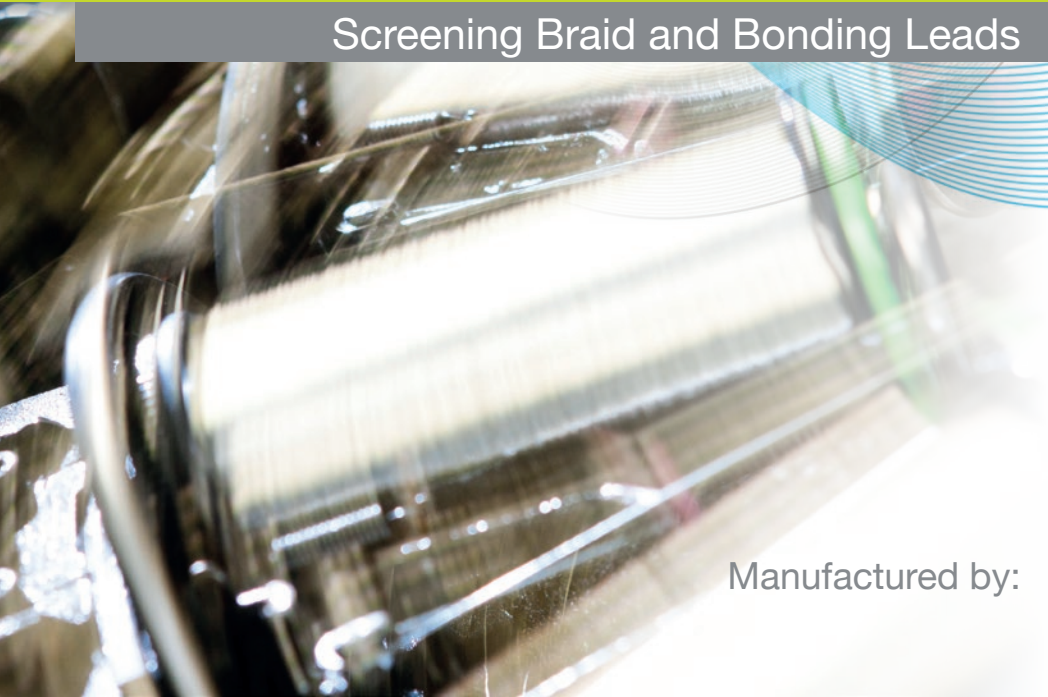




## Metal Braids

Screening Braid and Bonding Leads



Manufactured by:





IS-Cabletec who are part of the IS-Group of companies offer a range of specialist high performance screening braids, metal braids and bonding leads.

The comprehensive range of high quality products includes customised and market approved bonding leads, flat, round and rope braids, with various options of materials, terminations, insulation and identification:

### Custom Projects

In addition to the standard materials used to produce braids and bonding leads it is also possible to utilise even higher performance materials, as below.

**Silver-plated Copper:** For applications needing excellent conductivity at temperatures up to 200°C.

**Stainless Steel:** Offers outstanding corrosion resistance compared to many materials, particularly when in contact with salt water and high temperature capability up to 400°C.

**Nickel:** Pure nickel strand can be used at even higher temperatures (649°C) whilst still exhibiting excellent conductivity and corrosion resistance.

### Market Approvals

IS-Cabletec is a supplier to many of the major aerospace and defence companies of Europe and an influential contributor to the development and promotion of the EN4199 European standard.

### Airbus

ASNE0088 to 0092  
Round braid bonding leads, Tin and nickel plated

### Typhoon (Eurofighter)

JN1061 Flat braid bonding leads, Ni plated Cu  
JN1151 Flat and rope bonding leads, Ni plated Cu  
JN1006 Quick release bonding leads, Sn plated Cu  
JN1077 Quick release bonding leads, Ni plated Cu  
JN1068 Rope bonding leads, Al

### Typhoon, Tornado and Hawk

PAN6619 Quick release bonding leads

### General

LN9264, CSP48 and AGS2097  
Please contact us for more details.

## Screening Braids

- CSB commercial screening braid.
- HBT90 tested and certified to VG 96936-10
- HBT99 offering up to 99% optical coverage, tested and certified to VG 96936-10
- Lightweight alloy braid versions also available, please ask for details.
- Various material options including stainless steel.

## Bonding Leads

- CFBA4199, CBL150/260, CRL260, CFBA1068 bonding leads. Standards include EN4199 and ASNE0088, to ASNE0092.
- QBL150 Quick release BNC/TNC.
- AGS2097 and LN9264 legacy aircraft bonding leads .
- CFBA Custom series.
- FBL flat bonding leads.
- RBL round bonding leads.

## Power Shunts

- Cost effective and flexible alternative to power cables and solid bus-bars.
- Broad terminal and braid range.
- Large CSA up to 1000mm<sup>2</sup> and currents in excess of 400 amps.
- Offers space and weight saving.

## Braids and Custom

- Standard and specialised FB flat braids and RB/RS round and rope braid bonding leads.
- Custom over-braiding service, whether your need is for mechanical protection, earthing continuity or EMI screening.
- HEB high expansion braid, ideal for screening cable splice joints and cut through protection.
- Pull cable and fly/tail lead wire assembly's.

# CSB Commercial Screening Braid

Minimum 90% Optical Coverage



CSB is a commercial screening braid product, providing exceptional protection for wire and cable harnesses from electromagnetic interference (EMI).

Available in tin plated copper and provides a minimum optical coverage of 90%. It is supplied on a removable PVC former in order to maintain its physical integrity and to aid application. This product is recommended for wire systems requiring good levels of protection from EMI.

This commercial grade screening braid provides a cost effective method of screening wire bundles, harnesses, cables and conduit systems. The product can also be utilised for earth continuity purposes.

Operating Temperature: -65°C to +150°C

## CSB Tubular Braid - Minimum of 90% Optical Coverage

Part Number	Internal Ø	No. Carriers	Strand Size	Expansion Range		Reel Size	Maximum Weight*
				Min. mm	Max. mm		
CSB-030T	3.0	16	0.100	2.5	5.0	100	14.1
CSB-040T	4.0	24	0.127	3.5	7.5	100	23.2
CSB-050T	5.0	24	0.127	3.5	8.5	100	26.1
CSB-060T	6.0	24	0.127	4.5	9.5	100	29.5
CSB-075T	7.5	24	0.127	7.0	14.0	100	46.3
CSB-100T	10.0	36	0.127	8.0	22.0	100	58.8
CSB-125T	12.5	36	0.127	11.0	24.0	100	75.0
CSB-150T	15.0	36	0.127	14.5	30.0	100	77.2
CSB-200T	20.0	48	0.127	16.0	38.0	50	109.0
CSB-250T	25.0	48	0.202	21.0	39.0	50	218.2
CSB-300T	30.0	48	0.202	27.0	40.0	50	230.0
CSB-400T	40.0	48	0.202	36.0	62.0	50	305.0

\* Maximum weights are excluding former

# HBT 90 Standard Screening Braid

Minimum 90% Optical Coverage



HBT90 screening braid product that is a cost effective solution for shielding wire bundles from electromagnetic interference (EMI). In many applications cable screening is important to either minimise cross-talk within the cable or prevent internal or external sources of interference. This product can also be utilised for earth continuity purposes

Available in tin plated copper and provides a minimum optical coverage of 90%. Supplied on an internal former to aid installation and maintain the shape and form of braid in transit and prior to installation.

Operating Temperature: -65°C to +150°C

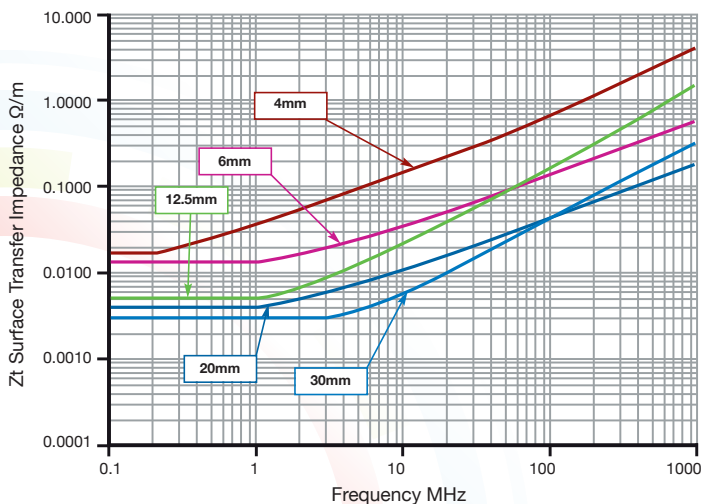
Tested and certified to VG 96936-10 available to order.

## HBT90 Tubular Braid - Minimum 90% Optical Coverage

Part Number	Internal Ø	No. Carriers	Strand Size	Expansion Range		VG Cross Ref.	Reel Size	Nom. Weight*
				Min. mm	Max. mm			
Tin Plated	mm		mm	Min. mm	Max. mm	for -2, tin plated	m	Kg/km
HBT90-03.0-2/2-F	3.0	16	0.127	2.0	3.5	VG 96936 T10 B001A	100	13.0
HBT90-04.0-2/2-F	4.0	16	0.127	3.0	5.0	VG 96936 T10 B002A	100	17.0
HBT90-05.0-2/2-F	5.0	24	0.127	4.0	6.0	VG 96936 T10 B003A	100	21.0
HBT90-06.0-2/2-F	6.0	24	0.127	5.0	7.0	VG 96936 T10 B004A	100	25.0
HBT90-10.0-2/2-F	10.0	24	0.161	7.0	12.0	VG 96936 T10 B005A	100	52.0
HBT90-12.5-2/2-F	12.5	24	0.161	11.0	13.0	VG 96936 T10 B006A	100	65.0
HBT90-15.0-2/2-F	15.0	24	0.202	13.0	18.0	VG 96936 T10 B007A	100	100.0
HBT90-20.0-2/2-F	20.0	36	0.250	17.0	23.0	VG 96936 T10 B008A	50	165.0
HBT90-25.0-2/2-F	25.0	36	0.250	22.0	28.0	VG 96936 T10 B009A	50	207.0
HBT90-30.0-2/2-F	30.0	36	0.320	27.0	36.0	VG 96936 T10 B0010A	50	310.0

\* Nominal weights are excluding the former

VG Approved HBT90 and HBT99 screening braid, conforming to the VG German Defence Standard, is also available against particular sizes (see tables) and should be notified as required at the time ordering, if required.



REG. Nr 8319  
Approved to  
VG96936-10



# HBT99 Performance Screening Braid

Up to 99% Optical Coverage



HBT99 screening braid is a premium product providing an exceptional protection for wire and cable harnesses from electromagnetic, electrostatic and radio frequency interference. Available in tin plated and nickel plated copper, providing optical coverage from 93% to 99%. Supplied on an internal former to aid installation and maintain the shape and form of braid in transit and prior to installation

## Operating Temperature:

- Nickel plated copper -65°C to +150°C
- Tin plated copper -65°C to +260°C

Tested and certified to VG 96936-10 when supplied as Tin plated Copper version (-2).

## HBT99 Tubular Braid - Maximum 99% to Minimum 93%, Optical Coverage

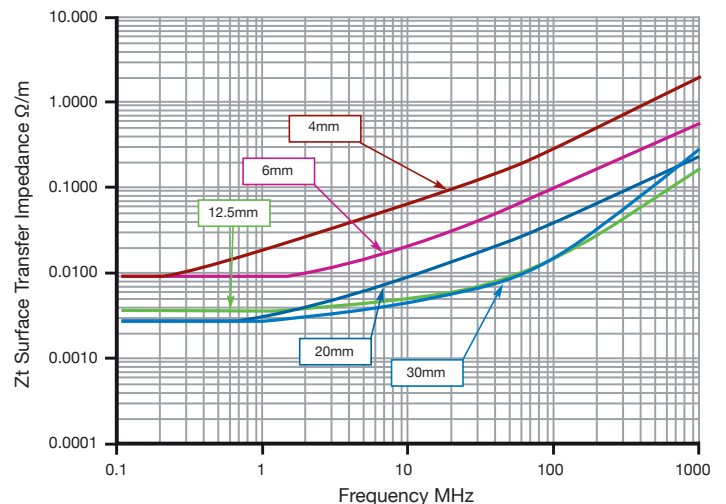
Part Number		Internal Ø	No. Carriers	Strand Size	Expansion Range		VG Cross Ref.	Reel Size	Max. Weight*
Tin Plated	Nickel Plated	mm		mm	Min. mm	Max. mm	for -2, tin plated only	m	Kg/km
HBT99-03.0-2/0-F	HBT99-03.0-3/0-F	3.0	16	0.100	2.5	5.0	VG 96936 T10 A001A	100	14.1
HBT99-04.0-2/0-F	HBT99-04.0-3/0-F	4.0	24	0.127	3.5	7.5	VG 96936 T10 A002A	100	23.2
HBT99-05.0-2/0-F	HBT99-05.0-3/0-F	5.0	24	0.127	3.5	8.5	-	100	26.1
HBT99-06.0-2/0-F	HBT99-06.0-3/0-F	6.0	24	0.127	4.5	9.5	VG 96936 T10 A003A	100	29.5
HBT99-07.5-2/0-F	HBT99-07.5-3/0-F	7.5	24	0.127	7.0	14.0	VG 96936 T10 A004A	100	46.3
HBT99-10.0-2/0-F	HBT99-10.0-3/0-F	10.0	36	0.127	8.0	22.0	VG 96936 T10 A005A	100	58.8
HBT99-12.5-2/0-F	HBT99-12.5-3/0-F	12.5	36	0.127	11.0	24.0	VG 96936 T10 A006A	100	75.0
HBT99-15.0-2/0-F	HBT99-15.0-3/0-F	15.0	36	0.127	14.5	30.0	-	100	77.2
HBT99-20.0-2/0-F	HBT99-20.0-3/0-F	20.0	48	0.127	16.0	38.0	VG 96936 T10 A007A	50	109.0
HBT99-25.0-2/0-F	HBT99-25.0-3/0-F	25.0	48	0.202	21.0	39.0	-	50	218.2
HBT99-30.0-2/0-F	HBT99-30.0-3/0-F	30.0	48	0.202	27.0	40.0	-	50	230.0
HBT99-35.0-2/0-F	HBT99-35.0-3/0-F	35.0	48	0.202	30.0	52.0	-	50	279.0
HBT99-40.0-2/0-F	HBT99-40.0-3/0-F	40.0	48	0.202	36.0	62.0	-	50	305.0

\* Maximum weights are excluding the former



REG. Nr 8319  
Approved to  
VG96936-10

VG Approved HBT90 and HBT99 screening braid, conforming to the VG German Defence Standard, is also available against particular sizes (see tables) and should be notified as required at the time ordering, if required.



# CFBA4199-04 Round

Tin or Nickel Plated Round Bonding Leads



CFBA4199-004 bonding leads are designed specifically for Aerospace and Military applications. They have undergone extensive mechanical and electrical testing, including flex testing to 250,000 cycles, sinusoidal and random vibration cycles, salt mist testing and temperature cycling. Manufactured from multi-layer round braid and available in both tin-plated and nickel plated copper in a variety of cross-sectional areas, lengths and termination options.

### Operating Temperature:

- Tin-plated Cu: -65°C to +150°C
- Nickel-plated Cu: -65°C to +260°C

### Specifications/Approvals

- Tested to EN4199-001

### Part Numbering example

**CFBA4199-004-N-7.0-250-E**

CFBA4199-004

Product standard

CFBA4199-004-N

Material:

**T** Tin-plated copper

**N** Nickel-plated copper

CFBA4199-004-N-7.0

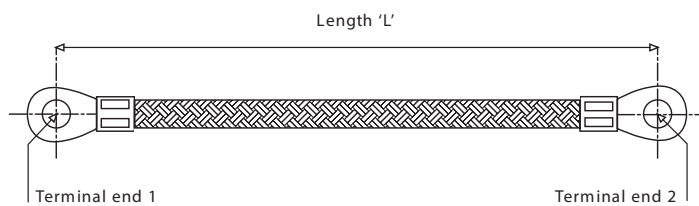
Cross Sectional Area, see tables

CFBA4199-004-N-7.0-250

Standard lengths, see table for standard lengths, custom lengths also available.

CFBA4199-004-N-7.0-250-E

Terminal code, See table.



Lengths	Availability for Cross-Sectional Area				
	'L' mm	1.4mm <sup>2</sup>	3.5mm <sup>2</sup>	4.5mm <sup>2</sup>	7.0mm <sup>2</sup>
63	✓			✓	
80	✓	✓	✓	✓	✓
100	✓	✓	✓	✓	✓
125	✓	✓	✓	✓	✓
160	✓	✓	✓	✓	✓
200	✓	✓	✓	✓	✓
250	✓	✓		✓	✓
315	✓			✓	
400	✓	✓	✓	✓	
500		✓		✓	
630				✓	
800				✓	

Terminal Code	End One		End Two		Availability for Cross-Sectional Area				
	Stud	Hole Ø	Stud	Hole Ø	1.4mm <sup>2</sup>	3.5mm <sup>2</sup>	4.5mm <sup>2</sup>	7.0mm <sup>2</sup>	13.0mm <sup>2</sup>
A	#6	3.68mm	#6	3.68mm	✓	✓	✓		
B	#8	4.34mm	#8	3.68mm	✓	✓	✓		
C	#10	5.00mm	#6	3.68mm	✓	✓	✓		
D	1/4"	6.73mm	#6	3.68mm	✓	✓	✓		
E	#8	4.34mm	#8	4.34mm	✓	✓	✓	✓	
F	#10	5.00mm	#8	4.34mm	✓	✓	✓	✓	
G	1/4"	6.73mm	#8	4.34mm	✓	✓	✓	✓	
H	#10	5.00mm	#10	5.00mm	✓	✓	✓	✓	✓
J	1/4"	6.73mm	#10	5.00mm	✓	✓	✓	✓	✓
K	1/4"	6.73mm	1/4"	6.73mm	✓	✓	✓	✓	✓
L	5/16"	8.33mm	#10	5.00mm	✓			✓	✓
M	5/16"	8.33mm	5/16"	8.33mm	✓			✓	✓
N	5/16"	8.33mm	1/4"	6.73mm					✓

# CBL150 and CBL260 Flat

Tin or Nickel Plated Flat Bonding Leads



Operating Temperature:

- Tin-plated Cu: -65°C to +150°C
- Nickel-plated Cu: -65°C to +260°C
- Insulated -65°C to +150°C

Specifications/Approvals

- Manufactured to EN4199-003 design.

Part Numbering example

**CBL260-10-CC-200-S**

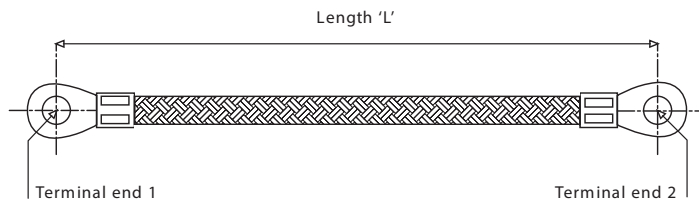
**CBL260-**

Part reference:

**CBL150** Tin plated copper

**CBL260** Nickel plated copper

The CBL range of flat style bonding leads are designed for aerospace and military applications, but are also suitable for higher performance industrial uses. Available with or without insulation in both tin-plated and nickel-plated copper in a range of cross-sectional areas. They are highly flexible, robust and reliable.



**CBL260-10**

Cross Sectional Area, see tables

**CBL260-10-CC**

Terminal code, see tables

**CBL260-10-CC-200**

Length, Min. 50mm and above in 25mm increments

**CBL260-10-CC-200-S**

Insulated, Leave blank if insulation not required.

Terminal Availability: **CBL150** tin-plated copper (Sn/Cu) and **CBL260** nickel-plated copper (Ni/Cu)

Terminal Code	End Terminals		Availability for Cross-Sectional Area											
	Stud	Hole Ø	1.5mm <sup>2</sup>		4.0mm <sup>2</sup>		6.0mm <sup>2</sup>		10.0mm <sup>2</sup>		16.0mm <sup>2</sup>		25.0mm <sup>2</sup>	
			Sn/Cu	Ni/Cu	Sn/Cu	Ni/Cu	Sn/Cu	Ni/Cu	Sn/Cu	Ni/Cu	Sn/Cu	Ni/Cu	Sn/Cu	Ni/Cu
<b>A</b>	#6	3.68mm	✓	✓		✓								
<b>B</b>	#8	4.34mm	✓	✓	✓	✓	✓	✓						
<b>C</b>	#10	5.00mm	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	
<b>D</b>	1/4"	6.73mm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
<b>E</b>	5/16"	8.33mm			✓		✓	✓	✓	✓	✓	✓	✓	
<b>F</b>	3/8"	9.91mm							✓		✓	✓	✓	✓

Technical Information for Uninsulated **CBL260** (Nickel-plated copper) Leads

Braid cross-section	Min. Tensile Strength	Nom. resistance 100mm Length	Braid Resistance	Nominal Mass 100mm Length	Braid Mass
mm <sup>2</sup>	N	mΩ	mΩ per 25mm	g	g per 25mm
<b>1.5</b>	250	1.32	0.308	2.6	0.40
<b>4</b>	600	0.40	0.112	6.3	1.10
<b>6</b>	800	0.24	0.075	10.7	1.63
<b>10</b>	1200	0.14	0.046	18.4	2.90
<b>16</b>	1700	0.09	0.030	28.9	3.93
<b>25</b>	2200	0.06	0.015	43.2	7.85

# CRL260 and CFBA1068 High Flex

Nickel Plated Copper Bonding Leads



Offers exceptional levels of flexing, with outstanding resistance to corrosion and salt attack. When tested to the flex endurance test in EN4199-001, they withstand over 5 million cycles, outperforming other aerospace standard leads. Ideal for dynamic applications in exposed areas such as external aircraft doors and flaps.

Operating Temperature:

- Tin-plated Cu: -65°C to +150°C
- Nickel-plated Cu: -65°C to +260°C

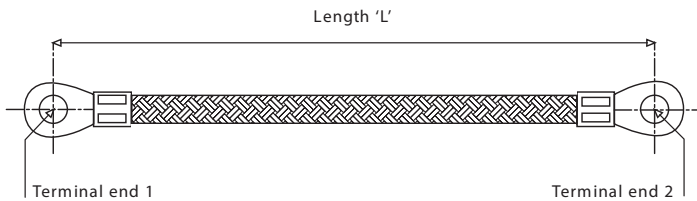
Part Numbering example

**CRL260-5.0-200-A**

CRL260-5.0 Cross Sectional Area, see table.

CRL260-5.0-200 Std Lengths, Min. 50mm and above in 25mm steps.

CRL260-5.0-200-A Terminal Code, see table.



Terminal Availability: **CRL260** nickel-plated copper

Code	Terminals	Availability for Cross-Sectional Area				
	Hole Ø	3.5mm <sup>2</sup>	5.0mm <sup>2</sup>	7.0mm <sup>2</sup>	10.0mm <sup>2</sup>	13.0mm <sup>2</sup>
<b>A</b>	3.68mm	✓				
<b>B</b>	5.00mm	✓	✓	✓	✓	✓
<b>C</b>	6.73mm	✓	✓	✓	✓	✓
<b>D</b>	8.33mm	✓	✓	✓	✓	✓
<b>E</b>	9.91mm	✓	✓	✓	✓	✓



Aluminium bonding leads designed for aerospace applications requiring electrical bonding in combination with lightweight. Supplied insulated and with a protective chromate conversion coating, making them particularly suited to applications in contact with aviation fuels.

Operating Temperature:

- Aluminium: +200°

Part Numbering example

**CFBA1068-BB-76.2**

**CFBA1068-** Part reference:

**CFBA1068-BB** Terminal Code Reference:

- A** M3 (3.61 to 3.86mm)
- B** M4 (4.90 to 5.16mm)
- C** M5/M6 (6.48 to 7.24mm)

**CFBA1068-BB-76.2** Standard Lengths - See table

Technical Information (nominal values)

Bonding Lead length	Resistance (between terminals)	Mass (uninsulated)
mm	mΩ	(g)
<b>76.2</b>	2.36	4.0
<b>101.6</b>	2.78	4.4
<b>127.5</b>	3.20	4.9
<b>152.4</b>	3.62	5.3
<b>177.8</b>	4.04	5.8
<b>203.2</b>	4.46	6.3
<b>228.6</b>	4.88	6.7
<b>254.0</b>	5.30	7.2

Bonding lead length is between terminal hole centres



# LN9264 and AGS2097 Legacy

Tin or Nickel Plated Copper Bonding Leads



LN9264 is a long established aerospace and defence specification, containing a series of uninsulated tin and nickel plated copper bonding leads terminated with a range of crimp style round terminals. Available in six standard cross-sectional areas and a range of lengths.

Operating Temperature:

- Tin-plated Cu: -65°C to +150°C
- Nickel-plated Cu: -65°C to +260°C

Part Numbering example

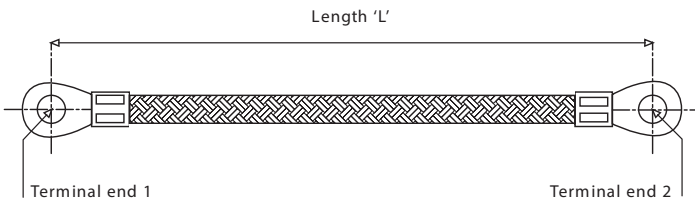
**CFBA9264-4-160-N**

CFBA9264-4 cross-section code reference, see table

CFBA9264-4-160 Standard Lengths: 60mm, 80mm, 100mm, 125mm, 160mm, 200mm and 250mm.

CFBA9264-4-160-N Material:

- T** Tin plated copper
- N** Nickel plated copper



Braid cross-section	Current	Resistance @ 20°C	Terminal Hole Ø
mm <sup>2</sup>	amps	Ω/1000m	mm
1.5	16	14.2	4.34
4	30	5.3	5.00
6	40	3.5	6.73
10	65	2.1	6.73
16	80	1.3	8.33
25	125	0.85	9.91



AGS2097 bonding leads are a series of aerospace approved bonding leads, generally but not exclusively found on legacy aircraft such as Tornado, Hawk and the C-130 (Hercules). It is available in one standard braid size of 0.7mm<sup>2</sup> and a combination of terminal sizes and lengths, see table.

Operating Temperature:

- Tin-plated Cu: -65°C to +150°C

Features and Benefits

- Aerospace approved
- 0.7mm<sup>2</sup> cross-sectional area
- Multiple lengths

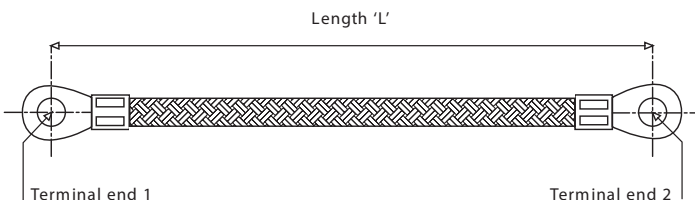
Part Numbering example

**CFBA2097-B-4-B**

CFBA2097-B Terminal code, End 1

CFBA2097-B-4 Standard Lengths, 1" increments with a minimum of 3"

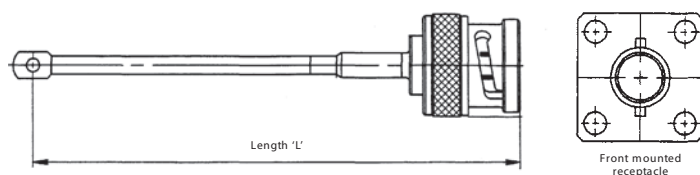
CFBA2097-B-4-B Terminal code - End 2



Terminal Code	Hole Diameter (mm)
<b>B</b>	3.68
<b>C</b>	5.00
<b>E</b>	6.73
<b>G</b>	8.33
<b>J</b>	9.91

# QBL150 Quick release

Tin Plated Copper Bonding Leads



## Technical Details: QBL150B (BNC Type)

Connector	BNC, MIL-C-39012 B (class 2, cat C)
Braid	2.64mm <sup>2</sup> , Tin plated copper
Current rating	36 amps (for 60 seconds)
Operating temperature	-55°C to +120°C
Insulation	PAN6480K04
Front mount receptacle	QBL150-BF
Rear mount receptacle	QBL150-BR
Ring terminal hole Ø	5mm or 6.73mm

	Length (mm) Terminals						
Nominal	50	75	100	125	150	175	200
Mass (g) 5mm hole	-	26.5	27.0	27.5	28.2	28.5	29.5
Mass (g) 6mm hole	-	26.9	27.4	27.9	28.6	28.9	29.9
Resistance (mΩ)	0.4	0.6	0.8	1.0	1.2	1.4	1.6

Quick release bonding leads provide an effective quick hand-releasable method of earth bonding electrical equipment. Particularly useful for applications where a temporary connection is required when equipment needs to be removed quickly over multiple times.

QBL bonding leads comprise a flat tin-plated copper braid with a crimped ring terminal at one end and a BNC or TNC connector at the other. Connection to equipment is via a mating receptacle, mounted on the equipment being earthed.

## Operating Temperature:

- Tin-plated Cu: -55°C to +120°
- Insulated: -55°C to +120°
- Nickel plated Cu, un-insulated offers -55°C to +260°C. Is also available please ask for details.

Part Numbering example

**QBL150-B-50-A-S**

QBL150-B Connector code reference:

**B** = BNC or **T** = TNC

QBL150-B-50 Standard Lengths:

Min. 50mm and above in 25mm increments

QBL150-B-50-A Terminal code reference:

**A** 5.0mm hole  
**B** 6.73mm hole

QBL150-B-50-A-S Leave blank if insulation not required

**S** Insulated

## Technical Details: QBL150T (TNC Type)

Connector	TNC, PAN6444A
Braid	2.64mm <sup>2</sup> , Tin plated copper
Current rating	36 amps (for 60 seconds)
Operating temperature	-55°C to +120°C
Insulation	PAN6480K04
Front mount receptacle	QBL150-TF
Ring terminal hole `ø	5mm or 6.73mm

	Length (mm) Terminals						
Nominal	50	75	100	125	150	175	200
Mass (g) 5mm hole	26.0	26.5	27.0	27.5	28.2	28.8	29.5
Mass (g) 6mm hole	26.4	26.9	27.4	27.9	28.6	29.2	29.9
Resistance (mΩ)	0.4	0.6	0.8	1.0	1.2	1.4	1.6



In addition to our standard products we are able to supply fully customised bonding leads, each with their own unique part number. Our bonding leads are constructed from an extensive range of manufactured braids and ropes combined with components from a multitude of termination, insulation and identification options, resulting in bonding leads specifically tailored to meet the demands of your application. We aim to keep the minimum order quantities low, lead times short and ensure that our product quality and customer service levels are consistently high.

### Material Options:

Plain copper • Tin-plated copper • Nickel-plated copper • Aluminium • Stainless steel • Nickel • Silver plated copper  
...other materials available

### Features & Benefits

- Broad range of materials and options
- Insulation and identification options
- Short lead times
- Low MOQs

For additional information on what is possible, or should you have a particular design or application in mind please contact our sales office for details.

Note: Temperature for uninsulated leads, max operating temperature for insulated leads depends on selected material.

### Terminations

- Crimped terminal
- Pressed ferrules

### Braid Styles

- Flat
- Round
- Rope
- Layered

### Insulation and Identification

- Various materials available

### Cross-sectional Area

- 0.5mm<sup>2</sup> to 1000mm<sup>2</sup>



### Material Selection

	Conductivity	Corrosion Resistance	Max. Operating Temperature*	Applications
Aluminium	Fair	Fair	371°C	Industrial, Aerospace
Plain Copper	Good	Fair	150°C	Industrial, Rail
Tin-plated Copper	Good	Good	150°C	Industrial, Defence
Stainless Steel	Fair	Excellent	400°C	Industrial, Offshore
Nickel-plated Copper	Excellent	Excellent	260°C	Aerospace, Marine
Pure Nickel	Excellent	Excellent	649°C	Aerospace, Industrial
Silver-plated Copper	Excellent	Good	200°C	Aerospace, Space

### Current Rating (Tin-plated Copper)

Cross-sectional Area	Current Rating (amps)
1.5	28
2.5	34
6.0	69
10.0	97
16.0	132
25.0	178
50.0	282
100.0	400

These current ratings are based on a temperature rise of 50°C above ambient

### Standard Terminal Options (others available)

Ring	Forked	Insulated	Pressed	Quick Release
Industrial, Defence, Aerospace	Industrial, Defence	Industrial, Defence, Aerospace	Industrial, Defence, Energy	Aerospace, Defence





# FBL Flat Standard

Tin Plated Copper Bonding Leads



Manufactured from tin plated copper flat braid and terminated each end with a pressed ferrule type connector. Pressed ferrule benefit is that you achieve maximum electrical contact with minimum resistance.

FBL bonding leads are flexible, robust, durable and reliable; perfect for the most demanding industrial applications. They are available with a wide range of standard lengths and hole sizes, and with or without insulation. In addition, they have low minimum order quantities and short manufacturing lead times

## Operating Temperature

- Tin-plated Cu: -65°C to +150°C
- Insulated: -40°C to +135°C

## Custom Design:

Other non-standard materials and additional terminal options are available on request, please contact our sales office for information.

Part Numbering example

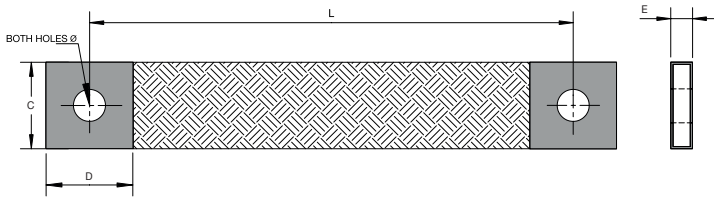
**FBL-4-200-M6-S**

FBL-4 Cross sectional area - See table

FBL-4-200 Standard Lengths, customer specified

FBL-4-200-M6 Hole sizes, see table

FBL-4-200-M6-S Leave blank if insulation not required  
**S** Insulated



## Pressed Ferrule Design Customisable

### Cross Sectional Area and Dimensional Information

Cross-sectional Area	Strand Size	Width C	Ferrule Length D	Thickness E	Max. Hole Size	Current Rating
mm <sup>2</sup>	mm	mm	mm	mm	mm	amps
4	0.15	10	10	2.0	6.5	50
6	0.15	13	15	2.0	8.5	65
10	0.15	14	13	3.0	10.5	90
16	0.20	19	20	3.5	15.0	125
25	0.15	25	25	4.0	18.0	160
35	0.20	25	25	4.5	18.0	220
50	0.20	25	25	5.0	18.0	260

### Hole Size Availability

Cross-sectional Area	Hole Size							
	M4	M5	M6	M8	M10	M12	M14	M16
	4.5mm	5.5mm	6.5mm	8.5mm	10.5mm	13.0mm	15.0mm	18.0mm
4	✓	✓	✓					
6	✓	✓	✓	✓				
10	✓	✓	✓	✓	✓			
16		✓	✓	✓	✓	✓	✓	
25		✓	✓	✓	✓	✓	✓	✓
35		✓	✓	✓	✓	✓	✓	✓
50			✓	✓	✓	✓	✓	✓

# RBL Rope Standard

Tin Plated Copper Bonding Leads



RBL bonding leads are stranded rope construction assemblies manufactured from annealed copper ETP1 manufactured to BS EN13602. They are robust, highly flexible and durable, making them perfectly suited to dynamic applications and those in high vibration environments.

In addition, RBL bonding leads boast large cross-sectional areas whilst keeping overall diameters to a minimum making them ideal for size restricted applications.

### Operating Temperature

- Tin-plated Cu: -65°C to +150°C
- Insulated: -40°C to +135°C

### Custom Design:

Other non-standard materials and additional terminal options are available on request, please contact our sales office for information.

Part Numbering example

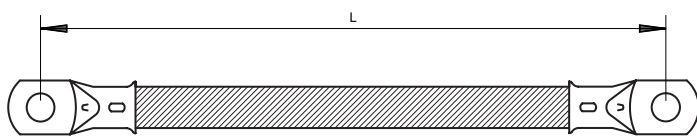
**RBL-4-200-M6-S**

RBL-4 Cross sectional area, see table

RBL-4-200 Standard Lengths, customer specified

RBL-4-200-M6 Hole sizes, see table:

RBL-4-200-M6-S Leave blank if insulation not required  
**S** Insulated



Multi Directional Flexibility  
 Durable and Robust Design

### Current Rating Information

Cross-sectional Area	Current Rating
mm <sup>2</sup>	amps
4	50
6	60
10	80
16	120
25	150
35	200
50	240

### Hole Size Availability

Cross-sectional Area	Hole Size							
	M4	M5	M6	M8	M10	M12	M14	M16
	4.5mm	5.5mm	6.5mm	8.5mm	10.5mm	13.0mm	15.0mm	18.0mm
4	✓	✓	✓	✓	✓			
6	✓	✓	✓	✓	✓	✓		
10		✓	✓	✓	✓	✓		
16		✓	✓	✓	✓	✓		
25		✓	✓	✓	✓	✓		
35		✓	✓	✓	✓	✓	✓	✓
50		✓	✓	✓	✓	✓	✓	✓

# Power Shunts Custom Solutions

Large Braid Connectors



Power shunts are large cross-sectional area braided connectors, customised and designed to meet the increasing demands of power distribution applications.

They are often produced with multi-layers of flat or round braids to achieve sizes up to 1000mm<sup>2</sup> and to carry currents in excess of 400 amps.

Used as an alternative to solid bus-bars and power cable assemblies, power shunts are capable of carrying very high currents yet are flexible, robust, easy to install and cost effective.

### Ferrule Finishes:

Ferrules (end plates) are available with different plated finishes including; Tin, Nickel and Silver.

### Terminations:

High compaction • Maximum conductivity • Custom

### Braid Configuration:

Flat or round • Multi-layered • High flexibility options

### Insulation Jacket Options:

Fluid resistant • High temperature • LFH/Halogen Free

### Braid and Termination Selection

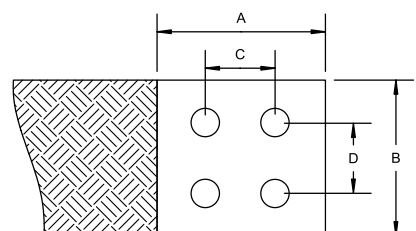
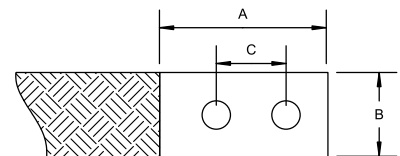
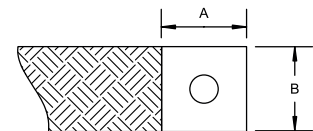
Material	Conductivity	Oxidisation Resistance	Operating Temperature
Plain Copper	Good	Fair	Medium
Tin-plated Copper	Good	Good	Medium
Nickel Plated Copper	Good	Excellent	Good
Silver Plated Copper	Excellent	Good	Good

Cross-sectional Area	Nom. Current Rating	A	B
mm <sup>2</sup>	amps	mm	mm
100	380	25	25
120	410	30	30
150	450	30	30
200	600	30	30

Cross-sectional Area	Nom. Current Rating	A	B	C
mm <sup>2</sup>	amps	mm	mm	mm
150	450	60	30	30
300	760	100	50	50
450	1000	100	50	50
600	1220	120	60	60

Cross-sectional Area	Nom. Current Rating	A	B	C	D
mm <sup>2</sup>	amps	mm	mm	mm	mm
300	940	70	70	40	40
500	1280	70	100	50	50
750	1500	70	100	50	50
1000	2000	100	100	50	50

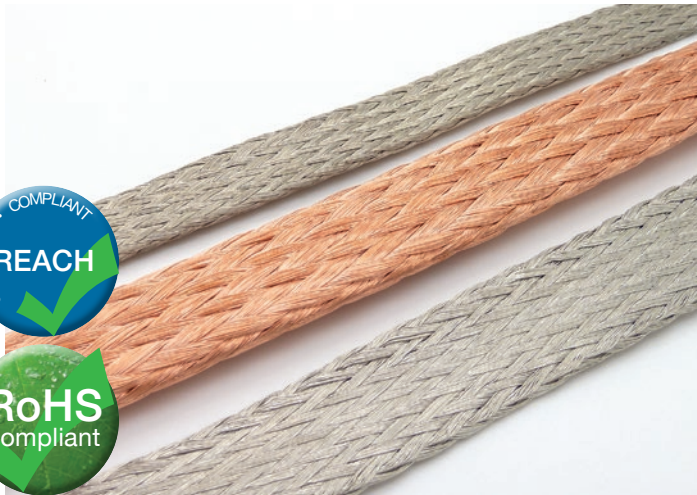
The current rating values in the tables are based on simple flat braid configurations, for a temperature rise of 50°C above ambient. The actual current rating of a power shunt will vary accordingly to the design and layout of the final configuration. Each unique design should be tested and evaluated fully to ascertain its suitability to meet the requirements of its application.





# FB Flat Braid

Custom and Standard Solutions



An extensive range of flat braids from a wide choice of materials, including stainless steel, aluminium, plain copper, tin-plated copper and nickel-plated copper.

The electrical performance of a braid is determined by selecting the correct cross sectional area from the table.

By changing the conductor strand size it is possible to improve the braid flexibility and vibration resistance whilst maintaining its current rating; the smaller the strand size, the more flexible the braid.

## Operating Temperature

- Tin-plated Cu: -65°C to +150°C
- Nickel-plated Cu: -65°C to +260°C
- Insulated: See table
- Other materials - contact us

## Standard Flat Braids - Product Details (Un-insulated Tin-plated copper)

Cross-sectional Area	Width and Depth	Current Rating
mm <sup>2</sup>	mm	amps
0.5	1.5 x 0.5	12
1.1	2.0 x 0.5	20
2.5	6.0 X 0.8	34
4.0	8.0 X 1.0	53
6.0	10.0 X 1.0	69
10.0	13.0 X 1.3	97
16.0	19.0 X 1.5	132
25.0	25.0 X 2.0	178
35.0	25.0 X 3.5	223
50.0	20.0 X 4.0	282
70.0	32.0 x 5.0	300

Current ratings are based on temperature rise of 50°C above ambient

## Features & Benefits

- Wide choice of materials
- Highly flexible
- Non-standard versions available
- Wire sizes from 0.05mm to 0.4mm

Specialist braids are available using numerous conductor materials as identified, such as using nickel and nickel plated copper for increased temperature and corrosion resistance and aluminium for applications requiring weight savings.

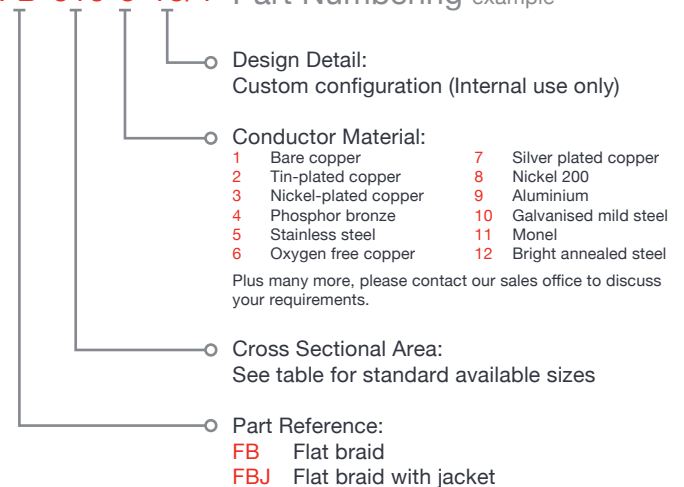
Flat braids are also available with the option of PVC or zero-halogen extruded jackets, providing mechanical protection and electrical insulation.

There are numerous options and permutations possible with the facilities available, so please contact us for additional information or to discuss your particular requirements.

## Insulation Options

Material	Colour Availability	Temperature Rating
PVC	Clear, Black, Red, Green, Yellow, Green, Green/Yellow, Blue, White	-20°C to +70°C
LSZH Low Smoke Zero Halogen	Clear, Black, Red, Green, Yellow, Green, Green/Yellow, Blue, White	-20°C to +80°C

## FB-010-5-15/1 Part Numbering example



# RB and RS Round Braids + Ropes

Custom and Standard Solutions



An extensive range of hollow round braids and ropes from a wide choice of materials. The electrical performance of a braid is determined by selecting the correct cross sectional area from the tables.

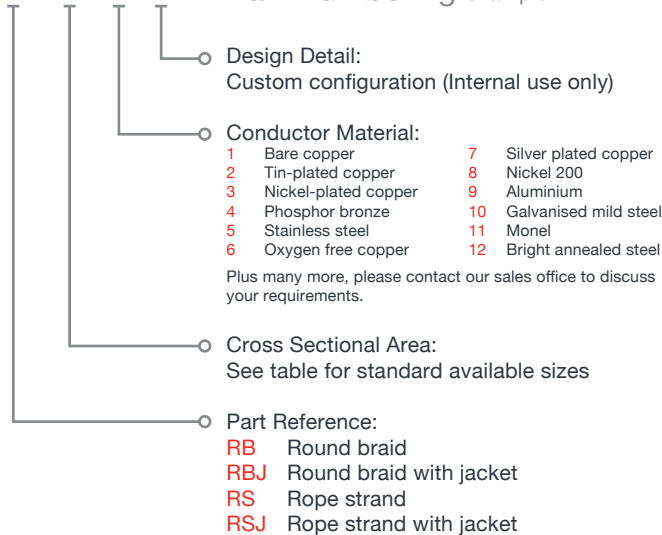
Round braids and ropes exhibit multi-axial flexibility, enabling them to be installed in any direction. Rope braids, in particular are strongly recommended for applications needing outstanding flexibility and robustness with maximum flex performance

## Operating Temperature

- Tin-plated Cu: -65°C to +150°C
- Nickel-plated Cu: -65°C to +260°C

Insulated versions see table and for other material options please contact us

## RB-010-5-15/1 Part Numbering example



Specialist braids are available using numerous conductor materials as identified, such as using nickel and nickel plated copper for increased temperature and corrosion resistance and aluminium for applications requiring weight savings. Round braids are also available with the option of PVC or zero-halogen extruded jackets.

There are numerous options and permutations possible with the facilities available, so please contact us for additional information or to discuss particular needs.

Current ratings are based on temperature rise of 50°C above ambient

## Insulation Options

Material	Colour Availability	Temperature Rating
PVC	Clear, Black, Red, Green, Yellow, Green, Green/Yellow, Blue, White	-20°C to +70°C
LSZH Low Smoke Zero Halogen	Clear, Black, Red, Green, Yellow, Green, Green/Yellow, Blue, White	-20°C to +80°C

## Standard Hollow Round Braids Product Details (Un-insulated Tin-plated copper)

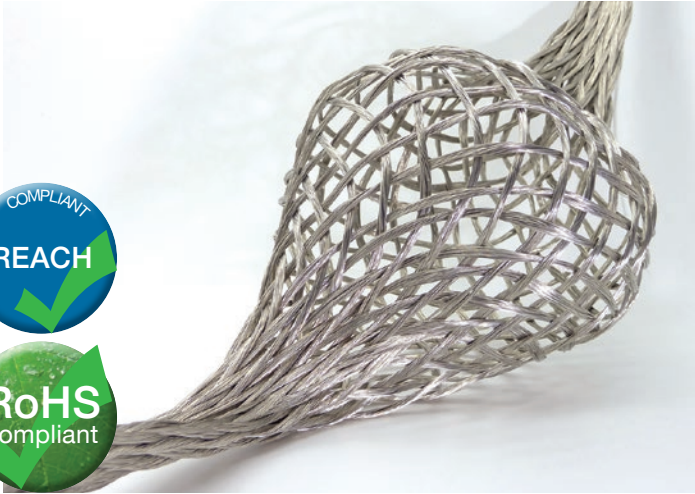
Cross-sectional Area	Nom. Diameter	Current Rating*
0.5 mm <sup>2</sup>	1.2 mm	12 amps
1.1 mm <sup>2</sup>	2.0 mm	20 amps
2.5 mm <sup>2</sup>	3.0 mm	30 amps
4.0 mm <sup>2</sup>	4.0 mm	50 amps
6.0 mm <sup>2</sup>	5.0 mm	60 amps
10.0 mm <sup>2</sup>	7.0 mm	80 amps
16.0 mm <sup>2</sup>	8.0 mm	110 amps
25.0 mm <sup>2</sup>	10.0 mm	130 amps
35.0 mm <sup>2</sup>	12.0 mm	180 amps
50.0 mm <sup>2</sup>	15.0 mm	230 amps

## Standard Rope Strands - Product Details (Un-insulated Tin-plated copper)

Cross-sectional Area	Nom. Diameter	Current Rating*
2.5 mm <sup>2</sup>	2.5 mm	30 amps
4.0 mm <sup>2</sup>	3.0 mm	50 amps
6.0 mm <sup>2</sup>	4.0 mm	60 amps
10.0 mm <sup>2</sup>	4.5 mm	80 amps
16.0 mm <sup>2</sup>	5.7 mm	110 amps
25.0 mm <sup>2</sup>	7.5 mm	130 amps
35.0 mm <sup>2</sup>	9.0 mm	180 amps
50.0 mm <sup>2</sup>	11.0 mm	230 amps
70.0 mm <sup>2</sup>	13.0 mm	280 amps
95.0 mm <sup>2</sup>	15.0 mm	330 amps

# Hi-XP High Expansion Braid

Tin Plated Copper Braided Sleeve



High expansion ratio braids are available for applications such as those over cable joints for earthing continuity and mechanical protection. With the number and gauge of wire strands used in the braid to determine the characteristics required, including current rating and cross sectional area.

The selection table shows some common sizes that are achievable, other custom sizes are available subject to specification and quantity required, please contact us for details and MOQ's.

Where mechanical protection is the primary consideration alternative materials are available, such as: Galvanised steel; Stainless steel and Mild steels. Please contact us for further details.

Typical applications include earth continuity on cable joints, as shown below.

## Hi-XP High Expansion Braid

Part Number	Nom. CSA	Current Rating	Usable Diameter	
			mm <sup>2</sup>	Amps
HiXP-6-40-2	6.0	66	6.0	40.0
HiXP-10-40-2	10.0	90	10.0	40.0
HiXP-16-60-2	16.0	120	10.0	60.0
HiXP-25-60-2	25.0	150	15.0	60.0
HiXP-35-120-2	35.0	200	20.0	120.0
HiXP-50-120-2	50.0	250	30.0	120.0
HiXP-95-150-2	95.0	350	25.0	150.0
HiXP-150-150-2	150.0	500	40.0	150.0







## Custom Over-Braiding Service

We offer a comprehensive range of materials and constructions providing an effective braid protection suited to your application, up to 60mm diameter.

The comprehensive over-braiding service facilitates customer free issue material. Or alternatively supplied by us from our own extensive product range of conduit, tubing and substrates.

Whether your need is for mechanical protection, earthing continuity or EMI screening, our engineers are on hand to offer you a product that will perfectly meet your application...

- Cables
- Conduits
- Hoses
- Mechanical Protection
- Armouring
- Screening



## Swaged Products

Various product combinations and styles are possible from wire assemblies to latch release cables and pull cables. Please contact to discuss in more detail.



## Assembly Solutions

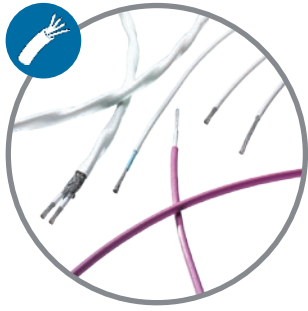
IS-Cabletec also have manufacturing capabilities to work with our customers to deliver innovative solutions to diverse and technically challenging applications. The flexible approach enables us to provide a wide range of high quality sub assemblies, prototypes, space models and pre-production trials for sub assembly solutions.

- Low MOQ policy
- Rapid response
- Product drawings
- Short lead times
- Design assistance
- Full traceability



# Product Linecard

Harnessing and Electro-Mechanical Components



Wire and Cable



Multicore Cable



Data Cable



Heat Shrink Tubing



Non Shrink Tubing



Braided Sleeving



Screening Braid



Moulded Parts



Terminals Splices



Cable Markers



Accessories



Connectors



Metal Braids



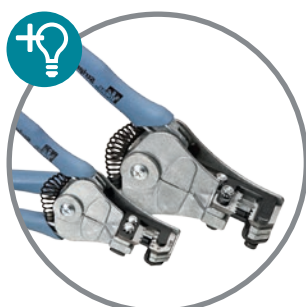
Relays



Switches



Adhesives & Tapes



Application Tools

Broad range of harnessing and electro-mechanical solutions for demanding, harsh environment applications..

Supporting customers needs and wants for a complete solution..

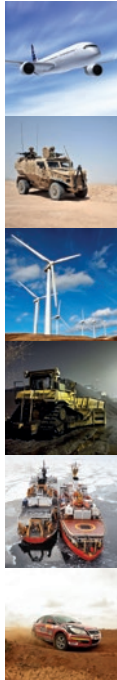
Commitment to customer service and quality, providing innovation, technical support and cost effective solutions...



Working closely with suppliers and manufacturers worldwide we offer a comprehensive range of high performance components and associated products for the Aerospace, Defence, Energy, Industrial, Marine and Motorsport markets. Our experienced internal and external sales team offers leading customer service and support.

With immediate access to in excess of 8000 product lines from an extensive 'off the shelf' stock profile for next day delivery as standard, along with flexible MOQ's and pack sizes.

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