

Flexible Screened Cables

Flexible Screened Cable Family

Introduction

Flexible Screened Cable Family can be offered as an alternative to Belden cables. Armoured data cables or other jacket options (such as FRPVC , LSF or LSHF) can be offered.

- 1) **Multicore Overall Screened:** used in RS 232 instrumentation, and audio applications where balanced lines are not required.
- 2) **Multipair Overall Screened:** used for computers, point of sale, control systems, and RS 232 applications.
- 3) **Multipair Individual Screened:** used for monitoring, computer, instrumentation and audio applications where the individual screen can reduce crosstalk.
- 4) **Multipair Individual Shielded & Overall Screened:** used for monitoring, computer, instrumentation and audio application where the individual screen can reduce crosstalk.
- 5) **Low Capacitance Multipair Screened:** used for RS 422 and RS 485 applications requiring low capacitance and free interference between pairs. Ideal for CAD/CAM and other industrial applications requiring high data rates.

ORDERING CODE

CCA – BC-DEFGH-IJ-K-LM

A - Cable Series

FSN = FIRESCREEN

B - Screen Type

US = Unscreened; OS = Overall Screened; IS = Individual Pair Screened; IOS = Individual Pair and Overall Screened;
FRUS = Fire Resistant Unscreened; FROS = Fire Resistant Overall Screened; FRIS = Fire Resistant Individual Pair Screened;
FRIOS = Fire Resistant Individual Pair and Overall Screened

C - Voltage Rating

115 = 115/300V; 300 = 300/500V; 450 = 450/750V; 600 = 600/1000V

D - Insulation

2X = XLPE; Y = PVC; 2Y = PE; H = LSHF; O2Y = FOAM PE

E - Screening

ST = Aluminium/Polyester Tape; PIMF = Pair Shielded with Aluminium/Polyester Tape;
PIC = Pair Shielded with Copper Braid

F - Bedding

Y = PVC; 2Y = PE; H = LSHF

G - Armouring

SWA = Steel Wire Armouring; STA = Steel Tape Armouring; SWB = Steel Wire Braiding;
DSTA = Double Steel Tape Armouring

H - Sheathing

Y = PVC; Yu = Flame Retardant PVC; Yv = PVC with Reinforced Sheath; 2Y = PE; H = LSHF

I - Number of Cores/Pairs/Triads/Quad

2C = 2 Cores; 3C = 3 Cores; 4C = 4 Cores etc.

J - Cross Section Area or Wire Gauge

1.5S = 1.5mm²; 2.5 = 2.5mm²;
1.91S(39/0.21) = 1.91mm² (39/0.21mm);
24A(7) = 24AWG (7 strands);
20A(16/0.2) = 24AWG (16/0.2mm)

K - Standard (Option)

530811 = BS 5308 Part 1 Type 1; 530812 = BS 5308 Part 1 Type 2;
530821 = BS 5308 Part 2 Type 1; 530822 = BS 5308 Part 2 Type 2;
E965 = ESI 09-6 Issue 5; E966 = ESI 09-6 Issue 6;
B8774 = Belden Equivalent 8774 etc.

L - Fire Propagation Level (Option)

1 = IEC 60332-1; 3C = IEC 60332-3C; 3A = IEC 60332-3A

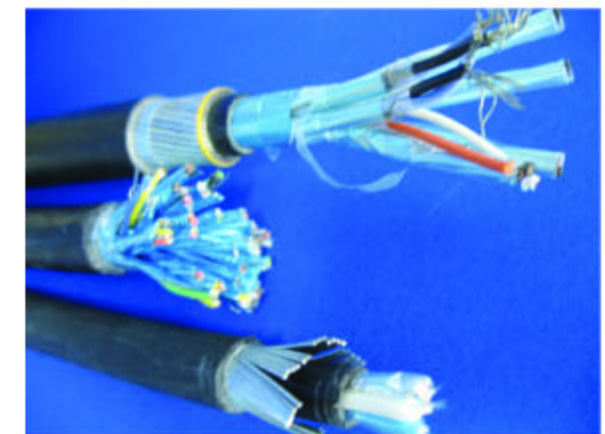
M - Fire Resistant Level (Option)

331 = IEC 60331; 6387CWZ = BS 6387 CWZ

For Example

CCFSN-OS300-2Y(St)H-4P24A(7)-530811-3C

Firescreen Series, Overall Aluminium Screening Type, 300/500V, XLPE Insulated, Overall Aluminium/Polyester Tape Screened, LSHF Sheathed, 4 Pairs, 24 AWG with 7 strands, to BS 5308 Part 1 Type 1, fire propagation to IEC 60332-3C.



Flexible Screened Cables

Multicore Overall Screened Data Cables

Caledonian Cables



Multicore overall screened data cables have individually insulated cores laid up in an aluminium/polyester tape. A tinned copper drain wire is laid under and in contact with the screen.

Applications

For RS 232 data transmission and instrumentation applications.

Construction

Conductor:	Tinned annealed high conductivity copper wire to BS 6360.
Insulation:	PVC/PE/PP/XLPE/LSF/LSHF
Overall Screen:	Aluminium/Polyester Tape or Copper Braiding
Sheath:	PVC/LSF/LSHF

Technical Data

Operating Temperature:	-5°C to 80°C
Nominal Voltage:	30V
Bending Radius:	12 × overall diameter
Nominal Impedance:	100 Ohm (RS 422 applications) 120 Ohm (RS 485 applications)
Mutual Capacitance:	42.5 pF/M



Electrical Characteristics

No. Cores	Insulation Type	Conductor Size(AWG)	Belden Equivalent (Nearest)	Maximum Conductor Resistance (Ohm/km)	Nominal Capacitance (pF/M)		Nominal Overall Diameter (mm)
					C1	C2	
3	PVC	24	9533	85	107	193	4.4
4	PVC	24	9534	85	107	193	4.7
5	PVC	24	9535	85	107	193	4.8
6	PVC	24	9536	85	107	193	5.3
7	PVC	24	9537	85	107	193	5.4
8	PVC	24	9538	85	107	193	5.8
10	PVC	24	9540	85	107	193	6.1
15	PVC	24	9541	85	107	193	7.4
25	PVC	24	9543	85	107	193	9.2
3	PVC	22	8735	54.8	105	185	5.4
6	PVC	20	9260	34.1	80	158	7.9
12	PVC	20	9261	34.1	80	158	10.9
4	FOAM PE	28	9791	148.6	40	70	5.9
4	PVC	18	9418	23	200	340	6.4
3	PE	22	8771	54.8	62	115	5.3
4	PE	22	8729	54.8	65	128	6.7
3	PE	20	8772	34.1	85	162	5.7
3	PE	18	8770	23	70	130	6.3
3	PE	16	8618	15.8	80	160	8.2
3	PP	22	9770	54.8	100	192	3.8

Remarks : Armoured versions for direct burial are available upon request.

Flexible Screened Cables

Multipair Overall Screened Data Cables



Multipair overall screened data cables have pairs laid up in aluminum/polyester tape. The cables incorporate a tinned copper drain wire under and in contact with the screen.

Applications

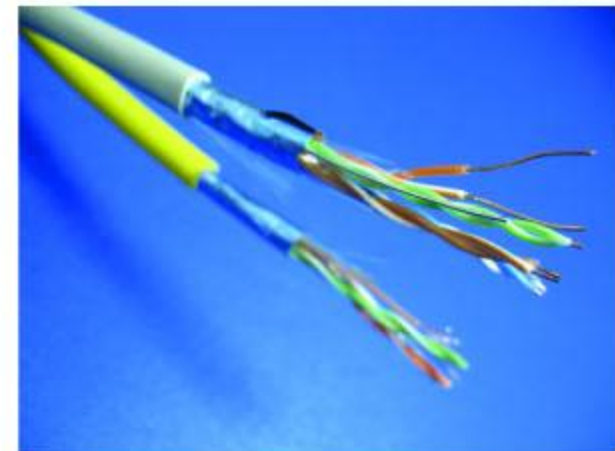
For RS 232 data transmission and instrumentation applications.

Construction

- Conductor:** Tinned annealed high conductivity copper wire to BS 6360.
- Insulation:** PVC/PE/PP/XLPE/LSF/LSHF
- Overall Screen:** Aluminium/Polyester Tape or Copper Braiding
- Sheath:** PVC/LSF/LSHF

Technical Data

- Operating Temperature:** -5°C to 80°C
- Nominal Voltage:** 30V
- Bending Radius:** 12 × overall diameter
- Nominal Impedance:** 100 Ohm (RS 422 applications)
120 Ohm (RS 485 applications)
- Mutual Capacitance:** 42.5 pF/M



Electrical Characteristics

No. of Pairs	Insulation Type	Conductor Size(AWG)	Belden Equivalent (Nearest)	Maximum Conductor Resistance (Ohm/km)	Nominal Capacitance (pF/M)		Nominal Overall Diameter (mm)
					C1	C2	
1	PVC	24	9501	85	127	235	3.96
2	PVC	24	9502	85	94	160	5.5
3	PVC	24	9503	85	94	160	5.8
4	PVC	24	9504	85	94	160	6.68
5	PVC	24	9505	85	94	160	7.3
6	PVC	24	9506	85	94	160	7.4
10	PVC	24	9510	85	94	160	9.5
19	PVC	24	9519	85	94	160	11.5
25	PVC	24	9525	85	94	160	12.9
1	PVC	22	8441	54.8	160	290	4.52
2	PVC	22	9302	54.8	110	160	6.3
4	PVC	22	9304	54.8	110	160	6.8
6	PVC	22	9306	54.8	110	160	8.3
9	PVC	22	9309	54.8	110	160	9.6
15	PVC	22	9315	54.8	110	160	11.7
19	PVC	22	9319	54.8	110	160	12.7
27	PVC	22	9327	54.8	110	160	15.8
1	PVC	20	9154	34.1	190	320	5
3	PE	24	9680	78.7	49	89	7.8
4	PE	24	9681	78.7	49	89	8.4
6	PE	24	9682	78.7	49	89	9.3
9	PE	24	9683	78.7	49	89	10.9
12.5	PE	24	9684	78.7	49	89	13
1	PE	22	8761	54.8	77	150	4.57
1	PE	20	8762	34.1	88	165	5.3
1	PE	18	8760	23	77	142	5.7
1	PE	16	8719	15.8	77	147	7.9
1	PE	14	8720	10	82	160	8.8
1	PE	12	8718	8	80	159	10.4
1	PP	22	8451	54.8	109	218	3.6
2	PP	22	8723	54.8	106	197	4.5

Remarks: Armoured versions for direct burial are available upon request.

Flexible Screened Cables

Multipair Individually Screened Data Cables

Caledonian Cables

Multipair individually screened data cables have individually screened pairs laid up with a tinned copper drain wire under and in contact with the screen.

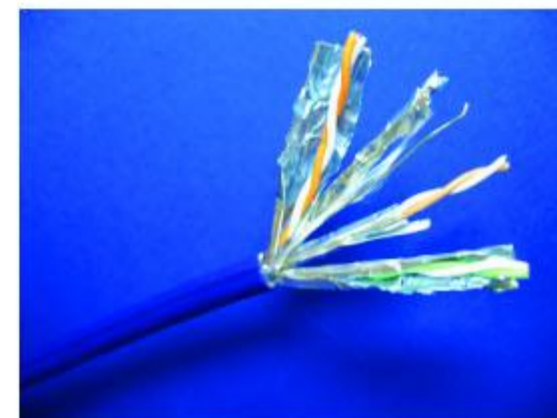
Applications Construction

RS 232 and RS 422 data transmission and instrumentation applications.

Conductor: Tinned annealed high conductivity copper wire to BS 6360.
Insulation: PVC/PE/PP/XLPE/LSF/LSHF
Individual Screen: Aluminium/Polyester Tape or Copper Braiding
Sheath: PVC/LSF/LSHF

Technical Data

Operating Temperature: -5°C to 80°C
Nominal Voltage: 30V
Bending Radius: 12 × overall diameter
Nominal Impedance: 100 Ohm (RS 422 applications)
 120 Ohm (RS 485 applications)
Mutual Capacitance: 42.5 pF/M



Electrical Characteristics

No. of Pairs	Insulation Type	Conductor Size(AWG)	Belden Equivalent (Nearest)	Maximum Conductor Resistance (Ohm/km)	Nominal Capacitance (pF/m)		Nominal Overall Diameter (mm)
					C1	C2	
9	PVC	22	8764	54.8	130	250	11
11	PVC	22	8765	54.8	130	250	12.1
15	PVC	22	8766	54.8	130	250	13.5
1	PE	24	8641	85	70	135	4.4
1	PE	22	8761	54.8	77	152	4.6
6	PE	22	8778	54.8	105	190	9.3
9	PE	22	8774	54.8	105	190	11
11	PE	22	8775	54.8	105	190	12
15	PE	22	8776	54.8	105	190	14.5
27	PE	22	8773	54.8	105	190	18
3	PE	20	9873	34.1	105	190	8.6
6	PE	20	9874	34.1	105	190	11.2
9	PE	20	9875	34.1	105	190	13.8
11	PE	20	9876	34.1	105	190	15.4
12	PE	20	9877	34.1	105	190	15.6
15	PE	20	9879	34.1	105	190	17.2
3	PE	18	9773	34.1	105	190	10.6
6	PE	18	9774	23	105	190	14.5
9	PE	18	9775	23	105	190	16.8
12	PE	18	9776	23	105	190	18.8
15	PE	18	9777	23	105	190	21
2	FOAM PE*	24	9729	85	45	82	8.8
3	FOAM PE*	24	9730	85	45	82	9.1
4	FOAM PE*	24	9728	85	45	82	10.5
6	FOAM PE*	24	9731	85	45	82	12.2
9	FOAM PE*	24	9732	85	45	82	14.8
11	FOAM PE*	24	9733	85	45	82	15.8
12	FOAM PE*	24	9734	85	45	82	16.5
15	FOAM PE*	24	9735	85	45	82	18.1
17	FOAM PE*	24	9736	85	45	82	18.7
19	FOAM PE*	24	9737	85	45	82	19.5
27	FOAM PE*	24	9738	85	45	82	22.5
3	PP	22	8777	54.8	105	190	7.1

*For RS 422 Application

Remarks: Armoured versions for direct burial are available upon request.

Flexible Screened Cables

Multipair Individually Shielded Data Cables with Overall Screen

Caledonian Cables

Multipair individually shielded data cables with overall screen have individually shielded pairs laid up in aluminium/polyester tape. The cables incorporate a tinned copper drain wire under and in contact with the screen.

Applications

RS 232, RS 422 and RS 485 data transmission and instrumentation applications.

Construction

Conductor: Tinned annealed high conductivity copper wire to BS 6360.
Insulation: PVC/PE/PP/XLPE/LSF/LSHF
Individual & Overall Screen: Aluminium/Polyester Tape or Copper Braiding
Sheath: PVC/LSF/LSHF

Technical Data

Operating Temperature: -5°C to 80°C
Nominal Voltage: 30V
Bending Radius: 12 × overall diameter
Nominal Impedance: 100 Ohm (RS 422 applications)
 120 Ohm (RS 485 applications)
Mutual Capacitance: 42.5 pF/M



Electrical Characteristics:

No. of Pairs	Insulation Type	Conductor Size(AWG)	Belden Equivalent (Nearest)	Maximum Conductor Resistance (Ohm/km)	Nominal Capacitance (pF/m)		Nominal Overall Diameter (mm)
					C1	C2	
2	PVC	24	8332	85	105	180	6.5
3	PVC	24	8333	85	105	180	7.2
4	PVC	24	8334	85	105	180	7.6
5	PVC	24	8335	85	105	180	7.7
7	PVC	24	8337	85	105	180	8.5
10	PVC	24	8340	85	105	180	9.9
15	PVC	24	8345	85	105	180	11.5
25	PVC	24	8355	85	105	180	14.3
2	PVC	22	8302	54.8	131	236	6.6
3	PVC	22	8303	54.8	120	210	7.7
4	PVC	22	8304	54.8	120	210	8.4
5	PVC	22	8305	54.8	120	210	8.5
7	PVC	22	8307	54.8	120	210	9.2
10	PVC	22	8310	54.8	120	210	11.4
15	PVC	22	8315	54.8	120	210	12.9
25	PVC	22	8325	54.8	120	210	15.9
1	FOAM PE*	24	9841	85	42	73	6.6
2	FOAM PE*	24	9842	85	42	73	9.8
3	FOAM PE*	24	9843	85	42	73	10.3
4	FOAM PE*	24	9844	85	42	73	11.3
2	PE	24	9829	85	51	90	8.1
3	PE	24	9830	85	51	90	8.4
4	PE	24	9831	85	51	90	9.1
5	PE	24	9832	85	51	90	9.5
7	PE	24	9833	85	51	90	10.7
10	PE	24	9835	85	51	90	12.4
12	PE	24	9836	85	51	90	12.8
18	PE	24	9837	85	51	90	15.8
25	PE	24	9838	85	51	90	18.5
2	PE	22	9855	54.8	51	90	6.9
2	FOAM POLYOLEFIN*	24	8102	85	42	73	7.6
5	FOAM POLYOLEFIN*	24	8105	85	42	73	8.9
10	FOAM POLYOLEFIN*	24	8110	85	42	73	11.9
15	FOAM POLYOLEFIN*	24	8115	85	42	73	14.1
25	FOAM POLYOLEFIN*	24	8125	85	42	73	16.8

*For RS 485 Application

Remarks: Armoured versions for direct burial are available upon request.

Flexible Screened Cables

Low Capacitance Multipair Individual or Overall Screened Data Cables

Applications

With low capacitance and high propagation speed of the insulation and its high immunity against external interference, these cables are specially suitable for extended distances at high data rates for RS 232, RS 422, RS 423 and RS 485 applications.

Construction

Conductor: Tinned annealed copper

Insulation: Foam Polyolefin/Polyethylene

Pairing: Twisted to form pairs

Screening:

1) Individual Pair Screening: Each Pair Polyester/Aluminium foil screened plus tinned copper drain wire (usually for RS 422 applications)

2) Overall Foil & Braid Screening: Overall Polyester/Aluminium foil screened plus tinned copper drain wire + Overall tinned Copper (usually for RS 485 applications)

Sheath: PVC/LSF/LSHF

Technical Data

Operating Temperature: -5°C to 80°C

Nominal Voltage: 30V

Bending Radius: 12 × overall diameter

Nominal Impedance: 100 Ohm (RS 422 applications)

120 Ohm (RS 485 applications)

Mutual Capacitance: 42.5 pF/m

Core Colour:

Black/Red; Black/White; Black/Green; Black/Blue (other core coding is available upon request)



Size	Maximum Conductor Resistance (Ohm/km)	Nominal Capacitance between Conductors (pF/M)	Nominal Overall Diameter (mm)	Approx. Cable Weight (kg/km)
1 × 2 × 0.22 sq mm (7/0.20 mm)	88	42.5	4.20	18
2 × 2 × 0.22 sq mm (7/0.20 mm)	88	42.5	5.90	31
4 × 2 × 0.22 sq mm (7/0.20 mm)	88	42.5	6.20	42
1 × 2 × 0.50 sq mm (16/0.20 mm)	40	42.5	6.30	36
2 × 2 × 0.50 sq mm (16/0.20 mm)	40	42.5	8.50	54
4 × 2 × 0.50 sq mm (16/0.20 mm)	40	42.5	9.40	80
1 × 2 × 1.00 sq mm (32/0.20 mm)	20	42.5	7.30	53
2 × 2 × 1.00 sq mm (32/0.20 mm)	20	42.5	11.40	100
4 × 2 × 1.00 sq mm (32/0.20 mm)	20	42.5	13.30	154