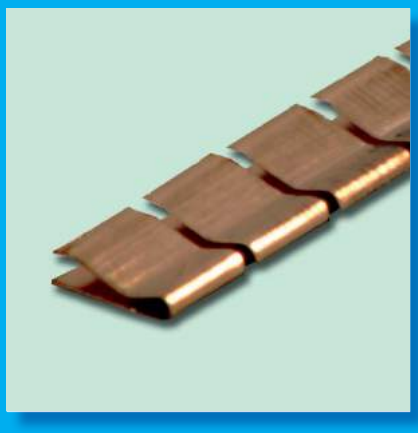



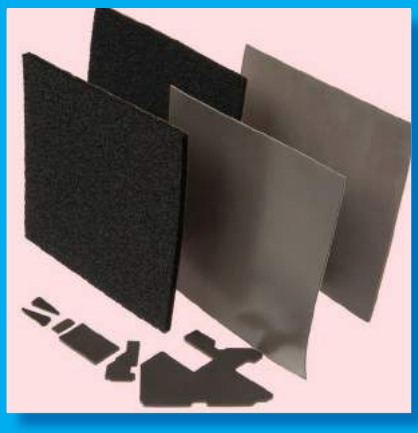

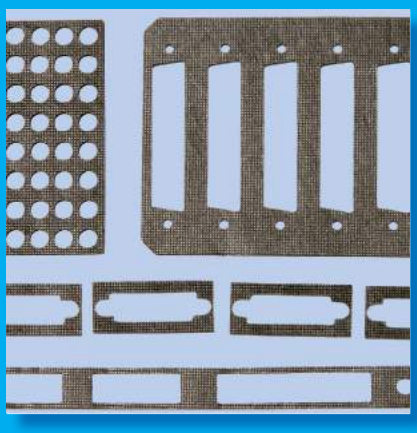


FUTURA

EMI SHIELDING SOLUTIONS

FUTURA

EMI SHIELDING SOLUTIONS

GT SERIES

CONDUCTIVE FABRIC GASKETS

DESCRIPTION

THESE GASKETS ARE REALIZED IN EXPANDED POLYURETHANE WRAPPED IN NICKEL/COPPER CONDUCTIVE FABRIC (STANDARD TYPE) OR WITH OTHER TREATMENTS.
THE ADHESIVE TAPE PLACED ON THE GASKETS ALLOWS AN EASY POSITIONING.

APPLICATION

THEY ARE APPLIED IN ORDER TO SOLVE ELECTROMAGNETIC INTERFERENCES PROBLEMS IN TELECOMMUNICATIONS, LCD, INSTRUMENTS, COMPUTERS, MEDICALS, ETC.

AVAILABILITY

THEY ARE SUPPLIED IN A LARGE RANGE OF SHAPES AND DIMENSIONS IN 1 MT. LENGTH BARS. GREATER OR SMALLER LENGTH AVAILABLE ON DEMAND.
VARIOUS SHAPES AND DIMENSIONS SATISFY DIFFERENT NEEDS.
EXECUTED MANUFACTURING:
- CUT MADE ACCORDING TO CUSTOMER'S REQUIREMENTS
- DIE-CUTTING

TECHNICAL DATA

INTERNAL MATERIAL:	EXPANDED POLYURETHANE
RAW MATERIAL:	FABRIC 100% POLYESTER
TREATMENT:	NICKEL/COPPER (OTHER TYPE OF TREATMENTS ARE AVAILABLE)
TEMPERATURE MAX:	100°C
ELECTRIC RESISTANCE:	0,08Ohm
SHIELDING EFFECTIVENESS:	70 – 95Db from 20Mhz up to 10Ghz
FLAME CLASS:	UL94VTM-1 / UL94V0

FUTURA SRL
Via Tagliamento, 16/18 - 20098 SESTO ULTERIANO - S. GIULIANO M.SE (MI)
Tel. ++39 02 9881193 - Fax ++39 02 98282216 - E-mail: info@futura-italia.it - www.futura-italia.it

PART NUMBER GUIDE

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SERIES

TYPE

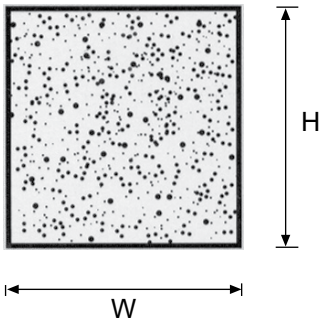
DIMENSIONS REFERENCE

MATERIAL

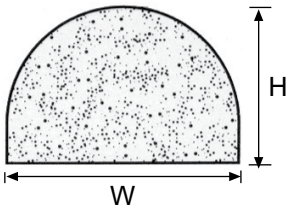
01 = Nickel/Copper
02 = Nickel/Copper V0
(Other materials available on request)

LENGTH (mm)
standard length: 1 mt

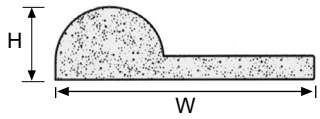
EXAMPLE: GTR011010060 = Gasket type R 2,0 X 4,0 mm nickel/Copper length 60 mm
GTD003021000 = Gasket type D 3,5 X 11,0 mm nickel/Copper V0 length 1 mt

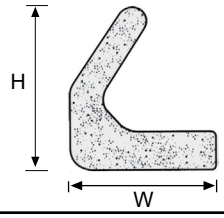
TYPE R	H (mm)	W (mm)	DIMENSIONS REFERENCES
	1,0	3,0	001
	1,0	5,0	002
	1,0	10,0	003
	1,0	21,0	004
	1,0	25,4	005
	1,2	4,0	006
	1,2	10,0	007
	1,2	55,0	008
	1,5	10,0	009
	1,5	14,0	010
	2,0	4,0	011
	2,0	7,0	012
	2,0	12,7	013
	2,0	18,0	014
	2,0	21,0	015
	2,0	27,0	016
	2,0	45,0	017
	2,3	19,2	018
	3,0	3,9	019
	3,0	13,0	020
	3,0	25,4	021
	3,2	5,0	022
	3,2	6,4	023
	3,2	9,5	024
	3,2	40,0	025
	4,0	15,0	026
	5,0	5,0	027
	6,0	6,0	028
	6,4	9,5	029
	7,5	15,0	030
	9,4	12,4	031
	9,5	9,5	032
	9,5	20,0	033
	17,0	17,0	034

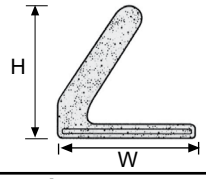
*Other dimensions available on request

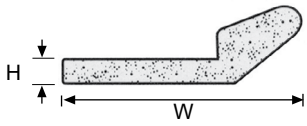
TYPE D	H (mm)	W (mm)	DIMENSIONS REFERENCES
	2,3	2,3	001
	3,4	6,5	002
	3,5	11,0	003
	3,8	3,8	004
	5,5	6,0	005
	6,4	9,4	006
	10,0	10,0	007
	23,0	18,0	008

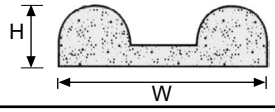
*Other dimensions available on request

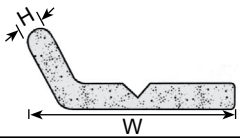
TYPE P	H (mm)	W (mm)	DIMENSIONS REFERENCES
	2,0	8,0	001
	3,3	13,2	002
*Other dimensions available on request			

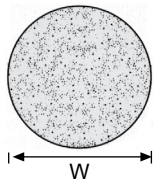
TYPE C	H (mm)	W (mm)	DIMENSIONS REFERENCES
	3,5	7,5	001
	8,0	8,0	002
	9,8	10,7	003
	15,0	17,3	004
*Other dimensions available on request			

TYPE L	H (mm)	W (mm)	DIMENSIONS REFERENCES
	6,4	5,9	001
	9,8	10,7	002
	15,0	14,0	003
*Other dimensions available on request			

TYPE K	H (mm)	W (mm)	DIMENSIONS REFERENCES
	2,5	12,7	001
	3,5	12,5	002
	6,4	19,1	003
*Other dimensions available on request			

TYPE W	H (mm)	W (mm)	DIMENSIONS REFERENCES
	2,8	9,7	001
	3,2	9,6	002
*Other dimensions available on request			

TYPE S	H (mm)	W (mm)	DIMENSIONS REFERENCES
	18,0	7,9	001
	18,6	2,0	002
*Other dimensions available on request			

TYPE T 	W (mm)	DIMENSIONS REFERENCES
	2,7	001
	3,2	002
	5,0	003
	10,0	004
*Other dimensions available on request		

EE SERIES

CONDUCTIVE ELASTOMER GASKETS

DESCRIPTION

THESE GASKETS ARE REALIZED IN EXCELLENT QUALITY EXTRUDED SILICONE, FILLED WITH DIFFERENT TYPES OF METAL PARTICLES.

APPLICATION

THEY ARE APPLIED IN ORDER TO SOLVE ELECTROMAGNETIC INTERFERENCES PROBLEMS IN MILITARY/AEROSPACE FIELDS.
ALSO USED TO ACHIVE A HIGH SHIELDING EFFICIENCY COMBINED WITH ENVIRONMENTAL SEALING.

AVAILABILITY

THEY ARE SUPPLIED IN DIFFERENT SHAPES, DIMENSIONS AND STANDARD SHEETS.
EXECUTED MANUFACTURING:
- CUT MADE ACCORDING TO CUSTOMER'S REQUIREMENTS
- DIE-CUTTING
- O-RING

TECHNICAL DATA

Series	U of M	NG	NG	SG	SG	SN	SN	SA	SA	SC	SC	SL	AA	AA
Filler	-	Ni/Gr	Ni/Gr	AG/Glass	AG/Glass	AG/Ni	AG/Ni	AG/Al	AG/Al	Silver Copper	Silver Copper	Silver low density	Silver pure	Silver pure
Elastomer	-	Silicone	Fluoro-Silicone	Silicone	Fluoro-Silicone	Silicone	Fluoro-Silicone	Silicone	Fluoro-Silicone	Silicone	Fluoro-Silicone	Silicone	Fluoro-Silicone	Silicone
MIL-83528 TYPE	-	-	-	M	-	L	-	B	D	A	C	I	E	F
Operating Temp. (°C)	Min	-55	-55	55	55	55	-55	-55	-55	-55	-55	-55	-55	-65
	Max	+150	+150	+160	+160	+125	+125	+160	+160	-125	-125	+160	-160	-160
Hardness	Shore A	30-70	65	65	65	75	70	65	70	65	75	45	65	75
Specific Gravity	g/cc	1,95	1,95	1,9	1,9	4,0	4,4	2,0	2,0	3,5	4,1	1,8	3,5	4,0
Compression Deflection	% min	3,5	3,0	3,5	3,5	3,5	3,5	3,5	3,5	3,5	3,5	8,0	2,5	3,5
Tensile Strength	#/in sq	150	150	200	200	200	180	200	180	200	180	150	300	250
Elongation	Min -	100	100	100	100	100	60	100	60	100	100	50	200	100
	Max	-	-	300	300	300	260	300	260	300	300	250	500	300
Compression Set	%	35	25	30	30	32	30	32	30	32	35	35	45	60
Tear Strength	#/in	40	35	30	30	30	35	30	35	25	35	20	50	40
Volume Res.	Ohm-cm	0,10	0,10	0,006	0,006	0,005	0,012	0,008	0,012	0,004	0,010	0,010	0,002	0,002
Shielding Effectiveness as tested per Mil-DTL-83528	100 MHz	100	100	100	100	120	120	120	120	120	120	100	120	120
	500 MHz	100	100	100	90	120	120	120	120	120	120	100	120	120
	2 GHz	100	100	90	90	120	115	115	115	120	120	90	120	120
	10 GHz	100	100	90	90	110	110	115	115	120	115	90	120	120

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SERIES

MATERIAL

S = Silicone
F = Fluorosilicone

METAL FILLER

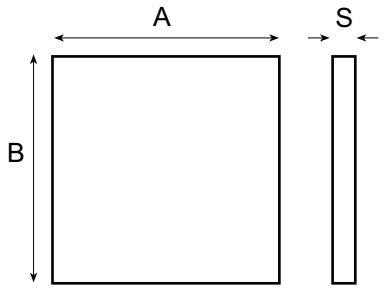
NG = Nickel/Grafite
SG = Silver/Glass
SN = Silver/Nickel
SA = Silver/Alluminium
SC = Silver/Copper
SL = Silver low density
AA = Silver

TYPE

DIMENSIONS REFERENCE

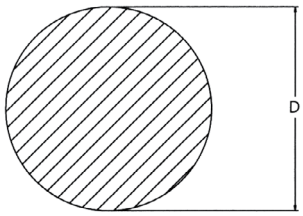
EXAMPLE: EESSAC003 = Silicone gasket filled with Silver/Alluminium, solid round diameter 1,57 mm
EEFSGQ007 = Fluorosilicone gasket filled with Silver/Glass, rectangular section 6,35 x 1,57 mm

TYPE S
(STANDARD SHEET)



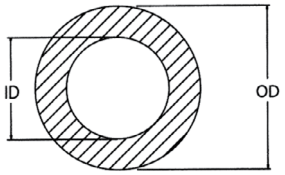
A (mm)	B (mm)	S (mm)	DIMENSIONS REFERENCES
250	250	0.51	001
380	500	0.51	002
250	250	0.81	003
380	500	0.81	004
250	250	1.00	005
380	500	1.00	006
250	250	1.20	007
380	500	1.20	008
250	250	1.57	009
380	500	1.57	010
250	250	2.36	011
380	500	2.36	013
250	250	3.18	014
380	500	3.18	015

TYPE C



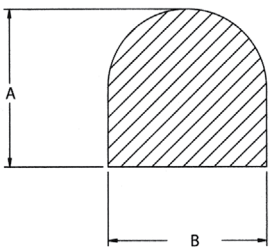
D (mm)	DIMENSIONS REFERENCES
1,00	001
1,35	002
1,57	003
1,78	004
2,00	005
2,36	006
2,60	007
2,85	008
3,00	009
3,18	010
3,30	011
3,53	012
3,80	013
4,10	014
4,78	015
5,50	016
6,35	017

TYPE T



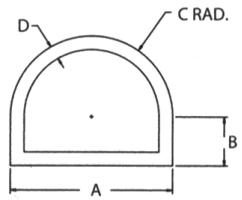
OD (mm)	ID (mm)	DIMENSIONS REFERENCES
1,78	0,63	001
2,36	0,90	002
2,60	1,00	003
3,18	1,14	004
3,18	1,57	005
3,96	1,27	006
4,50	2,00	007
6,35	3,18	008
7,92	4,88	009
9,52	6,35	010
11,10	6,35	011

TYPE D



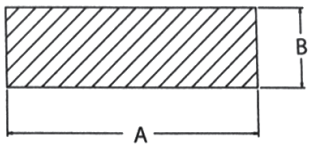
B (mm)	A (mm)	DIMENSIONS REFERENCES
1,40	1,62	001
1,57	1,72	002
1,57	1,72	003
2,38	1,98	004
1,98	2,26	005
2,38	2,38	006
1,57	2,54	007
3,81	2,80	008
3,10	3,32	009
3,15	3,45	010
3,00	3,96	011
3,96	3,96	012
4,52	4,45	013
4,78	4,78	014
6,35	6,35	015

TYPE H



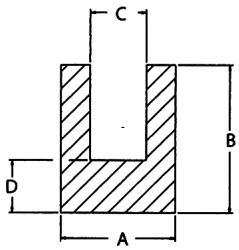
A (mm)	B (mm)	C (mm)	D (mm)	DIMENSIONS REFERENCES
3,96	1,14	1,98	1,14	001
3,96	1,98	1,98	1,14	002
4,75	2,36	2,36	1,27	003
6,35	3,17	3,17	1,65	004
7,92	3,96	3,96	1,57	005
12,37	2,00	6,20	2,00	006
7,92	5,10	2,85	1,57	007

TYPE Q



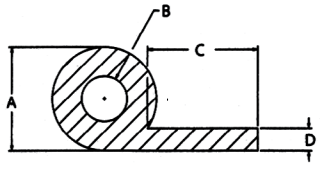
A (mm)	B (mm)	DIMENSIONS REFERENCES
0,82	0,82	001
1,60	1,10	002
2,41	1,57	003
3,00	1,90	004
3,18	1,57	005
3,96	1,57	006
6,35	1,57	007
12,70	1,90	008
12,70	3,18	009
12,70	4,78	010
19,00	1,57	011
22,35	1,57	012
25,40	6,35	013
30,00	1,57	014

TYPE U



A (mm)	B (mm)	C (mm)	D (mm)	DIMENSIONS REFERENCES
2,54	2,54	0,86	0,84	001
3,20	2,80	0,66	1,27	002
3,20	5,71	0,51	1,90	003
3,96	3,96	1,57	1,20	004
4,45	3,96	1,20	1,20	005
4,45	3,96	1,20	1,90	006
8,30	5,97	1,57	2,92	007

TYPE P



A (mm)	B (mm)	C (mm)	D (mm)	DIMENSIONS REFERENCES
5,10	2,00	6,98	1,57	001
5,10	2,00	16,51	1,57	002
6,35	3,18	6,35	1,57	003
6,35	3,18	9,53	1,57	004
6,35	3,81	9,53	1,57	005
6,35	3,18	15,87	1,57	006
7,92	4,75	14,30	1,57	007
9,14	6,48	10,80	1,78	008
6,35	3,18	15,87	1,57	009

AM SERIES

ALL-METAL WIRE MESH GASKETS

DESCRIPTION

WIRE SHIELDING MESH UTILIZES SINGLE-STRAND WIRE, AVAILABLE IN A WIDE RANGE OF METALS, KNITTED AND FORMED INTO PRE-SPECIFED CROSS SECTIONS. AN ECONOMICAL AND RELIABLE GASKET IS SO USED IN A VARIETY OF SHIELDING APPLICATIONS. CROSS SECTIONS CAN BE ROUND, RECTANGULAR, ROUND WITH A FIN AND DOUBLE ROUND WITH A FIN INTERCONNECTOR.

APPLICATION

WIRE MESH GASKETS ALLOW HIGH PERFORMANCE IN THOSE APPLICATIONS WHERE HIGH SHIELDING EFFECTIVENESS IS REQUIRED, AN ENVIRONMENTAL SEAL IS NOT NEEDED, AND THE GASKET MUST CONFORM TO AN IRREGULAR SURFACE.
PANEL GASKETS, CABLE WRAPPING, DOOR GASKETS, AND STATIC DISCHARGE, ARE JUST A FEW OF THE COMMON APPLICATIONS.

AVAILABILITY

THESE GASKETS ARE SUPPLIED IN CONTINUOS LENGTHS.
EXECUTED MANUFACTURING:
-CUT MADE TO MEASURE

TECHNICAL DATA

MATERIAL	MO monel	TC Tinned copper clad steel	SS Staineless Steel
Eletrical Shielding Effectiveness			
1 MHz	125 db	125 db	125 db
10 MHz	110 db	110 db	110 db
500 MHz	98 db	98 db	98 db
1 GHz	85 db	85 db	85 db

PART NUMBER GUIDE

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SERIES

TYPE

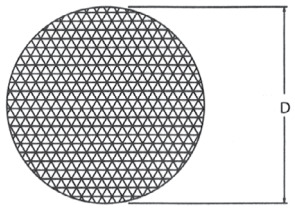
MATERIAL

MO = Monel
TC = Tinned Copper Clad Steel
SS = Stainless Steel
(Other materials available on request)

DIMENSIONS REFERENCE

EXAMPLE: AMRSS005 = Stainless Steel mesh round section diameter 6,40 mm
AMQMO009 = Monel mesh rectangular section 6,40 x 12,70 mm

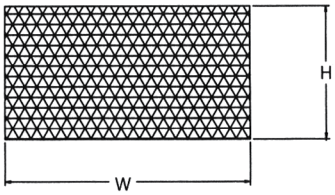
TYPE R



D (mm)	DIMENSIONS REFERENCES
160	001
2,40	002
3,20	003
4,80	004
6,40	005
9,50	006
12,70	007

*Other dimensions available on request

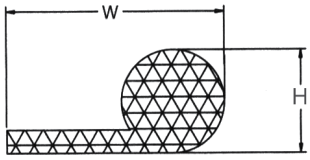
TYPE Q



H (mm)	W (mm)	DIMENSIONS REFERENCES
2,40	2,40	001
2,40	3,20	002
2,40	4,80	003
3,20	3,20	004
3,20	6,40	005
4,80	4,80	006
4,80	12,70	007
6,40	6,40	008
6,40	12,70	009
9,50	12,70	010

*Other dimensions available on request

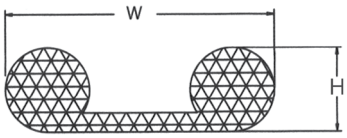
TYPE P



H (mm)	W (mm)	DIMENSIONS REFERENCES
3,20	9,50	001
3,20	12,70	002
4,80	15,90	003
4,80	25,40	004
9,50	32,00	005

*Other dimensions available on request

TYPE B



H (mm)	W (mm)	DIMENSIONS REFERENCES
3,20	9,50	001
3,20	12,70	002
3,20	19,00	003
4,80	15,90	004
4,80	25,40	005
9,50	32,00	006

*Other dimensions available on request

DESCRIPTION

WIRE MESH OVER AN ELASTOMER IS A DOUBLE LAYER OF WIRE MESH KNITTED OVER A ROUND OR RECTANGULAR CORE OF ELASTOMER. THE MESH LAYERS PROVIDE EMI/RFI SHIELDING, WHILE THE ELASTOMER ACTS AS A DUST AND MOISTURE SEAL.

APPLICATION

WIRE MESH OVER ELASTOMER GASKETS ARE USED WITH DOORS, CABINETS, AND WHERE SURFACES MAY BE UNEVEN AND LOW CLOSURE FORCES EXIST.

AVAILABILITY

THESE GASKETS ARE SUPPLIED IN CONTINUOS LENGTHS.
EXECUTED MANUFACTURING:
-CUT MADE TO MEASURE

TECHNICAL DATA

MATERIAL	MO monel	TC Tinned copper clad steel	SS Staineless Steel
Eletrical Shielding Effectiveness			
1 MHz	125 db	125 db	120 db
10 MHz	105 db	105 db	100 db
500 MHz	92 db	92 db	89 db
1 GHz	70 db	70 db	67 db

PART NUMBER GUIDE

EM X XX XX XXX

SERIES

TYPE

MESH MATERIAL

MO = Monel
TC = Tinned Copper Clad Steel
SS = Stainless Steel
(Other materials available on request)

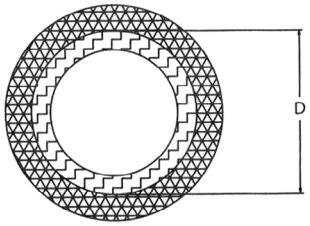
CORE MATERIAL

PN = Neoprene Sponge
PS = Silicone Sponge
TS = Silicone Tube
(Other materials on request)

DIMENSIONS REFERENCE

EXAMPLE: EMRMOTS001 = Monel mesh over silicone tube round section 1,60 mm
EMQSSPS006 = Stainless Steel mesh over neoprene sponge rectangular section 4,80 x 4,80 mm

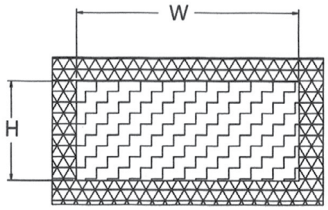
TYPE R



D (mm)	DIMENSIONS REFERENCES
1,60	001
2,40	002
3,20	003
4,80	004
6,40	005
9,50	006
12,70	007

*Other dimensions available on request

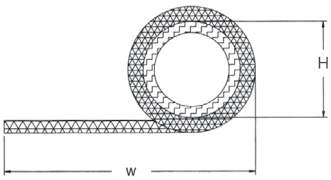
TYPE Q



H (mm)	W (mm)	DIMENSIONS REFERENCES
2,40	2,40	001
2,40	3,20	002
2,40	4,80	003
3,20	3,20	004
3,20	6,40	005
4,80	4,80	006
4,80	12,70	007
6,40	6,40	008
6,40	12,70	009
9,50	12,70	010

*Other dimensions available on request

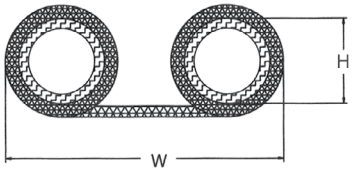
TYPE P



H (mm)	W (mm)	DIMENSIONS REFERENCES
3,20	9,50	001
3,20	12,70	002
4,80	15,90	003
4,80	25,40	004
9,50	32,00	005

*Other dimensions available on request

TYPE B



H (mm)	W (mm)	DIMENSIONS REFERENCES
3,20	9,50	001
3,20	12,70	002
3,20	19,00	003
4,80	15,90	004
4,80	25,40	005
9,50	32,00	006

*Other dimensions available on request

DESCRIPTION

THESE GASKETS ARE A COMPOSITE OF METAL SHEETING IMPREGNATED WITH AN ELASTOMER TO OBTAIN A SHIELDING GASKET THAT CAN ALLOW GOOD, EMI/RFI SHIELDING AND ENVIRONMENTAL SEALING. THE ELECTRICAL CONTINUITY IS OBTAINED THANKS TO MANY METALLIC CONTACT POINTS THAT LEAKING OUT THE ELASTOMER.

APPLICATION

IT IS PARTICULARY UESD TO OBTAIN FLAT SHIELDING GASKETS REQUIRED WHERE JOINT UNEVENNES IS LESS THAN 1mm.
A TYPICAL APPLICATION IS FOR FLAT GASKETS, CONNECTORS OR FOR WAVE GUIDE FLANGE.

AVAILABILITY

THEY ARE SUPPLIED IN DIFFERENT ELASTOMER/METAL SHEETING COMBINATIONS IN DIFFERENT THICKNESS IN THE STANDARD LENGTH OF 15,2 MT.
EXECUTED MANUFACTURING:
-CUT MADE TO MEASURE
-DIE-CUTTING

TECNICAL DATA

MATERIAL	AA alluminium	MM monel	SA silicone alluminium	SM silicone monel	NA neoprene alluminium	NM neoprene monel	FA fluorosilicone alluminium	FM fluorosilicone monel
Shielding db	60 dB @ 200 Khz 90 dB @ 100 Mhz 70 dB @ 1 GHz							
Closing force (psi)	50 - 75							
Compression set @50 psi	1%							

PART NUMBER GUIDE

RS XX XXX

SERIES

MATERIAL

AA = Alluminium sheeting only
MM = Monel sheeting only
SA = Silicone/Alluminium
SM = Silicone/Monel
NA = Neoprene/Alluminium
NM = Neoprene/Monel
FA = Fluorosilicone/Alluminium
FM = Fluorosilicone/Monel
(Other materials available on request)

DIMENSIONS REFERENCES

EXAMPLE: RSMM003 = Monel sheeting only thickness 0,41 mm whidth 305 mm
RSM007 = Expanded monel in silicone tickness 0,76 mm whidth 203 mm

	THICKNESS (mm)	WIDTH (mm)	DIMENSIONS REFERENCES
STANDARD SHEET LENGTH: 15,2 mt.	0,41	203	001
	0,41	254	002
	0,41	305	003
	0,51	203	004
	0,51	254	005
	0,51	305	006
	0,76	203	007
	0,76	254	008
	0,76	305	009

FV SERIES

WIRE ORIENTED IN SILICONE

DESCRIPTION

THE MATERIAL IS REALIZED FROM THE COMBINATION OF COMPACT OR EXPANDED SILICONE WITH METALLIC WIRES MADE OF ALUMINIUM OR MONEL.
MANY METALLIC CONTACT POINT (AT ABOUT 100 POINTS/CM.) ALLOW AN EXCELLENT SHIELDING, WHILE THE SILICONE REALIZE A GOOD ENVIRONMENTAL SEALING.

APPLICATION

THIS MATERIAL IS USED TO REALIZE SHIELDING GASKETS THAT CAN OFFER ALSO A GOOD ENVIRONMENTAL SEALING LEVEL.
THE COMPACT SILICONE, WITH SHORE HARDNESS AT 40, IS NOT GENERALLY SUITED FOR GASKETS ON PANELS OR OTHER APPLICATIONS WHERE THERE ARE FREQUENT OPENINGS DUE TO THE HIGH CLOSING FORCE. IT IS SUGGESTED FOR 15% COMPRESSION.

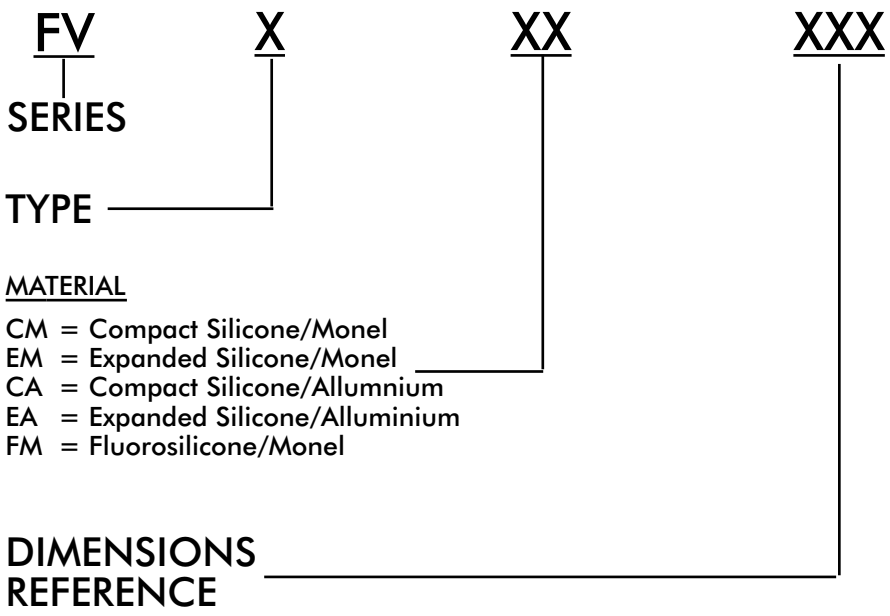
SUPPLY

THE MATERIAL IS SUPPLIED IN SHEETS OR STRIPS WITH A STANDARD LENGTH OF 910mm.
EXECUTED MANUFACTURING:
- CUT MADE TO MEASURE
- DIE-CUTTING

TECHNICAL DATA

MATERIAL	CM Solid Silicone Monel	EM Solid Silicone Sponge	CA Solid Silicone Aluminium	EA Sponge Silicone Aluminium	FM Fluorosilicone Monel
Shielding db	70 dB @ 200 Khz 120 dB @ 100 Mhz 100 dB @ 1 GHz				
Flue/solvent resistant	NO	NO	NO	NO	YES
Compression set	25 %				
Temperature range (C°)	- 65 / + 200	- 65 / + 200	- 65 / + 200	- 65 / + 200	- 65 / + 200

PART NUMBER GUIDE

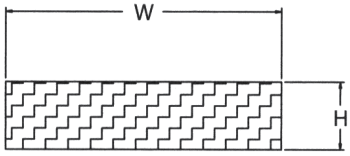


EXAMPLE: FVTCM011 = Completely conductive compact silicone/monel 1,40 mm width 152,40 mm
FVPEA007 = Partially conductive expanded silicone/alluminium thickness 2,36 mm width 19,00 mm

TYPE T

COMPLETLY CONDUCTIVE

STANDARD LENGTH: 910 mm



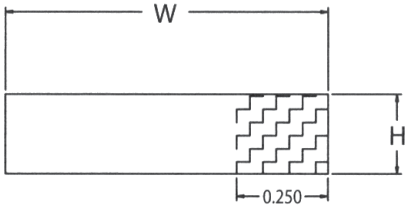
	W (mm)	H (mm)	DIMENSIONS REFERENCES
SHEETS	76,2	0,81	001
	114,3	0,81	002
	152,4	0,81	003
	228,6	0,81	004
	76,2	1,14	005
	114,3	1,14	006
	152,4	1,14	007
	228,6	1,14	008
	76,2	1,40	009
	114,3	1,40	010
	152,4	1,40	011
	228,6	1,40	012
	76,2	1,57	013
	114,3	1,57	014
	152,4	1,57	015
	228,6	1,57	016
	76,2	2,36	017
	114,3	2,36	018
	152,4	2,36	019
	228,6	2,36	020
	76,2	3,17	021
	114,3	3,17	022
	152,4	3,17	023
	228,6	3,17	024
PROFILE	2,36	1,57	025
	3,97	1,57	026
	6,35	1,57	027
	12,7	1,57	028
	25,4	1,57	029
	2,36	2,36	030
	3,97	2,36	031
	6,35	2,36	032
	12,7	2,36	033
	25,4	2,36	034
	2,36	3,17	035
	3,97	3,17	036
	6,35	3,17	037
	12,7	3,17	038
	25,4	3,17	039
	2,36	4,78	040
	3,97	4,78	041
	6,35	4,78	042
	12,7	4,78	043
	25,4	4,78	044
	2,36	6,35	045
	3,97	6,35	046
	6,35	6,35	047
	12,7	6,35	048
	25,4	6,35	049

*Other dimensions available on request

TYPE P

PARTIALLY CONDUCTIVE

STANDARD LENGTH: 910 mm

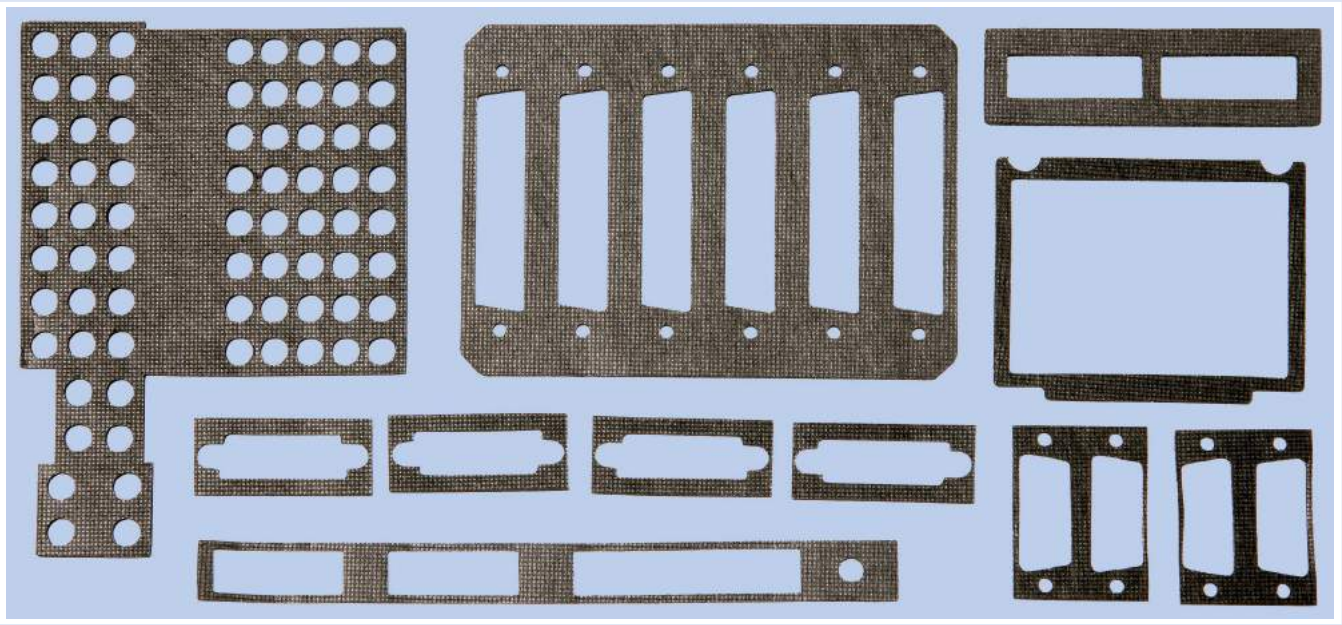


W (mm)	H (mm)	DIMENSIONS REFERENCES
9,5	1,57	001
12,7	1,57	002
19,0	1,57	003
25,4	1,57	004
9,5	2,36	005
12,7	2,36	006
19,0	2,36	007
25,4	2,36	008
9,5	3,17	009
12,7	3,17	010
19,0	3,17	011
25,4	3,17	012
9,5	4,78	013
12,7	4,78	014
19,0	4,78	015
25,4	4,78	016
9,5	6,35	017
12,7	6,35	018
19,0	6,35	019
25,4	6,35	020
9,5	9,5	021
12,7	9,5	022
19,0	9,5	023
25,4	9,5	024

*Other dimensions available on request

ZFM SERIES

CONDUCTIVE XYZ FOAM



GENERAL INFORMATION

ZFM SERIES IS COMPOSED OF A CONDUCTIVE FOAM (Ag PU FOAM) WITH CONDUCTIVE ADHESIVE AND NON-WOVEN Ni/Cu SHEET.
THIS MATERIAL IS CONDUCTIVE ON THREE AXIS XYZ . SO IT IS IDEAL FOR INPUT/OUTPUT (I/O) SHIELDING PANELS.

TECHNICAL DATA

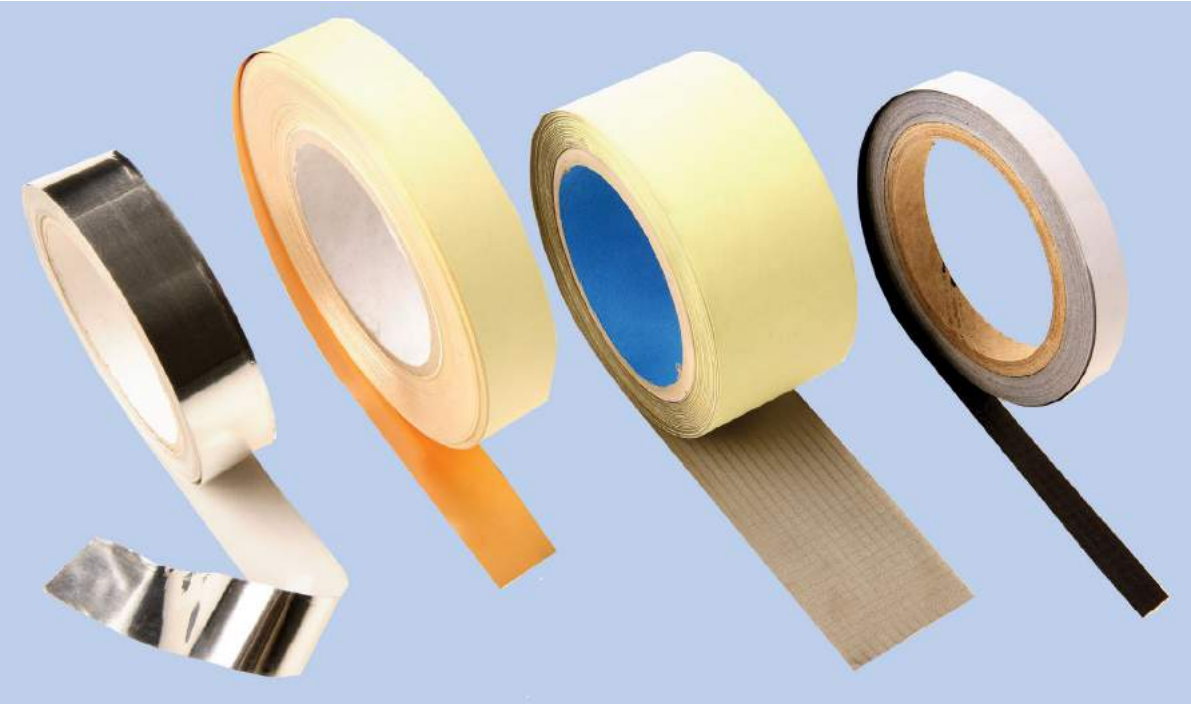
COLOR	GRAY
MAX TEMPERATURE C°	-30 +150
ELETRIC RESISTANCE	0,03 Ω
SHIELDING EFFECTIVENESS	90 dB

THICKNESS	PART NO.
1	ZFMST100
1,5	ZFMST150
2	ZFMST200
3	ZFMST300

STANDARD SHEET: SIZE 470X500 mm

AVAILABLE ON REQUEST:
-DIFFERENT SIZE AND THICKNESS
-WITH OUT ADHESIVE

EXECUTED MANUFACTURING:
CUT MADE ACCORDING TO CUSTOMER'S REQUIREMENTS



GENERAL INFORMATION

NC CONDUCTIVE TAPES ARE REALIZED IN ALUMINIUM, COPPER AND CONDUCTIVE FABRIC WITH CONDUCTIVE ADHESIVE FOR THE FOLLOWING APPLICATIONS.

- SHIELDING FOR SIGNAL CABLE
- EMI SHIELD ROOM
- ADHESIVE GROUNDING OF OBJECTIVE BODY FOAM
- ADHESIVE GROUNDING FOR ANTISTATIC BRUSH
- GROUNDING FOR VARIOUS ELECTRONIC PRODUCTS.

TECHNICAL DATA

MATERIAL COLOUR	COPPER NATURAL	ALUMINIUM NATURAL	NICKEL/COPPER FABRIC BLACK
THICKNESS (mm.)	0,08	0,08	0,12
ELETRIC RESISTANCE	0,03 Ω	0,06 Ω	0,06 Ω
MAX TEMPERATURE C°	-30 +150	-30 +150	-30 +150

MATERIAL	WIDTH(mm)	PART. NO
NICKEL/COPPER FABBRIC	12,7 25	NCTR127 NCTR250
COPPER	12,7 25	NCMC127 NCMC250
ALUMINIUM	12,7 25	NCMA127 NCMA250

STANDARD LENGHT: 50 MT

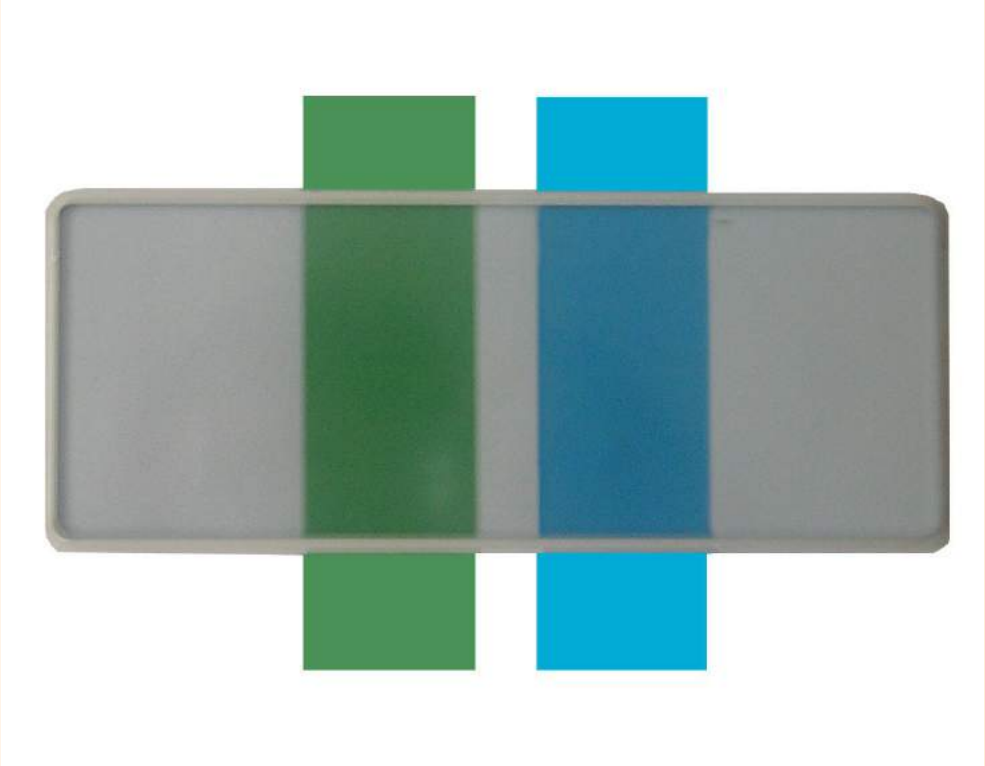
AVAILABLE ON REQUEST:
- FABRIC TYPE IN BRIGHT GRAY
- BOTH SIDE CONDUCTIVE ADESIVE
- OTHER WIDTH

GENERAL INFORMATION

MT TAPE IS SPECIALLY DESIGNED FOR CABLE ASSEMBLIES SHIELDING

MADE IN MONEL, TINNED COPPER CLAD STEEL AND IN OTHER MATERIALS, MT TAPE PROVIDES EXCELLENT SHIELDING IN MAGNETIC AND ELECTRIC FIELDS.

MATERIAL	WIDTH(mm)	PART. NO
MONEL	25 50	MT025MO MT050MO
TINNED COPPER CLAD STEEL	25 50	MT025TC MT050TC
OTHER MATERIALS AND WIDTH AVAILABLE ON REQUEST		



GENERAL INFORMATION

VS SERIES IS A COMPLETE RANGE OF OPTICAL FILTERS WITH AN EMBEDDED METAL MESH FOR THE SUPPRESSION OF ELETROMAGNETIC FIELDS.

THE PROPERTIES OF EMC FILTER

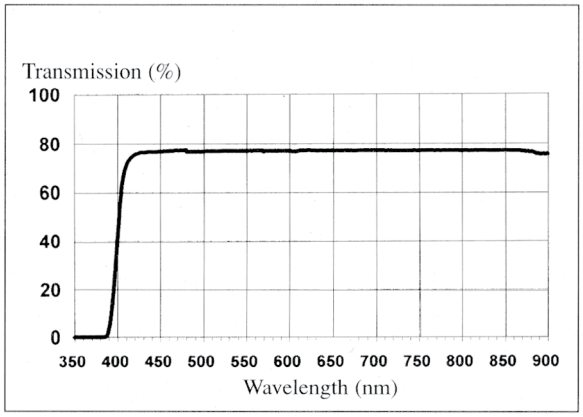
A TECHNIQUE HAS BEEN DEVELOPED IN ORDER TO MAKE POSSIBLE TO EMBED THE METAL MESH AS AN INTEGRAL PART OF THE ACRYLIC FILTER SO THAT UNNECESSARY REFRACTION SURFACES ARE NOT CREATED. THE EMBEDDED MESH IS TYPICALLY RUSTPROOF, BUT OTHER TYPES OF MESH CAN BE SUPPLIED FOR OTHER APPLICATIONS.

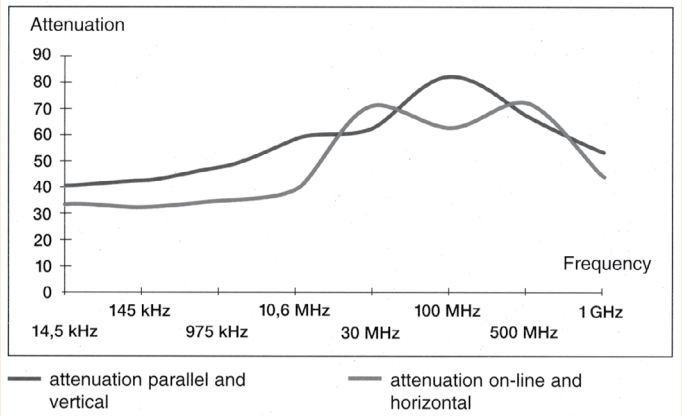
THE EMC FILTERS CAN BE MOUNTED AT ANY ANGLE BETWEEN 0° AND 45°.

TRANSMISSION AND SHIELDING

ALL EMC SHIELDING IS A COMPROMISE BETWEEN THE SHIELDING EFFECT AND THE READBILITY. THE MOULDING TECHNIQUE RESULTS IN A LIGHT TRANSMITTANCE OF 78% FOR THE EMC FILTER IN RELATION TO TRASPARENT ACRYLIC.

THE EMBEDDING OF THE METAL MESH IN ACRYLIC FILTER RANGE HAS MINIMAL SIGNIFICANCE AS FAR AS THE SPECTRAL CHARACTERISTIC OF THE EMC FILTER ISCONCERNED. THE STEEL MESH IS NOT RIFLECTIVE AND WHEN MIXING THE COLOURPRIOR TO MOULDING THE ACRYLIC SHEETS, ADJUSTMENTS ARE MADE TO COMPENSATE FOR THE TRANSMISSION ATTENUATION CAUSED BY THE MESH.





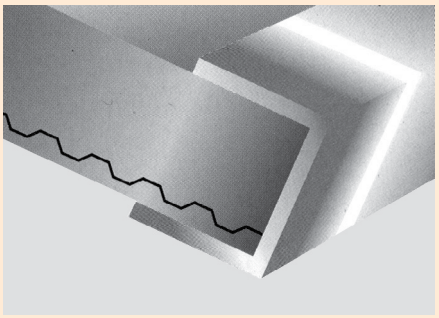
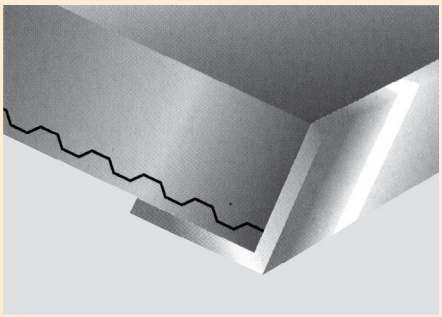
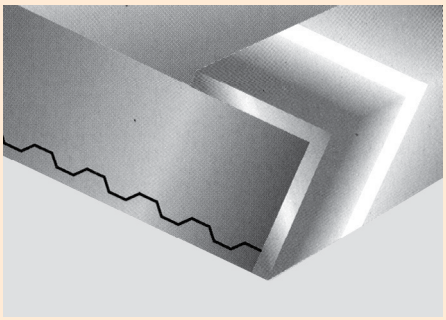
CONTACT WITH THE CABINET

IN ORDER FOR THE FILTER TO BE ABLE TO MEET THE SPECIFIED DATA, IT IS VITAL THAT ELETRICAL CONTACT IS MADE BETWEEN THE ENTIRE PERIMETER OF THE MESH AND THE CABINET OF THE APPARATUS. THIS CONTACT CAN BE ESTABLISHED BY APPLYING SILVER PAINT TO THE EDGE OF THE FILTER.

THE EMC FILTER SHOULD THEN BE MOUNTED IN THE PANEL WITH A CONDUCTING GASKET OR CONDUCTING GLUE.

FURTHER REFINEMENT

THE EMC FILTERS CAN BE SUPPLIED WITH MAT-FINISH SURFACE TREATMENT, WHICH PREVENTS DISTRATING REFLECTIONS FROM THE SURROUNDINGS WITHOUT REDUCING THE QUALITY OF THE SIGNAL. IT IS POSSIBLE TO HAVE THE FILTERS MACHINED, FOR ISTANCE, USING LASER CUTTING AND MILLING TECHNIQUES. THE FILTERS CAN ALSO BE SUPPLIED WITH SILK SCREEN PRINTING.

TECHNICAL DATA

Light transmittance approx. 78% compared to transparent acrylic

Thickness: 1.5, 2.5, 3 and 4 mm

Supplied in approx. 40 different colours

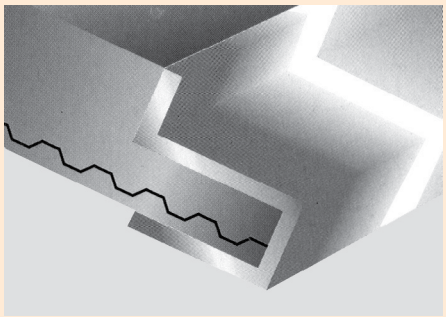
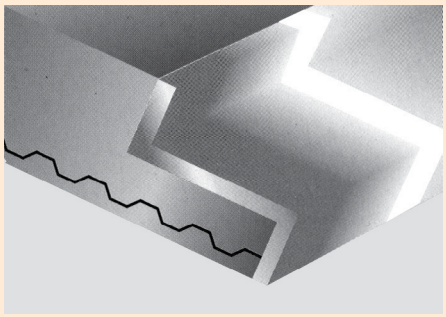
Mesh: Bright (Non-standard) or blckened Wire diameter: 0.025 mm, 100 OPI. The mesh can be angled between 0° - 45°

Flexible, conductive silver or nickel edge

Standar operation temperatures between -40° to 70° C

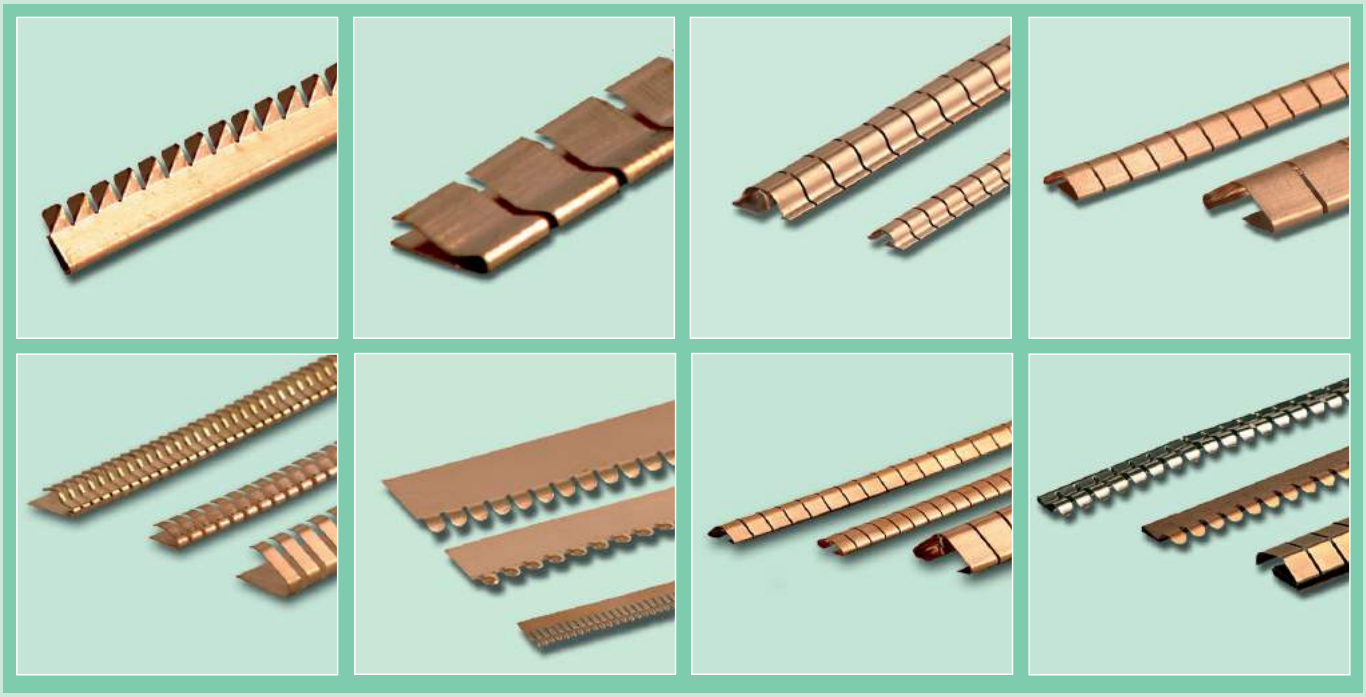
Dimensions up to 1500 x 1000 mm

Non-standard mesh types can be embedded upon request

NF SERIES

FINGERS GASKETS



DESCRIPTION

NS SERIES FINGERS GASKETS ARE MADE OF COPPER BERYLLIUM AND TREADED TO PRODUCE HIGH ELASTICITY CONTACTS RELIABLE UNDER LIGHT PRESSURE.

APPLICATION

HAS A VARIETY OF USES ACCORDING TO THE TYPE OF PART TO WHICH IT IS APPLIED:
- EARTHING
- HYPERFREQUENCY SHIELDING GASKETS FOR ENCLOSURE, METAL CABINETS AND PANELS
- MAKING SLIDING CONTACT RING GASKETS, ETC.

AVAILABILITY

THEY ARE SUPPLIED IN STRAIGHT STRIPS, ROLLS AND SEGMENTS.

SHIELDING EFFECTIVENESS

THE FINGERS GASKETS ARE VERY RESILIENT AND PROVIDE EXCELLENT ATTENUATION.
110 dB UNDER COMPRESSION OF 25% OF THEIR HEIGHT.

PART NUMBER GUIDE

NF XXXX XX XXXX

SERIES

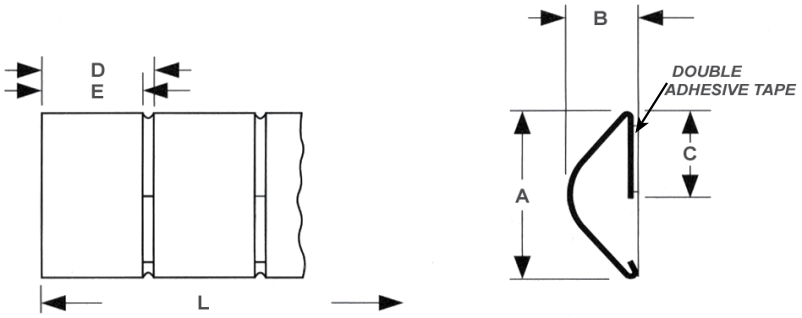
TYPE AND DIMENSIONS

FINISH
01 = Clean and Bright
02 = Nickel
03 = Tin
04 = Silver
(Other finish available on request)

LENGHT (mm)

EXAMPLE: NFG001-01-0610 = FINGER GASKET TYPE G001 CLEAN AND BRIGHT FINISH L= 610 mm
NFA002-02-0047 = FINGER GASKET TYPE A002 NICKEL FINISH L= 47 mm

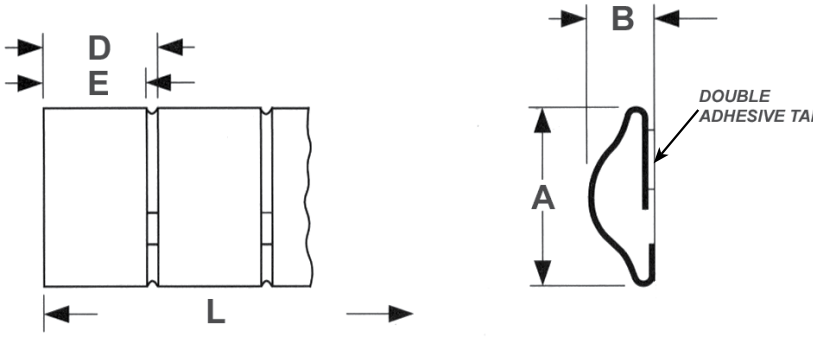
S TYPE



PART NUMBER	A	B	C	D	E	L
NFS001-XX-XXXX	7,1	2,8	4,6	4,75	4,29	610
NFS002-XX-XXXX	8,1	2,8	5,3	4,75	4,29	457
NFS003-XX-XXXX	9,4	3,3	5,3	6,35	5,72	406
NFS004-XX-XXXX	15,2	5,6	7,1	9,52	8,71	610
NFS005-XX-XXXX	20,3	8,1	11,2	9,52	8,71	610

unit: mm.

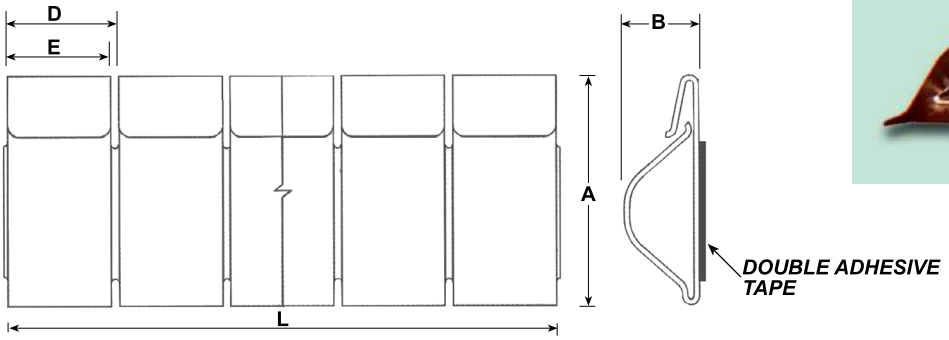
M TYPE



PART NUMBER	A	B	D	E	L
NFM001-XX-XXXX	8,1	2,5	3,96	3,51	406
NFM002-XX-XXXX	9,4	3,3	6,35	5,72	406
NFM003-XX-XXXX	15,2	5,6	9,52	8,71	457

unit: mm.

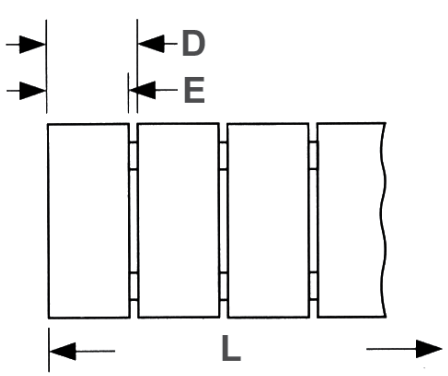
C TYPE

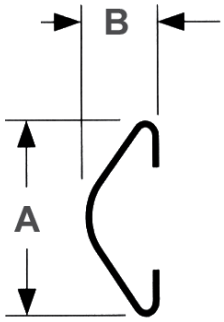


PART NUMBER	A	B	D	E	L
NFC001-XX-XXXX	19,3	5,8	9,52	8,71	610
NFC002-XX-XXXX	13,0	3,8	6,35	5,79	406
NFC003-XX-XXXX	9,7	3,0	4,78	4,32	406
NFC004-XX-XXXX	6,4	2,3	4,78	4,32	406

unit: mm.

A TYPE

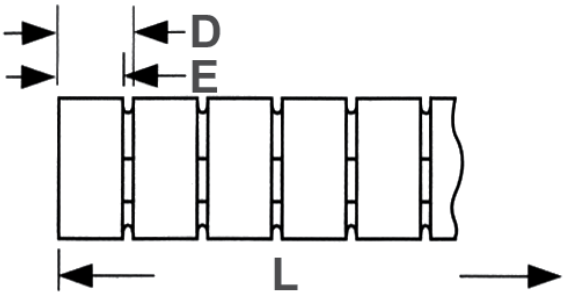


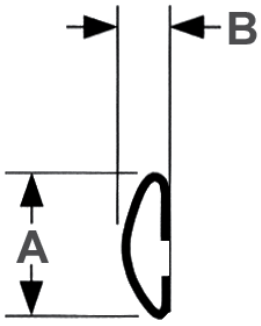


PART NUMBER	A	B	D	E	L
NFA001-XX-XXX	8,1	2,8	4,75	4,29	406
NFA002-XX-XXXX	9,4	3,3	6,35	5,72	457
NFA003-XX-XXXX	15,2	5,6	9,52	8,71	400
NFA004-XX-XXXX	20,3	8,1	9,52	8,71	400

unit: mm.

A TYPE

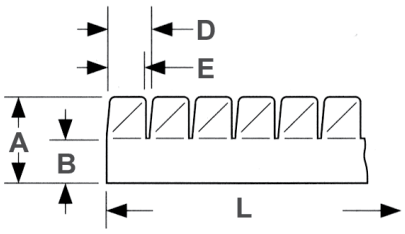


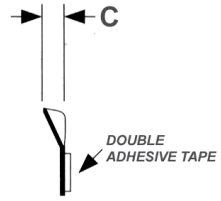


PART NUMBER	A	B	D	E	L
NFA005-XX-XXXX	8,9	2,8	4,75	4,29	541

unit: mm.

G TYPE

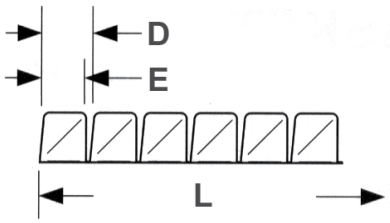


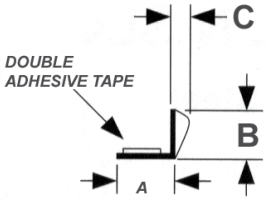


PART NUMBER	A	B	C	D	E	L
NFG001-XX-XXXX	5,8	3,6	0,8	2,41	2,03	610
NFG002-XX-XXXX	8,6	4,6	1,8	4,19	3,81	610

unit: mm.

G TYPE

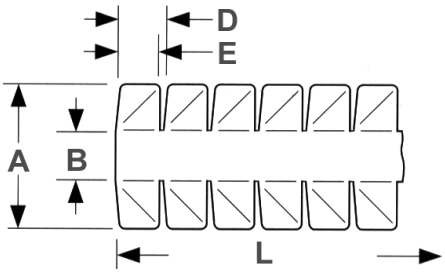


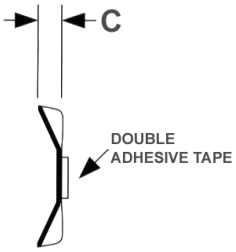


PART NUMBER	A	B	C	D	E	L
NFG003-XX-XXXX	3,6	2,3	0,8	2,41	2,03	610
NFG004-XX-XXXX	5,1	3,3	1,8	4,19	3,81	610

unit: mm.

G TYPE

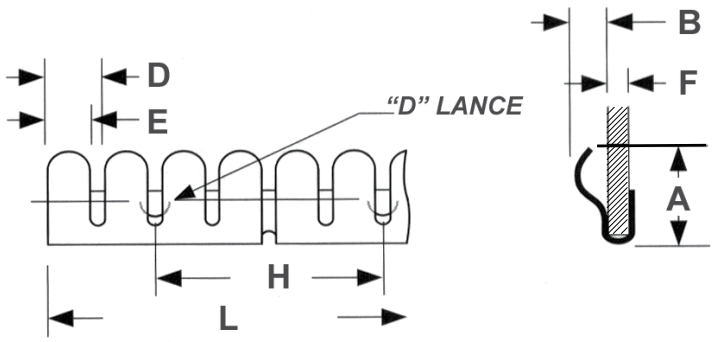




PART NUMBER	A	B	C	D	E	L
NFG005-XX-XXXX	12,7	4,8	1,8	4,19	3,81	610

unit: mm.

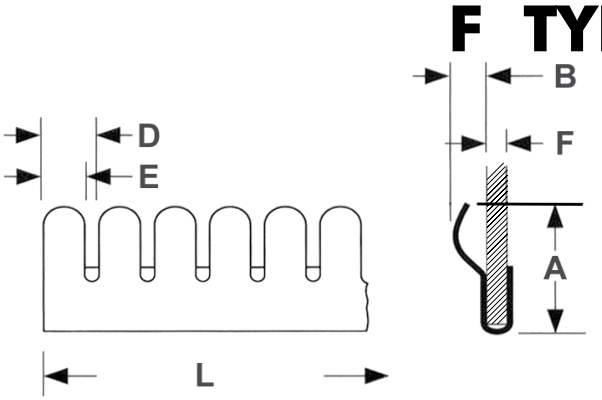
F TYPE



PART NUMBER	A	B	D	E	F	H	L
NFF001-XX-XXXX	7,9	2,5	4,62	3,43	1,5	18,5	406

unit: mm.

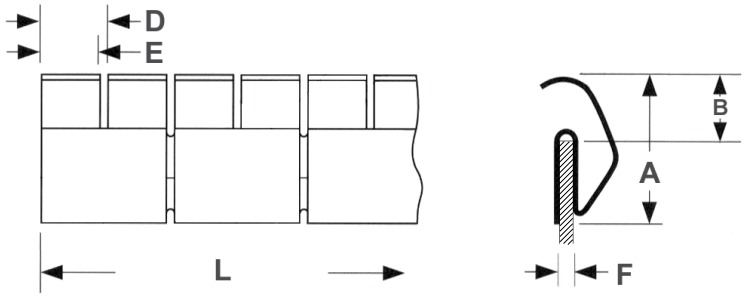
F TYPE



PART NUMBER	A	B	D	E	F	L	
NFF002-XX-XXXX	10,7	3,0	4,75	3,56	1,0	406	"D" Lance optional

unit: mm.

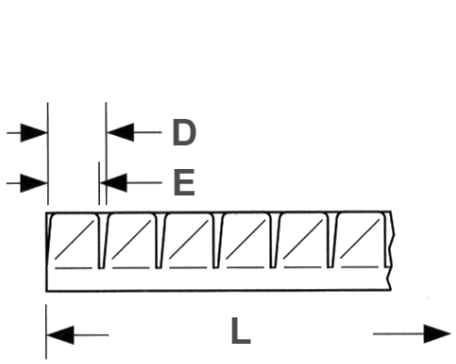
F TYPE



PART NUMBER	A	B	D	E	F	L	
NFF003-XX-XXXX	14,0	6,1	6,35	5,59	1,5	406	"D" Lance optional

unit: mm.

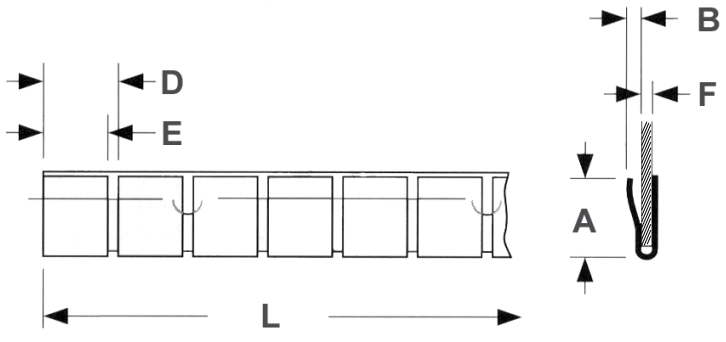
H TYPE

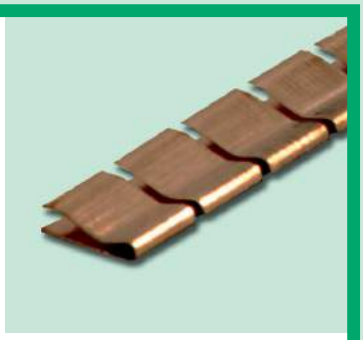


PART NUMBER	A	B	D	E	F	L	
NFH001-XX-XXXX	9,7	1,8	4,19	3,81	1,5	610	
NFH002-XX-XXXX	5,6	1,8	4,19	3,81	1,5	457	
NFH003-XX-XXXX	5,8	0,8	2,41	2,03	1,5	457	"D" Lance optional
NFH004-XX-XXXX	4,1	0,8	2,41	2,03	1,5	457	"D" Lance optional

unit: mm.

P TYPE

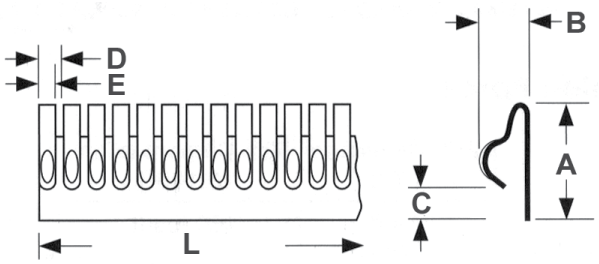


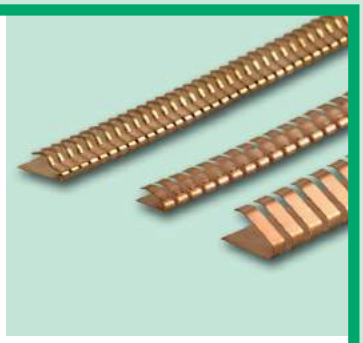


PART NUMBER	A	B	D	E	F	L	
NFP001-XX-XXXX	6,9	1,5	6,35	5,59	0,75 / 1,0	406	"D" Lance optional

unit:mm.

R TYPE

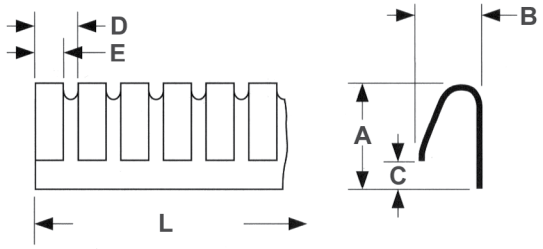


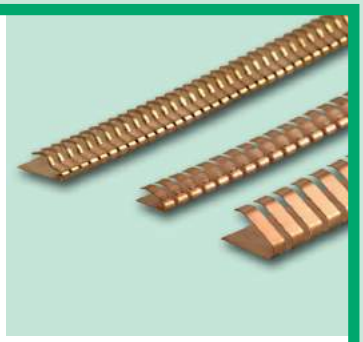


PART NUMBER	A	B	C	D	E	L
NFR001-XX-XXXX	4,8	2,3	0,8	1,52	1,02	610
NFR002-XX-XXXX	6,6	2,8	0,8	1,91	1,27	457
NFR003-XX-XXXX	11,2	4,1	3,0	2,36	1,58	610

unit: mm.

R TYPE

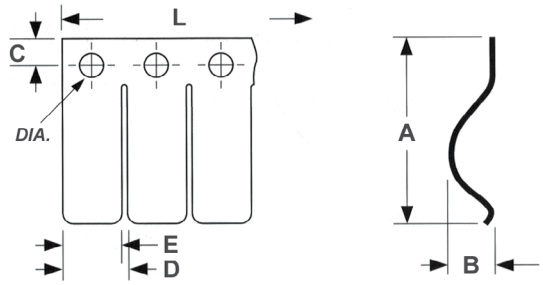




PART NUMBER	A	B	C	D	E	L
NFR004-XX-XXXX	3,3	1,8	0,8	1,52	1,02	610
NFR005-XX-XXXX	7,1	3,3	0,8	3,40	2,31	406
NFR006-XX-XXXX	7,1	5,1	2,3	3,40	2,31	610
NFR007-XX-XXXX	12,2	7,1	3,3	4,75	3,18	610

Unit: mm.

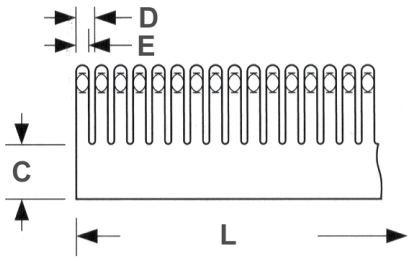
E TYPE

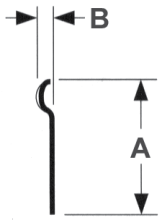


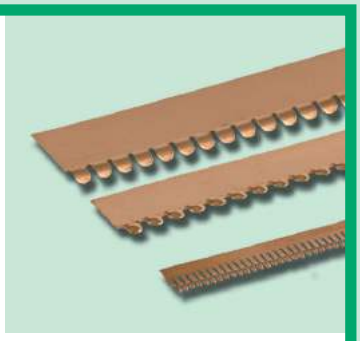
PART NUMBER	A	B	C	D	E	L
NFE001-XX-XXXX	27,7	6,6	4,1	9,52	8,48	
NFE002-XX-XXXX	42,4	10,4	4,8	12,70	11,68	

Unit:mm.

T TYPE



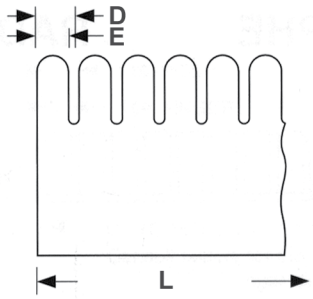


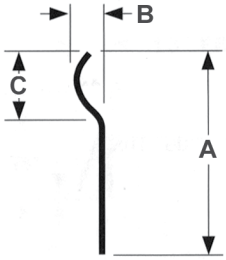


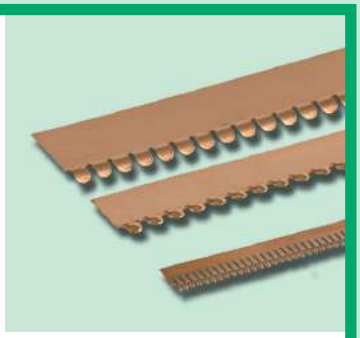
PART NUMBER	A	B	C	D	E	L
NFT001-XX-XXXX	8,6	1,0	3,0	1,52	0.28	610
NFT002-XX-XXXX	13,5	1,3	5,6	1,91	1,27	610

Unit: mm.

T TYPE



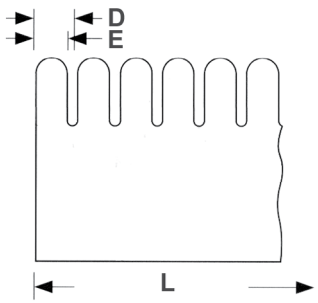


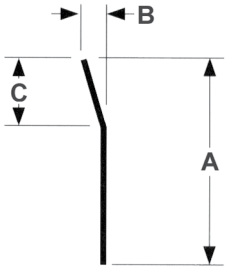


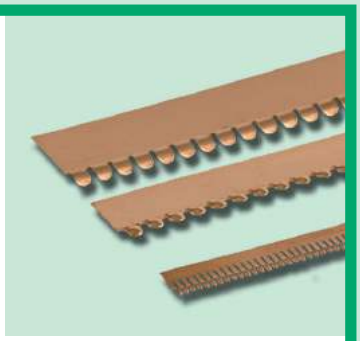
PART NUMBER	A	B	C	D	E	L
NFT003-XX-XXXX	22,6	2,3	6,9	4,75	3,56	610

Unit: mm.

T TYPE





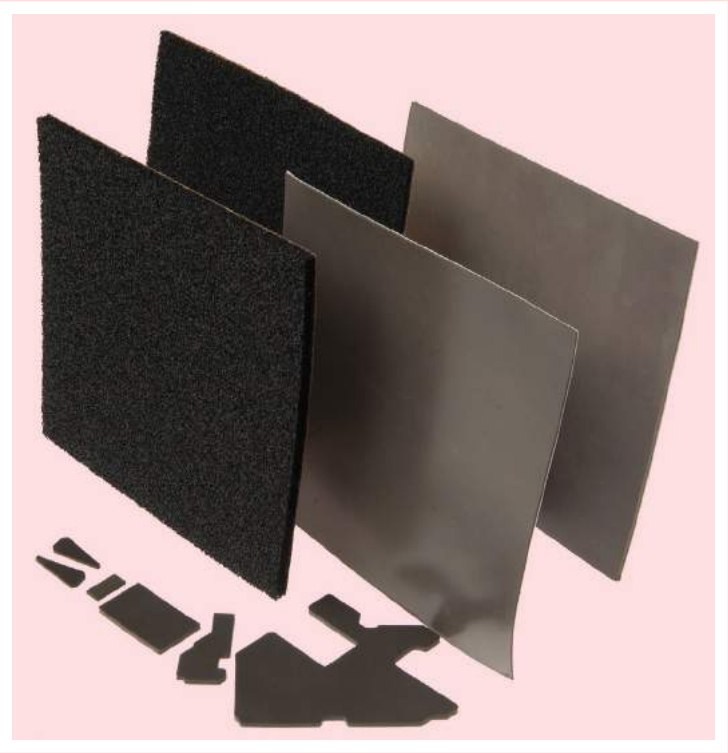


PART NUMBER	A	B	C	D	E	L
NFT004-XX-XXXX	23,4	2,3	7,6	4,75	3,56	610

Unit:mm.

MW SERIES

MICROWAVE ABSORBERS



INTRODUCTION

THERE IS A GROWING INTEREST IN MICROWAVE ABSORBING MATERIALS. AS INDICATED IN THE NAME, MICROWAVE ABSORBERS ARE MATERIALS WHOSE ELECTRICAL AND MAGNETIC PROPERTIES ARE ALTERED TO ALLOW ABSORPTION OF MICROWAVE ENERGY AT DISCRETE OR BROADBAND FREQUENCIES. OUR GOAL IS TO BALANCE PERFORMANCE, THICKNESS, WEIGHT, MECHANICAL PROPERTIES AND COST ACCORDING THE CUSTOMER'S NEED.

ABSORBER TYPES

WE CAN OFFER DIFFERENT TYPES OF ABSORBERS ACCORDING CUSTOMER'S REQUIREMENTS.

ELASTOMERIC (RUBBER) ABSORBERS (SERIES MAG)

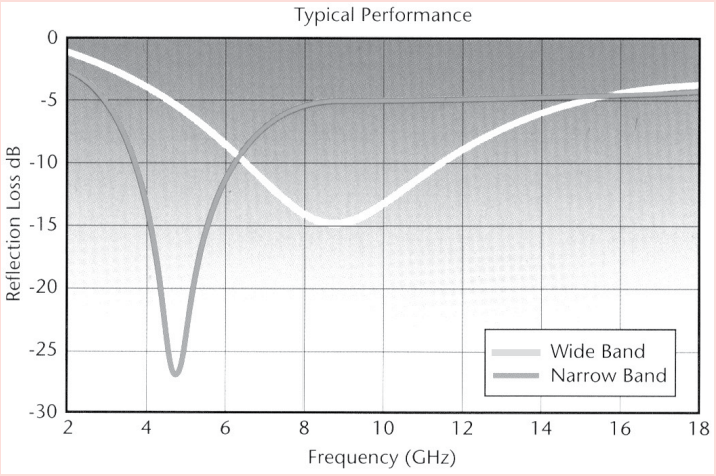
THIS SERIES COMBINES THE SUPERIOR ENERGY ABSORPTION PROPERTIES OF HIGH PERFORMANCE MAGNETIC MATERIALS WITH THE DESIRABLE PHYSICAL CHARACTERISTICS OF ELASTOMERIC BINDERS. THE RESULT IS A THIN, FLEXIBLE, RESONANT ABSORBER THAT CAN BE TUNED TO A WIDE RANGE OF FREQUENCIES AND BANDWIDTHS. IRON POWDERS AND FILLERS ARE COMBINED WITH GUMSTOCK SILICONE, NITRILE, URETHANE AND NEOPRENE RUBBERS IN EXACTING RATIOS FOR PRECISELY TUNED ABSORPTION. THROUGH COMPRESSION MOLDING, EXTRUSION, CALENDERING AND PROPRIETARY DISPENSING METHODS, WE ARE ABLE TO DELIVER PRODUCTS THAT ARE TAILORED TO YOUR SPECIFIC APPLICATION.

APPLICATION

- SPECULAR RETURN (RCS, AIRCRAFT EXTERIORS,..)
- SURFACE CURRENT REDUCTION
- SYSTEM ISOLATION

CHARACTERISTICS AND BENEFITS

- ATTENUATES FROM 500 MHZ TO 40 GHZ
- SPACE SAVING THIN MATERIAL
- DURABILITY
- EASILY CUT TO SHAPE
- MOISTURE AND CHEMICAL RESISTANT
- FUNCTIONAL OVER A WIDE TEMPERATURE RANGE
- INTEGRATED GROUND PLANE AVAILABLE
- EASY ATTACHMENT WITH PRESSURE SENSITIVE ADHESIVE
- RESISTANT FORMULATION AVAILABLE
- UL FLAMMABILITY RATINGS



THE SUBSTRATE MATERIAL ALLOWS TO OBTAIN DIFFERENT PERFORMANCES ACCORDING YOUR REQUIREMENTS. IN THIS TABLE DIFFERENT PERFORMANCES SPECIFICATIONS ARE SUMMARIZED.

Substrate Material	Physical Characteristics	Temperature range
Silicone	Highly flexible; excellent environmental properties; UL94-V0 rated	-50°C to 190°C
Urethane	High abrasion resistance and tear strength; UL94-HB rated	-50°C to 135°C
Neoprene	Durable, weatherproof, economical	-40°C to 105°C
Nitrile	High moisture, fluid and fuel resistance resistance	-40°C to 150°C

FOAM ABSORBERS (SERIES FOL)

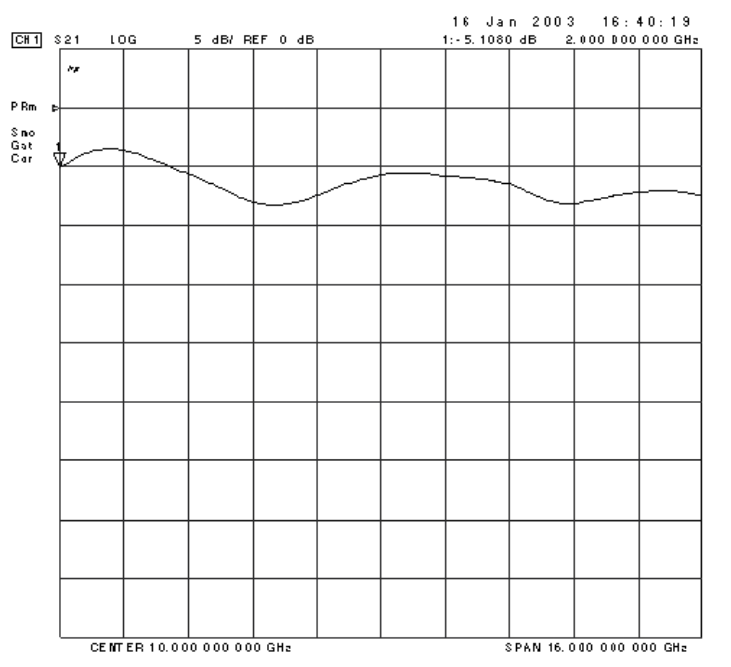
THIS FAMILY OF LOW-DENSITY, HIGH-LOSS FLEXIBLE EMI ABSORBERS ARE DESIGNED TO SOLVE A WIDE RANGE OF INTERFERENCE CONTROL PROBLEMS EASILY, QUICKLY AND COST-EFFECTIVELY. USING PROVEN FORMULAS, REFINED CARBON POWDERS IS COMBINED WITH BINDING AGENTS. THE ABSORBENT MIXTURE IS THEN INTEGRATED INTO AN OPEN CELL, POLYURETHANE FOAM STRUCTURE. THESE PRECISELY CONTROLLED, CARBON LOADED FOAM ABSORBERS OFFER EXCELLENT SUPPRESSION OF UNWANTED ELECTROMAGNETIC SIGNALS FOR A VARIETY OF APPLICATIONS INCLUDING TELECOMMUNICATIONS, HIGH-SPEED COMPUTERS, WIRELESS TECHNOLOGIES AND MICROWAVE SYSTEMS. BY VARYING THE THICKNESS AND LOADING LEVELS OF THESE UNIFORMLY LOADED FOAM SHEETS, FUTURA FOAM ABSORBERS CAN BE FREQUENCY-TUNED FOR A SPECIFIC APPLICATION.

CHARACTERISTICS AND BENEFITS

- ABSORPTION OF ELECTROMAGNETIC ENERGY FROM 2GHZ TO 40GHZ
- FLEXIBLE, LIGHTWEIGHT AND CONFORMABLE
- BROADBAND PERFORMANCE CHARACTERISTICS
- STANDARD THICKNESSES FROM 3.18MM - 50.8MM
- CUSTOM THICKNESSES UP TO 155 MM
- LOW COST EMI SOLUTION
- INTEGRATED GROUND PLANE AVAILABLE
- CONTROLS SURFACE CURRENT
- ENVIRONMENTALLY PROTECTIVE SURFACE COATINGS AVAILABLE
- CHOICE OF DIELECTRIC PROPERTIES TO OPTIMIZE ABSORPTIVE PERFORMANCE
- EASILY ATTACHED WITH PRESSURE SENSITIVE ADHESIVE
- UL94 HB FLAMMABILITY RATING (UL FILE NO. E204422)
- EASILY CUT, DIE-CUT OR FLEXED TO ANY SHAPE OR SIZE

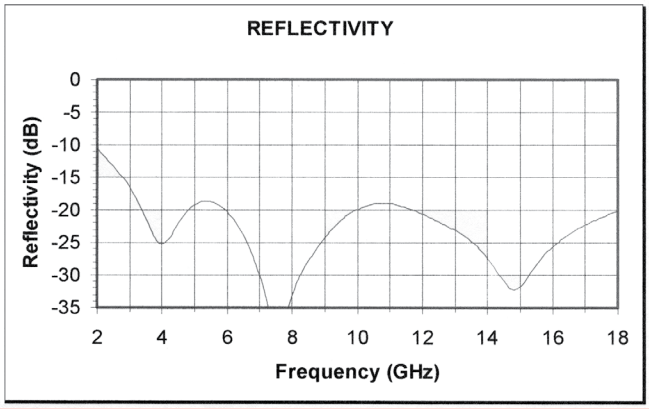
AMONG THE FOAM FAMILY WE HAVE DIFFERENT TYPES OF FOAM ABSORBERS:

LOSSY FLEXIBLE FOAM: LOW DENSITY, HIGH LOSS, FLEXIBLE MICROWAVE ABSORBER. BY VIRTUE OF IT'S PRECISE CARBON IMPREGNATION, LOSSY FOAM IS IDEAL FOR SUPPRESSION OF ELECTROMAGNETIC ENERGY AND UNWANTED STATIC BUILDUP. THIS ABSORBER CAN EASILY BE CUT, WRAPPED, AND FIT FOR VARIOUS APPLICATIONS. PLACING THE MATERIAL WITHIN A CAVITY WILL REDUCE MULTIPLE REFLECTIONS RESULTING IN IMPROVED PERFORMANCE.



MULTILAYER FOAM: THE MULTILAYER SERIES IS A FAMILY OF LIGHTWEIGHT, FLEXIBLE, OPEN-CELL FOAM ABSORBERS THAT ARE DESIGNED FOR BROADBAND APPLICATIONS. MULTILAYER ABSORBERS FUNCTION ON AN IMPEDANCE MATCHING PRINCIPLE. MAXIMUM BROADBAND PERFORMANCE IS ACHIEVED BY LAMINATING INDIVIDUAL LAYERS THAT HAVE BEEN LOADED FOR PREDETERMINED LOSS TANGENTS. BECAUSE THE MULTILAYER ABSORBER IS ELECTRICALLY, RATHER THAN GEOMETRICALLY TAPERED, REFLECTION LOSS CHARACTERISTICS OF -20DB ARE ACHIEVABLE IN A SPACE EFFICIENT PACKAGE.

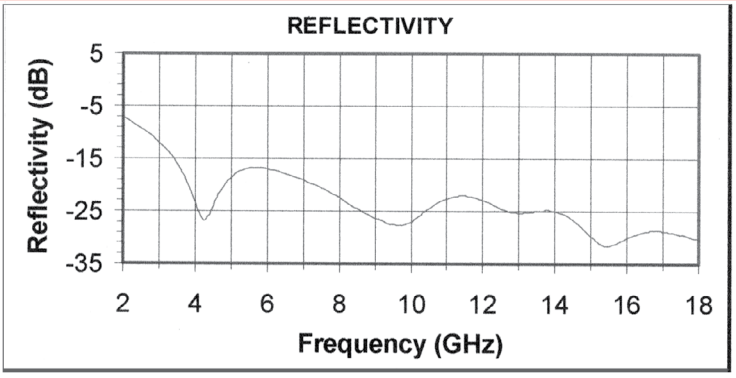
APPLICATIONS:
- CROSSTALK REDUCTION
- ANTENNA SHROUDING
- SHADOWING PARTS FOR RCS MEASUREMENTS
- SHADOWING COMPONENTS OF ANECHOIC CHAMBERS



Standard Sheet size	610 x 610 mm; other size available
Standard thicknesses	(7, 11, 19, 29, 57, 115 mm); other thicknesses available
Foam density	32 Kg/m^3
Color	Black
Temperature	-60 °C to 135 °C

RETICULATED FOAM: THE RETICULATED SERIES IS A GROUP OF OPEN-CELL, CARBON-LOADED FOAM ABSORBERS. EXACTING CONTROL OF THE CONDUCTIVE GRADIENT PROVIDES OUTSTANDING BROADBAND PERFORMANCE. RETICULATED FOAM'S OPEN CELL STRUCTURE IS AN EXCELLENT CONDUIT FOR CONVECTIVE AIRFLOW. LIGHTWEIGHT AND FLEXIBLE, RT IS OFFERED IN FLAT FORM OR IN A CONVOLUTED FORMAT FOR HIGHER ELECTRICAL PERFORMANCE.

APPLICATIONS:
- ANTENNA AND ANTENNA ARRAY ISOLATION
- CAMOUFLAGE OF REFLECTIVE OBJECTS
- ANTENNA SHROUDS
- RF INTERFERENCE SUPPRESSION



Standard Sheet size	610 x 610 mm; other size available
Standard thicknesses	(10 to 105 mm); other thicknesses available
Foam density	32 Kg/m^3
Color	Black
Temperature	-70 °C to 150 °C

HONEYCOMB ABSORBERS

THE HONEYCOMB SERIES OFFERS EXCELLENT BROADBAND PERFORMANCE AND IS LIGHTWEIGHT YET MECHANICALLY STRONG. HC PRODUCTS ARE ENGINEERED TO MEET EACH CUSTOMER'S ELECTRICAL SPECIFICATIONS BY TAILORING PROPRIETARY COATINGS AND THEIR THICKNESS. HC PRODUCTS ARE LIKELY CANDIDATES WHEN STRUCTURAL INTEGRITY, HIGH POWER HANDLING AND CONVECTIVE COOLING ARE REQUIRED IN A BROADBAND ABSORBER.

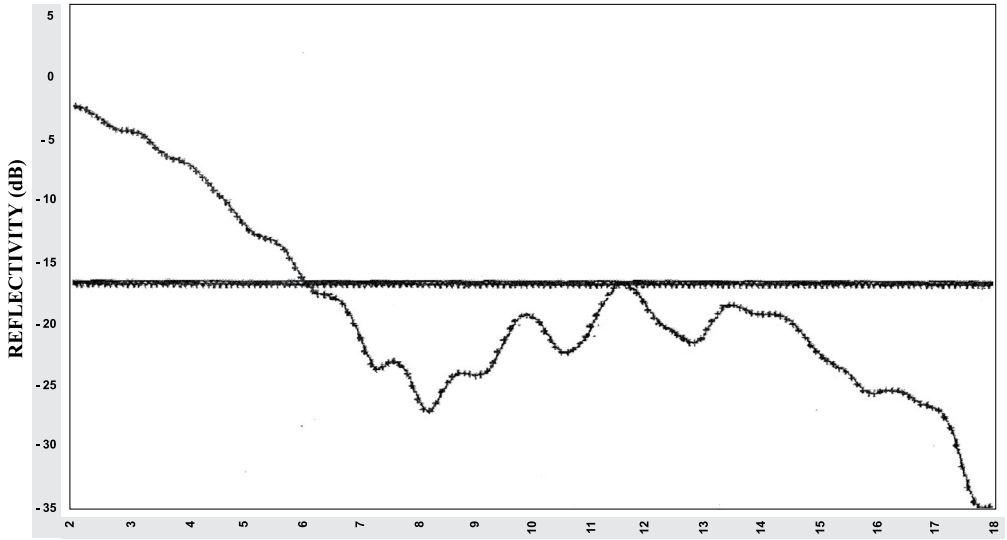
APPLICATIONS:

- ANTENNA CAVITY INSERTS
- ENHANCE ANTENNA PERFORMANCE
- RADAR ABSORBING STRUCTURE
- REDUCED SIDE LOBE REFLECTION
- REDUCED SIDE LOBE REFLECTION

CHARACTERISTICS AND BENEFITS

- BROADBAND ABSORPTION FROM 500 MHZ TO 40 GHZ
- CAN BE FABRICATED TO CUSTOM CONFIGURATIONS
- EXCELLENT CONVECTIVE AIRFLOW
- SUPERIOR STRUCTURAL INTEGRITY AND LIGHT WEIGHT
- AVAILABLE W/SKIN FOR RAS APPLICATIONS
- CUSTOM TUNING
- AVAILABLE IN FLAT OR PYRAMIDAL FORM

Reflection Loss 2-18 GHz (tipycal):

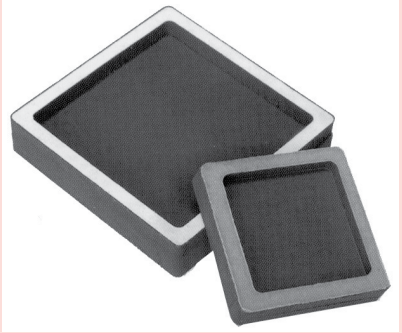


CHIP CAPS

A NEW CONCEPT FOR CONTROL OF HIGH FREQUENCY INTERFERENCE FROM SURFACE MOUNT OR PLUG-IN CHIPS. FUTURA CHIP-CAP ABSORBER PRODUCTS ARE QUICKLY AND CONVENIENTLY MOUNTED OVER THE NOISY CHIP AND ARE DESIGNED TO SUPPRESS UNDESIRABLE SIGNALS OVER A WIDE RANGE OF FREQUENCIES, FROM 500MHZ TO OVER 40GHZ. THE CHIP-CAP CONSISTS OF A MAGNETIC ABSORBER LOADED WITH METALLIC POWDER, ENCAPSULATED IN FLEXIBLE POLYMER SUCH AS SILICONE OR URETHANE. THEY FUNCTION AS A MODE SUPPRESSOR OR SIGNAL ISOLATOR TO ABSORB HF ENERGY EMANATING FROM THE CHIP PACKAGE AND LEADS. ATTACHMENT IS ACCOMPLISHED BY PRESSURE SENSITIVE ADHESIVE OR THE ABSORBER CAN BE RETAINED IN PLACE BY A HEAT SINK, IF USED. MANY PARTS ARE UL94 RATED.

CHARACTERISTICS AND BENEFITS

- DESCRIPTION: HIGH PERMEABILITY FILLERS LOADED INTO FLEXIBLE SILICONE OR URETHANE RESINS
- HARDNESS, SHORE A: >70
- TEMPERATURE RANGE: -55°C TO +195°C (SILICONE), -55°C TO +135°C (URETHANE)
- ELECTRICAL PROPERTIES: DEPENDS ON FILLER AND LOADING %
- ATTENUATION FREQUENCY RANGE: 0.5 TO 40 GHZ



FU-WX SERIES

FU-WX PRODUCTS WAS INTRODUCED IN RESPONSE TO TECHNICAL NEEDS FOR A LOW PROFILE EMI ABSORBER THAT IS READILY CONFORMABLE AND EASY TO INSTALL.
EMI IS NOT A SINGLE-SOURCE PROBLEM WITH A SINGLE-PRODUCT SOLUTION. THAT'S WHY FU-WX IS OFFERED IN AN ARRAY OF SIZES, FEATURES AND FORMULATIONS.

FU-WX PRODUCTS PROVIDE EMI SUPPRESSION AND/OR ABSORPTION OF RADIATED EMISSIONS GENERATED BY:

- TELECOM & COMPUTER SYSTEMS
- ELECTRONIC ENCLOSURES
- CABLES
- PCBS
- ISOLATED CIRCUITS
- ON-BOARD COMPONENTS
- HEAT SINKS
- INTEGRATED CIRCUITS
- MULTICHIP MODULES

FREQ. RANGE	100 MHz - 5 GHz
OPERATING TEMP.	-55° / +180°C
THICKNESS	0.5 mm - 6.35 mm
SURFACE RESISTIVITY	>1MΩ

CHARACTERISTICS AND BENEFITS

- EXCELLENT MECHANICAL CONFORMABILITY PROPERTIES
- EASILY CUT TO ANY SIZE AND SHAPE
- 3-DIMENSIONAL/ASYMETRICAL SHAPES AVAILABLE
- EASY ATTACHMENT - JUST PEEL AND STICK WITH
- PRESSURE SENSITIVE ADHESIVE
- SPACE SAVING, THIN MATERIAL
- CAN BE INJECTION OR COMPRESSION MOLDED
- EFFECTIVE FREQUENCY RANGE: 100MHz to 60GHz
- EXCELLENT ATTENUATION AND MODE SUPPRESSION
- FREQUENCY-SPECIFIC PRODUCT TUNING
- IDEAL FOR ON-CHIP SUPPRESSION
- INTEGRATED GROUND PLANE AVAILABLE
- THICKNESS RANGE 0.05MM TO 6.35 MM

RIGID ABSORBER

RIGID, MAGNETICALLY-LOADED, ELECTRICALLY NON-CONDUCTIVE EPOXY. THIS MATERIAL IS EXTENSIVELY USED IN THE WAVEGUIDE INDUSTRY AS AN ABORBER, ATTENUATOR OR FOR TERMINATION PURPOSES. APPLICATIONS ALSO EXIST IN THE ANTENNA INDUSTRY WHERE HIGH INSERTION LOSS IS NEEDED FOR ANTENNA ISOLATION OR THE SUPPRESSION OF SURFACE CURRENTS.
THIS PRODUCT IS SUPPLIED IN RIGID FORM, WHICH OFFERS EXCELLENT MACHINABILITY TO CLOSE TOLERANCES USING STANDARD MACHINE TOOLS.
FUTURA HAS THE CAPABILITY TO MOLD AND/OR MACHINE THIS MATERIAL TO SPECIFIED FORM FACTORS AND SIZE.

TYPICAL PROPERTIES	
COLOR:	GRAY
DENSITY:	4.3 G/CM^3
TEMPERATURE RANGE:	-55°C TO +155°C (-67°F TO +311°F)
DUROMETER:	SHORE D: >85
TENSILE STRENGTH:	>555.4 KGF/CM^2 (>7,900 PSI)
WATER ABSORPTION:	<0.3% PER 24 HOURS
THERMAL EXPANSION:	30 X 10^{-6} PER C
DIELECTRIC CONSTANT @ 10GHZ:	22.4

THE FOLLOWING TABLE SUMMERIES THE MAIN ELETRICAL PROPERTIES OF THIS KIND OF MATERIAL:

Frequency (GHz)	**2**	**3**	**5**	**8**	**10**	**15**	**18**
ε′	23.82	23.48	22.92	22.58	22.42	22.29	22.21
ε″	1.75	1.74	1.29	1.42	1.41	1.32	1.33
Loss tangent	0.073	0.074	0.056	0.063	0.063	0.059	0.059
μ′	4.42	3.73	2.68	1.78	1.44	0.89	0.89
μ″	2.14	2.31	2.38	2.09	1.94	1.52	1.30
Mag loss tangent	0.484	0.619	0.888	1.174	1.347	1.708	1.461
dB / cm	37.5	51.5	73.9	93.6	104.4	121.8	145.7

TAGLIO E FUSTELLATURA
DIE CUTTING SERVICE

LA NOSTRA SOCIETÀ ESEGUE, SU DISEGNO DEL CLIENTE, TAGLI DI VARI MATERIALI PER APPLICAZIONI ELETTRONICHE, COME MATERIALI SCHERMANTI, ISOLANTI ELETTRICI E MATERIALI TERMOCONDUTTIVI. POSSIAMO REALIZZARE SAGOME COMPLESSE DI QUALSIASI DIMENSIONE CON DIVERSI MACCHINARI.

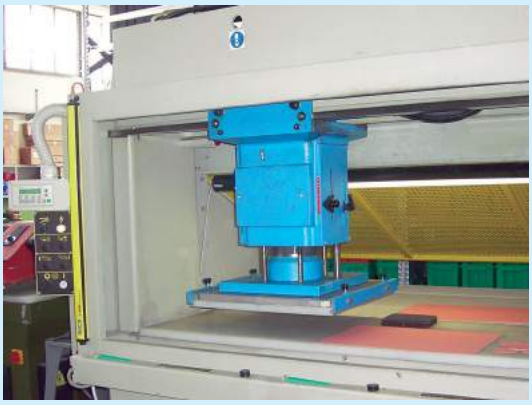
WE CAN CUT, ACCORDING TO CUSTOMER REQUIREMENTS ALL KINDS OF MATERIAL FOR ELETRONIC APPLICATIONS LIKE EMI MATERIALS, ELECTRICALLY INSULATING AND THERMALLY CONDUCTIVE MATERIALS. WE CAN PRODUCE COMPLEX SHAPES OF ANY DIMENSIONS WITH DIFFERENT MACHINES.

- FUSTELLATRICE
- *DIE-CUTTING MACHINE*

- MACCHINA CNC A LAMA OSCILLANTE
- *CNC OSCILLANTING KNIFE-CUTTING MACHINE*

Esempi di materiali lavorati dalle nostre macchine da taglio
Examples of re-worked materials by our cutting machines include:

EMI/RFI shielding materials
- Conductive particles filled silicone
- Silicone filled knitted monel or aluminium wire mesh
- Conductive woven or non woven fabric sheets



Electrically insulating materials
- Mylar
- Kapton
- Lexan
- Valox
- Nomex
- Peek

Thermally conductive material
- Silicone
- Ultra soft silicone
- Graphite

Microwave absorber
- Silicone
- Nitrile
- Urethane

Sealing gaskets
- Silicone
- Neoprene
- Polystirene
- Polyurethane

POSSIAMO INOLTRE LAVORARE ALTRI MATERIALI INCLUSO FELTRO, TESSUTO, SUGHERO, CARTONE, GOMMA, SPUGNA, COMPOSITI E ALTRI MATERIALI PROPOSTI DAI NOSTRI CLIENTI.

WE CAN ALSO WORK OTHER MATERIALS INCLUDED FELT, FABRICS, CORK OR PAPER, RUBBER, FOAM OR SPONGE, COMPOSITES AND OTHER MATERIALS PROPOSED BY OUR CUSTOMERS.

ed. 02, 2016

FUTURA SRL

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