



Wire and Cable

Heat-shrink Tubing

Non-shrink Tubing

Braided Sleeving

Screening Braids

Moulded Parts

Terminals and Splices

Wire and Cable Markers

Accessories

Connectors

Backshells

Bonding Leads

**Metal Braids**

Relays and Contactors

Switches and Grips

Adhesives and Tapes

Application Equipment

Added Value Services



### 1 **Power Shunts and Custom Designed Metal Braids**

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

8 The comprehensive range of high quality  
9 metallic products includes customised and  
10 market approved bonding leads, flat, round and  
11 rope braids, with various options of materials,  
12 terminations, insulation and identification.

### 13 **Custom Projects**

14 In addition to the standard materials used to  
15 produce braids and bonding leads it is also  
16 possible to utilise even higher performance  
17 materials such as stainless steel, silver plated  
18 copper and pure nickel.

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

#### 23 **Silver-plated Copper:**

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

#### 28 **Stainless Steel:**

29 Offers outstanding corrosion resistance  
30 compared to many materials, particularly when  
31 in contact with salt water and high temperature  
32 capability up to 400°C. Ideal for off-shore and  
33 marine applications.

#### 34 **Nickel:**

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

**Power Shunts**

Power Shunts	Large braid connectors	page 412
--------------	------------------------	----------

**Braids and Custom**

FB Series	Flat braids	page 414
-----------	-------------	----------

RB and RS Series	Round Braids and Ropes	page 416
------------------	------------------------	----------

HiXP	High expansion braid	page 418
------	----------------------	----------

Specialist Services	Over braiding and custom	page 419
---------------------	--------------------------	----------

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18

# Metal Braids

## Power Shunts

Custom Solutions  
Large Braid Connectors



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

5 They are often produced with multi-layers  
6 of flat or round braids to achieve sizes up to  
7 1000mm<sup>2</sup> and to carry currents in excess of  
8 400 amps.

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

### Ferrule Finishes

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.

### Terminations

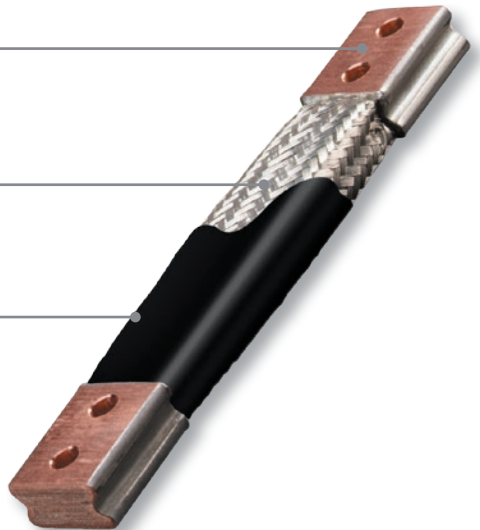
- High compaction
- Maximum conductivity
- Custom design

### Braid Configuration

- Flat or round
- Multi-layered
- High flexibility options
- 

### Insulation Jacket Options

- Fluid resistant
- High temperature
- Low smoke and toxicity



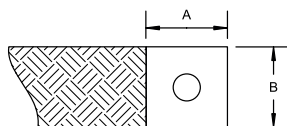
### Braid and Termination Selection

	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

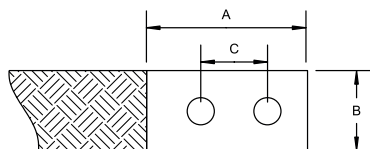
Please use the tables below to establish the cross-sectional area and nominal current rating required for your application, in

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

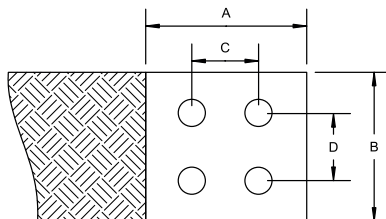
Cross-sectional Area	Nom. Current Rating	A	B
mm <sup>2</sup>	amps	mm	mm
100	380	25	25
120	410	30	30
150	450	30	30
200	600	30	30



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 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

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.

# Metal Braids

## FB

### Custom and Specialised Flat Braids

1 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.

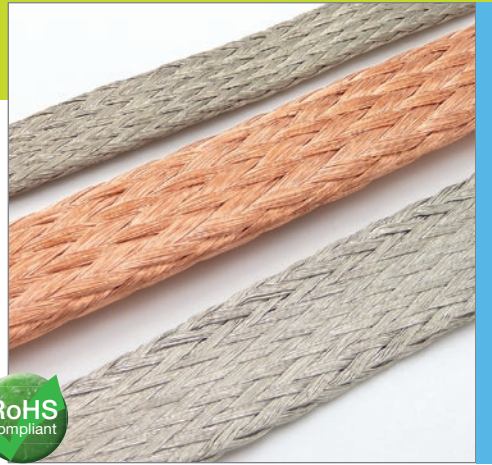
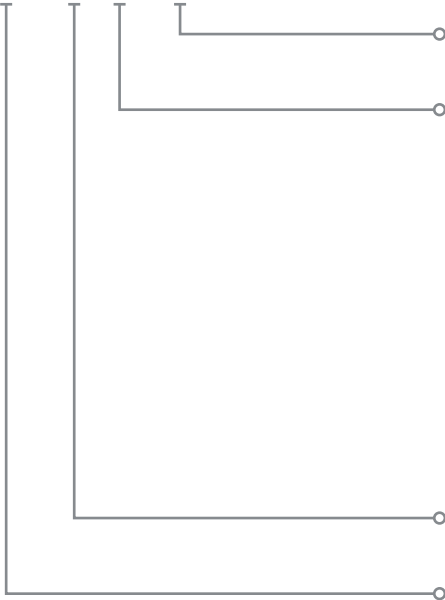
2 The electrical performance of a braid is determined by selecting the correct cross sectional area from the table.

3 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

## FB-010-5-15/1



#### 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
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

#### 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

# Metal Braids

## RB and RS

Custom and Specialised  
Round Braids and Ropes

- 1 An extensive range of hollow round braids and ropes from a wide choice of materials.
- 2 The electrical performance of a braid is determined by selecting the correct cross sectional area from the tables.
- 3 Round braids and ropes exhibit multi-axial flexibility, enabling them to be installed in any direction. Rope braids, in particular are strongly
- 4 recommended for applications needing outstanding flexibility and robustness with maximum flex performance
- 5

### 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

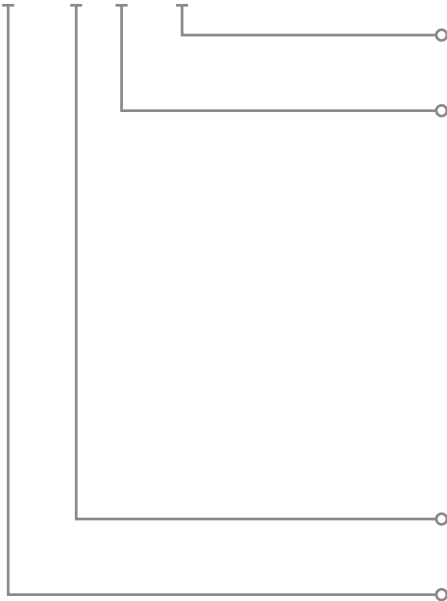
#### Cross Sectional Area:

See table for standard available sizes

#### Part Reference:

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

## RB-010-5-15/1





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 <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)

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

\*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
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

# Metal Braids

## 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.



Part Number	Nom. CSA	Current Rating	Wire Ø	Usable Diameter	
				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
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.





### 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

### Features & Benefits

- Wide choice of materials
- Highly flexible
- 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.



