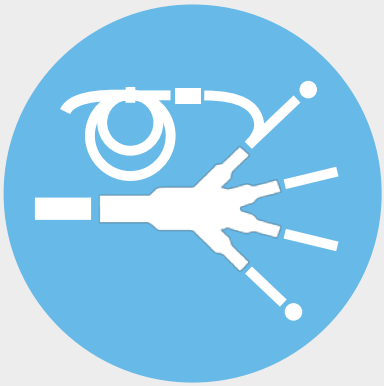

INTRODUCTION

Metal Screening Braids

up to 99% Optical Coverage

Screening braid is a cost effective solution for shielding wire bundles from electromagnetic interference (EMI/EMC). In many applications cable screening is important to either minimise cross-talk within the cable or prevent internal or external sources of interference.

Features & Benefits

- EMI/EMC Protection
- Mechanical protection

Product	Type	Description
Electromagnetic Shielding...		
Raybraid® 90, 101 and 103	Tubular	Tubular metal braid for electrical screening of wire bundles, with up to 99% optical coverage, with minimum of 90%.
InstaLite® 101 and 103	Tubular	Lightweight tubular metal alloy braiding for electrical screening of wire bundles, 50% lighter than traditional copper braid
CSB	Tubular	Commercial grade metal braid for electrical screening, offering a minimum of 90% optical coverage
HBT90 and HBT99	Tubular	Tubular metal braid for electrical screening, offering up to 99% optical coverage HBT99.

Metal Braid EMI/EMC Shielding

Markets	Temp.	Construction	Size
...continued			
Aero, Defence	101 up to +150°C 103 up to +200°C	Series 90 & 101 tinned Cu and series 103 tinned Ni Cu	3.0 to 30.0mm
Aero, Motorsport	101 up to +150°C 103 up to +200°C	Series 101 tinned Cu alloy and series 103 tinned Ni Cu	3.0 to 20.0mm
Commercial/ Industrial	up to 150°C	Tinned copper	3.0 to 30.0mm
Aero, Defence Motorsport	90 up to +150°C 99 up to +260°C	Series 90 tinned Cu and series 99 tinned Ni Cu	3.0 to 30.0mm 3.0 to 40.0mm

RAYBRAID®

Professional Grade, Tin or Nickel plated Copper Electromagnetic Screening Braid

Raybraid® 90 has a minimum of 90% optical coverage and is available in a wide range of sizes to cover 2mm to 36mm diameters.

Raybraid® 101 and 103 have a minimum of 93% and maximum of 100% optical coverage and is available in a wide range of sizes to cover 2.5mm to 38mm diameters.

Standard Raybraid 90 and 101 are tinned copper with Raybraid 103 being nickel plated copper for high temperature applications.

Raybraid is supplied on a round tube former which facilitates assembly and is more robust than braid supplied in flattened form.

Operating Temperature

- Raybraid 90 & 101 up to +150ºC
- Raybraid 103 above +200ºC

Raybraid is fully compatible with Tinel-Lock adaptors for termination of the braid to associated connectors.

Features & Benefits

- Screening military harnesses
- Minimum 90% optical coverage
- 101 and 103 Super flexible
- Good expansion ratio
- Supplied on plastic former to maintain round profile and is more robust than braid supplied in flattened form

CSAmm² and **Resistance** - General guidelines, ratings based on ambient of 20ºC

Size No.	RAY-90			RAY-101			RAY-103	
	CSA mm²	Resistance	Current	CSA mm²	Resistance	Current	CSA mm²	Resistance
-3.0	1.0	28.0 Ω/km	17	1.3	17.00 Ω/km	18	1.3	17.30 Ω/km
-4.0	1.4	18.3 Ω/km	21	2.1	10.30 Ω/km	28	2.1	10.50 Ω/km
-5.0	1.8	13.8 Ω/km	25	-	-	-	-	-
-6.0	2.1	12.2 Ω/km	28	2.7	8.00 Ω/km	34	2.7	8.10 Ω/km
-7.5	-	-	-	4.3	5.20 Ω/km	42	4.3	5.23 Ω/km
-10.0	4.3	6.0 Ω/km	42	5.5	3.96 Ω/km	52	5.5	4.02 Ω/km
-12.5	4.8	6.1 Ω/km	48	6.8	3.23 Ω/km	57	6.8	3.28 Ω/km
-15.0	8.3	3.0 Ω/km	67	-	-	-	-	-
-20.0	12.8	2.2 Ω/km	81	9.7	2.32 Ω/km	69	9.7	2.35 Ω/km
-25.0	16.4	1.6 Ω/km	98	-	-	-	-	-
-30.0	26.0	1.0 Ω/km	125	-	-	-	-	-

Raybraid 90 Tubular Braid - Minimum 90% Optical Coverage

Part Number	Former Ø	Carrier		Strand Size	Cable Bundle		Pack Size	Weight Nom.
	mm	No. of	Ends	AWG/mm	Min. mm	Max. mm	m	kg/km
RAY-90-3.0	3.0 (±0.13)	16	5	36/0.13	2.0	3.5	100	13
RAY-90-4.0	4.0 (±0.25)	16	7	36/0.13	3.0	5.0	100	17
RAY-90-5.0	5.0 (±0.25)	24	6	36/0.13	4.0	6.0	100	21
RAY-90-6.0	6.0 (±0.25)	24	7	36/0.13	5.0	7.0	100	25
RAY-90-10.0	10.0 (±0.25)	24	9	34/0.16	7.0	12.0	100	52
RAY-90-12.5	12.5 (±0.25)	24	10	34/0.16	11.0	13.0	100	65
RAY-90-15.0	15.0 (±0.38)	24	11	32/0.20	13.0	18.0	50	100
RAY-90-20.0	20.0 (±0.38)	36	7	32/0.20	17.0	23.0	50	165
RAY-90-25.0	25.0 (±0.38)	36	9	30/0.25	22.0	28.0	50	207
RAY-90-30.0	30.0 (±0.38)	36	9	28/0.32	27.0	36.0	50	310

Raybraid 101 and **103** Tubular Braid - Minimum 93% Optical Coverage

Part Number	Former Ø	Carrier		Strand Size	Cable Bundle		Pack Size	Weight Nom.
	mm	No. of	Ends	AWG/mm	Min. mm	Max. mm	metres	kg/km
RAY-10X-3.0	3.0 (±0.13)	16	10	38/0.10	2.5	5.0	100	10.3
RAY-10X-4.0	4.0 (±0.25)	24	7	36/0.13	3.5	7.5	100	17.0
RAY-10X-6.0	6.0 (±0.25)	24	9	36/0.13	4.5	9.5	100	25.0
RAY-10X-7.5	7.5 (±0.25)	24	14	36/0.13	7.0	14.0	100	31.0
RAY-10X-10.0	10.0 (±0.25)	36	12	36/0.13	8.0	22.0	100	41.0
RAY-10X-12.5	12.5 (±0.25)	36	15	36/0.13	11.0	24.0	100	51.0
RAY-10X-20.0	20.0 (±0.38)	48	16	36/0.13	16.0	38.0	50	81.0

Notes

For applications that require a limited wire shielding tape which can be wound around a cable for installation and repair, we offer 000W280. Supplied in 4.5m rolls, width 20mm, material tinned copper. For further information on this or other products in our range, or for assistance with your specific requirements, please contact us.

All numeric data shows average or typical values.

LWB INSTALITE®

Super light, Tin or Nickel plated Copper Electromagnetic Screening Braid

INSTALITE offers less weight than in a familiar metal braid technology. Offering up to 50% weight savings over traditional copper braids, INSTALITE lightweight braid has excellent electrical shielding performance over a wide frequency range. Made from high performance nickel plated high strength copper alloy.

Since INSTALITE braid uses well established metal braiding, the transition from traditional braids to INSTALITE is easy. The product can be terminated with standard tooling and installation procedures for existing backshells and band straps, making it easy to introduce it into current applications.

Operating Temperature

- LWB 101 -65ºC to +150ºC Tin plated
- LWB 103 -65ºC to +200ºC Nickel plated

Up to 50% Lighter

Minimum 85% Optical Coverage

InstaLite™ 101 and **103** Lightweight Tubular Braid

Part No.	Former Ø	Optical Coverage		Resistance	Cable Bundle		Pack Size	Weight Nom.
	mm	Min.	Nom.	ohms/km	Min.mm	Max.mm	m	kg/km
LWB-10X-3.0	3.0 (±0.13)	90.0 %	93.7 %	28.0	3.0	4.5	100	8.5
LWB-10X-6.0	6.0 (±0.25)	90.0 %	91.3 %	18.0	4.5	8.0	100	15.5
LWB-10X-10.0	10.0 (±0.25)	90.0 %	96.4 %	9.0	8.0	15.0	100	28.0
LWB-10X-20.0	20.0 (±0.25)	85.0 %	86.0 %	7.0	15.0	25.0	50	45.0

Weight excludes that of the former

Up to 50% lighter than traditional copper braid

Optical Coverage Min. 85% up to Max. 96%

Better low-frequency performance than plated fibres or micro-filaments

INSTALITE-103-10 passes 21kA waveform 5B lightning protection

Environmental Performance

Salt spray:	ASTM B117
Flex endurance:	1000 cycles min., SAE AS4373 method 704 (180º bend)

Comparison	LWB-103	vs RAY-103
Tensile strength [N/mm²]	758	220
Break strength [N]	15.2	11.1
DC Resistance [mΩ/m]	9.0	3.5
Weight [kg/km]	28*	41*
Optical coverage [%]	90	93

Figures for braid with nominal diameter of 10.0mm
* Denotes nominal weight

CSB

Commercial Grade, Tin plated Copper Electromagnetic Screening Braid

Minimum 90% Optical Coverage

CSB is a commercial screening braid providing exceptional protection for wire and cable harnesses from electromagnetic, electrostatic and radio frequency interference. 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 demanding high levels of protection from electromagnetic interference EMI.

CSB 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 Tin plated

CSB Tubular Braid - Minimum 90% Optical Coverage

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

* Maximum weights are excluding former

HBT90

Standard Grade, Tin plated Copper Electromagnetic Screening Braid

HBT90 screening braid is a quality product providing excellent protection for wire and cable harnesses from electromagnetic, interference. Available in tin plated copper, providing minimum optical coverage of 90%. Offering an effective method of screening wire bundles, harnesses and cables.

Supplied on an internal former to aid installation and maintain the shape and form of braid in transit and prior to installation

Operating Temperature

- -65ºC to +150ºC Tin plated Copper

Minimum 90% Optical Coverage

HBT90 Standard Tubular Braid - Minimal 90% Optical Coverage

Part Number	Internal Dia.	Strand Size	Expansion Range		VG Cross Ref.	Reel Size
	mm	mm	Min. mm	Max. mm		m
HBT90-03.0-2/2-F	3.0	0.127	2.0	3.5	VG 96936 T10 B001A	100
HBT90-04.0-2/2-F	4.0	0.127	3.0	5.0	VG 96936 T10 B002A	100
HBT90-05.0-2/2-F	5.0	0.127	4.0	6.0	VG 96936 T10 B003A	100
HBT90-06.0-2/2-F	6.0	0.127	5.0	7.0	VG 96936 T10 B004A	100
HBT90-10.0-2/2-F	10.0	0.161	7.0	12.0	VG 96936 T10 B005A	100
HBT90-12.5-2/2-F	12.5	0.161	11.0	13.0	VG 96936 T10 B006A	100
HBT90-15.0-2/2-F	15.0	0.202	13.0	18.0	VG 96936 T10 B007A	100
HBT90-20.0-2/2-F	20.0	0.250	17.0	23.0	VG 96936 T10 B008A	50
HBT90-25.0-2/2-F	25.0	0.250	22.0	28.0	VG 96936 T10 B009A	50
HBT90-30.0-2/2-F	30.0	0.320	27.0	36.0	VG 96936 T10 B0010A	50

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HBT99

Premium Grade, Tin or Nickel plated Copper Electromagnetic Screening Braid

HBT99 screening braid provides exceptional protection for wire and cable harnesses from electromagnetic, electrostatic and radio frequency interference. Available in either tin plated or 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

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

up to 99% Optical Coverage, with Minimum 93%

*Part Number Construction example

HBT99-10.0-2/0-F Tin plated (-2/)
HBT99-10.0-3/0-F Nickel plated (-3/)

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

Part Number	Internal Dia.	Strand Size	Expansion Range		VG Cross Ref.	Reel Size
	mm	mm	Min. mm	Max. mm	-2 Tin plated only	m
HBT99-03.0-X/0-F	3.0	0.100	2.5	5.0	VG 96936 T10 A001A	100
HBT99-04.0-X/0-F	4.0	0.127	3.5	7.5	VG 96936 T10 A002A	100
HBT99-05.0-X/0-F	5.0	0.127	3.5	8.5	-	100
HBT99-06.0-X/0-F	6.0	0.127	4.5	9.5	VG 96936 T10 A003A	100
HBT99-07.5-X/0-F	7.5	0.127	7.0	14.0	VG 96936 T10 A004A	100
HBT99-10.0-X/0-F	10.0	0.127	8.0	22.0	VG 96936 T10 A005A	100
HBT99-12.5-X/0-F	12.5	0.127	11.0	24.0	VG 96936 T10 A006A	100
HBT99-15.0-X/0-F	15.0	0.127	14.5	30.0	-	100
HBT99-20.0-X/0-F	20.0	0.127	16.0	38.0	VG 96936 T10 A007A	50
HBT99-25.0-X/0-F	25.0	0.202	21.0	39.0	-	50
HBT99-30.0-X/0-F	30.0	0.202	27.0	40.0	-	50
HBT99-35.0-X/0-F	35.0	0.202	30.0	52.0	-	50
HBT99-40.0-X/0-F	40.0	0.202	36.0	62.0	-	50

For Nickel plated Copper screening braid use -3/ in the part number or -2/ for Tin plated Copper

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