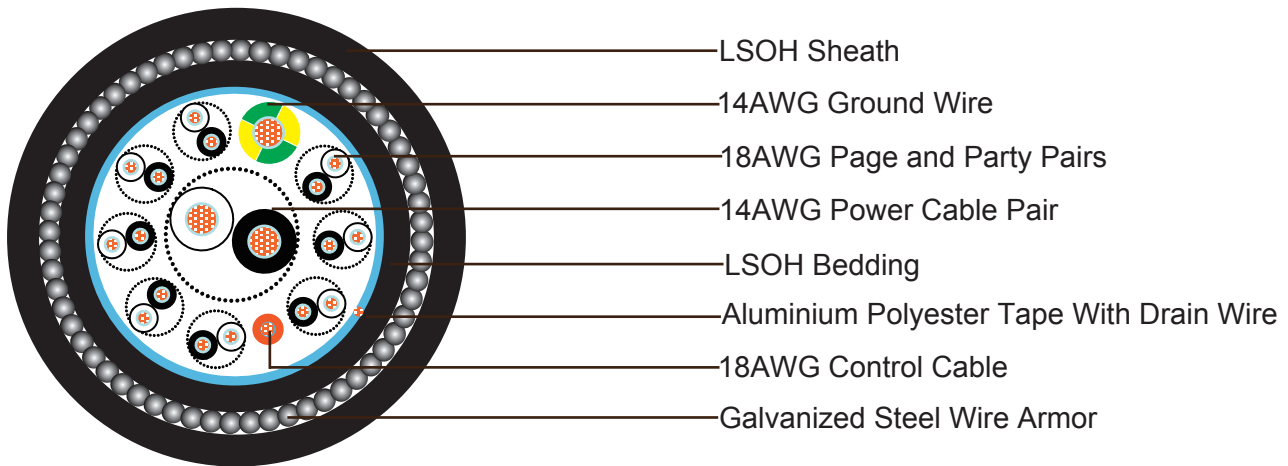
<b>Core make-up</b>	Six pairs and control wire laid around power pair and ground wire
<b>Collective screen</b>	Aluminium/p.e.t.p. laminated tape applied with the metallic side down in electrical contact with 7 stranded 0.25mm copper drain wire over the p.e.t.p. binder tape
<b>Bedding</b>	1.0mm FRPVC compound.
<b>Armour</b>	1.6mm Galvanized steel wire. 0.2mm 80% Steel wire braid/1.25mm galvanized steel wire are optional
<b>Sheath</b>	UV Resistant & Vermin Proof FRPVC compound is applied over armour.. Thickness 1.7mm, Overall diameter 26.75±1.25mm
<b>Sheath Color</b>	Black

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### Fire Resistant, SWA 20 Conductors UV Resistant, Flame Retardant LSZH Composite Cable

#### Construction:



#### 1 Pair Power cable and 1 ground wire

Conductor	14AWG (19/0.361mm) annealed copper
Fire Barrier	Mica/Glass Tape
Insulation	XLPE material. Thickness 0.7mm
Insulation Color	Black and white
Ground wire color	Yellow-Green

#### 8 Party Line and Spare Pair, 1 control wire

Conductor	18AWG (19/0.254mm) annealed copper
Fire Barrier	Mica/Glass Tape
Insulation	XLPE material. Thickness 0.7mm
Insulation Pair Color	Black & White with Pair Number
Control wire color	Orange



## Composite Cables

### Element Assembly

<b>Core make-up</b>	The power pair, ground wire, Party Line and Spare Pair, and control wire are twisted together. Fillers will be used if necessary.
<b>Binder tape</b>	The polyester tape is wrapped over the cable cores
<b>Bedding</b>	1.0mm Flame Retardant LSZH compound
<b>Armour</b>	1.6mm Steel wire armor
<b>Sheath</b>	UV Resistant, Flame Retardant LSZH is applied over armour.. Thickness 1.7mm, Overall diameter 34.8±2.5mm
<b>Sheath Color</b>	Black
<b>Cable Weight</b>	1722 kg/km

## Electrical and Physical Properties @20°C:

### Power Pair, Ground Wire

**Max. Conductor Resistance:** 8.9Ohm/km at 20°C

**Insulation Resistance:** ≥1000 MOhm $\times$ km

### Party Line and Spare Pair, Control Wire

**Max. Conductor Resistance:** 17.9Ohm/km at 20°C

**Insulation Resistance:** ≥1000 MOhm $\times$ km

**Operating Temperature:** -20°C/+90°C

**Voltage Rating:** 600/1000V

## Fire Characteristics:

**Fire Resistance:** IEC 60331

**Flame Propagation:** IEC60332-1 & IEC60332-3C

**Low Smoke Capacity:** IEC61034-1/2

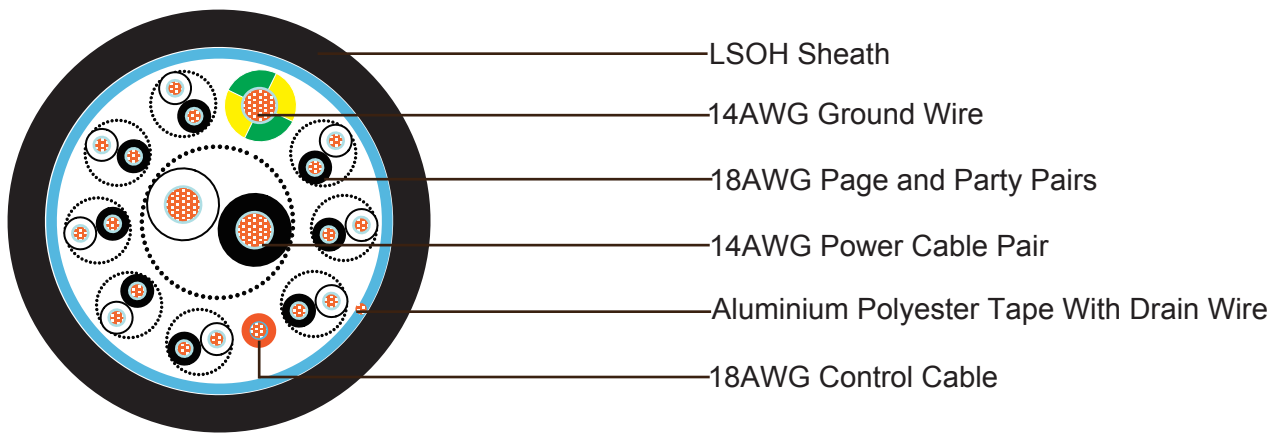
**Halogen Free:** IEC60754-1/2

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### Fire Resistant, Unarmored 20 Conductors UV Resistant, Flame Retardant LSZH Composite Cable

#### Construction:



#### 1 Pair Power cable and 1 ground wire

Conductor	14AWG (19/0.361mm) annealed copper
Fire Barrier	Mica/Glass Tape
Insulation	XLPE material. Thickness 0.7mm
Insulation Color	Black and white
Ground wire color	Yellow-Green

#### 8 Party Line and Spare Pair, 1 control wire

Conductor	18AWG (19/0.254mm) annealed copper
Fire Barrier	Mica/Glass Tape
Insulation	XLPE material. Thickness 0.7mm
Insulation Pair Color	Black & White with Pair Number
Control wire color	Orange



## Composite Cables

### Element Assembly

<b>Core make-up</b>	The power pair, ground wire, Party Line and Spare Pair, and control wire are twisted together. Fillers will be used if necessary.
<b>Binder tape</b>	The polyester tape is wrapped over the cable cores
<b>Sheath</b>	UV Resistant, Flame Retardant LSZH is applied over armour.. Thickness 1.5mm, Overall diameter 29.5±2.0mm
<b>Sheath Color</b>	Black
<b>Cable Weight</b>	566 kg/km

## Electrical and Physical Properties @20°C:

### Power Pair, Ground Wire

**Max. Conductor Resistance:** 8.9Ohm/km at 20°C

**Insulation Resistance:** ≥1000 MOhm $\times$ km

### Party Line and Spare Pair, Control Wire

**Max. Conductor Resistance:** 17.9Ohm/km at 20°C

**Insulation Resistance:** ≥1000 MOhm $\times$ km

**Operating Temperature:** -20°C/+90°C

**Voltage Rating:** 600/1000V

## Fire Characteristics:

**Fire Resistance:** IEC 60331

**Flame Propagation:** IEC60332-1 & IEC60332-3C

**Low Smoke Capacity:** IEC61034-1/2

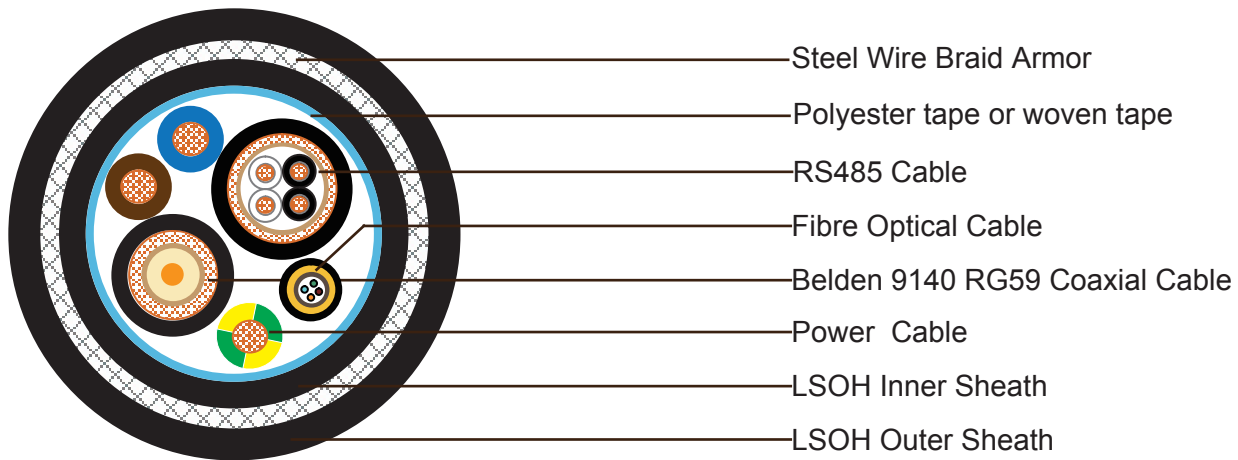
**Halogen Free:** IEC60754-1/2

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### Power Cable + RS 485 + Belden 9104 + Fiber Optic Cable Steel Wire Braid Armored Composite Cable

#### Construction:

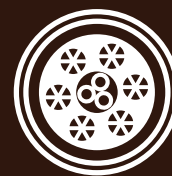


#### 3x12AWG Power Cable

<b>Conductor</b>	12AWG (19/0.455mm stranded copper wire)
<b>Insulation</b>	XLPE compound. Nominal outer diameter 3.75mm
<b>Insulation Color</b>	Blue, Brown and Green/Yellow

#### 2 Pair 24AWG RS485

<b>Conductor</b>	24AWG (7/0.2mm stranded copper to IEC228 Class 2)
<b>Insulation</b>	PE material. Thickness 0.8mm
<b>Shield</b>	Aluminium polyester tape with 24 AWG stranded tinned copper drain wire
<b>Braid</b>	Copper wire braiding
<b>Sheath</b>	LSZH sheath. Nominal outer diameter is 9.0mm
<b>Sheath Color</b>	Black



## Composite Cables

### Belden 9104 RG59 Coaxial Cable

<b>Conductor</b>	20AWG bare copper covered steel wire
<b>Insulation</b>	Foam high density polyethylene. Norminal outer diameter 3.66mm
<b>Shield</b>	Aluminium foil with 100% coverage
<b>Braid</b>	Aluminium wire braiding with 67% coverage
<b>Sheath</b>	PVC sheath. Norminal outer diameter 6.02mm
<b>Sheath Color</b>	Black

### 4 Core Central Loose Tube Fiber Optic Cable

<b>Optical Fiber</b>	Multi-mode cabled fibers meet or exceed the requirements of ITUT G.651 specification
<b>Loose Tube</b>	PBT tubes $1.80 \pm 0.1$ mm outer diameter, contains 4 fibers. The tubes are filled with a thixotropic gel to prevent the ingress of water
<b>Aramid Yarn</b>	Aramid Yarn is laid over the tube core to serve as peripheral strength member
<b>Sheath</b>	LSZH outer Sheath is extruded over the glass yarn. Nominal outer diameter is about 3.40mm
<b>Sheath Color</b>	Black

### Element Assembly

<b>Wrapping Tape</b>	Polyester tape or woven tape
<b>Inner Jacket</b>	Black LSZH, thickness 1.20mm
<b>Aarmor</b>	Steel wire braid, coverage 80%
<b>Sheath</b>	LSZH, thickness 1.80mm, nominal outer diameter $22.0 \pm 2.0$ mm
<b>Sheath Color</b>	Black

## Optical Characteristics

### Optical Fiber

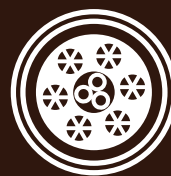
The Multi-mode fibers meet the ITU G.651 specification, as listed below:



Property	50/125 fibers	62.5/125 fibers
Attenuation @ 850 nm (dB/km)	≤ 3.0	≤ 3.2
Attenuation @ 1300 nm (dB/km)	≤ 1.0	≤ 1.2
Added Attenuation with Bending	≤ 0.5 dB (850 and 1300 nm for 100 turns around a 75 mm mandrel)	
Numerical Aperture	0.20 ± 0.02	0.275 ± 0.015
Bandwidth @ 850 nm	400 MHz*km	160 MHz*km
Bandwidth @ 1300 nm	800 MHz*km	500 MHz*km
Core diameter	50 ± 3 μm	62.5 ± 3 μm
Cladding diameter	125 ± 2 μm	
Core-Cladding offset	≤ 6%	
Cladding non-circularity	≤ 2%	
Core non-circularity	≤ 6%	
Coating diameter	245 ± 10 μm	
Coating / Cladding offset	12 μm	
Proof Test	≥ 0.69 GN/m <sup>2</sup> (100 kpsi)	

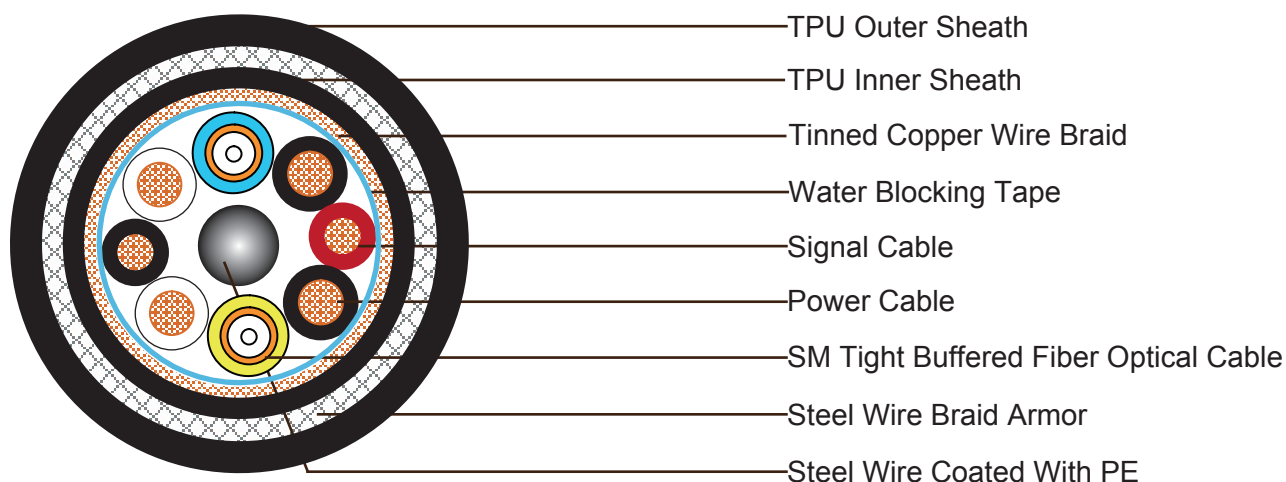
The fibers contain no splices.

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### Power Cable + Signal Cable + SM Tight Buffered Fiber Optical Cable SWB Armored TPU Sheathed Composite Cable

#### Construction:



#### 4x20AWG Power Cable

<b>Conductor</b>	20AWG stranded tinned copper wire
<b>Insulation</b>	XLPE. Nominal outer diameter is 1.5mm
<b>Insulation Color</b>	2xBlack and 2xWhite

#### 2x24AWG Signal Conductor

<b>Conductor</b>	24AWG stranded tinned copper wire
<b>Insulation</b>	XLPE. Nominal outer diameter is 1.1mm
<b>Insulation Color</b>	Red and Black

#### 2Cx9/125um Tight Buffered Fiber Cable

<b>Tight buffered fiber</b>	Single-mode fiber meets the ITU G.652D specification
<b>Strength meber</b>	Aramid yarn



<b>Sheath</b>	PVC, Nominal outer diameter: 1.6mm
<b>Sheath Color</b>	Blue & yellow

### Element Assembly

<b>Central Strength Member</b>	1.5mm steel wire coated with PE, OD: 2.1mm
<b>Wrapping Tape</b>	Water blocking tape
<b>Screen</b>	Tinned copper wire braiding, 90% coverage
<b>Inner Jacket</b>	Black TPU
<b>Aarmor</b>	Steel wire braid, dia. 0.2mm, coverage 80%
<b>Sheath</b>	TPU, nominal outer diameter 12.0mm.
<b>Sheath Color</b>	Black
<b>Cable Weight</b>	250kg/km

### Optical Characteristics

Parameter		Standard Single Mode Fiber per ITU-T G.652D	Non-zero Dispersion Shifted fiber per ITU-T G.655	Non-zero Dispersion Shifted fiber per ITU-T G.656	Units
<b>Fiber Code</b>		9	8	7	
<b>Attenuation, Loose Tube Cables</b>	@1310nm	≤0.35	N/A	N/A	dB/km
	@1550nm	≤0.22	≤0.22	≤0.22	dB/km
	@1625nm	≤0.25	≤0.26	≤0.26	dB/km
<b>Attenuation, Tight Buffer or Semi-Tight Cables</b>	@1310nm	≤0.38	N/A		dB/km
	@1550nm	≤0.28	N/A		dB/km
<b>Chromatic Dispersion</b>	between 1260 and 1360nm (O Band)	≤3.5	N/A	N/A	ps/(nm*km)
	between 1460 and 1530nm (S Band)	N/A	N/A	2.0-7.0	ps/(nm*km)
	between 1530 and 1565nm (C Band)	≤18	1.0-10.0	7.0-10.0	ps/(nm*km)
	between 1565 and 1625nm (L Band)	≤22	7.0-12.0	10.0-14.0	ps/(nm*km)



## Composite Cables

<b>Zero Dispersion Wavelength</b>		1310±11	1530-1560	1460-1565	nm
<b>Zero Dispersion Slope</b>		0.093	0.093	0.093	ps/(nm <sup>2</sup> .km)
<b>Point Discontinuity at 1300nm &amp; 1550nm</b>		0.1	0.1	0.1	dB
<b>Mode Field Diameter</b>	@1300nm	9.3±0.5	N/A	N/A	um
	@1550nm	10.4±0.8	8.5±0.6	9.0±0.5	um
<b>Cable Cut-off Wavelength</b>		≤1260	≤1450	≤1450	nm
<b>PMD (Individual fiber)</b>		≤0.2	≤0.2	≤0.2	ps/km <sup>1/2</sup>
<b>Cladding Diameter</b>		125±1	125±1	125±1	um
<b>Core/Cladding Concentricity Error</b>		≤0.5	≤0.5	≤0.6	um
<b>Cladding Non-Circularity</b>		≤1.0	≤1.0	≤1.0	%
<b>Coating Non-Circularity</b>		≤6.0	≤6.0	≤6.0	%
<b>Primary Coating Diameter</b>		245±10	245±10	245±10	um
<b>Proof-Test Level</b>		100 (0.7)	100 (0.7)	100 (0.7)	Kpsi/GN/m <sup>2</sup>
<b>Fatigue Coefficient</b>		≥20	≥20	≥20	
<b>Temperature Dependence between 0°C ~ +70°C @ 1310 &amp; 1550nm</b>		0.1	0.1	0.1	Db/km

The fibers contain no splices.

## Electrical Properties @20°C:

### 20AWG Power Cable

**Conductor Resistance @ 20°C :** 35.3 ohm/km

**Insulation Resistance:** ≥10GOhm x km

### 24AWG Signal Conductor

**Conductor Resistance @ 20°C:** 95Ohm/km

**Insulation Resistance:** ≥10GOhm x km

### Mechanical Properties:

Max. Pulling Load

- Under installation: 1500N
- In service: 600N



Maximum Compressive Load: 1000N

Minimum Bending Radius:

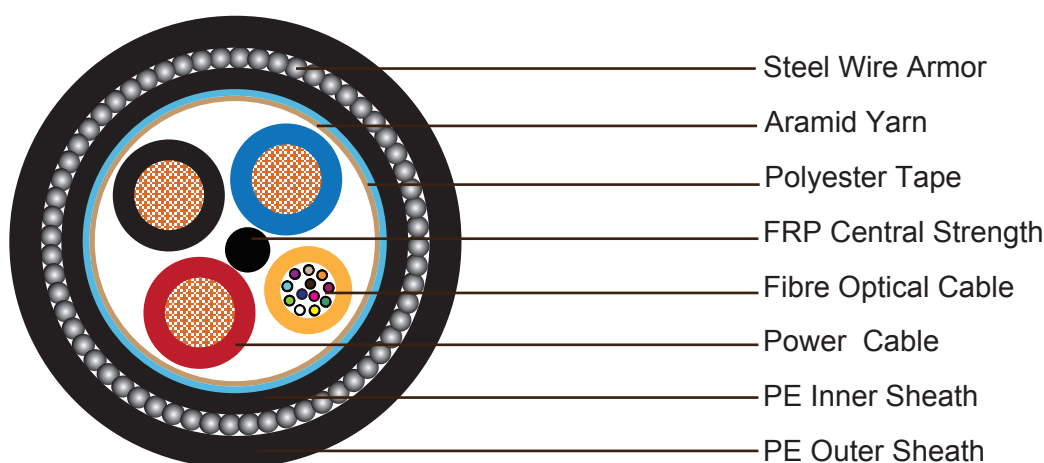
- Under installation: 20×OD
- During operation: 10×OD.

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### 3x2.5 Power Cable + 12C Fiber Optic Cable SWA Composite Cable

#### Construction:



#### 3x2.5mm<sup>2</sup> Power Cable

<b>Conductor</b>	7/0.67mm Stranded bare copper wire
<b>Insulation</b>	XLPE. Thickness is 0.7mm. Outer diameter 3.41mm

#### 12C Fiber Cable

No of fibers in loose tube	12 fibers
Loose tube	outer diameter: 2.4mm (PE or PVC Sheath would be used over the loose tube if necessary)

#### Element Assembly

<b>Central Strength Member</b>	1.5mm FRP central strength member with PE/PVC coating if necessary
<b>Strength member</b>	Aramid yarn helically is applied over cable core.
<b>Wrapping Tape</b>	Polyester tape is applied over cable core
<b>Inner Jacket</b>	PE, LSOH is optional, thickness is 1.0mm
<b>Armor</b>	Steel wire armour, size: 0.9mm



Sheath	PE, LSOH is optional, thickness is 1.8mm, nominal outer diameter 17.0±1.0mm
Sheath Color	Black

## Optical Characteristics

### 12C Optic Fiber Cable, G652D ( around central member )

Parameter		Standard Single Mode Fiber per ITU-T G.652D	Non-zero Dispersion Shifted fiber per ITU-T G.655	Non-zero Dispersion Shifted fiber per ITU-T G.656	Units
Fiber Code		9	8	7	
Attenuation, Loose Tube Cables	@1310nm	≤0.35	N/A	N/A	dB/km
	@1550nm	≤0.22	≤0.22	≤0.22	dB/km
	@1625nm	≤0.25	≤0.26	≤0.26	dB/km
Attenuation, Tight Buffer or Semi-Tight Cables	@1310nm	≤0.38	N/A		dB/km
	@1550nm	≤0.28	N/A		dB/km
Chromatic Dispersion	between 1260 and 1360nm (O Band)	≤3.5	N/A	N/A	ps/(nm*km)
	between 1460 and 1530nm (S Band)	N/A	N/A	2.0-7.0	ps/(nm*km)
	between 1530 and 1565nm (C Band)	≤18	1.0-10.0	7.0-10.0	ps/(nm*km)
	between 1565 and 1625nm (L Band)	≤22	7.0-12.0	10.0-14.0	ps/(nm*km)
Zero Dispersion Wavelength		1310±11	1530-1560	1460-1565	nm
Zero Dispersion Slope		0.093	0.093	0.093	ps/(nm <sup>2</sup> .km)
Point Discontinuity at 1300nm& 1550nm		0.1	0.1	0.1	dB
Mode Field Diameter	@1300nm	9.3±0.5	N/A	N/A	um
	@1550nm	10.4±0.8	8.5±0.6	9.0±0.5	um
Cable Cut-offWavelength		≤1260	≤1450	≤1450	nm
PMD (Individual fiber)		≤0.2	≤0.2	≤0.2	ps/km <sup>1/2</sup>
Cladding Diameter		125±1	125±1	125±1	um



## Composite Cables

<b>Core/Cladding Concentricity Error</b>	≤0.5	≤0.5	≤0.6	um
<b>Cladding Non-Circularity</b>	≤1.0	≤1.0	≤1.0	%
<b>Coating Non-Circularity</b>	≤6.0	≤6.0	≤6.0	%
<b>Primary Coating Diameter</b>	245±10	245±10	245±10	um
<b>Proof-Test Level</b>	100 (0.7)	100 (0.7)	100 (0.7)	Kpsi/GN/m2
<b>Fatigue Coefficient</b>	≥20	≥20	≥20	
<b>Temperature Dependence between 0°C ~ +70°C @ 1310 &amp; 1550nm</b>	0.1	0.1	0.1	Db/km

The fibers contain no splices.

## Mechanical Properties:

---

### Tensile load:

Operating: 2650N

Installation: 8000N

### Bending radius:

Operating: 15×OD

Installation: 30×OD

### Compressive load:

Short term: 6000N

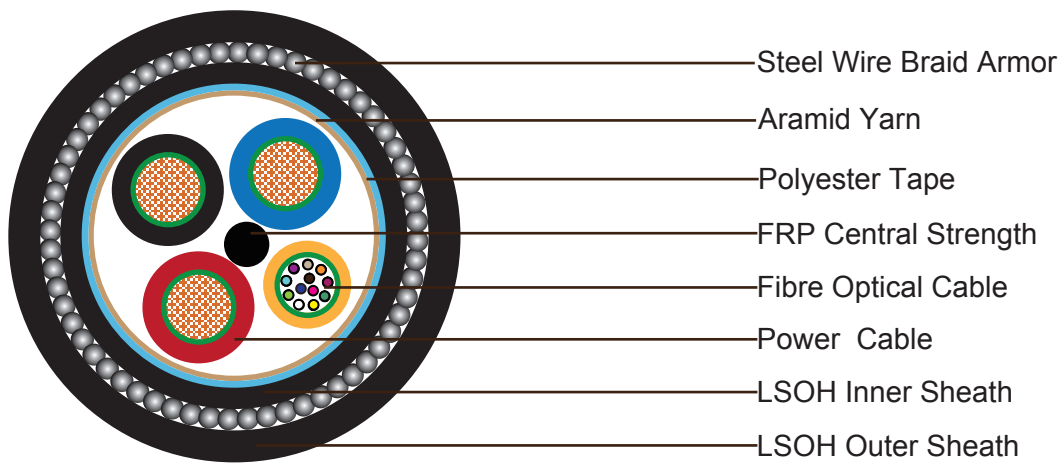
Long term: 4000N

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### 3x2.5 Power Cable+12C Fiber Optic Cable SWB Fire Resistant Composite Cable

#### Construction:



#### 3x2.5mm<sup>2</sup> Power Cable

<b>Conductor</b>	7/0.67mm Stranded bare copper wire
<b>Fire barrier</b>	Mica tape wrapped copper conductor
<b>Insulation</b>	XLPE. Thickness is 0.7mm. Outer diameter 4.6-4.7mm

#### 12C Optic Fiber Cable, G652D ( around central member )

<b>No of fibers in loose tube</b>	12 fibers
<b>Loose tube</b>	outer diameter: 3.8mm (PE or PVC Sheath would be used over the loose tube if necessary)
<b>Fire barrier</b>	Mica tape wrapped loose tube

#### Element Assembly

<b>Central Strength Member</b>	1.9mm FRP central strength member with PE/PVC coating if necessary
<b>Strength member</b>	Aramid yarn helically is applied over cable core.
<b>Inner Jacket</b>	LSZH, thickness is 1.0mm
<b>Armor</b>	SWB



## Composite Cables

Sheath	LSZH, thickness is 1.8mm, nominal outer diameter 18.2±1.0mm
Sheath Color	Black

## Optical Characteristics

### 12C Optic Fiber Cable, G652D ( around central member )

Parameter		Standard Single Mode Fiber per ITU-T G.652D	Non-zero Dispersion Shifted fiber per ITU-T G.655	Non-zero Dispersion Shifted fiber per ITU-T G.656	Units
Fiber Code		9	8	7	
Attenuation, Loose Tube Cables	@1310nm	≤0.35	N/A	N/A	dB/km
	@1550nm	≤0.22	≤0.22	≤0.22	dB/km
	@1625nm	≤0.25	≤0.26	≤0.26	dB/km
Attenuation, Tight Buffer or Semi-Tight Cables	@1310nm	≤0.38	N/A		dB/km
	@1550nm	≤0.28	N/A		dB/km
Chromatic Dispersion	between 1260 and 1360nm (O Band)	≤3.5	N/A	N/A	ps/(nm*km)
	between 1460 and 1530nm (S Band)	N/A	N/A	2.0-7.0	ps/(nm*km)
	between 1530 and 1565nm (C Band)	≤18	1.0-10.0	7.0-10.0	ps/(nm*km)
	between 1565 and 1625nm (L Band)	≤22	7.0-12.0	10.0-14.0	ps/(nm*km)
Zero Dispersion Wavelength		1310±11	1530-1560	1460-1565	nm
Zero Dispersion Slope		0.093	0.093	0.093	ps/(nm <sup>2</sup> .km)
Point Discontinuity at 1300nm & 1550nm		0.1	0.1	0.1	dB
Mode Field Diameter	@1300nm	9.3±0.5	N/A	N/A	um
	@1550nm	10.4±0.8	8.5±0.6	9.0±0.5	um
Cable Cut-off Wavelength		≤1260	≤1450	≤1450	nm
PMD (Individual fiber)		≤0.2	≤0.2	≤0.2	ps/km <sup>1/2</sup>
Cladding Diameter		125±1	125±1	125±1	um



<b>Core/Cladding Concentricity Error</b>	≤0.5	≤0.5	≤0.6	um
<b>Cladding Non-Circularity</b>	≤1.0	≤1.0	≤1.0	%
<b>Coating Non-Circularity</b>	≤6.0	≤6.0	≤6.0	%
<b>Primary Coating Diameter</b>	245±10	245±10	245±10	um
<b>Proof-Test Level</b>	100 (0.7)	100 (0.7)	100 (0.7)	Kpsi/GN/m2
<b>Fatigue Coefficient</b>	≥20	≥20	≥20	
<b>Temperature Dependence between 0°C ~ +70°C @ 1310 &amp; 1550nm</b>	0.1	0.1	0.1	Db/km

The fibers contain no splices.

## Mechanical Properties:

### Tensile load:

Operating: 600N

Installation: 1500N

### Bending radius:

Operating: 12.5×OD

Installation: 25×OD

### Compressive load:

Short term: 1000N

Long term: 300N

## Fire Characteristics:

**Fire Resistance:** IEC 60331

**Flame Propagation:** IEC60332

**Low Smoke Capacity:** IEC61034-1/2

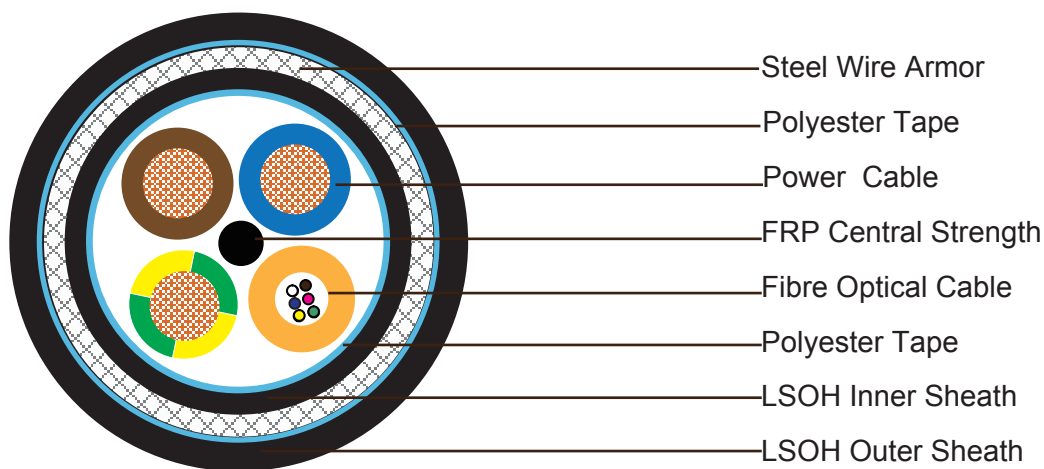
**Halogen Free:** IEC60754-1/2

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### 3x2.5 Power Cable + 6C Optical Fibre Cable SWB LSZH Sheathed Composite Cable

#### Construction:



#### 3x2.5mm<sup>2</sup> Power Cable ( around central member )

Conductor	50/0.25mm Stranded bare copper wire
Insulation	XLPE. Thickness is 0.86mm. Outer diameter 3.5mm
Insulation Color	Blue, Brown and Green/Yellow

#### 6C Optic Fiber Cable

No of fibers in loose tube	6 fibers
Loose tube	Outer diameter: 3.5mm (PE or PVC Sheath would be used over the loose tube if necessary)

#### Element Assembly

Wrapping Tape	Ployester tape
Inner Sheath	Grey LSZH, thickness 0.8mm
Aarmor	Galvanised steel wire armour, coverage 99%
Wrapping Tape	Ployester tape
Sheath	LSZH, thickness 1.6mm, norminal outer diameter 16.2mm
Sheath Color	Grey



### Optical Characteristics

Table 1. SM

Property	Requirement
<b>Optical properties</b>	
Attenuation @ 1310 nm	0.35 dB/km
Attenuation @ 1550 nm	0.22 dB/km
Point Discontinuity	0.1 dB @ 1310 or 1550 nm
Chromatic Dispersion slope:	0.092 ps/km/nm <sup>2</sup>
Zero Chromatic Dispersion Wavelength:	1300 - 1324 nm
Mode Field Diameter @ 1300 nm	9.3 0.5m
Mode Field Diameter @ 1550 nm	10.5 1.0m
Fiber Cut-Off Wavelength	1260 70 nm
Cable Cut-Off Wavelength	1260 nm
<b>Geometrical properties</b>	
Cladding Diameter:	125 1.0 m
Core-Cladding Offset	0.8 m
Cladding Non-Circularity:	1.0 %
Colored Coating Diameter:	250 10m
Coating / Cladding Offset:	12m
<b>Mechanical properties</b>	
Proof Test:	0.7 GN/m <sup>2</sup> for 1 second

Table 2. MM

Property	50/125 fibers	62.5/125 fibers
Attenuation @ 850 nm (dB/km)	≤ 3.0	≤ 3.2
Attenuation @ 1300 nm (dB/km)	≤ 1.0	≤ 1.2
Added Attenuation with Bending	≤ 0.5 dB (850 and 1300 nm for 100 turns around a 75 mm mandrel)	
Numerical Aperture	0.20 ± 0.02	0.275 ± 0.015
Bandwidth @ 850 nm	400 MHz*km	160 MHz*km



## Composite Cables

<b>Bandwidth @ 1300 nm</b>	800 MHz*km	500 MHz*km
<b>Core diameter</b>	50 ± 3 μm	62.5 ± 3 μm
<b>Cladding diameter</b>	125 ± 2 μm	
<b>Core-Cladding offset</b>	≤ 6%	
<b>Cladding non-circularity</b>	≤ 2%	
<b>Core non-circularity</b>	≤ 6%	
<b>Coating diameter</b>	245 ± 10 μm	
<b>Coating / Cladding offset</b>	12 μm	
<b>Proof Test</b>	≥ 0.69 GN/m <sup>2</sup> (100 kpsi)	

## Electrical and Physical Properties @20°C(Power Cable):

**Max. Electrical Resistance:** 7.98Ω/km

**Insulation Resistance:** ≥5500 MΩ·km

**Dielectric Strength:** 1500V/1'

## Physical Characteristic:

**Min Bending Radius:** 240mm

**Operating Temperature:** -35°C/+80°C

## Fire Characteristics:

**Flame Propagation:** IEC60332-1

**Low Smoke Capacity:** IEC61034-1/2

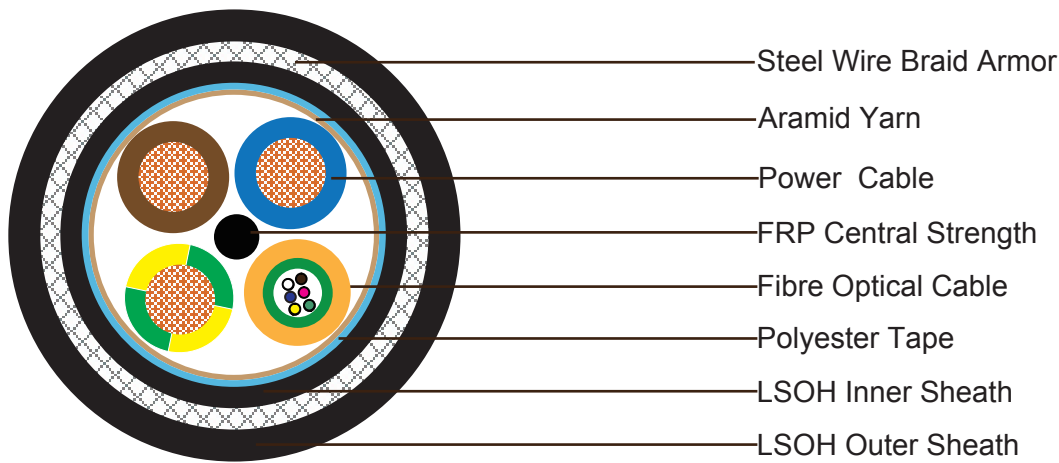
**Halogen Free:** IEC60754-1/2

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### 3x2.5 Power Cable + 6C Fiber Optic Cable SWB Armored Composite Cable

#### Construction:



#### 3x2.5mm<sup>2</sup> Power Cables

<b>Conductor</b>	7/0.67mm Stranded bare copper wire
<b>Insulation</b>	XLPE compound. Nominal outer diameter 3.41mm
<b>Insulation Color</b>	Blue, Brown and Green/Yellow

#### 6 Core Central Loose Tube Fiber Optic Cable

<b>Optical Fiber</b>	Single-mode cabled fibers meet or exceed the requirements of ITUT G.652.D specification
<b>Loose Tube</b>	PBT tubes 1.80±0.1mm outer diameter, contains 6 fibers, The tubes are filled with a thixotropic gel to prevent the ingress of water
<b>Fiber Glass Yarn</b>	Fiber Glass Yarn is laid over the tube core to serve as peripheral strength member.
<b>Sheath</b>	PE outer Sheath is extruded over the glass yarn, Nominal outer diameter is about 3.40mm
<b>Sheath Color</b>	Black

#### Element Assembly



## Composite Cables

<b>Central Strength Member</b>	1.5mm FRP central strength member with PE/PVC coating if necessary
<b>Strength member</b>	Aramid yarn helically is applied over cable core.
<b>Inner Jacket</b>	Black PE, thickness 1.00mm
<b>Armor</b>	Steel wire braid, coverage 80%, 0.25mm steel tape armor is optional
<b>Sheath</b>	PE, thickness 1.80mm, nominal outer diameter 16.00±1.0mm
<b>Sheath Color</b>	Black

## Optical Characteristics

Single-mode fibers meet or exceed the requirements of ITUT G.652.D, as listed in below:

Parameter		Standard Single Mode Fiber per ITU-T G.652D	Non-zero Dispersion Shifted fiber per ITU-T G.655	Non-zero Dispersion Shifted fiber per ITU-T G.656	Units
<b>Fiber Code</b>		9	8	7	
<b>Attenuation, Loose Tube Cables</b>	@1310nm	≤0.35	N/A	N/A	dB/km
	@1550nm	≤0.22	≤0.22	≤0.22	dB/km
	@1625nm	≤0.25	≤0.26	≤0.26	dB/km
<b>Attenuation, Tight Buffer or Semi-Tight Cables</b>	@1310nm	≤0.38	N/A		dB/km
	@1550nm	≤0.28	N/A		dB/km
<b>Chromatic Dispersion</b>	between 1260 and 1360nm (O Band)	≤3.5	N/A	N/A	ps/(nm*km)
	between 1460 and 1530nm (S Band)	N/A	N/A	2.0-7.0	ps/(nm*km)
	between 1530 and 1565nm (C Band)	≤18	1.0-10.0	7.0-10.0	ps/(nm*km)
	between 1565 and 1625nm (L Band)	≤22	7.0-12.0	10.0-14.0	ps/(nm*km)
<b>Zero Dispersion Wavelength</b>		1310±11	1530-1560	1460-1565	nm
<b>Zero Dispersion Slope</b>		0.093	0.093	0.093	ps/(nm <sup>2</sup> . km)
<b>Point Discontinuity at 1300nm &amp; 1550nm</b>		0.1	0.1	0.1	dB
<b>Mode Field Diameter</b>	@1300nm	9.3±0.5	N/A	N/A	um
	@1550nm	10.4±0.8	8.5±0.6	9.0±0.5	um



Cable Cut-off Wavelength	≤1260	≤1450	≤1450	nm
PMD (Individual fiber)	≤0.2	≤0.2	≤0.2	ps/km <sup>1/2</sup>
Cladding Diameter	125±1	125±1	125±1	um
Core/Cladding Concentricity Error	≤0.5	≤0.5	≤0.6	um
Cladding Non-Circularity	≤1.0	≤1.0	≤1.0	%
Coating Non-Circularity	≤6.0	≤6.0	≤6.0	%
Primary Coating Diameter	245±10	245±10	245±10	um
Proof-Test Level	100 (0.7)	100 (0.7)	100 (0.7)	Kpsi/GN/m <sup>2</sup>
Fatigue Coefficient	≥20	≥20	≥20	
Temperature Dependence between 0°C ~ +70°C @ 1310 & 1550nm	0.1	0.1	0.1	Db/km

The fibers contain no splices.

## Mechanical Properties:

### Minimum Bending Radius:

Under Installation: 25×OD

During Operation: 12.5×OD

### Temperature Range:

Operating Temperature Range: -40°C (-40 oF to +70°C (+158 oF)

Storage Temperature Range: -50°C (-58 oF to +70°C (+158 oF)

### Maximum Crush Resistance:

Long Term: 300N

Short Term: 10000N

### Minimum Tensile Resistance:

Under Installation: 1500N

During Operation: 600N.

Repeated Impact: 4.0 N.m (J)

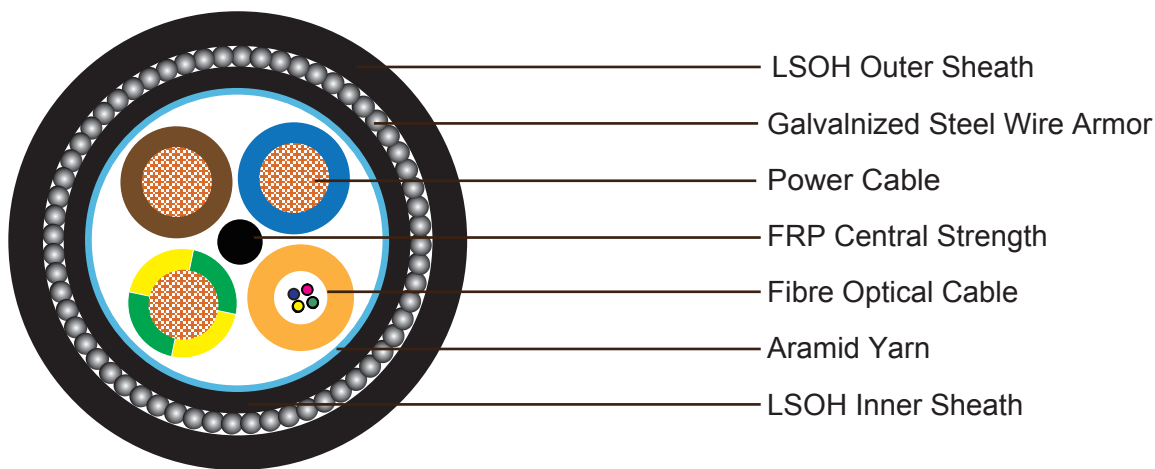
Twist (Torsion): 180x10 times, 125xOD

Cyclic Flexing: 25 cycles for armoured cables;



### 3x2.5 Power Cable + 4C Fiber Optic Cable SWA LSZH Sheathed Composite Cable

#### Construction:



#### 3x2.5mm<sup>2</sup> Power Cable

Conductor	50/0.25mm Stranded bare copper wire
Insulation	XLPE. Thickness is 0.7mm. Outer diameter 3.5mm
Insulation Color	Blue, Brown and Green/Yellow

#### 4C Optic Fiber Cable, G652D ( around central member )

No of fibers in loose tube	4 fibers
Loose tube	Outer diameter: 3.5mm (PE or PVC Sheath would be used over the loose tube if necessary)

#### Element Assembly

Central Strength Member	Steel wire central strength member with PE coating if necessary
Strength member	Aramid yarn helically is applied over cable core.
Inner Jacket	LSZH, thickness is 1.0mm
Armor	Galvanised steel wire armour, Outer diameter: 0.9mm



<b>Sheath</b>	LSZH, thickness is 1.6mm, nominal outer diameter 17.0mm
<b>Sheath Color</b>	Black

## Optical Characteristics

### 4C Optic Fiber Cable, G652D ( around central member )

Parameter		Standard Single Mode Fiber per ITU-T G.652D	Non-zero Dispersion Shifted fiber per ITU-T G.655	Non-zero Dispersion Shifted fiber per ITU-T G.656	Units
<b>Fiber Code</b>		9	8	7	
<b>Attenuation, Loose Tube Cables</b>	@1310nm	≤0.35	N/A	N/A	dB/km
	@1550nm	≤0.22	≤0.22	≤0.22	dB/km
	@1625nm	≤0.25	≤0.26	≤0.26	dB/km
<b>Attenuation, Tight Buffer or Semi-Tight Cables</b>	@1310nm	≤0.38	N/A		dB/km
	@1550nm	≤0.28	N/A		dB/km
<b>Chromatic Dispersion</b>	between 1260 and 1360nm (O Band)	≤3.5	N/A	N/A	ps/(nm*km)
	between 1460 and 1530nm (S Band)	N/A	N/A	2.0-7.0	ps/(nm*km)
	between 1530 and 1565nm (C Band)	≤18	1.0-10.0	7.0-10.0	ps/(nm*km)
	between 1565 and 1625nm (L Band)	≤22	7.0-12.0	10.0-14.0	ps/(nm*km)
<b>Zero Dispersion Wavelength</b>		1310±11	1530-1560	1460-1565	nm
<b>Zero Dispersion Slope</b>		0.093	0.093	0.093	ps/(nm <sup>2</sup> .km)
<b>Point Discontinuity at 1300nm &amp; 1550nm</b>		0.1	0.1	0.1	dB
<b>Mode Field Diameter</b>	@1300nm	9.3±0.5	N/A	N/A	um
	@1550nm	10.4±0.8	8.5±0.6	9.0±0.5	um
<b>Cable Cut-off Wavelength</b>		≤1260	≤1450	≤1450	nm
<b>PMD (Individual fiber)</b>		≤0.2	≤0.2	≤0.2	ps/km <sup>1/2</sup>
<b>Cladding Diameter</b>		125±1	125±1	125±1	um



## Composite Cables

<b>Core/Cladding Concentricity Error</b>	≤0.5	≤0.5	≤0.6	um
<b>Cladding Non-Circularity</b>	≤1.0	≤1.0	≤1.0	%
<b>Coating Non-Circularity</b>	≤6.0	≤6.0	≤6.0	%
<b>Primary Coating Diameter</b>	245±10	245±10	245±10	um
<b>Proof-Test Level</b>	100 (0.7)	100 (0.7)	100 (0.7)	Kpsi/GN/m <sup>2</sup>
<b>Fatigue Coefficient</b>	≥20	≥20	≥20	
<b>Temperature Dependence between 0°C ~ +70°C @ 1310 &amp; 1550nm</b>	0.1	0.1	0.1	Db/km

The fibers contain no splices.

## Mechanical Properties:

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### Tensile load:

**Short term:** 600N

**Long term:** 1500N

## Fire Characteristics:

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**Flame Propagation:** IEC60332-1

**Low Smoke Capacity:** IEC61034-1/2

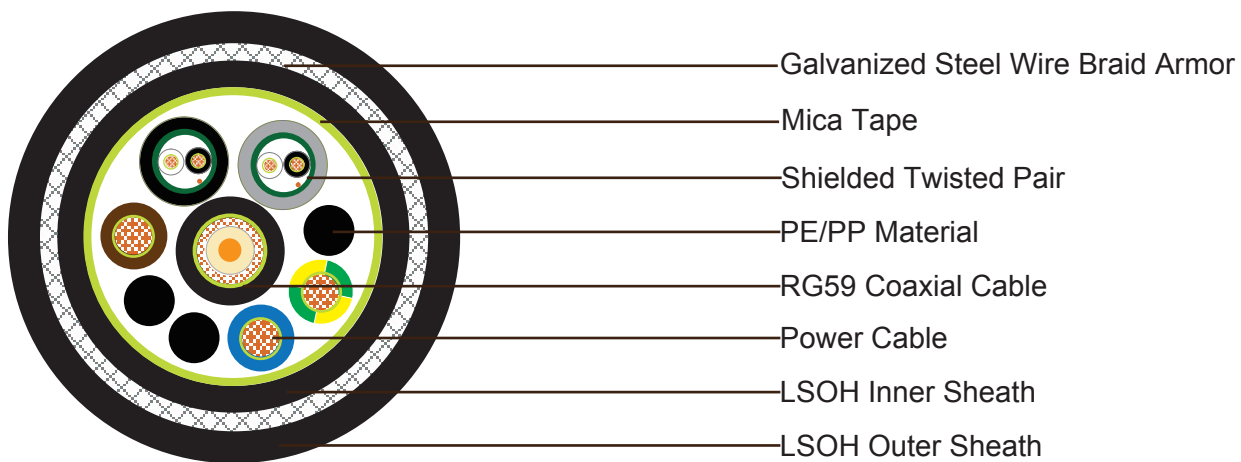
**Halogen Free:** IEC60754-1/2

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### 1x RG59 + 3x2.5 Power Cable + 2x1x2x24AWG Data Pairs SWB LSZH Sheathed Fire Resistant & Mud Resistant Composite Cable

#### Construction:



#### 1x750hm RG59 Coaxial Cable( in the center of the cable core)

<b>Conductor</b>	0.58mm Solid copper conductor
<b>Insulation</b>	Polyethylene. Thickness 1.56mm
<b>Shield</b>	Braid of bare copper wire. Coverage ≥ 95%
<b>Fire Barrier</b>	Mica tape
<b>Sheath</b>	FRLSZH sheath. Nominal outer diameter 6.7mm
<b>Sheath Color</b>	Black

#### 2x1x2x24AWG Shielded Twisted Pair (around coaxial cable)

<b>Conductor</b>	7/0.2mm Stranded tinned copper
<b>Fire Barrier</b>	Mica tape
<b>Insulation</b>	PVC material. Thickness 0.7mm
<b>Insulation Color</b>	Black and white
<b>Shield</b>	Aluminium polyester tape
<b>Drain Wire</b>	24 AWG stranded tinned copper drain wire
<b>Sheath</b>	FRLSZH sheath. Nominal outer diameter 8.5mm. Thickness 0.8mm



## Composite Cables

Sheath Color	Black and Grey
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### 3x2.5mm<sup>2</sup> Power Cable ( around coaxial cable)

Conductor	2.5mm <sup>2</sup> Stranded tinned copper wire
Fire Barrier	Mica tape
Insulation	XLPE. Nominal outer diameter 4.2mm
Insulation Color	Blue, Brown and Green/Yellow

### Element Assembly

Filler	PE or PP material
Fire Barrier	Mica tape
Inner Sheath	Black FRLSZH, thickness 1.5mm
Aarmor	Galvanized steel wire braid, coverage 95%
Outer Sheath	FRLSZH, thickness 1.5mm, nominal outer diameter 31.0±2.0mm
Sheath Color	Black

## Electrical and Physical Properties @20°C:

### Coaxial Cable

Impedance: 75±3Ohm (@1MHz)

Max. Attenuation: 7.5dB/100m @50MHz

### Power Cable

Electrical Resistance: 7.56Ohm/km

Insulation Resistance: ≥5500 MOhm×km

### Data Pairs

Electrical Resistance: 90Ohm/km

Insulation Resistance: ≥200 MOhm×km

### Element Assembly:

Min Bending Radius: 420mm

Operating Temperature: -30°C/+80°C



### **Fire Performance:**

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**Low Smoke Capacity:** IEC61034-1/2

**Halogen Free:** IEC60754-1/2

**Flame Propagation:** IEC60332

**Fire Resistant:** IEC60331-21

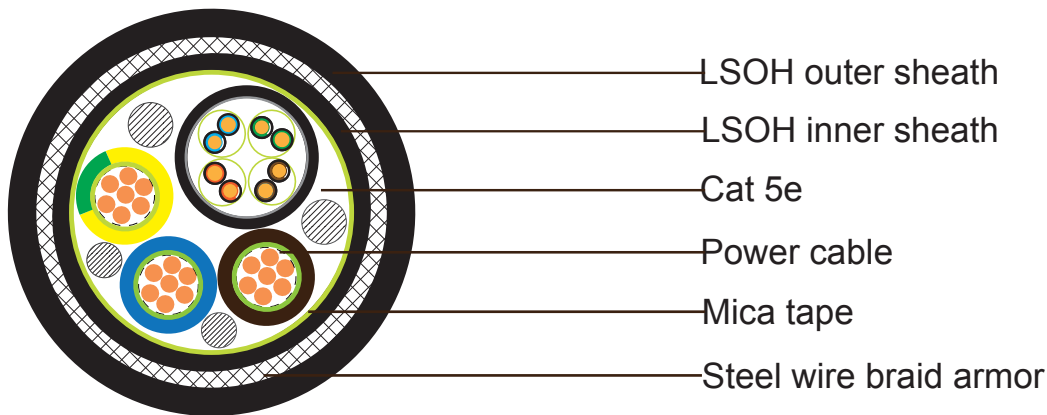
**Mud Resistant & other properties could be met upon request**

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### Cat5e+3x2.5 Power Cable SWB LSHZ Sheathed Fire Resistant & Mud Resistant Composite Cable

#### Construction:

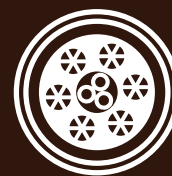


#### CAT5E 4x2x24AWG

<b>Conductor</b>	Solid copper conductor
<b>Insulation</b>	Polyethylene/Silicone Rubber
<b>Fire Barrier</b>	Mica tape
<b>Sheath</b>	FRLSZH sheath. Nominal outer diameter 9.5mm
<b>Sheath Color</b>	Black

#### 3x2.5mm<sup>2</sup> Power Cable

<b>Conductor</b>	2.5mm <sup>2</sup> Stranded tinned copper wire
<b>Fire Barrier</b>	Mica tape
<b>Insulation</b>	XLPE. Nominal outer diameter 5.0mm
<b>Insultion Color</b>	Blue, Brown and Green/Yellow



## Composite Cables

### Element Assembly

Filler	PE or PP material
Fire Barrier	Mica tape
Inner Sheath	Black FRLSZH, thickness 1.0mm
Armor	Galvanized steel wire braid, coverage 95%
Outer Sheath	FRLSZH, thickness 1.6mm, nominal outer diameter 23.0±1.5mm
Sheath Color	Black

### Electrical and Physical Properties @20°C:

#### Cat5e

FREQ (MHz)	NEXT(dB/100m) Minimum Value/Typical Value/ Standard Value	IL (dB/100m)	SRL (dB/100m) Minimum Value/Typical Value/ Standard Value
1	64.0/71.0/62.0	2.0	24.5/26.0/23.0
4	55.0/62.0/53.0	4.0	24.5/26.0/23.0
8	49.5/57.0/48.0	5.7	24.5/26.0/23.0
10	49.0/56.0/47.0	6.4	24.5/26.0/23.0
16	44.9/52.0/44.0	8.2	24.5/26.0/23.0
20	42.5/48.0/42.0	9.2	24.5/26.0/23.0
25	42.0/48.0/41.0	10.3	24.5/26.0/23.0
31.25	40.6/48.0/39.0	11.6	22.5/24.0/21.0
62.5	36.1/43.0/35.0	16.9	19.5/22.0/18.0
100	34.0/40.0/32.0	21.8	17.5/20.0/16.0

#### Power Cable

Electrical Resistance: 12.1Ohm/km

Insulation Resistance: ≥5500 MOhm×km

#### Element Assembly:

Min Bending Radius: 420mm

Operating Temperature: -30°C/+80°C

Characteristic Impedance	100 Ohm±15%
Nominal Velocity of Propagation (NVP)	69%
Max. Dc Resistance	9.38 Ohm/100m
Max. Resistance Unbalance	5%
Max. Mutual Capacitance:	5.6 nF/100m
Maximum Capacitance Unbalance	330 pF/100m
Max. Propagation Delay Skew	30 ns/100m
Max. Propagation Delay	536 ns/100m@100 mhz
Max. Pulling Load	80N

### Fire Performance:

Low Smoke Capacity: IEC61034-1/2

Halogen Free: IEC60754-1/2

Flame Propagation: IEC60332

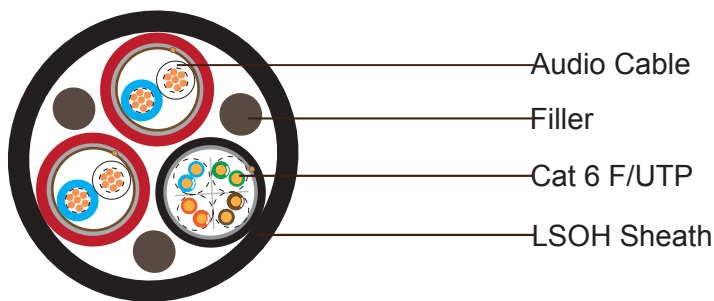
Fire Resistant: IEC60331-21

Mud Resistant & other properties could be met upon request

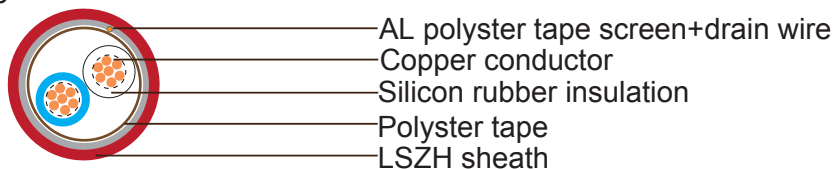


### 2X(2C1.5mm<sup>2</sup>) Audio Cable + Cat6 F/UTP LSZH Sheathed Unarmoured Composite Cable

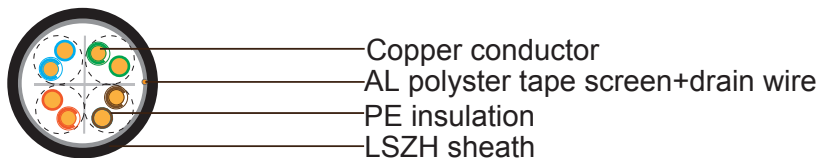
#### Construction:



Audio Cable



Cat 6 F/UTP



#### 2Cx1.5mm<sup>2</sup> Audio Cable

<b>Conductor</b>	1.5mm <sup>2</sup> Stranded copper wire, class 5 to IEC60228.
<b>Insulation</b>	Fire resistant silicone rubber compound. Nominal thickness 0.8mm.
<b>Insulation Color</b>	White and blue.
<b>Screen</b>	Alumminum tape with tinned copper drain wire.
<b>Sheath</b>	LSZH sheath. Nominal thickness 1.0 mm.
<b>Sheath Color</b>	Red.
<b>General Standard</b>	Basic design to EN50288-7.



## Composite Cables

### Cat 6 F/UTP

<b>Conductor</b>	24 AWG stranded plain copper.
<b>Insulation</b>	PE material. Nominal diameter is 0.97mm.
<b>Insulation Color</b>	White-orange, Orange; White-blue, Blue; White-green, Green; White-brown, Brown.
<b>Screen</b>	Alumminum tape with tinned copper drain wire.
<b>Sheath</b>	LSZH sheath. Nominal overall diameter is 6.5 mm.
<b>Sheath Color</b>	Black or Grey or Blue. Other colors also available upon request.
<b>Applications</b>	IEEE 802.3: 10Base-T; 100Base-T; 1000Base-T; IEEE 802.5 16 MB; ISDN; TPDDI; ATM.
<b>Standards</b>	ISO/IEC 11801, IEC 61156-5, EN 50173, ANSI/TIA 568B.

### Element Assembly

<b>Filler</b>	PP material .
<b>Wrapping Tape</b>	Polyester tape or woven tape.
<b>Outer Sheath</b>	High flexible LSZH. Nominal thickness 1.8mm.
<b>Sheath Color</b>	Black. Other colors also available upon request.

## Electrical and Physical Properties@20°C:

### Audio Cable

**Max. Electrical Resistance:** 12.3 Ohm/km

**Min. Insulation Resistance:** 1000 MOhm/km

**Operating Temperature:** -20°C/+90°C

**Voltage rating:** 300/500V

**Insulation spark test:** 7000 V r.m.s./H.F.

**Max. Attenuation:** 0.88 dB/km @800HZ

**Max. Inductance:** 0.75mH/km

### Cat6 F/UTP (1-250MHz)

**Max. Electrical Resistance:** 93.8 Ohm/km

**Min. Insulation Resistance:** 2000 MOhm/km

**Operating Temperature:** -20°C/+70°C



**Max. Resistance Unbalance:** 5%  
**Max. Mutual Capacitance:** 5.6nF/100m  
**Max. Capacitance Unbalance:** 330pF/100m  
**Characteristic Impedance :**  $100 \pm 15$  (1-250MHz)  
**Nominal Velocity of Propagation:** 69%  
**Max. Propagation Delay :** 536ns/100m@100MHz  
**Max. Propagation Delay skew :** 45ns/100m(1-125MHz)  
**Test voltage (DC, 1 min) Core/Core :** 1000V

## Fire Performance:

---

### Audio Cable

**Fire Resistance :** IEC60331  
**Flame Retardance:** IEC60332-1-2  
**Fire Propagation :** IEC60332-3-22  
**Halogen Free:** IEC60754-1/2  
**Low Smoke Capacity:** IEC61034-1/2  
**Oxygen Index :** ISO 4589-2  
**Temperature Index :** ISO 4589-3

### Cat6 F/UTP

**Flame Retardance:** IEC60332-1-2  
**Fire Propagation :** IEC60332-3-22  
**Halogen Free:** IEC60754-1/2  
**Low Smoke Capacity:** IEC61034-1/2  
**Oxygen Index :** ISO 4589-2  
**Temperature Index :** ISO 4589-3

### Element Assembly

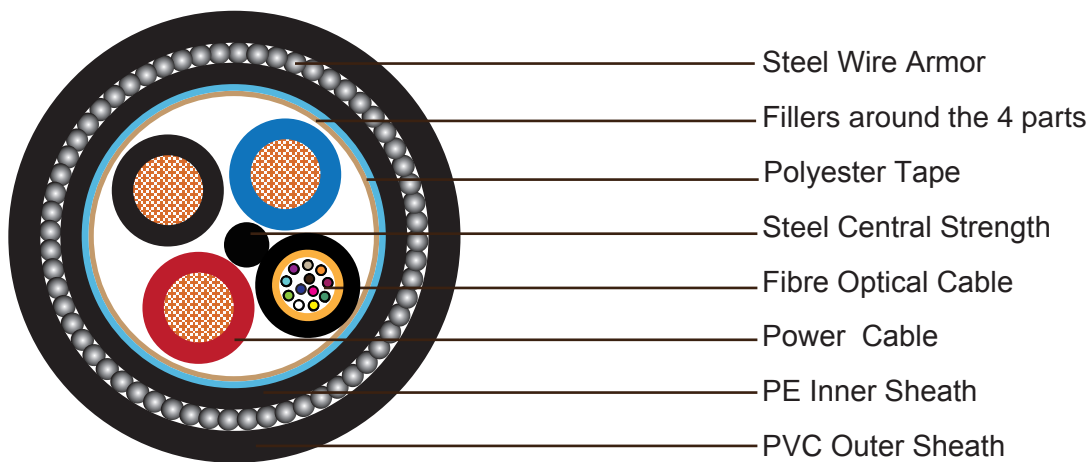
**Flame Retardance:** IEC60332-1-2  
**Fire Propagation :** IEC60332-3-22  
**Halogen Free:** IEC60754-1/2  
**Low Smoke Capacity:** IEC61034-1/2  
**Oxygen Index :** ISO 4589-2  
**Temperature Index :** ISO 4589-3

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.2



### 3x2.5 Power Cable + 12C Fiber Optic Cable SWA LSOH Sheathed Composite Cable

#### Construction:



#### 3x2.5mm<sup>2</sup> Power Cable

Conductor	7/0.67mm Stranded bare copper wire
Insulation	XLPE. Thickness is 0.7mm. Outer diameter 3.41mm

#### 12C Fiber Cable

No of fibers in loose tube	12 fibers
Loose tube	outer diameter: 2.2+/-0.2mm (Aramid yarn &PE Sheath would be used over the loose tube)

#### Element Assembly

Central Strength Member	Steel central strength member with PE/PVC coating if necessary
Fillers	PP fillers will be added around the 4 cable cores.
Wrapping Tape	Polyester tape is applied over cable core if necessary
Inner Jacket	PE, LSOH is optional, thickness is 1.0mm
Armor	Steel wire armour



<b>Sheath</b>	PE, LSOH is optional, thickness is 1.8mm, nominal outer diameter 16.2±2.0mm
<b>Sheath Color</b>	Black

## Optical Characteristics

Property	50/125 fibers	62.5/125 fibers
Attenuation @ 850 nm (dB/km)	≤ 3.0	≤ 3.2
Attenuation @ 1300 nm (dB/km)	≤ 1.0	≤ 1.2
Added Attenuation with Bending	≤ 0.5 dB (850 and 1300 nm) for 100 turns around a 75 mm mandrel	
Numerical Aperture	0.20 ± 0.02	0.275 ± 0.015
Bandwidth @ 850 nm	400 MHz*km	160 MHz*km
Bandwidth @ 1300 nm	800 MHz*km	500 MHz*km
Core diameter	50 ± 3 μm	62.5 ± 3 μm
Cladding diameter	125 ± 2 μm	
Core-Cladding offset	≤ 6%	
Cladding non-circularity	≤ 2%	
Core non-circularity	≤ 6%	
Coating diameter	245 ± 10 μm	
Coating / Cladding offset	12 μm	
Proof Test	≥ 0.69 GN/m <sup>2</sup> (100 kpsi)	

The fibers contain no splices.

## Mechanical Properties:

### Tensile load:

Operating: 3000N    Installation: 5000N

### Bending radius:

Operating: 15×OD    Installation: 28×OD

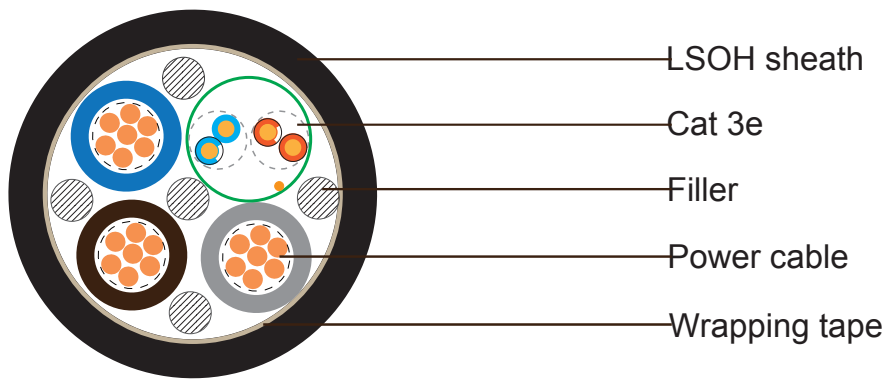
### Compressive load:

Short term: 5500N    Long term: 3500N



### Cat3e+3x16AWG Power Cable LSZH Sheathed Unarmored Composite Cable

#### Construction:



#### CAT3E 2x2x24AWG

<b>Conductor</b>	1/1.5mm Solid copper conductor
<b>Insulation</b>	Polyethylene, nominal thickness 0.2mm
<b>Color</b>	1st Pair: Blue    White / Blue Stripe 2nd Pair: Orange    White / Orange Stripe
<b>Overall screen</b>	100% Al/polyester foil screen with 0.5mmsq tinned copper drain wire. A 23 micron polyester tape is applied over the screening tape with a minimum 25% overlap, Nominal outer diameter 3.15mm

#### 3x16AWG Power Cable

<b>Conductor</b>	7/0.49mm stranded tinned copper wire
<b>Insulation</b>	XLPE. Nominal thickness 0.6mm, overall diameter 2.7mm
<b>Insultion Color</b>	Blue, Brown and Grey, or as per client's requirement



## Composite Cables

### Element Assembly

<b>Wrapping Tape</b>	Polyester tape or woven tape with PE or PP material filler(optional)
<b>Outer Sheath</b>	LSZH, thickness 1.2mm, nominal outer diameter 10.6±2.0mm
<b>Sheath Color</b>	Black

## Electrical and Physical Properties @20°C:

---

### Power Cable

**Temperature rating:** -20 to +90 °C

**Minimum bending radius:** 6 x Overall diameter

**Nom. conductor resistance at 20 °C:**

Power core: ≤14.7Ohm/Km

Data core: ≤89.3 Ohm/Km

**Rated voltage:** 300V

**Test voltage:** 1000V

## Fire Performance:

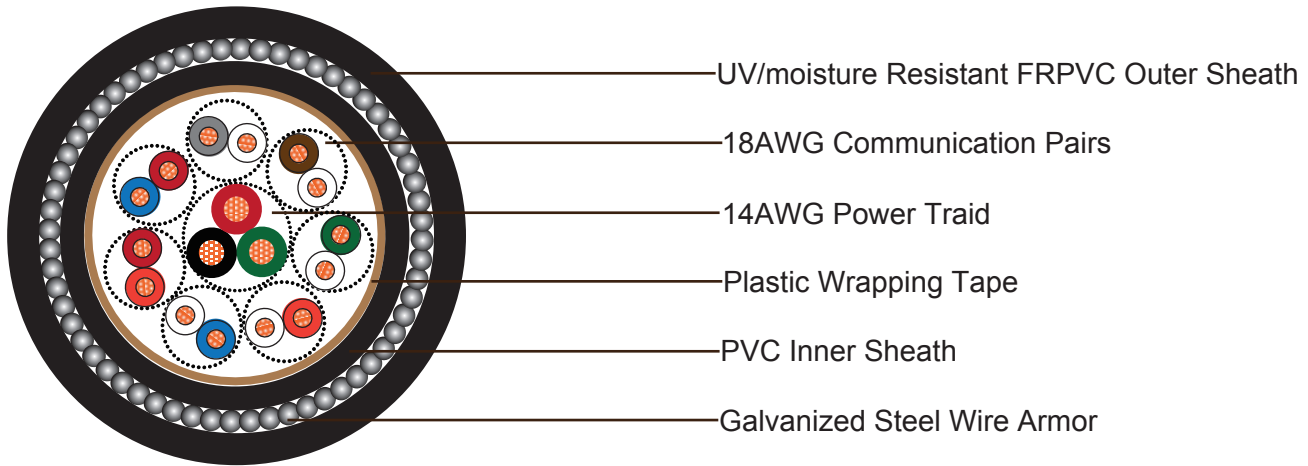
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**Flame retardant:** IEC60332 -1



### Fire Retardant SWA 17 Conductors UV/Moisture Resistant PVC Sheathed Composite Cable

#### Construction:



#### 14AWG Power cable

<b>Conductor</b>	14AWG(19/0.38mm) annealed copper
<b>Insulation</b>	PVC material. Thickness 0.8mm
<b>Insulation Color</b>	Red, black and green

#### 18AWG Communication pairs

<b>Conductor</b>	18AWG(16/0.27mm) annealed copper
<b>Insulation</b>	PVC material. Thickness 0.8mm
<b>Insulation Pair Color</b>	White & Blue, White & Orange, White & Green, White&Brown, White & Grey, Red & Blue, Red & Orange

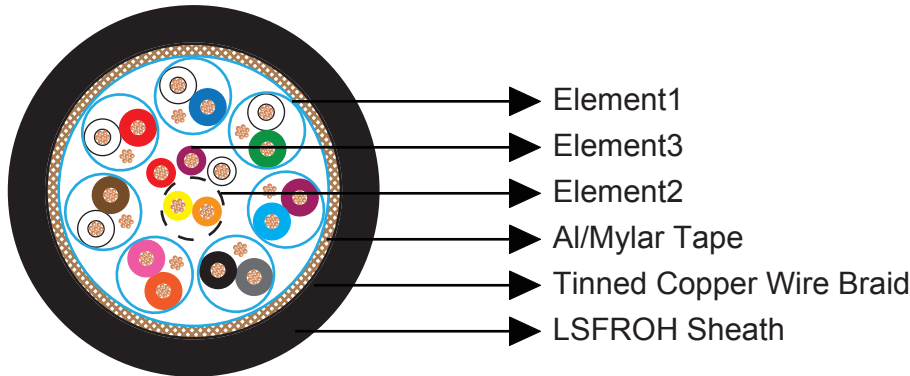
#### Element Assembly

<b>Core make-up</b>	Seven pairs and one triad are wrapped with plastic tape
<b>Bedding</b>	1.2mm PVC compound
<b>Armour</b>	1.6mm Galvanized steel wire
<b>Sheath</b>	1.65mm UV/moisture resistant FRPVC, Overall diameter 33.0±1.5mm
<b>Sheath Color</b>	Black



### DVI Rolling Stock Cable (7P+1P+3C)

#### Construction:



#### Element 1: 7PR×24AWG(Cu/PE/Individual Al-mylar Screen+ TC Drain Wire)

<b>Conductor</b>	Stranded annealed tinned copper wire, 7/0.20mm
<b>Insulation</b>	Polyethylene. Thickness 0.28mm. Outer diameter 1.16±0.05mm
<b>Core Identification</b>	1PR=White/Brown; 2PR=White/Red, 3PR=White/Green; 4PR=White/Blue, 5PR=Grey/Black, 6PR=Pink/Orange, 7PR=Light Blue/Purple
<b>Twisting</b>	The cores shall twisted together in pair, the lay between each twist shall not exceed 100 mm
<b>Individual Shield</b>	Aluminum/ mylar laminated tape applied with the metallic side down in electrical contact with a 24AWG tinned copper drain wire (7 strands formation). A 23 micron mylar tape is applied over the screening tape with a minimum 25% overlap.

#### Element 2: 1PR×24AWG(7/0.2mm) Stranded TC/PE

<b>Conductor</b>	Stranded annealed tinned copper wire, 7/0.20mm
<b>Insulation</b>	High density polyethylene. Thickness 0.15mm. Outer diameter 0.9mm
<b>Insulation Color</b>	Yellow and orange
<b>Twisting</b>	The cores shall twisted together in pair, the lay between each twist shall not exceed 100 mm

#### Element 3: 3C×24AWG(7/0.2mm) Stranded TC/PE

<b>Conductor</b>	Stranded annealed tinned copper wire, 7/0.20mm
<b>Insulation</b>	High density polyethylene. Thickness 0.15mm. Outer diameter 0.9mm
<b>Insulation Color</b>	Red/Purple/White



## Composite Cables

### Element Assembly

<b>Overall Screen</b>	Aluminum/ mylar tape
<b>Braid Shield</b>	Braid of tinned copper wire. Coverage $\geq 85\%$
<b>Outer Sheath</b>	LSFROH elastomeric sheath, Thickness 1.0mm. Outer diameter $12.5 \pm 1$ mm, other material is optional
<b>Sheath Color</b>	Black or as per the client's requirement

### Physical Properties:

---

Temperature rating:  $-25^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$

Minimum bending radius: 3 x Overall Diameter

### Electrical Properties:

---

Rated voltage: 30V

Max conductor resistance at  $20^{\circ}\text{C}$ :  $\leq 89.2$  Ohm/Km

Min insulation resistance:  $\geq 100\text{M}$  Ohm/m

Test voltage: Min. AC 250V/1second

Nom. mutual capacitance at 1KHz: 57 pF/m

### Fire Performance in General:

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#### Vertical flame propagation for a single insulated wire or cable

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)

#### Vertical flame spread of vertically mounted bunched wires or cables

EN 50266-2-4 + EN 50305; IEC 60332-3-24; NF C 32-070 2.2 (C1); VDE 0472 Teil 804

#### Low Smoke Emission

EN 50268-2; IEC 61034-2; NF C 32-073 ;NF C 20-902; NF F 16 101; VDE 0472 Teil 816

#### Halogen Free

EN 50267-2-1; IEC 60754-1; NF C 32-074; NF C 20-454; VDE 0472 Teil 815



### Low Corrosivity (Acidity & Conductivity)

EN 50267-2-2/3; IEC 60754-2; NF C 32-074; NF C 20-453; VDE 0472 Teil 813

### Low Toxicity

EN 50305; NF X 70-100; NF F 63 808; TM1-04; BS6853

### Smoke Index

NF F 63 808; BS6853; NF F 16 101

## Fire Performance Relating to Rolling Stock Application:

DIN 5510-2

BS 6853

NF F16 101

NF F 63 808



Fire Retardant  
NF C32-070-2.2(C1)  
IEC60332-3-24/EN50266-2-4



Flame Retardant  
NF C32-070-2.1(C2)  
IEC60332-1-2/EN50265-2-1



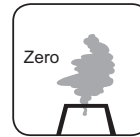
Low Toxicity  
EN 50305; NF X70-100/NF  
F63 808/TM1-04/BS 6853



Low Corrosivity  
IEC60754-2/EN50267-2-2/3  
NF C32-074/NF C20-453



Low Smoke Emission  
IEC 61034-2 / EN 50268-2  
NF C32-073/NF C 20-902



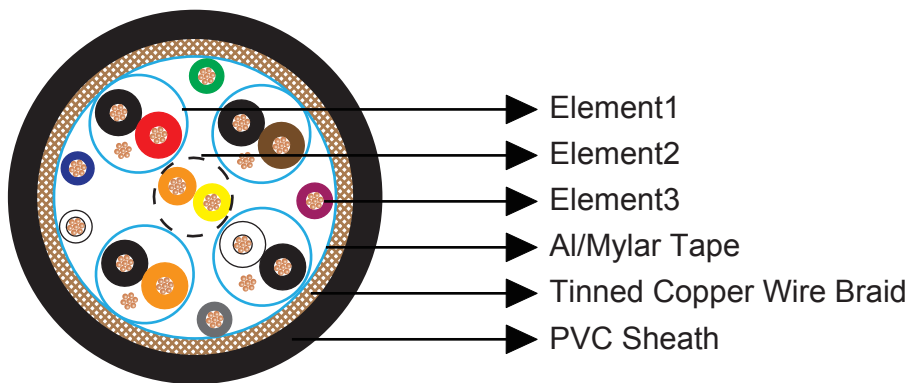
Zero Halogen  
IEC 60754-1/EN 50267-2-1  
NF C20-454

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### HDMI Bulk Cable(5 Pairs + 5 Conductors)

#### Construction:



#### Element 1: 4PR×30AWG(Cu/Foam Skin/Individual Al-mylar Screen+ TC Drain Wire)

<b>Conductor</b>	Stranded bare copper wire, 30AWG(7/38AWG)
<b>Insulation</b>	Foam skin. Thickness 0.235mm. Outer diameter 0.76±0.05mm
<b>Core Identification</b>	1PR=Black/White; 2PR=Black/Brown, 3PR=Black/red; 4PR=Black/Orange
<b>Twisting</b>	The cores shall twisted together in pair, the lay between each twist shall not exceed 100 mm
<b>Individual Shield</b>	Aluminum/ mylar laminated tape applied with the metallic side down in electrical contact with a 30AWG tinned copper drain wire (7 strands formation). A 23 micron mylar tape is applied over the screening tape with a minimum 25% overlap.

#### Element 2: 1PR×30AWG(7/38AWG) Stranded TC/PP

<b>Conductor</b>	Stranded bare copper wire, 30AWG(7/38AWG)
<b>Insulation</b>	PP. Thickness 0.13mm. Outer diameter 0.55±0.05mm
<b>Insulation Color</b>	Yellow and orange
<b>Twisting</b>	The cores shall twisted together in pair, the lay between each twist shall not exceed 100 mm



### Element 3: 5C×30AWG(7/38AWG) Stranded TC/PP

<b>Conductor</b>	Stranded bare copper wire, 30AWG(7/38AWG)
<b>Insulation</b>	PP. Thickness 0.13mm. Outer diameter 0.55±0.05mm
<b>Insulation Color</b>	Blue, Green, Violet, Grey and White

### Element Assembly

<b>Overall Screen</b>	Aluminum/ mylar tape
<b>Braid Shield</b>	Braid of tinned copper wire. Coverage ≥ 90%
<b>Outer Sheath</b>	LSFROH elastomeric sheath, Thickness 0.41mm. Outer diameter 5.2+0.19mm, other material is optional
<b>Sheath Color</b>	Black or as per the client's requirement

## Physical Properties:

---

Temperature rating: -25°C to +80°C

Minimum bending radius: 3 x Overall Diameter

## Electrical Properties:

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Rated voltage: 30V

Max conductor resistance at 20°C: ≤376 Ohm/Km

Min insulation resistance: ≥100M Ohm/m

Spark test: Min. AC 500V/0.15second

Nom. differential impedance: 100±5 Ohm

## Fire Performance in General:

---

**Vertical flame propagation for a single insulated wire or cable**

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)



## Composite Cables

### Vertical flame spread of vertically mounted bunched wires or cables

EN 50266-2-4 + EN 50305; IEC 60332-3-24; NF C 32-070 2.2 (C1); VDE 0472 Teil 804

### Low Smoke Emission

EN 50268-2; IEC 61034-2; NF C 32-073 ;NF C 20-902; NF F 16 101; VDE 0472 Teil 816

### Halogen Free

EN 50267-2-1; IEC 60754-1; NF C 32-074; NF C 20-454; VDE 0472 Teil 815

### Low Corrosivity (Acidity & Conductivity)

EN 50267-2-2/3; IEC 60754-2; NF C 32-074; NF C 20-453; VDE 0472 Teil 813

### Low Toxicity

EN 50305; NF X 70-100; NF F 63 808; TM1-04; BS6853

### Smoke Index

NF F 63 808; BS6853; NF F 16 101

## Fire Performance Relating to Rolling Stock Application:

DIN 5510-2

BS 6853

NF F16 101

NF F 63 808



**Fire Retardant**  
NF C32-070-2.2(C1)  
IEC60332-3-24/EN50266-2-4



**Flame Retardant**  
NF C32-070-2.1(C2)  
IEC60332-1-2/EN50265-2-1



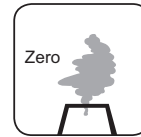
**Low Toxicity**  
EN 50305; NF X70-100/NF  
F63 808/TM1-04/BS 6853



**Low Corrosivity**  
IEC60754-2/EN50267-2-2/3  
NF C32-074/NF C20-453



**Low Smoke Emission**  
IEC 61034-2 / EN 50268-2  
NF C32-073/NF C 20-902



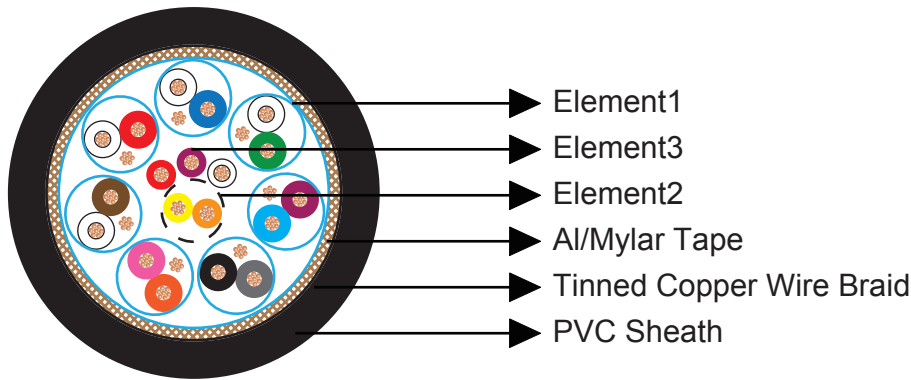
**Zero Halogen**  
IEC 60754-1/EN 50267-2-1  
NF C20-454

\* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.



### DVI Digital Dual Link Cable(8 Pair + 3c)

#### Construction:



#### Element 1: 7PR×28AWG(Cu/S.S. cell/Individual Al-mylar Screen+ TC Drain Wire)

<b>Conductor</b>	Stranded annealed tinned copper wire, 7/36AWG
<b>Insulation</b>	S.S. cell. Thickness 0.305mm. Outer diameter 0.98±0.05mm
<b>Core Identification</b>	1PR=White/Green; 2PR=White/Blue, 3PR=White/Red; 4PR=White/Brown, 5PR=Pink/Orange, 6PR=Black/Grey, 7PR=Light Blue/Purple
<b>Twisting</b>	The cores shall twisted together in pair, the lay between each twist shall not exceed 100 mm
<b>Individual Shield</b>	Aluminum/ mylar laminated tape applied with the metallic side down in electrical contact with a 28AWG tinned copper drain wire (7 strands formation). A 23 micron mylar tape is applied over the screening tape with a minimum 25% overlap.

#### Element 2: 1PR×28AWG(7/36AWG) Stranded TC/PE

<b>Conductor</b>	Stranded annealed tinned copper wire, 7/36AWG
<b>Insulation</b>	High density polyethylene. Thickness 0.165mm. Outer diameter 0.7±0.03mm
<b>Insulation Color</b>	Yellow and orange
<b>Twisting</b>	The cores shall twisted together in pair, the lay between each twist shall not exceed 100 mm



## Composite Cables

### Element 3: 3C×28AWG(7/36AWG) Stranded TC/PE

<b>Conductor</b>	Stranded annealed tinned copper wire, 7/36AWG
<b>Insulation</b>	High density polyethylene. Thickness 0.165mm. Outer diameter 0.7±0.03mm
<b>Insulation Color</b>	Red/Purple/White

### Element Assembly

<b>Overall Screen</b>	Aluminum/ mylar tape
<b>Braid Shield</b>	Braid of tinned copper wire. Coverage ≥ 85%
<b>Outer Sheath</b>	LSFROH elastomeric sheath, Thickness 0.97mm. Outer diameter 8.6 +0.2mm, other material is optional
<b>Sheath Color</b>	Black or as per the client's requirement

## Physical Properties:

---

Temperature rating: -25°C to +80°C

Minimum bending radius: 3 x Overall Diameter

## Electrical Properties:

---

Rated voltage: 30V

Max conductor resistance at 20°C: ≤237 Ohm/Km

Min insulation resistance: ≥100M Ohm/m

Spark test: Min. AC 500V/0.15second

Nom. differential impedance: 100±5 Ohm

Mutual capacitance: 46pF/m

## Fire Performance in General:

---

**Vertical flame propagation for a single insulated wire or cable**

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)



### Vertical flame spread of vertically mounted bunched wires or cables

EN 50266-2-4 + EN 50305; IEC 60332-3-24; NF C 32-070 2.2 (C1); VDE 0472 Teil 804

### Low Smoke Emission

EN 50268-2; IEC 61034-2; NF C 32-073 ;NF C 20-902; NF F 16 101; VDE 0472 Teil 816

### Halogen Free

EN 50267-2-1; IEC 60754-1; NF C 32-074; NF C 20-454; VDE 0472 Teil 815

### Low Corrosivity (Acidity & Conductivity)

EN 50267-2-2/3; IEC 60754-2; NF C 32-074; NF C 20-453; VDE 0472 Teil 813

### Low Toxicity

EN 50305; NF X 70-100; NF F 63 808; TM1-04; BS6853

### Smoke Index

NF F 63 808; BS6853; NF F 16 101

## Fire Performance Relating to Rolling Stock Application:

DIN 5510-2

BS 6853

NF F16 101

NF F 63 808



Fire Retardant  
NF C32-070-2.2(C1)  
IEC60332-3-24/EN50266-2-4



Flame Retardant  
NF C32-070-2.1(C2)  
IEC60332-1-2/EN50265-2-1



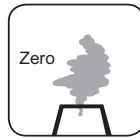
Low Toxicity  
EN 50305; NF X70-100/NF  
F63 808/TM1-04/BS 6853



Low Corrosivity  
IEC60754-2/EN50267-2-2/3  
NF C32-074/NF C20-453



Low Smoke Emission  
IEC 61034-2 / EN 50268-2  
NF C32-073/NF C 20-902



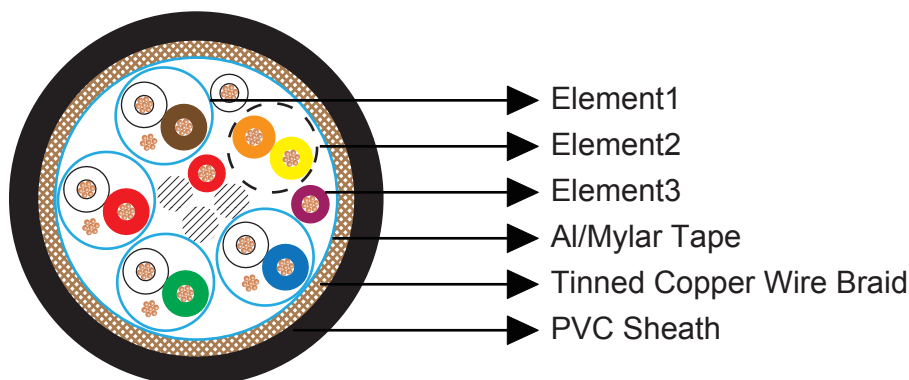
Zero Halogen  
IEC 60754-1/EN 50267-2-1  
NF C20-454

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### DVI Digital Single Link Cable(5 Pair + 3c)

#### Construction:



#### Element 1: 4PR×28AWG(Cu/S.S. cell/Individual Al-mylar Screen+ TC Drain Wire)

<b>Conductor</b>	Stranded annealed tinned copper wire, 7/36AWG
<b>Insulation</b>	S.S. cell. Thickness 0.305mm. Outer diameter 0.98±0.07mm
<b>Core Identification</b>	1PR=White/Brown, 2PR=White/Red, 3PR=White/Green, 4PR=White/Blue
<b>Twisting</b>	The cores shall twisted together in pair, the lay between each twist shall not exceed 100 mm
<b>Individual Shield</b>	Aluminum/ mylar laminated tape applied with the metallic side down in electrical contact with a 28AWG tinned copper drain wire (7 strands formation). A 23 micron mylar tape is applied over the screening tape with a minimum 25% overlap.

#### Element 2: 1PR×28AWG(7/36AWG) Stranded TC/PE

<b>Conductor</b>	Stranded annealed tinned copper wire, 7/36AWG
<b>Insulation</b>	High density polyethylene. Thickness 0.15mm. Outer diameter 0.7±0.03mm
<b>Insulation Color</b>	Yellow and orange
<b>Twisting</b>	The cores shall twisted together in pair, the lay between each twist shall not exceed 100 mm, Outer diameter 1.4mm



### Element 3: 3C×28AWG(7/36AWG) Stranded TC/PE

<b>Conductor</b>	Stranded annealed tinned copper wire, 7/36AWG
<b>Insulation</b>	High density polyethylene. Thickness 0.15mm. Outer diameter 0.7±0.03mm
<b>Insulation Color</b>	Red/Purple/White

### Element Assembly

<b>Overall Screen</b>	Aluminum/ mylar tape
<b>Braid Shield</b>	Braid of tinned copper wire. Coverage ≥ 85%
<b>Outer Sheath</b>	PVC sheath, Thickness 0.87mm. Outer diameter 7.3±0.2mm, other material is optional
<b>Sheath Color</b>	Black or as per the client's requirement

## Physical Properties:

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Temperature rating: -25°C to +80°C

Minimum bending radius: 3 x Overall Diameter

## Electrical Properties:

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Rated voltage: 30V

Max conductor resistance at 20°C: ≤237 Ohm/Km

Min insulation resistance: ≥100M Ohm/m

Spark test: Min. AC 500V/0.15second

Nom. differential impedance: 100±5 Ohm

Mutual capacitance: 46pF/m

## Fire Performance in General:

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**Vertical flame propagation for a single insulated wire or cable**

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)



## Composite Cables

### Vertical flame spread of vertically mounted bunched wires or cables

EN 50266-2-4 + EN 50305; IEC 60332-3-24; NF C 32-070 2.2 (C1); VDE 0472 Teil 804

### Low Smoke Emission

EN 50268-2; IEC 61034-2; NF C 32-073 ;NF C 20-902; NF F 16 101; VDE 0472 Teil 816

### Halogen Free

EN 50267-2-1; IEC 60754-1; NF C 32-074; NF C 20-454; VDE 0472 Teil 815

### Low Corrosivity (Acidity & Conductivity)

EN 50267-2-2/3; IEC 60754-2; NF C 32-074; NF C 20-453; VDE 0472 Teil 813

### Low Toxicity

EN 50305; NF X 70-100; NF F 63 808; TM1-04; BS6853

### Smoke Index

NF F 63 808; BS6853; NF F 16 101

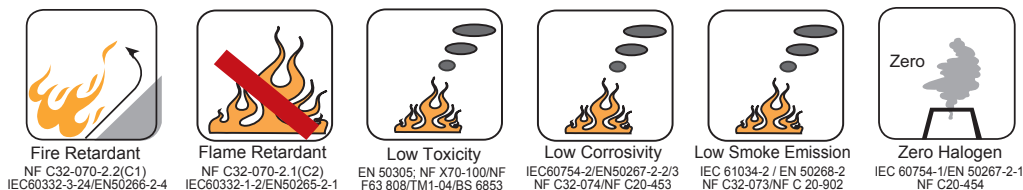
## Fire Performance Relating to Rolling Stock Application:

DIN 5510-2

BS 6853

NF F16 101

NF F 63 808

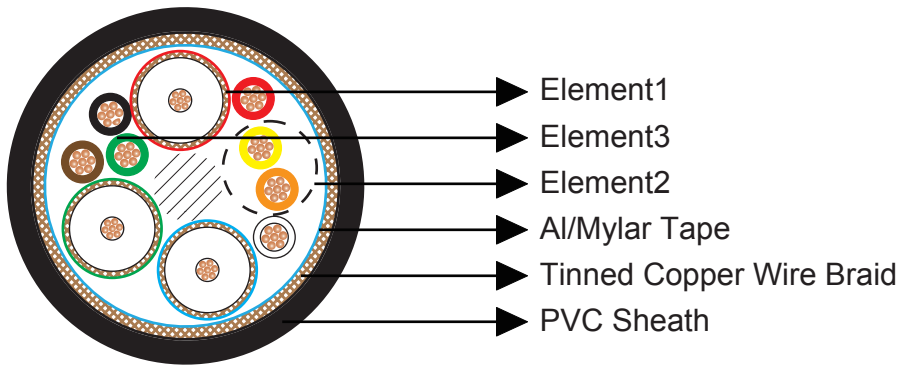


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### DVI Analog Cable(3 Coax, 1 Pair + 5c)

#### Construction:



#### Element 1: 3 Coaxial(Cu/S.S. cell/TC Braid+ PVC)

<b>Conductor</b>	Stranded annealed tinned copper wire, 30AWG(7/38AWG)
<b>Insulation</b>	S.S. cell. Thickness 0.505mm. Outer diameter 1.3±0.07mm
<b>Shield</b>	Tinned copper braid, 0.1mm, 90% coverage
<b>Sheath</b>	PVC, Thickness 0.219mm. Outer diameter 2.15mm
<b>Sheath Color</b>	Green/Blue/Red

#### Element 2: 1PRx28AWG(7/36AWG) Stranded TC/Foam PE+Skin

<b>Conductor</b>	Stranded annealed tinned copper wire, 7/36AWG
<b>Insulation</b>	High density polyethylene. Thickness 0.15mm. Outer diameter 0.7±0.05mm
<b>Insulation Color</b>	Yellow and orange
<b>Twisting</b>	The cores shall twisted together in pair, the lay between each twist shall not exceed 100 mm. Outer diameter 1.4mm

#### Element 3: 5Cx28AWG(7/36AWG) Stranded TC/PE

<b>Conductor</b>	Stranded annealed tinned copper wire, 7/36AWG
<b>Insulation</b>	High density polyethylene. Thickness 0.15mm. Outer diameter 0.7±0.03mm
<b>Insulation Color</b>	Red/Purple/White



## Composite Cables

### Element Assembly

<b>Overall Screen</b>	Aluminum/ mylar tape
<b>Braid Shield</b>	Braid of tinned copper wire. Coverage $\geq 85\%$
<b>Outer Sheath</b>	LSFROH elastomeric sheath, Thickness 0.87mm. Outer diameter 7.3 +0.2mm, other material is optional
<b>Sheath Color</b>	Black or as per the client's requirement

### Physical Properties:

---

Temperature rating:  $-25^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$

Minimum bending radius: 3 x Overall Diameter

### Electrical Properties:

---

Rated voltage: 30V

Max conductor resistance at  $20^{\circ}\text{C}$ :  $\leq 237$  Ohm/Km

Min insulation resistance:  $\geq 100\text{M}$  Ohm/m

Spark test: Min. AC 500V/0.15second

Nom. differential impedance:  $100 \pm 15$  Ohm

Mutual capacitance: 46pF/m

### Fire Performance in General:

---

#### Vertical flame propagation for a single insulated wire or cable

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)

#### Vertical flame spread of vertically mounted bunched wires or cables

EN 50266-2-4 + EN 50305; IEC 60332-3-24; NF C 32-070 2.2 (C1); VDE 0472 Teil 804

#### Low Smoke Emission

EN 50268-2; IEC 61034-2; NF C 32-073 ;NF C 20-902; NF F 16 101; VDE 0472 Teil 816



### Halogen Free

EN 50267-2-1; IEC 60754-1; NF C 32-074; NF C 20-454; VDE 0472 Teil 815

### Low Corrosivity (Acidity & Conductivity)

EN 50267-2-2/3; IEC 60754-2; NF C 32-074; NF C 20-453; VDE 0472 Teil 813

### Low Toxicity

EN 50305; NF X 70-100; NF F 63 808; TM1-04; BS6853

### Smoke Index

NF F 63 808; BS6853; NF F 16 101

## Fire Performance Relating to Rolling Stock Application:

DIN 5510-2

BS 6853

NF F16 101

NF F 63 808



Fire Retardant  
NF C32-070-2.2(C1)  
IEC60332-3-24/EN50266-2-4



Flame Retardant  
NF C32-070-2.1(C2)  
IEC60332-1-2/EN50265-2-1



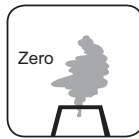
Low Toxicity  
EN 50305; NF X70-100/NF  
F63 808/TM1-04/BS 6853



Low Corrosivity  
IEC60754-2/EN50267-2-2/3  
NF C32-074/NF C20-453



Low Smoke Emission  
IEC 61034-2 / EN 50268-2  
NF C32-073/NF C 20-902



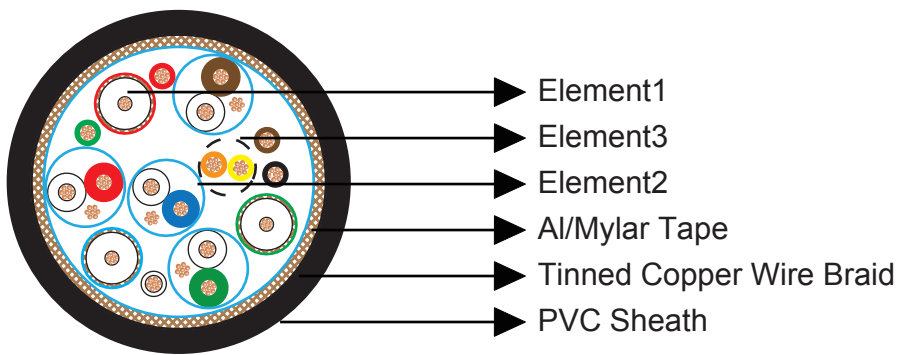
Zero Halogen  
IEC 60754-1/EN 50267-2-1  
NF C20-454

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### DVI Analog Cable(3 Coax, 4 Pair + 1Pair+5c)

#### Construction:



#### Element 1: 3 Coaxial(Cu/Foam PE+Skin/TC Braid+ PVC)

<b>Conductor</b>	Stranded annealed tinned copper wire, 30AWG(7/38AWG)
<b>Insulation</b>	Foam PE+Skin. Thickness 0.505mm. Outer diameter 1.3±0.07mm
<b>Shield</b>	Tinned copper braid, 0.1mm, 90% coverage
<b>Sheath</b>	PVC, Thickness 0.219mm. Outer diameter 2.15mm
<b>Sheath Color</b>	Green/Blue/Red

#### Element 2: 4PRx28AWG(7/36AWG) Stranded TC/Foam PE+Skin

<b>Conductor</b>	Stranded annealed tinned copper wire, 7/36AWG
<b>Insulation</b>	Foam PE+Skin. Thickness 0.25mm. Outer diameter 0.98±0.05mm
<b>Insulation Color</b>	Yellow and orange
<b>Individual Shield</b>	Aluminum/ mylar laminated tape applied with the metallic side down in electrical contact with a 28AWG tinned copper drain wire (7 strands formation). A 23 micron mylar tape is applied over the screening tape with a minimum 25% overlap.



### Element 3: 1P+5Cx28AWG(7/36AWG) Stranded TC/PE

<b>Conductor</b>	Stranded annealed tinned copper wire, 7/36AWG
<b>Insulation</b>	High density polyethylene. Thickness 0.12mm. Outer diameter 0.7±0.05mm
<b>Insulation Color</b>	Black/Brown/Red/Green/White

### Element Assembly

<b>Overall Screen</b>	Aluminum/ mylar tape
<b>Braid Shield</b>	Braid of tinned copper wire. 24x9x0.12mm
<b>Outer Sheath</b>	LSFROH elastomeric sheath, Thickness 0.51mm. Outer diameter 8.5 +0.2mm, other material is optional
<b>Sheath Color</b>	Black or as per the client's requirement

## Physical Properties:

Temperature rating: -25°C to +80°C

Minimum bending radius: 3 x Overall Diameter

## Electrical Properties:

Rated voltage: 30V

Max conductor resistance at 20°C: 28AWG ≤237 Ohm/Km

30AWG ≤376 Ohm/Km

Min insulation resistance: ≥100M Ohm/m

Nom. differential impedance: Pairs 100±15 Ohm

Coaxial 75 Ohm

## Fire Performance in General:

**Vertical flame propagation for a single insulated wire or cable**

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)



## Composite Cables

### Vertical flame spread of vertically mounted bunched wires or cables

EN 50266-2-4 + EN 50305; IEC 60332-3-24; NF C 32-070 2.2 (C1); VDE 0472 Teil 804

### Low Smoke Emission

EN 50268-2; IEC 61034-2; NF C 32-073 ;NF C 20-902; NF F 16 101; VDE 0472 Teil 816

### Halogen Free

EN 50267-2-1; IEC 60754-1; NF C 32-074; NF C 20-454; VDE 0472 Teil 815

### Low Corrosivity (Acidity & Conductivity)

EN 50267-2-2/3; IEC 60754-2; NF C 32-074; NF C 20-453; VDE 0472 Teil 813

### Low Toxicity

EN 50305; NF X 70-100; NF F 63 808; TM1-04; BS6853

### Smoke Index

NF F 63 808; BS6853; NF F 16 101

## Fire Performance Relating to Rolling Stock Application:

DIN 5510-2

BS 6853

NF F16 101

NF F 63 808



Fire Retardant  
NF C32-070-2.2(C1)  
IEC60332-3-24/EN50266-2-4



Flame Retardant  
NF C32-070-2.1(C2)  
IEC60332-1-2/EN50265-2-1



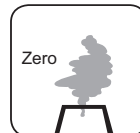
Low Toxicity  
EN 50305; NF X70-100/NF  
F63 808/TM1-04/BS 6853



Low Corrosivity  
IEC60754-2/EN50267-2-2/3  
NF C32-074/NF C20-453



Low Smoke Emission  
IEC 61034-2 / EN 50268-2  
NF C32-073/NF C 20-902



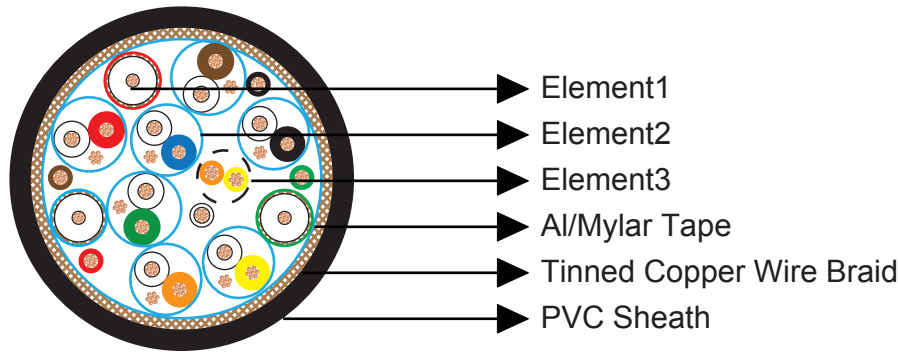
Zero Halogen  
IEC 60754-1/EN 50267-2-1  
NF C20-454

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### DVI Analog Cable(3 Coax, 7 Pair + 1Pair+5c)

#### Construction:

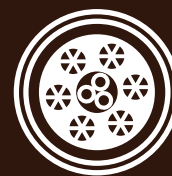


#### Element 1: 3 Coaxial(Cu/Foam PE+Skin/TC Braid+ PVC)

<b>Conductor</b>	Stranded annealed tinned copper wire, 30AWG(7/38AWG)
<b>Insulation</b>	Foam PE+Skin. Thickness 0.50mm. Outer diameter 1.37±0.05mm
<b>Shield</b>	Tinned copper braid, 0.1mm, 90% coverage
<b>Sheath</b>	PVC, Thickness 0.219mm. Outer diameter 2.15mm
<b>Sheath Color</b>	Green/Blue/Red

#### Element 2: 7PRx28AWG(7/36AWG) Stranded TC/Foam PE+Skin

<b>Conductor</b>	Stranded annealed tinned copper wire, 7/36AWG
<b>Insulation</b>	Foam PE+Skin. Thickness 0.25mm. Outer diameter 0.98±0.05mm
<b>Insulation Color</b>	Yellow and orange
<b>Individual Shield</b>	Aluminum/ mylar laminated tape applied with the metallic side down in electrical contact with a 28AWG tinned copper drain wire (7 strands formation). A 23 micron mylar tape is applied over the screening tape with a minimum 25% overlap.



## Composite Cables

### Element 3: 1P+5Cx28AWG(7/36AWG) Stranded TC/PE

<b>Conductor</b>	Stranded annealed tinned copper wire, 7/36AWG
<b>Insulation</b>	High density polyethylene. Thickness 0.12mm. Outer diameter $0.7 \pm 0.05$ mm
<b>Insulation Color</b>	Black/Brown/Red/Green/White

### Element Assembly

<b>Overall Screen</b>	Aluminum/ mylar tape
<b>Braid Shield</b>	Braid of tinned copper wire. 24x10x0.12mm
<b>Outer Sheath</b>	LSFROH elastomeric sheath, Thickness 0.51mm. Outer diameter $9.5 \pm 0.2$ mm, other material is optional
<b>Sheath Color</b>	Black or as per the client's requirement

## Physical Properties:

---

Temperature rating:  $-25^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$

Minimum bending radius: 3 x Overall Diameter

## Electrical Properties:

---

Rated voltage: 30V

Max conductor resistance at  $20^{\circ}\text{C}$ : 28AWG  $\leq 237$  Ohm/Km

30AWG  $\leq 376$  Ohm/Km

Min insulation resistance:  $\geq 100\text{M}$  Ohm/m

Nom. differential impedance: Pairs  $100 \pm 15$  Ohm

Coaxial 75 Ohm

## Fire Performance in General:

---

**Vertical flame propagation for a single insulated wire or cable**

EN 50265-2-1; IEC 60332-1-2; NF C 32-070 2.1 (C2)



### Vertical flame spread of vertically mounted bunched wires or cables

EN 50266-2-4 + EN 50305; IEC 60332-3-24; NF C 32-070 2.2 (C1); VDE 0472 Teil 804

### Low Smoke Emission

EN 50268-2; IEC 61034-2; NF C 32-073 ;NF C 20-902; NF F 16 101; VDE 0472 Teil 816

### Halogen Free

EN 50267-2-1; IEC 60754-1; NF C 32-074; NF C 20-454; VDE 0472 Teil 815

### Low Corrosivity (Acidity & Conductivity)

EN 50267-2-2/3; IEC 60754-2; NF C 32-074; NF C 20-453; VDE 0472 Teil 813

### Low Toxicity

EN 50305; NF X 70-100; NF F 63 808; TM1-04; BS6853

### Smoke Index

NF F 63 808; BS6853; NF F 16 101

## Fire Performance Relating to Rolling Stock Application:

DIN 5510-2

BS 6853

NF F16 101

NF F 63 808



Fire Retardant  
NF C32-070-2.2(C1)  
IEC60332-3-24/EN50266-2-4



Flame Retardant  
NF C32-070-2.1(C2)  
IEC60332-1-2/EN50265-2-1



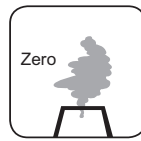
Low Toxicity  
EN 50305; NF X70-100/NF  
F63 808/TM1-04/BS 6853



Low Corrosivity  
IEC60754-2/EN50267-2-2/3  
NF C32-074/NF C20-453



Low Smoke Emission  
IEC 61034-2 / EN 50268-2  
NF C32-073/NF C 20-902



Zero Halogen  
IEC 60754-1/EN 50267-2-1  
NF C20-454

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