

A close-up photograph of green grass blades, filling the entire background. The blades are long and narrow, with some showing fine details of their structure. The lighting is soft, creating a range of green tones from light to dark.

Where the grass regrows

we were there.

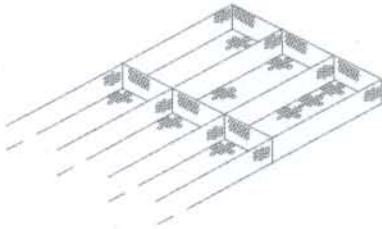
Product Guide

MACCAFERRI

Environmentally Co



River bank protections with gabions manufactured with double twisted steel wire mesh. Gabion units are filled with stones integrated with live plants using bio-engineering techniques.



GABIONS (8 x 10 mesh type)

Mesh wire diameter: Galvanized or Galmac nominal diam. 3.05mm (0.120"). Galvanized and PVC nominal internal diam. 2.7mm (0.106"), nominal external diam. 3.7mm (0.146").

Letter Code	Length (ft.)	Width (ft.)	Height (ft.)	Number of cells	Capacity (cy)	Color Code
A	6'	3'	3'	2	2.0	Blue
B	9'	3'	3'	3	3.0	White
C	12'	3'	3'	4	4.0	Black
D	6'	3'	1.5'	2	1.0	Red
E	9'	3'	1.5'	3	1.5	Green
F	12'	3'	1.5'	4	2.0	Yellow
G	6'	3'	1'	2	0.66	Blue-Red
H	9'	3'	1'	3	1.0	Blue-Yellow
I	12'	3'	1'	4	1.33	Blue-Green
SI	4.5"	3'	3'	1	1.5	Brown

Available in zinc coated, Galmac coated and zinc and PVC coated wire.

Note: All sizes and dimensions are nominal. See Table of tolerances for details.

GABIONMATS (8 x 10 mesh type)

Mesh wire diameter: Galvanized or Galmac diam. 3.05mm (0.120"). Galvanized and PVC nominal internal diam. 2.7mm (0.106"), nominal external diam. 3.7mm (0.146").

Length (ft.)	Width (ft.)	Height (ft.)	Number of cells	Capacity (cy)
99'	6'	1'	22	22.0
99'	9'	1'	33	33.0
99'	6'	1.5'	22	33.0
99'	9'	1.5'	33	49.5

Available in zinc coated, Galmac coated and zinc + PVC coated wire.

Note: All sizes and dimensions are nominal. See Table of tolerances for details.

SACK GABIONS (8 x 10 / 6 x 8 mesh type)

Mesh wire diameter: For 8 x 10 galvanized nominal diam. 2.7mm (0.106"), or diam. 3.05mm (0.120"). For galvanized and PVC nominal internal diam. 2.7mm (0.106"), nominal external diam. 3.7mm (0.146"). For 6 x 8 galvanized nominal diam. 2.2mm (0.087"). For galvanized and PVC nominal internal diam. 2.2mm (0.087"), nominal external diam. 3.2mm (0.126").

Length (ft.)	Diameter (ft.)	Capacity (cy)
6'	2'	0.7
9'	2'	1.05
6'	3'	1.57
9'	3'	2.36

Available in zinc coated and zinc and PVC coated wire.

Note: All sizes and dimensions are nominal. See Table of tolerances for details.

WATERLOGS (in coir fibers)

Length ft (m)	Diameter in (m)	Weight lb/ft (kg/m)
13' (4), 20' (6)	12" (0.30)	6.7 (10)
13' (4), 20' (6)	16" (0.40)	12 (18)

Material: 100% coir fiber. Netting: coir fiber netting of 5 cm²
 Note: All sizes and dimensions are nominal. See Table of tolerances for details.



Protection works of a stormwater management area using Waterlogs.

Compatible Materials

RENO MATTRESSES (6 x 8 mesh type)

Mesh wire diameter: Galvanized or Galmac nominal diam. 2.2mm (0.087"). Galvanized and PVC nominal internal diam. 2.2mm (0.087"), nominal external diam. 3.2mm (0.126").

Letter Code	Length (ft.)	Width (ft.)	Thickness (in.)	Number of cells	Area (sy)	Capacity (cy)	Color Code
Q	9'	6'	6"	3	6	1.00	White-Yellow
R	12'	6'	6"	4	8	1.33	White-Green
T	9'	6'	9"	3	6	1.50	Red-Yellow
U	12'	6'	9"	4	8	2.00	Red-Green
Z	12'	6'	12"	4	8	2.67	Brown-Green

Also available in zinc coated, Galmac coated, zinc and PVC coated wire.

Note: All sizes and dimensions are nominal. See Table of tolerances for details.



Bank Protections with Reno mattresses manufactured with double twisted wire mesh. Reno mattresses are used to cover large surfaces. They can be combined with live plants, sealed with soil or vegetative pockets.

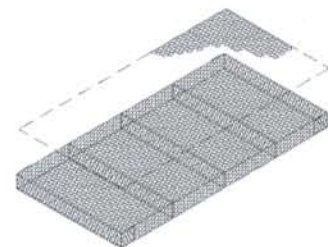
GEOMAC® MATTRESSES (6 x 8 mesh type)

Mesh wire diameter: Galvanized or Galmac nominal diam. 2.2 mm (0.087"). Galvanized and PVC nominal internal diam. 2.2 mm (0.087"), nominal external diam. 3.2 mm (0.126").

Length (ft.)	Width (ft.)	Height (in.)	Diaphragms (n)
9'	6'	6", 9", 12"	2
12'	6'	6", 9", 12"	3
15'	6'	6", 9", 12"	4
18'	6'	6", 9", 12"	5

Available in zinc coated, Galmac coated, zinc and PVC coated wire.

Note: All sizes and dimensions are nominal. See Table of tolerances for details.



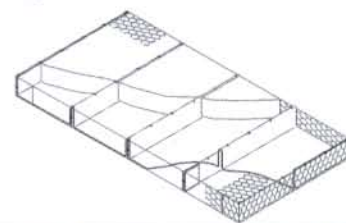
Vegetative linings with Geomac® mattress in double twisted steel wire mesh, internally lined with a geotextile.

MACMAT®

Style	Mesh Type	Wire diameter (in.)	Thickness (in.)	Length (ft.)	Width (ft.)
MACMAT®R6	6 x 8	0.087"	0.40"	82'	6.56'
MACMAT®R8	8 x 10	0.106"	0.80"	82'	6.56'
MACMAT®N10	N/A	N/A	0.40"	500'/90'	3.25'/6.33'
MACMAT®N20	N/A	N/A	0.70"	277'/90'	3.25'/6.33'

MACMAT®R6 and MACMAT®R8 are available in zinc coated and zinc and PVC coated wire.

Note: All sizes and dimensions are nominal. See Table of tolerances for details.



BIOMAC®

Type of Fabric	Roll height ft. (m)	Roll length ft. (m)	Weight oz/yd ² (g/m ²)
Biomac® S/C (straw + coconut)	6.5' (2) - 8' (2.4)	65.5' (20) - 92' (28)	8 (270) - 11 (380)
Biomac® C (coconut)	6.5' (2) - 8' (2.4)	65.5' (20) - 92' (28)	8 (270) - 11 (380)

Note: All sizes and dimensions are nominal. See Table of tolerances for details.



Macmat®R for bank and slope erosion protection. MacMat®-R is a geocomposite TRM reinforced with double twisted steel wire mesh.

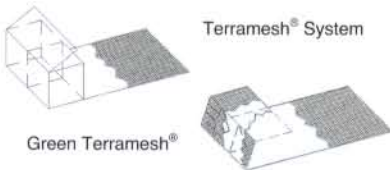


Installation of Biomac® along a slope to protect against erosion.

Environmentally Co



Reinforced Soil slopes with **Green Terramesh®**.



Terrawall™ is used for soil reinforcement applications.



Paving reinforcement with Road Mesh®, a double twisted wire mesh reinforced with steel rods across the weave direction.

TERRAMESH® SYSTEM (8 X 10 mesh type)

Mesh wire diameter: Galvanized and PVC coated nominal internal diameter 2.7 mm (0.106").
Nominal external diameter 3.7 mm (0.146").

Length m (ft.)	Width m (ft.)	Height m (in.)
2.7 (9)	1.8 (6)	0.46 (1.5)
3.7 (12)	1.8 (6)	0.46 (1.5)
4.6 (15)	1.8 (6)	0.46 (1.5)
5.5 (18)	1.8 (6)	0.46 (1.5)
2.7 (9)	1.8 (6)	0.91 (3)
3.7 (12)	1.8 (6)	0.91 (3)
4.6 (15)	1.8 (6)	0.91 (3)
5.5 (18)	1.8 (6)	0.91 (3)

GREEN TERRAMESH®

Length m (ft.)	Width m (ft.)	Height m (ft.)	Slope angle (Degrees)
3 (9.8)	2 (6.5)	0.42 (1.4), 0.56 (1.8), 0.70 (2.3)	60
4 (13.1)	2 (6.5)	0.42 (1.4), 0.56 (1.8), 0.70 (2.3)	60
5 (16.1)	2 (6.5)	0.42 (1.4), 0.56 (1.8), 0.70 (2.3)	60
6 (19.7)	2 (6.5)	0.42 (1.4), 0.56 (1.8), 0.70 (2.3)	60

Note: All sizes and dimensions are nominal.

TERRAWALL™

Length m (ft.)	Width m (ft.)	Height m (ft.)	Slope angle (Degrees)
2 (6.5)	2 (6.5)	0.49 / 0.65 / 0.81 (1.6 / 2.1 / 2.6)	6
3 (9.8)	2 (6.5)	0.49 / 0.65 / 0.81 (1.6 / 2.1 / 2.6)	6
4 (13.1)	2 (6.5)	0.49 / 0.65 / 0.81 (1.6 / 2.1 / 2.6)	6
5 (16.4)	2 (6.5)	0.49 / 0.65 / 0.81 (1.6 / 2.1 / 2.6)	6

ROAD MESH®

Type	Mesh Wire ϕ mm (in.)	Breaking Load (kN) Mesh Wire / Transverse Rod	Transverse Rod ϕ mm (in.)	Tensile Strength (kN/m) Longitudinal / Transverse
L	2.4 (0.094)	1.9 / 5.1	4.40 (0.173)	39 / 50
L1	2.2 (0.087)	1.6 / 3.9	3.90 (0.154)	32 / 35

Note: All sizes and dimensions are nominal.

Compatible Materials

DOUBLE TWISTED WIRE MESH (in rolls)

Galvanized or Galmac coated				Galvanized and PVC Coated			
Mesh type	Wire (in.)	Weight (lb/ft ²)	Roll Width (ft.)	Mesh type	Wire (in.) internal/external	Weight (lb/ft ²)	Roll Width (ft.)
8 x 10	0.106"	0.293	6' - 12'	8 x 10	0.106"/0.146"	0.344	6' - 12'
8 x 10	0.120"	0.365	6' - 12'	Standard Roll Length: 150' Maximum Roll Length of 300' can be manufactured as non standard size.			

Note: All sizes, dimensions and weights are nominal. See Table of tolerances for details.



ENVIROLOG™

Mesh wire diameter: For 8x10 galvanized and PVC coated combined with coconut fiber blanket. 700 g/m² / 26.6 oz ft²

Length m (ft.)	Width m (ft.)	Height m (in.)
2.0 (6.5)	0.50 (19)	0.50 (19)
2.0 (6.5)	1.00 (39)	0.50 (19)



EnviroLog™

GREEN GABION™

Mesh wire diameter: For 8x10 galvanized and PVC coated combined with coconut fiber blanket. 1000 g/m² / 29.5 oz ft²

Length m (ft.)	Width m (ft.)	Height m (in.)	Angle
2.0 (6.5)	1.00 (39)	0.50 (19)	45
2.0 (6.5)	1.00 (39)	0.50 (19)	60

PRODUCT TOLERANCE

Type	Length	Width	Height/Thickness	Weight
Gabions	+/- 5%	+/- 5%	+/- 5%	+/- 5%
Reno Mattress	+/- 5%	+/- 5%	+/- 10%	+/- 5%
Geomac® mattress	+/- 5%	+/- 5%	+/- 10%	+/- 5%
Flexmac®	+/- 5%	+/- 5%	+/- 5%	+/- 5%
Terramesh®	+/- 5%	+/- 5%	+/- 5%	+/- 5%
Mesh in rolls	+/- 1%	+/- 5%	---	+/- 5%
MacMat®R	+/- 3%	+/- 5%	---	+/- 5%
Road Mesh®	+/- 1%	+/- 5%	---	+/- 5%
BioMac®	+/- 1%	+/- 5%	---	+/- 5%
FlexMesh™	+/- 1%	+/- 5%	---	+/- 5%
Green Gabion™	+/- 5%	+/- 5%	+/- 5%	+/- 5%
EnviroLog™	+/- 5%	+/- 5%	+/- 5%	+/- 5%



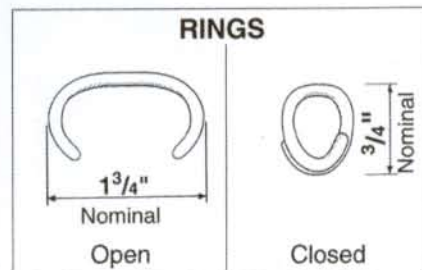
WIRE TOLERANCE

Diameter mm (in.)	2.20 (0.087")	2.70 (0.106")	3.05 (0.120")	3.40 (0.134")	3.90 (0.153")
+/- mm (in.)	0.10 (0.004")	0.10 (0.004")	0.10 (0.004")	0.10 (0.004")	0.10 (0.004")

Spenax pneumatic ring fastener used to connect double twisted mesh units as an alternative to lacing wire. The rings are made of galvanized, or stainless steel wire.

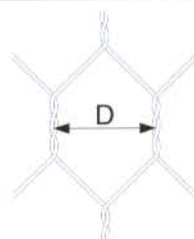
MESH SIZES

Mesh type	D mm (in.)	Tolerance (%)
8 x 10	83 (3.25")	+/- 10%
6 x 8	64 (2.50")	+/- 10%



MESH TOLERANCE

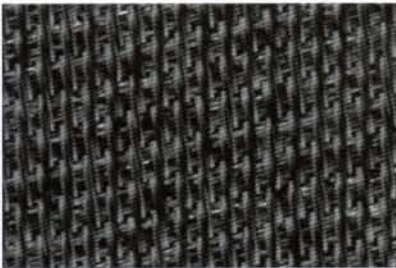
The tolerance on the mesh opening "D" is the distance between the axis of twist, and it is in accordance with ASTM A 975-97



Environmentally Co



Filtration, separation, drainage for earthworks with **MacTex®** Non Woven geotextiles.



MacTex® Woven geotextiles for soil separation and erosion control.



MacTex® HSW for soil reinforcement

MACTEX® (Non Woven Polypropylene Geotextile) (*MARV values)

PROPERTY	Units	MX 130	MX 155	MX 225	MX 245	MX 275	MX 415
Tensile Strength	lbs.	90	120	160	180	205	300
Elongation	%	50	50	50	50	50	50
Trapezoidal Tear	lbs.	40	50	60	75	85	115
Puncture	lbs.	60	65	85	100	110	175
Mullen Burst	psi	210	230	280	330	350	580
Pore Size (A.O.S.)	std. sieve size	70	70	70	70	80	100
Water Flow Rate	gpm/ft ²	140	120	110	110	110	75
Permeability k=Ψxt	cm/sec	0.22	0.22	0.24	0.34	0.38	0.29
Permittivity	sec ⁻¹	2.0	1.5	1.3	1.5	1.5	1.0
Endurance	%	70	70	70	70	70	70
Standard Roll	width (ft.)	15	15	15	15	15	15
Sizes (**)	length (ft.)	360	360	360	360	360	360

(*) MARV indicates minimum average roll value, calculated as the mean minus two standard deviations, yielding a 97.5% confidence level.

Also available: MX105, MX120, MX140, MX180, MX340, MX560

(**) Other roll sizes available upon request as special run.

MACTEX® (Woven Polypropylene Geotextile) (*MARV values)

PROPERTY	Units	Silt fences		Monofilament		Slit film	
		MX F1	MX F2	MX M10	MX M30	MX W6	MX W9
Tensile Strength	lbs.	80x40	100x100	370x250	255x275	135x135	200x200
Elongation	%	10x10	15x15	24x24	20x15	15x15	15x15
Trapezoidal Tear	lbs.	35x15	50x40	100x70	40x50	45x45	75x75
Puncture	lbs.	25	58	120	135	70	100
Mullen Burst	psi	160	265	480	420	265	450
Pore Size (A.O.S.)	std. sieve size	16	20	70	20	40	40
Water Flow Rate	gpm/ft ²	50	15	18	200	6	6
Permeability k=Ψxt	cm/sec	N/A	N/A	0.01	0.02	N/A	N/A
Permittivity	sec ⁻¹	0.70	0.20	0.28	1.50	0.08	0.07
Endurance	%	90	90	90	90	90	90
Standard Roll	width (ft.)	2/3	2/3	12	12	12.5	15
Sizes (*)	length (ft.)	300	300	300	300	432	360

(*) MARV indicates minimum average roll value, calculated as the mean minus two standard deviations, yielding a 97.5% confidence level.

Also available: MX F3, MX F4, MX F5 - monofilaments MX M20, MX M40 — slit films MX W6

(**) Other roll sizes, available upon request as special run.

MACTEX® HSW for soil reinforcement

Polymer Type		polyester woven geotextile			
Product Grade		HSW20	HSW40	HSW60	HSW80
Ultimate Strength	lb/ft	13,356	28,425	43,151	48,793
Strength at 5% Strain	lb/ft	7,187	7,194	19,178	14,046
Ultimate Strain at Failure	%	8.8	10.3	10.7	11.1
Mass Per Unit Area	oz/yd ²	12.58	21.05	34.26	40.98
Roll Length	ft	328	328	328	328
Roll Width	ft	17	17	17	17
Approximate Roll Weight	lb	489	818	1,332	1,593

Compatible Materials

MACGRID® WG for soil reinforcement

Polymer Type		polyester woven grid coated with polymer								
Product Grade		WG04	WG05	WG06	WG09	WG12	WG15	WG20	WG30	
Ultimate Strength	lb/ft	3,082	3,771	4,384	6,438	8,220	11,644	15,324	20,550	
Strength at 5% Strain	lb/ft	959	1,370	1,925	1,891	2,000	4,048	3,734	6,850	
Ultimate Strength at Failure	%	12.2	11.0	12.0	11.7	12.5	14.0	16.5	NA	
Mass Per Unit Area	oz/yd ²	5.6	6.6	7.4	9.6	12.2	15.5	21.4	29.5	
Roll Length	ft	328	328	328	328	328	328	328	328	
Roll Width	ft	16.7	16.7	16.7	16.7	16.4	16.4	16.4	16.4	
Approximate Roll Weight	lb	214	247	280	365	466	578	798	1,100	

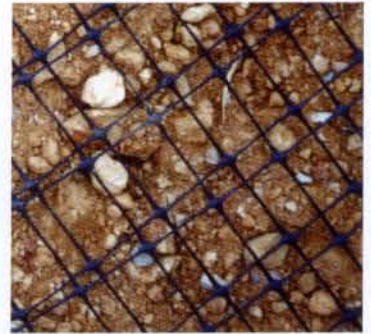


MacGrid® WG for soil reinforcement

MACGRID® EB

Maccaferri MacGrid® EB is composed of layers of high strength extruded polypropylene geogrids which are rolled and stitched together to form a stable network.

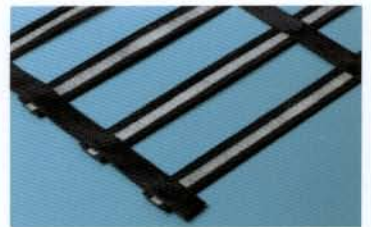
Physical Characteristics	Test Method	Unit	MacGrid® EB2		MacGrid® EB3	
			MD	TD	MD	TD
Peak Tensile Strength	GRI-GG1	lb/ft (kN.m)	925 (13.5)	1400 (20.4)	1370 (20.0)	2100 (30.7)
Tensile Modulus @ 2% Strain	GRI-GG1	lb/ft (kN.m)	15050 (219.7)	22500 (328.4)	20900 (305.1)	30800 (449.6)
Tensile Modulus @ 5% Strain	GRI-GG1	lb/ft (kN.m)	12320 (179.8)	18400 (268.6)	18500 (270.0)	26840 (391.8)
Elongation at Yield	GRI-GG1	%	12	11	12	11
Junction Strength	GRI-GG2	lb/ft (kN.m)	835 (12.2)	1315 (19.2)	1230 (18.0)	1970 (28.8)
Mass/Unit Area	oz/sy (g/m ²)		6.5 (220)		9.7 (330)	
Roll Dimensions (w x l)	ft (m)		12.5 x 328 (3.8 x 100)		12.5 x 164 (3.8 x 50)	
Gross Roll Weight	lb (kg)		216 (98)		152 (69)	



MacGrid® EB, a bi-directional geogrid for soil reinforcement.

PARADRAIN for SOIL REINFORCEMENT

Polymer Type		Polyester filament fiber with polyethylene sheath					
Product Grade		30/15	50/15	80/15	100/15	150/15	200/15
Tensile strength:							
- longitudinal	lb/ft	2050	3400	5450	6850	10250	13680
- across	lb/ft	1025	1025	1025	1025	1025	1025
Elongation	%	10	10	10	10	10	10
Weight	oz/yd ²	9.7	10.9	12.4	14.1	18.2	22.3
Roll Width	ft	12.8	12.8	12.8	12.8	12.8	12.8
Roll Length	ft	164	164	164	164	164	164
Roll Weight	lb	156	174	211	240	282	346



ParaDrain® for soil reinforcement of poor quality backfill

PARALINK™ L

		100	200	300	400	500	600	700	800	900	1000	1100	1250
Tensile Strength	lb/ft	6850	13700	20550	27400	34250	41100	47950	54800	61650	68500	75350	85625
Elongation	%	12	12	12	12	12	12	12	12	12	12	12	12
Roll Width	ft	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8
Roll Length	ft	164	164	164	164	164	164	164	164	164	164	164	164
Roll Weight	lb	163	178	213	256	307	334	366	400	436	489	515	542



Reinforcement of embankment on piled foundations with high strength polyester Paralink.

Tables, design data and pictures contained in this brochure are general guide to the use of Maccaferri products.

The safety factor for each installation should be studied by the designer, taking into consideration the environmental, hydraulic, and soil conditions existing at the proposed locations.

Maccaferri Inc. reserves the right to amend product specifications without notice and specifiers are requested to check as to the validity of the specifications they are using.

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