

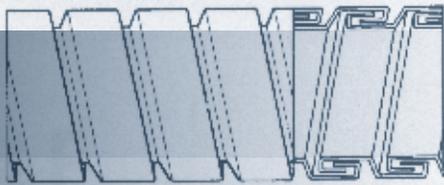


# MAGNETIC SHIELDING FOR WIRING APPLICATIONS

*Braided Sleeving Flexible Conduit Cable & Wire*



CO-NETIC® Braided Sleeving



SPIRA-SHIELD Flexible Conduit

INTER-8® Weave Cable & Wire



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# CO-NETIC® BRAIDED SLEEVING

## DESCRIPTION

Tubular and continuous lengths of CO-NETIC® Braided Sleeving are made from 36AWG CO-NETIC® AA high permeability wire. Three stock diameters are available.

CO-NETIC® Braided Sleeving provides a flexible, continuously enclosed shielding barrier with distinct advantages over foil wrapping or rigid channeling, and is used to avoid pickup of unwanted external H-fields (D.C. to 100 KHz), or to mitigate radiation from cable and conductors.

Our proprietary braided sleeving remains flexible, uses less overall material, is corrosion resistant and performs better than foil wraps. Braid is tightly weaved, so shield coverage is 90% at nominal linear state. Diameter, flexibility, and shielding coverage can be improved by expanding or compressing overall length. It is recommended to

add 5% length so braid can be compressed, resulting in a tight fit at both ends for optimal shielding performance. CO-NETIC® Braided Sleeving complies with A-A-59569 (QQ-B-575). Wire meets military specification MIL-N-14411, Comp 1.

## APPLICATIONS

Developed by Magnetic Shield Corporation using our proprietary CO-NETIC® AA high permeability wire to provide effective magnetic shielding for cable and conductors such as twisted-pair. Today, CO-NETIC® Braided Sleeving is used in many applications where a flexible, continuously enclosed shielding barrier is needed to avoid pickup of external fields or radiation of interfering, unwanted fields. CO-NETIC® Braided Sleeving has been proven effective in reducing electromagnetic interference in aerospace systems, vehicle controls, equipment power systems, test & measurement devices, and sensitive electronic circuits.

## CO-NETIC® BRAIDED SLEEVING PRODUCT LIST

PART NO.	NOMINAL I.D.	EXPANDS TO	COVERAGE	ENDS	CARRIERS	AWG
WBS-250	1/4" [6,3mm]	5/16" [7,9mm]	85-90%	16	24	36
WBS-500	1/2" [12,7mm]	5/8" [15,8mm]	85-90%	11	48	36
WBS-750	3/4" [19,0mm]	7/8" [22,2mm]	85-90%	11	48	36

Priced per linear foot. Cut to length as needed. **Special Orders:** Other diameters & configurations available.

# SPIRA-SHIELD FLEXIBLE CONDUIT

## DESCRIPTION

Flexible conduit that provides high permeability magnetic shielding for sensitive cables and conductors. Inter-lock construction, made with our most popular .010" thick CO-NETIC®AA perfection annealed foil, provides maximum attenuation, greater than braided sleeving. Construction is consistent with commercially available flex-conduit and is corrosion resistant to furnish physical protection. Three stock diameters are available.

SPIRA-SHIELD flexible conduit meets military specification MIL-N-14411, Comp 1.

## APPLICATIONS

Typical applications for SPIRA-SHIELD include power feeds, power distribution, commercial and industrial electrical, communication equipment, shipboard control systems, audio-level interconnections, laboratory benches, sensitive instrumentation, and aerospace apparatus.

## SPIRA-SHIELD PRODUCT LIST

PART NO.	NOMINAL I.D.	NOMINAL O.D.	INSIDE BEND RADIUS	THICKNESS
SSC-250	1/4" [6,3mm]	3/8" [9,5mm]	2-1/2" [64mm]	.010" [0,25mm]
SSC-375	3/8" [9,5mm]	1/2" [12,7mm]	3" [76mm]	.010" [0,25mm]
SSC-750	3/4" [19,0mm]	7/8" [22,2mm]	7" [178mm]	.010" [0,25mm]

Priced per linear foot. Cut to length as needed. **Special Orders:** Other diameters available.



# INTER-8® WEAVE CABLE

Proprietary weave cable, designed by Magnetic Shield Corporation to substantially reduce magnetic field radiation and pickup of external noise.

## DESCRIPTION

Current-carrying conductors can be the cause, or be affected by, electromagnetic interference. Twisted pair cable has been widely used and is superior to parallel conductors, but is of limited effectiveness in reducing electromagnetic radiation. Radiating unwanted fields can cause EMI compliance issues in today's complex circuits. Correspondingly, twisted pair cable is limited in avoiding unwanted pickup of external H-fields (D.C. to 100 KHz).

INTER-8® weave cable provides substantial improvement over the performance of a conventional twisted pair. INTER-8® weave cable consists of four separate conductors braided into interlocking loops and is a field-proven design of Magnetic Shield Corporation.

Because the INTER-8® WEAVE design incorporates parallel conductors, the cable provides double the current carrying capacity of a two wire cable of the same AWG size. In contrast to conventional twisted pair, INTER-8® WEAVE does not kink or untwist when left free.

## APPLICATIONS

INTER-8® WEAVE cable can be used to help solve many interference problems. Current-carrying conductors generating interference fields can be replaced with INTER-8® WEAVE cable to substantially reduce radiation. In low impedance circuits where external interference results in disturbing signals, INTER-8® WEAVE cable will reduce the circuit sensitivity to the external fields.

Among typical applications are cable connections to strain gages, thermocouples, photoelectric detectors, audio coils and transformers, piezoelectric transducers and preamplifiers.

## FOUR TYPES OF CABLE

The basic INTER-8® weave cable is unshielded. It is available with PVC insulation, or ETFE(1) high temperature insulation. For additional shielding, both are also available with an outer braided shield, made of Magnetic Shield Corporation's proprietary CO-NETIC® AA high permeability wire, to provide ultimate magnetic shielding. Shielded options are covered with an outer Jacket.

## INTER-8® PRODUCT LIST

PART NO.	AWG	CONDUCTORS	COATING	INSULATION	SHIELD	JACKET
MT-24	24	7 Strands 32	Tinned	PVC	None	None
MT-24T	24	19 Strands 36	Tinned	ETFE(1)	None	None
MTH-24	24	7 Strands 32	Tinned	PVC	CO-NETIC®	Black
MTH-24T	24	19 Strands 36	Tinned	ETFE(1)	CO-NETIC®	Red

Priced per linear foot. Cut to length as needed. **Special Orders:** Other gauges available

## INTER-8® SPECIFICATIONS

### FOUR TYPES TO CHOOSE FROM:

- 1 Unshielded Cable - PVC Insulation
- 2 Unshielded Cable - ETFE(1) Insulation
- 3 CO-NETIC® Shielded-Jacketed Cable PVC Insulation
- 4 CO-NETIC® Shielded-Jacketed Cable ETFE(1) Insulation

		PVC INSULATED WIRE	ETFE(1) INSULATED WIRE		
CO-NETIC® SHIELDED CABLE	UNSHIELDED CABLE	Wire Gauge	1 24Awg QQ-W-343	2 24Awg QQ-W-343	
		Stranding	7X32 Tinned Copper	19X36 Tinned Copper	
		Insulation	105°C MIL-W-16878/1	150°C MIL-W-22759/16	
		Colors	PVC insulation is solid colors: Green, Brown, Orange, Blue	ETFE(1) insulation is white with stripes: Green, Brown, Orange, Blue	
	CO-NETIC® SHIELDED CABLE	UNSHIELDED CABLE	Binding	3 Mylar Tape MIL-I-631	4 Mylar Tape MIL-I-631
			Braided Shielding	36Awg Co-Netic® AA Wire, MIL-N-14411 Comp 1, 90% Coverage	36Awg Co-Netic® AA Wire, MIL-N-14411 Comp 1, 90% Coverage
			Jacket	.020" [0,51mm] Thick, MIL-C-13777 Polyurethane, Color Is Black	.010" [0,25mm] Thick, MIL-C-27500G/14, Color Is Red
			Outside Diameter	.230" [5,84mm] Maximum Dimension	.210" [5,33mm] Maximum Dimension

(1)Tefzel, E.I. DuPont Trade Mark

## INTER-8® USE & COLOR CODES

GREEN/BROWN - Connect green and brown wires at both ends to form one cable termination.

ORANGE/BLUE - Connect orange and blue wires at both ends for the other termination.

NOTE: PVC insulations are color coded in solid colors. ETFE(1) insulations are color coded with stripes.



GREEN  
BROWN  
ORANGE  
BLUE

# CO-NETIC® AA WIRE

## DESCRIPTION

CO-NETIC® AA wire in .005" diameter (36AWG) is widely used in fabrication of magnetic shielding braid to certain customer specifications where our stock CO-NETIC® Braided Sleeving may not be specified. Two stock diameters are available.

Wire meets military specification MIL-N-14411, Comp 1.

## APPLICATIONS

Both gauges have applications where high permeability, low coercive force and ferromagnetic properties are required. CO-NETIC® AA wire is corrosion resistant and has an affinity for solder.

## CO-NETIC® AA WIRE PRODUCT LIST

PART NO.	DIAMETER	AWG	PACKAGING
WC-005	.005" [0,127mm]	36	Spools
WC-025	.025" [0,635mm]	22	Spools

Priced per pound, net weight. Spools vary by net weight.



WC-005 CO-NETIC® AA wire used in fabrication of magnetic shielding braid.

## HISTORY

Magnetic Shield Corporation originated in 1941 as the Perfection Mica Company. From its beginnings in the mica business, the company evolved with the electronics industry to become a recognized authority. Always building on this knowledge and experience, we are able to quickly adapt to your custom requirements, solving complex problems of magnetic interference while saving design time and expense.

## SITE SURVEYS

Magnetic Shield Corporation Engineers are available to perform site surveys under a consulting contract agreement. One of our engineers will travel to your site, perform a complete survey and write a detailed report giving you suggestions as to how to mitigate your EMI/EMF problem. This service has become increasingly important as offices, manufacturing environments, public buildings, high-rise apartments and other locations are subject to higher levels of EMF interference.

## TO PLACE AN ORDER, CONTACT:

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