Metal Braids Relays and Contactors Switches and Grips Adhesives and Tapes Application Equipment Added Value Services

Flat, Round, Rope, High-Flex, Lightweight and Quick Release

 Manufactured by IS-Cabletec who are part of the IS-Group of companies and can offer a range of specialist high performance metal braid and earth bonding leads, designed and approved for aerospace, defence, industrial and energy market applications.

 The comprehensive range of high quality metallic 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 such as stainless steel, silver plated copper and pure nickel.

These 'specialist' materials exhibit properties suitable for the most demanding applications, such as those requiring extreme temperature and corrosion resistance.

Silver-plated Copper:

For applications needing excellent conductivity at temperatures up to 200°C. Particularly suitable for extreme aerospace and space applications.

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. Ideal for off-shore and
 marine applications.

16 Nickel:

Pure nickel strand can be used at even higher temperatures (649°C) whilst still exhibiting

- 7 excellent conductivity and corrosion resistance. Nickel is particularly suitable for applications in extreme conditions such as welding, furnaces
- 18 and power stations.



Market Approvals

Our sister company is a supplier of bonding leads and metal braid 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 for metal braid and bonding leads.

In addition to EN4199, they manufacture products to a comprehensive range of aerospace and defence specifications, some of which are detailed below.

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.

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CFBA Custom Series Material Options Customised Bonding Leads

- In addition to our standard products we are able to supply fully customised bonding leads, each with their own unique part number.
- ² 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.
 - Please contact us with your requirements.

Material Options

- Plain copper
- Tin-plated copper
- Nickel-plated copper
 - Aluminium
 - Stainless steel
- Nickel
- Silver plated copper
- 10 ...other materials available please contact us.



Features & Benefits

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

 Terminations

 • Crimped terminal

 • Pressed ferrules

 Braid Styles

 • Flat

 • Rope

 • Layered

 Insulation and Identification

 • Various materials available, see our heat-shrink tube product range

 Cross-sectional Area

 • 1.5mm² to 1000mm²

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

Standard Terminal Options (others available)

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

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

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

Colour tracer identification option available.



FBL Series Tin-plated Copper Flat Bonding Leads

- FBL bonding leads are manufactured from tin plated copper flat braid, terminated at each end with a pressed ferrule type connector.
- 2 The benefit of using pressed ferrules 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 copper: -65°C to +150°C
- Insulated: -40°C to +135°C



Features & Benefits

RoHS

- Pressed ferrule design
- Durable and robust
- Ready to fit design

Part Numbering example

Insulated: Leave blank if insulation not required

Hole sizes: See table for options

Standard Lengths: Customer specified

Cross Sectional Area: See table for available sizes

Part Reference:

FBL Tin plated copper

- ¹⁵ Custom Design: Other non-standard materials and additional terminal options are available on request, please contact our sales office for information.
- 17
- 18

FBL series Tin-plated Copper Flat Bonding Leads



Hole Size Availability

Cross-				Hole	Size				
sectional	M4	M5	M6	M8	M10	M12	M14	M16	7
Area	4.5mm	5.5mm	6.5mm	8.5mm	10.5mm	13.0mm	15.0mm	18.0mm	
4	1	1	1						
6	1	1	1	1					
10	1	1	\checkmark	1	1				
16		1	1	1	1	1	1		
25		1	1	1	1	1	1	1	10
35		1	1	1	1	1	1	1	
50			1	1	1	1	1	1	

Cross Sectional Area and Dimensional Information

Cross- sectional Area	Strand Size	с	D	E	Maximum Allowable Hole Size	Current Rating	13
mm²	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	16
35	0.20	25	25	4.5	18.0	220	
50	0.20	25	25	5.0	18.0	260	17

CBL150 and CBL260

Tin & Nickel-plated Copper Braid Flat Bonding Leads

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 tinplated and nickel-plated copper in a range of cross-sectional areas. They are highly flexible, robust and reliable.

Features & Benefits

- Flexible robust and reliable
- · Choice of terminal sizes

Operating Temperature

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





Specifications/Approvals

Manufactured to EN4199-003 design.

Part Numbering example

Insulated:

Leave blank if insulation not required

Lengths:

Min. 50mm and above in 25mm increments

Terminal Reference:

See terminal availability see tables

Cross Sectional Area

1.5	1.5mm ²
4	4mm ²
6	6mm ²
10	10mm ²
16	16mm ²
25	25mm ²

Part Reference:

CBL150	Tin plated copper
CBL260	Nickel plated copper

CBL150 and CBL 260

Fin & Nickel-plated Copper Braid Flat Bonding Leads



Terminal Availability: CBL150 tin-plated copper

Terminal Code	End Terminals		Availability for Cross-Sectional Area						
	Stud	Hole Ø	1.5mm ²	4.0mm ²	6.0mm ²	10.0mm ²	16.0mm ²	25.0mm ²	
А	#6	3.68mm	1						
В	#8	4.34mm	1	1	\checkmark				
С	#10	5.00mm	1	1	\checkmark	1	\checkmark	\checkmark	
D	1/4"	6.73mm	1	1	\checkmark	<i>√</i>	\checkmark	\checkmark	
E	5/16"	8.33mm		1	\checkmark	1	\checkmark	\checkmark	
F	3/8"	9.91mm				\checkmark	\checkmark	\checkmark	

Terminal Availability: CBL260 nickel-plated copper

Terminal	End Te	End Terminals Availability for Cross-Sectional Area							
Code	Stud	Hole Ø	1.5mm ²	4.0mm ²	6.0mm ²	10.0mm ²	16.0mm ²	25.0mm ²	
А	#6	3.68mm	\checkmark	1					
В	#8	4.34mm	\checkmark	\checkmark	\checkmark				
С	#10	5.00mm	\checkmark	\checkmark	\checkmark	\checkmark			
D	1/4"	6.73mm	\checkmark	1	\checkmark	1	\checkmark		
E	5/16"	8.33mm			1	1	\checkmark		
F	3/8"	9.91mm					1	1	

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

Braid cross- section	Min. Tensile Strength	Nom. resistance 100mm Length	Braid Resistance	Nom. Mass 100mm Length	Braid Mass	
mm2	N	mΩ	mΩ per 25mm	g	g per 25mm	15
1.5	250	1.32	0.308	2.6	0.40	
4	600	0.40	0.112	6.3	1.10	16
6	800	0.24	0.075	10.7	1.63	
10	1200	0.14	0.046	18.4	2.90	17
16	1700	0.09	0.030	28.9	3.93	
25	2200	0.06	0.015	43.2	7.85	18

For information on nominal resistance and mass for non standard lengths please contact us

LN9264

Tin and Nickel Plated Copper Braid 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.

They are available in six standard crosssectional areas and a limited range of lengths.

Operating Temperature

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





- Features & Benefits
 - · Flat style braid
 - · Aerospace and military approved

Part Numbering example

Material:

- T Tin plated copper
- N Nickel plated copper

Standard Lengths:

60mm, 80mm, 100mm, 125mm, 160mm, 200mm and 250mm

Cross Sectional Area

1.5	1.5mm ²	4	4mm ²
6	6mm ²	10	10mm ²
16	16mm ²	25	25mm ²

Part Reference:

CFBA9264

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





Bonding Leads

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).

They are only available with one standard braid size 0.7mm² and a combination of terminal sizes and lengths.

Operating Temperature

Tin-plated copper: -65°C to +150°

Length 'L'		
Terminal end 1	Terminal end 2	
Part Numbering example		
Terminal Code End 2		
Standard Lengths: 1" increments, minimum length 3".		1
Terminal Code End 1		1

Part Reference:

CFBA2097

Terminal Code	Hole Diameter (mm)	
В	3.68	
С	5.00	
E	6.73	
G	8.33	
J	9.91	

- 17

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Features & Benefits

- · Aerospace approved
- 0.7mm² cross-sectional area
- · Multiple lengths

CFBA2097-B-4-B



CFBA4199-004 Series Tin and Nickel-plated Copper Braid

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.

CFBA4199-004 bonding leads are manufactured from multi-layer round braid and are available in tin-plated and nickel plated copper in a variety of cross-sectional areas, lengths and termination options.

Operating Temperature

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





Specifications/Approvals

Tested to EN4199-001

Part Numbering example

Terminal Code:

E See table opposite

Standard Lengths:

250 See table opposite, other lengths available on request.

Cross Sectional Area

1.4	1.4mm ²
3.5	3.5mm ²
4.5	4.5mm ²
7.0	7.0mm ²

13.0 13mm²

Material:

т

Tin-plated copper

N Nickel-plated copper

Product standard: CFBA4199-004

Part Reference: CFBA4199

CFBA4199-004 series

Tin and Nickel-plated Copper Braid Round Bonding Leads



Terminal	End One		End Two		Availability for Cross-Sectional Area			a	
Code	Stud	Hole Ø	Stud	Hole Ø	1.4mm ²	3.5mm ²	4.5mm ²	7.0mm ²	13.0mm ²
А	#6	3.68mm	#6	3.68mm	\checkmark	\checkmark	\checkmark		
В	#8	4.34mm	#8	3.68mm	\checkmark	\checkmark	\checkmark		
С	#10	5.00mm	#6	3.68mm	\checkmark	\checkmark	\checkmark		
D	1/4"	6.73mm	#6	3.68mm	\checkmark	\checkmark	\checkmark		
E	#8	4.34mm	#8	4.34mm	\checkmark	\checkmark	\checkmark	1	
F	#10	5.00mm	#8	4.34mm	\checkmark	\checkmark	\checkmark	\checkmark	
G	1/4"	6.73mm	#8	4.34mm	\checkmark	\checkmark	\checkmark	\checkmark	
Н	#10	5.00mm	#10	5.00mm	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
J	1/4"	6.73mm	#10	5.00mm	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
К	1/4"	6.73mm	1/4"	6.73mm	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
L	5/16"	8.33mm	#10	5.00mm	\checkmark			\checkmark	\checkmark
М	5/16"	8.33mm	5/16"	8.33mm	\checkmark			\checkmark	\checkmark
N	5/16"	8.33mm	1/4"	6.73mm					1

Standard Lengths	Availability for Cross-Sectional Area						
'L' mm	1.4mm ²	3.5mm ²	4.5mm ²	7.0mm ²	13.0mm ²		
63	\checkmark			\checkmark		13	
80	\checkmark	\checkmark	\checkmark	\checkmark	1		
100	\checkmark	\checkmark	1	\checkmark	\checkmark	14	
125	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		
160	\checkmark	1	\checkmark	\checkmark	\checkmark	15	
200	\checkmark	1	1	\checkmark	1		
250	\checkmark	\checkmark		\checkmark	\checkmark	16	
315	\checkmark			\checkmark			
400	\checkmark	\checkmark	1	\checkmark		17	
500		\checkmark		\checkmark			
630				1		10	
800				1			

RBL Series Tin-plated Copper Rope 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 copper: -65°C to +150°C
- Insulated: -40°C to +135°C



Features & Benefits

- · Multi-directional flexibility
- · Durable and robust design



Part Numbering example

Insulated: Leave blank if insulation not required

Hole sizes: See table for options

Standard Lengths: Customer specified

Cross Sectional Area: See table for available sizes

Part Reference: RBL Tin plated copper

 ¹⁵ Custom Design: Other non-standard materials and additional terminal options are available on request, please contact our sales office for information.

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RBL series Tin-plated Copper Rope Bonding Leads



Hole Size Availability

Cross-		Hole Size							
sectional	M4	M4 M5 M6 M8 M10 M12 M14 M16						- 7	
Area (mm ²)	4.5mm	5.5mm	6.5mm	8.5mm	10.5mm	13.0mm	15.0mm	18.0mm	
4	1	1	1	1	1				
6	1	1	1	1	1	1			
10		1	1	1	1	1			
16		1	1	1	1	1			
25		1	1	1	1	1			10
35		1	1	1	1	1	1	1	
50		1	1	1	1	1	1	1	

Current Rating Information

Cross-sectional Area	Current Rating		
mm²	amps		
4	50		
6	60		
10	80		
16	120		
25	150		
35	200		
50	240		

CRL260 Series Nickel-plated Copper Braid High Flex Bonding Leads

CRL260 bonding leads are designed to withstand exceptional levels of flexing in combination 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 existing aerospace standard leads by more than 5 times. Particularly suited for dynamic applications in exposed areas such as external aircraft doors and flaps.

Operating Temperature

Nickel-plated copper: -65°C to +260°







Features & Benefits

- Flex endurance to EN4199-001
- Choice of 5 cross sectional areas
- · Choice of terminal sizes

Part Numbering example

Terminal Code:

See terminal availability see table below

Standard Lengths:

Min. 50mm and above in 25mm increments

Cross Sectional Area

3.5	3.5mm ²	5.0	5mm ²
7.0	7mm ²	10.0	10mm ²
13.0	13mm ²		

Part Reference:

CRL260 Nickel plated copper

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Terminal Availability: CRL260 nickel-plated copper

	Code	Terminals	Availability for Cross-Sectional Area				
10	Code	Hole Ø	3.5mm ²	5.0mm ²	7.0mm ²	10.0mm ²	13.0mm ²
	А	3.68mm	1				
	В	5.00mm	1	1	1	1	1
	С	6.73mm	\checkmark	\checkmark	\checkmark	\checkmark	1
	D	8.33mm	1	1	1	1	1
18	Е	9.91mm	\checkmark	\checkmark	\checkmark	\checkmark	1

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Features & Benefits

- Aluminium*
- Lightweight 5mm² cross-sectional area



The CFBA1068 aluminium bonding leads are designed for aerospace applications requiring electrical bonding in combination with lightweight. They are supplied insulated and with a protective chromate conversion coating*, making them particularly suited to applications in contact with aviation fuels. CFBA1068 bonding leads are available in a range of lengths and two sizes of specially formed aluminium terminals. **Operating Temperature** • Aluminium: +200° *Insulated and available with or without Chromate conversion coating.

Part Numbering example	
Standard Lengths: See table below	
Terminal Code Reference:AM3 (3.61 to 3.86mm)BM4 (4.90 to 5.16mm)	10
C M5/M6 (6.48 to 7.24mm)	11
Part Reference: CFBA1068 Aluminium	

Technical Information (nominal values)

	Mass (uninsulated)	Resistance (between terminals)	Bonding Lead length
14	(g)	mΩ	mm
	4.0	2.36	76.2
15	4.4	2.78	101.6
	4.9	3.20	127.5
16	5.3	3.62	152.4
	5.8	4.04	177.8
17	6.3	4.46	203.2
	6.7	4.88	228.6
18	7.2	5.30	254.0

Bonding lead length is between terminal hole centres

Bonding Leads CFBA1068 Series Aluminium Braid Lightweight Bonding Leads

QBL150 Series Tin-plated Copper Braid Quick Release Bonding Leads

- The QBL150 quick release bonding lead provides an effective hand-releasable method of earth bonding electrical equipment. They
- are particularly useful for applications where a temporary connection is required when equipment needs to be removed quickly over multiple times.

QBL bonding leads comprise of 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 copper: -55°C to +120°
- Insulated: -55°C to +120°





- Fast and easy release.
- Rear and front mounted mating receptacle
- BNC or TNC connector

Part Numbering example

Insulated:

RoHS

Leave blank if insulation not required

Terminal Code Reference:

- A M3 (5mm hole)
- B M4 (6.73mm hole)

Standard Lengths:

Min. 50mm and above in 25mm increments

Connector Code Reference:

- BNC (bavonet)
- т TNC (threaded)

Part Reference:

QBL150 Tin plated copper

Also available as Nickel plated copper, without insulation for higher operating temperatures.

QBL150 Series Tin-plated Copper Braid Quick Release Bonding Leads





Front mounted receptacle

Technical Details: **QBL150B** (BNC Type)

Connector	BNC, MIL-C-39012 B (class 2, category c)	
Braid	2.64mm ² , Tin plated copper	
Current rating	36 amps (for 60 seconds)	
Operating temperature	-55°C to +120°C	
Insulation	PAN6480K04	
Front panel mounting receptacle	QBL150-BF	
Rear panel mounting receptacle	QBL150-BR	
Ring terminal hole diameter	5mm or 6.73mm	

		Length (mm) Terminals					
Nominal	50	75	100	125	150	175	200
Mass (g) 5.0mm hole	-	26.5	27.0	27.5	28.2	28.5	29.5
Mass (g) 6.0mm 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

Technical Details: QBL150T (TNC	Туре)	
Connector	TNC, PAN6444A	13
Braid	2.64mm ² , Tin plated copper	
Current rating	36 amps (for 60 seconds)	-1 /1
Operating temperature	-55°C to +120°C	14
Insulation	PAN6480K04	
Front panel mounting receptacle	QBL150-TF	
Ring terminal hole diameter	5mm or 6.73mm	

			Length (mm) Termiı	nals			
Nominal	50	75	100	125	150	175	200	-17
Mass (g) 5.0mm hole	26.0	26.5	27.0	27.5	28.2	28.8	29.5	
Mass (g) 6.0mm 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	

Relays and Contactors Switches and Grips Adhesives and Tapes Application Equipment Added Value Services



Power Shunts and Custom Designed Metal Braids

Manufactured by IS-Cabletec who are part of the IS-Group of companies and can offer a range of specialist high performance metal braid and earth bonding leads, designed and approved for aerospace, defence, industrial and energy market applications.

The comprehensive range of high quality metallic 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 such as stainless steel, silver plated copper and pure nickel.

 These 'specialist' materials exhibit properties suitable for the most demanding applications, such as those requiring extreme temperature and corrosion resistance.

Silver-plated Copper:

 For applications needing excellent conductivity at temperatures up to 200°C. Particularly
 2 suitable for extreme aerospace and space applications.

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. Ideal for off-shore and marine applications.

Nickel:

Pure nickel strand can be used at even higher temperatures (649°C) whilst still exhibiting excellent conductivity and corrosion resistance.
Nickel is particularly suitable for applications in extreme conditions such as welding, furnaces and power stations.



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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 1000mm² and to carry currents in excess of 400 amps.

4 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

Ferrule Finishes

effective.

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



Features & Benefits

- Large cross-sectional areas
- · Broad terminal and braid range
- · Space and weight saving
- Cost effective alternative to power cables and solid bus-bars.

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Terminations

- High compaction
 - Maximum conductivity
 - Custom design

Braid Configuration

- Flat or round
- Multi-layered
- · High flexibility options
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Insulation Jacket Options

- Fluid resistant
- High temperature
 - Low smoke and toxicity
- 1
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Power Shunts Custom Solutions Large Braid Connectors

Braid and Termination Selection

	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

Please use the tables below to establish the cross-sectional area and nominal current rating required for your application, in

Cross- sectional Area	Nom. Current Rating	A	в
mm²	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	В	с
mm²	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	А	В	с	D
mm²	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 above 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

conjunction with ferrule type required to match requirements. Please contact us for further information.







the final braid configuration. It is recommended that each power shunt be tested and evaluated fully to ascertain its suitability to meet the requirements of its final application.



FB

Custom and Specialised Flat Braids

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 copper: -65°C to +150°C
- Nickel-plated copper: -65°C to +260°C
- · Insulated: See table
- · Other materials contact us for details





Features & Benefits

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

Part Numbering example

Design Detail:

Custom configuration (Internal use only)

Conductor Material:

- 1 Bare copper
- 2 Tin-plated copper
- 3 Nickel-plated copper
- 4 Phosphor bronze
- 5 Stainless steel
- 6 Oxygen free copper
- 7 Silver plated copper
- 8 Nickel 200
- 9 Aluminium
- 10 Galvanised mild steel
- 11 Monel
- 12 Bright annealed mild steel

Plus many more, please speak to our sales office with your requirements

Cross Sectional Area:

See table for standard available sizes

Part Reference:

- FB Flat braid
- FBJ Flat braid with jacket

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.

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

Cross-sectional Area	Width and Depth	Current Rating
mm²	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 × 5.0	300

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

Insulation Options

Material	Colour Availability	Temperature Rating	12
PVC	Clear, Black, Red, Green, Yellow, Green, Green/Yellow, Blue, White	-20°C to +70°C	13
LSZH Low Smoke Zero Halogen	Clear, Black, Red, Green, Yellow, Green, Green/Yellow, Blue, White	-20°C to +80°C	- 4

1.7

RB and **RS** Custom and Specialised Round Braids and Ropes

- 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 copper: -65°C to +150°C
- Nickel-plated copper: -65°C to +260°C
- Insulated: See table
- · Other materials contact us for details





Features & Benefits

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

Part Numbering example

Design Detail:

Custom configuration (Internal use only)

Conductor Material:

- 1 Bare copper
- 2 Tin-plated copper
- 3 Nickel-plated copper
- 4 Phosphor bronze
- 5 Stainless steel
- 6 Oxygen free copper
- 7 Silver plated copper
- 8 Nickel 200
- 9 Aluminium
- 10 Galvanised mild steel
- 11 Monel
- 12 Bright annealed mild steel

Plus many more, please speak to our sales office with your requirements

Cross Sectional Area:

See table for standard available sizes

Part Reference:

- RB Round braid
- RBJ Round braid with jacket
- RS Rope strand
- RSJ Rope strand with jacket

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, 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.

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

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

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

2.5 mm	30 amps	
3.0 mm	50 amps	
4.0 mm	60 amps	
4.5 mm	80 amps	10
5.7 mm	110 amps	
7.5 mm	130 amps	
9.0 mm	180 amps	13
11.0 mm	230 amps	
13.0 mm	280 amps	14
15.0 mm	330 amps	
	2.5 mm 3.0 mm 4.0 mm 4.5 mm 5.7 mm 7.5 mm 9.0 mm 11.0 mm 13.0 mm 15.0 mm	2.5 mm 30 amps 3.0 mm 50 amps 4.0 mm 60 amps 4.5 mm 80 amps 5.7 mm 110 amps 7.5 mm 130 amps 9.0 mm 180 amps 11.0 mm 230 amps 13.0 mm 280 amps 15.0 mm 330 amps

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

Insulation Options - Identified at end of part number e.g. RBJ-010-2-15/1 (BLACK PVC)

Material	Colour Availability	Temperature Rating	17
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	18

Hi-XP Braid High Expansion Braid

- 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.



3	Part Number	Nom. CSA	Current Rating	Wire Ø	Usable Diameter	
		mm²	Amps	mm	Min. mm	Max. mm
	HiXP-6-40-2	6.0	66	0.20	6.0	40.0
	HiXP-10-40-2	10.0	90	0.20	10.0	40.0
	HiXP-16-60-2	16.0	120	0.30	10.0	60.0
	HiXP-25-60-2	25.0	150	0.30	15.0	60.0
11	HiXP-35-120-2	35.0	200	0.30	20.0	120.0
	HiXP-50-120-2	50.0	250	0.30	30.0	120.0
	HiXP-95-150-2	95.0	350	0.20	25.0	150.0
	HiXP-150-150-2	150.0	500	0.20	40.0	150.0

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



Metal Braids Specialist Services Custom Assemblies



Material:

- Bare copper
- Tin plated copper
- Nickel-plated copper
- Phosphor bronze
- Stainless steel
- Oxygen free copper
- · Silver plated copper
- Nickel
- Aluminium
- Galvanised mild steel

Over-Braiding Service

Our over-braiding service is designed to 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	
Fea	tures & Benefits	
•	Wide choice of materials	10
•	Highly flexible	
	Non standard variana available	

Non-standard versions available

Custom Braid Solutions

IS-Cabletec is a specialist manufacturer of high performance metal braided products, customised cables and bespoke assemblies for Aerospace, Defence and Industrial applications.

The extensive on-site facilities at IS-Cabletec enables numerous multicore cable and braiding constructions to be manufactured, which has led to the company becoming the UK's leading manufacturer of EMI screening braids, earth bonding leads, earth leads, copper braids, flexible bus-bars and power shunts.

The aim is to provide our customers with a complete solution to all high performance electrical component needs.

