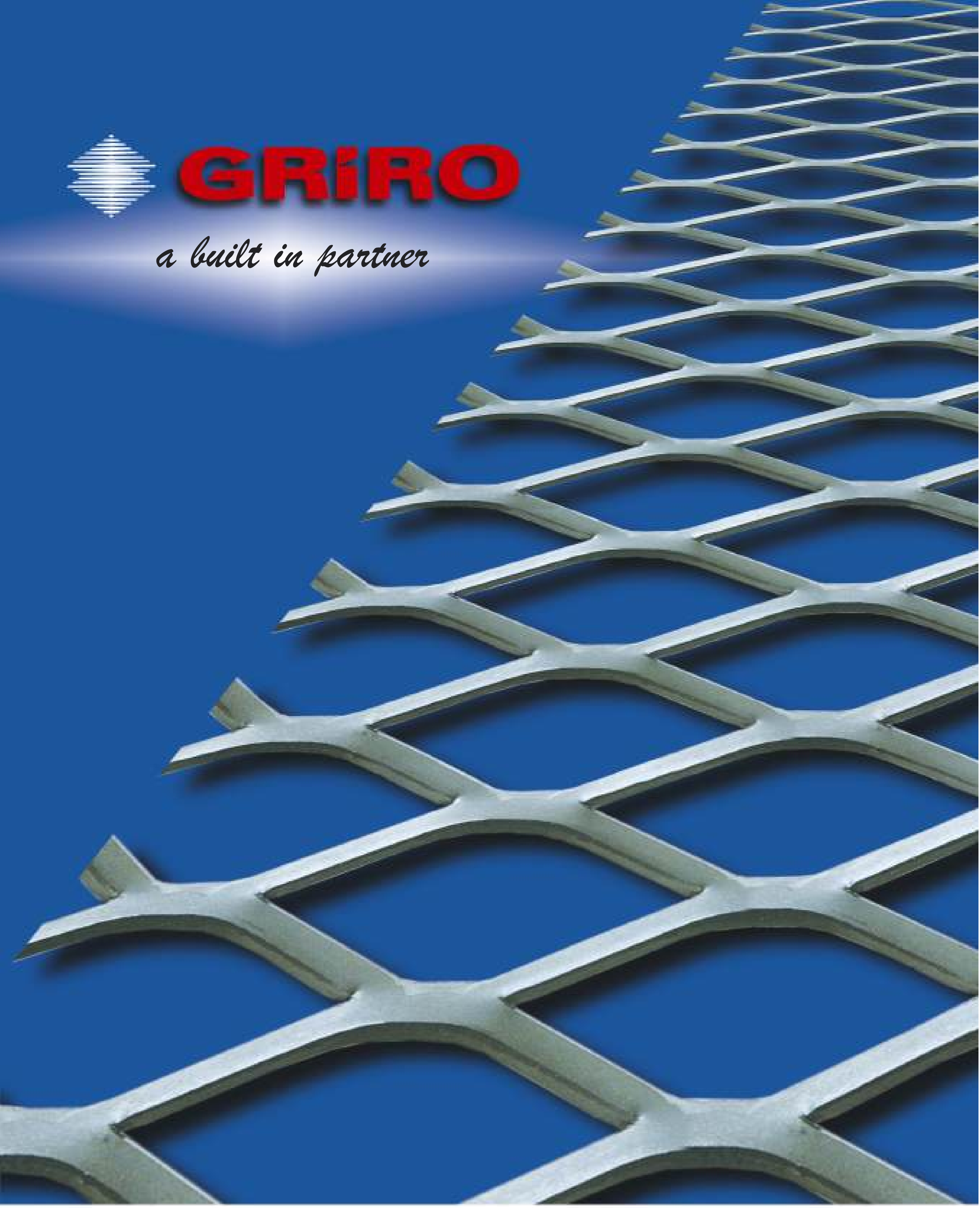
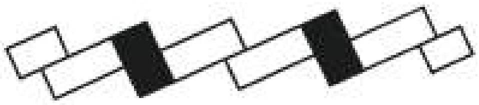
GRiRO

a built in partner

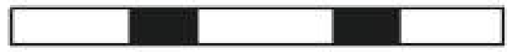


expanded metal

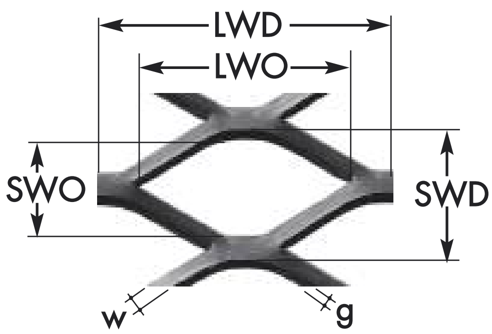
EXPANDED METAL GRIRO® is released and delivered under metal sheets of raised expamet or under rolls of flattened expamet which must be in conformity with the following:



RAISED EXPANDED METAL



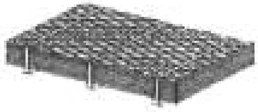
FLATTENED EXPANDED METAL



LWD = Long Way of Design
SWD = Short Way of Design
LWO = Long Way of Oppening
SWO = Short Way of Oppening
g = Strand Thickness
w = Strand Width

- WE CAN EXPAND: CARBON STEEL, GALVANISED OR STAINLESS STEEL, ZINCKED STEEL, ALUMINUM, COOPER, PRECIOUS METALS, WHICH CAN BE PROTECTED AGAINST CORROSION BY GALVANISING, PAINTING OR OILING
- EXPANDED METAL BENEFITS:
    - Continuity – the mesh is formed from a single piece of metal
    - Environment friendly – no wasteful of material
    - High strength – higher strength to weight ration then metal sheet
    - Adherence – anti slip surface
    - Very good noise and fluid filtration – excludes & retains simultaneously
    - Good rigidity – premium reinforcement properties
    - Good conductivity – highly efficient conductor
    - Screening – practical and effective light filtration
    - Good resistance to corrosion

DELIVERY PACKING:



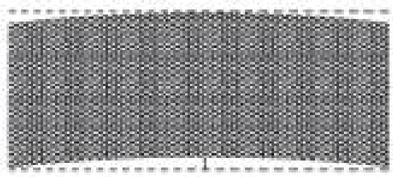
The maximum width for expamet sheet is 1500 mm while the length is chosen.

The maximum width for expamet sheet is 1500 mm while the length is chosen.

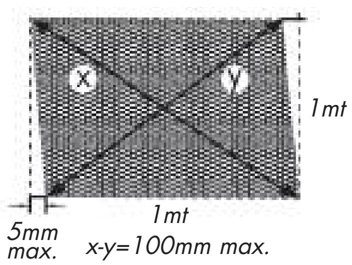
THICKNESS g -mm-	STRAND w -mm-	DIAMOND MESH LWD x SWD -mm-	DIAMOND MESH OPENING LWOxSWO -mm-
0.3	0.4÷6.5	6x4; 10x5; 16x7	5x3; 9x4; 15x6
0.4	0.5÷6.5	6x4; 10x5; 16x7	5x3; 9x4; 15x6
0.5	0.6÷6.5	6x4; 10x5; 16x7	5x3; 9x4; 15x6
0.6	0.7÷6.5	6x4; 10x5; 16x7	5x3; 9x4; 15x6
0.8	0.9÷6.5	10x5; 6x7; 28x13	9x4; 15x6; 24x11
1	1.1÷6.5	10x5; 6x7; 28x13; 43x20; 50x20; 75x35	9x4; 15x6; 24x11; 38x18 ; 45x18; 65x30
1.5	1.6÷13	16x7; 28x13; 43x20; 50x20; 62x25; 75x35	15x6; 24x11; 38x18; 45x18; 55x20 65x30
2	2.1÷13	28x13; 43x20; 50x20; 62x25; 75x35; 115x48	24x11; 38x18; 45x18; 55x20; 65x30; 95x44
2.5	2.6÷13	28x13; 43x20; 50x20; 62x25; 75x35; 115x48	24x11; 38x18; 45x18; 55x20; 65x30; 95x44
3	3.1÷13	43x20; 50x20; 62x30; 75x35; 115x52	38x18; 45x18; 55x25; 65x30; 95x46
4	4.1÷13	43x20; 62x30; 115x52	38x18; 55x25; 95x46
5	5.1÷13	43x20; 62x30; 115x55	38x18; 55x25; 95x50
6	6.1÷13	62x30; 115x55	55x25; 95x50
7	7.1÷13	62x30; 115x55	55x25; 95x50

TOLERANCES:

- For diamond mesh dimensions the tolerances would not exceed ± 20 mm/m.



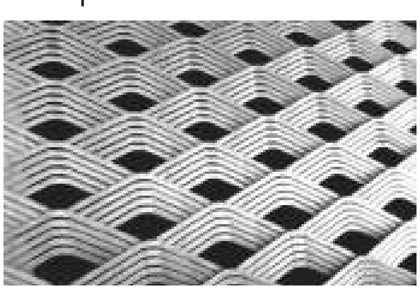
Camber bow in expamet sheets has a tolerance of ±5 mm/m.



Out of square in expamet sheets has a tolerance of ±5 mm/1 meter length or ±10 mm/m^2.

- By flattening the thickness is modified with ±10% & the length is modifying + 100 mm/m.
- The strand width has a tolerance of ±0.2 mm.

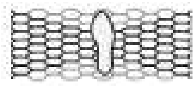
The expansion take place on the metal sheet length axis on which is disposed the short way diagonal and the expamet sheet width remain constant during the process on which is disposed the long way diagonal.



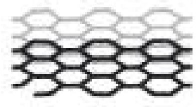
Product quality standards conformity:

- TUV ISO 9001/2000 FOR GRIRO S.A.
- DIN 791/1967 FOR EXPANDED METAL
- EN 10130/1999 FOR THE RAW MATERIAL
- STAS 10101/1-1978 FOR GRATINGS AND STAIRS

EXPAMET GRATINGS – INSTALLATION PRESCRIPTIONS

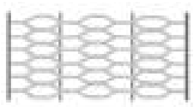


1. For maximum load, position long way of design parallel to the clear span. Diagram illustrates how load stresses are distributed through the strands of Catwalk. Note that LWD must be installed parallel to span.

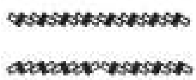


2. Butt or overlap one half of design (no increase in overall thickness).

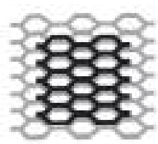
3. Bolt or weld every 15 cm or every fourth design to rigid supports.



4. Install with straight edge up because the grating has a top (straight edge) and a bottom (rounded edge).



5. Bonds of adjoining sheets should slope in same direction align with adjoining pieces.



6. Gratings cut-outs for access areas maybe covered with no change in overall thickness of top surface.

DIMENSIONS FOR CATWALKS, STRUCTURAL GRATINGS, STAIRS AND BRIDGES

THIC-NESS g -mm-	WIDTH w -mm-	DIAMOND MESH LWD x SWD -mm-	EXPANSION COEFICIENT	EXPAMET WEIGHT -kg/m²-	CONCEN-TRATED LOAD -kg/m²-	UNIFORM LOAD -kg/m²-	DEFLECTION -mm-	OPENING AREA -%-
3	6.25	62x30	2,4	10	207	120	6.50	58.3
3	6.25	43x20	1.6	15	270	182	6.35	37.5
3	9.4	62x30	1.59	15	270	182	6.35	37.3
3	8.4	43x20	1.19	20	366	244	6.35	16
4	4.7	62x30	3.19	10	207	120	6.50	68.6
4	4.7	43x20	2.12	15	270	182	6.35	53
4	7	62x30	2.14	15	270	182	6.35	53.3
4	6.25	43x20	1.6	25	505	293	6.22	37.5
5	10	115x55	2.75	15	270	182	6.35	63.6
5	5.5	43x20	1.81	20	366	244	6.35	45
5	7.5	62x30	2	20	366	244	6.35	50
6	7.8	62x30	1.92	25	505	293	6.22	48
6	10	115x55	2.75	20	366	244	6.35	63.6
6	9.4	62x30	1.59	30	626	391	6.22	37.3
6	10	62x30	1.5	35	954	522	5.59	33.3
7	10	115x55	2.75	25	505	293	6.22	63.6
7	9.4	62x30	1.59	35	954	522	5.59	37.3

CONCENTRATED LOAD -kg/m-	CLEAR SPAN OR GRATING WIDTH -mm-						
	580	760	890	1070	1250	1370	1500
	EXPAMENT WEIGHT -kg/m²-						
50 LPT	10	10	10	10	10	15	20
75 LPT	10	10	10	15	15	20	25
150 HPT	15	15	15	20	25	35	35
227 HPT	15	20	20	25	30	35	35
300 LEPT	15	20	25	30	35		
377 LEPT	20	25	25	35			
453 HDA	20	25	30				
530 HDA	20	30	35				
757 HDA	25	35					
907 HDA	30						
1207 HDA	35						

LEGEND:
LPT = Light Pedestrian Traffic ≤ 110 kg/m;
HPT = Heavy Pedestrian Traffic ≤ 250 kg/m;
LEPT = Light Equipment Pedestrian Traffic ≤ 400 kg/m;
HDA = Heavy Duty Applications ≤ 1500 kg/m;
U = Uniform load measured in kg/m²;
C = Concentrated load measured in kg/ml

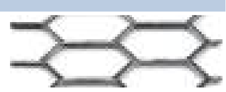
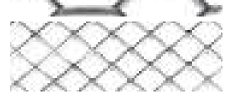
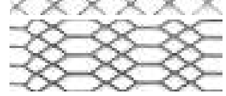
THE DIMENSIONS ARE CALCULATED WITH A 1.67 SAFETY COEFFICIENT FOR PLAIN CARBOON STEEL TYPE S 235 JR+AR & ARE IN CONFORMITY WITH STAS 10101/1-1978 TECHNICAL WEIGHTS & PERMANENT LOADS.

THE SUPPORTED LOADS ARE TESTED BY *INCERC BUCHAREST* ON 16 JULY 2009 WITH TESTING REPORT NO. 597.

WEIGHT -kg/m²-	CLEAR SPAN OR GRATING WIDTH -mm-				LOAD TYPE	DEFLECTION -mm-
	610	910	1250	1500		
10	120	64	20	8	U (kg/m²)	6.35
10	474	189	88	26	C (kg/ml)	6.50
15	182	73	24	10	U (kg/m²)	5.59
15	556	246	110	33	C (kg/ml)	6.35
20	244	81	29	12	U (kg/m²)	6.22
20	653	333	150	40	C (kg/ml)	6.35
25	293	85	49	24	U (kg/m²)	6.10
25	803	460	210	80	C (kg/ml)	6.35
30	391	146	56	28	U (kg/m²)	5.59
30	1190	570	260	93	C (kg/ml)	6.10
35	522	195	81	48	U (kg/m²)	5.33
35	1387	686	313	160	C (kg/ml)	5.59

USUAL DIMENSIONS FOR APPLICATIONS – TECHNICAL TABLE

TYPE	DIAMOND MESH -mm- LWDxSWD	w x g	EXPAN-SION COEF.	OPEN AREA %	PACKING	WEIGHT (ρ=8) Kg/m^2	SURFACE -m^2-	UTILITIES
MR -6	6x4	0.4x0.3	5	80	Roll	0.48	4166	Filters, griddles
		0.5x0.4	4	75	Roll	0.8	2500	Filters, griddles
MR - 10	10x5	0.5x0.4	5	80	Roll	0.64	3125	Filters, griddles
		0.6x0.5	4.16	76	Roll	0.96	2083	Filters, griddles
MR -16	16x7	1.4x0.6	2.5	60	1000x2000	1.88	2	Filters, griddles
		1.4x0.8	2.5	60	1000x2000	2.51	2	Filters, griddles
		1.4x1	2.5	60	1000x2000	3.14	2	Fixtures, ceilings
		1.6x1.5	2.187	45.71	1000x3500	4.71	3.5	Fixtures, roofs
MR- 28	28x13	1.3x1	5	80	1000x2000	1.57	2	Hardenings
		1.73x1	3.75	73.38	1000x2000	2.09	2	Hardenings
		1.73x1.5	3.75	73.38	1000x2000	3.17	2	Platforms, barred
		2.6x1.5	2.5	60	1000x2000	4.71	2	Platforms, barred
MR -43	43x20	1.6x1	6.25	84	1000x2000	1.18	2	Cages
		2x1.5	5	80	1000x2000	2.36	2	Platforms, barred
		2.6x2	3.846	74	1250x2000	4.08	2.5	Platforms, barred
		3x2	3.3	70	1250x3500	4.71	4.375	Stairs, balustrade
		3.5x2.5	2.86	65	1250x2000	6.87	2.5	Stairs, balustrade
MR -50	50x20	2.5x2	4	75	Roll	4	400	Stairs, balustrade
		2x1.5	5	80	Roll	2.4	833	Cages
MR- 62	62x25	2x1.5	6.25	84	1000x2000	1.92	2	Cages
		2.62x2	4.77	79.04	1250x2000	3.35	2.5	Stairs, balustrade
		2.62x2.5	4.77	79.04	1250x2000	4.19	2.5	Stairs, balustrade
	62x30	3.5x3	4.28	76.66	1500x2000	5.50	3	Stairs, grates
		5.26x4	2.85	64.93	1500x2000	11.01	3	Stairs, grates
		6x5	2.5	60	1500x2000	15.7	3	Stairs, grates
		7x6	2.14	53.33	1500x2000	22	3	Stairs, grates
MR- 75	75x35	4x3	4.37	77.14	Roll	5.49	291	Stairs, grates
		1.5x1.5	11.66	91.42	Roll	1.03	1942	Fence grid
MR115	115x48	2.52x2	9.52	89.5	1250x2000	1.68	2.5	Panels, fences
		2.52x2.5	9.52	89.5	1250x2000	2.10	2.5	Panels, fences
	115x52	3.16x3	8.23	87.84	1500x2000	2.92	3	Panels, fences
		4.85x3	5.36	81.34	1500x2000	4.48	3	Panels, fences
		4.85x4	5.36	81.34	1500x2000	5.97	3	Gratings
	115x55	6.42x5	4.28	76.65	1500x2000	5.5	3	Gratings
		6.42x6	4.28	76.65	1500x2000	11	3	Gratings

NEW MODEL	WIDTH -mm-	STRAND -mm-	SHEET DIM. -mm-	WEIGHT (ρ=8) Kg/m^2	APLICATION	PICTURE
ME 85x35	2.5	3.2	1500x2000	3.7	Fence panel	
	3	4	1500x2000	5.5		
MQ 20	1.5	2	1250x2000	2.4	Concrete sorting mesh	
	2	2.3	1250x2000	3.7		
MC 65/35x25	2	2.5	1250x2000	3.2	Balustrades	
	2.5	3	1500x2000	4.8		

EXPANDED METAL APPLICATIONS


Fence, panels & grids


Walkways


Protections & barrels


Industrial & fire stairs


Metallic walls


Metallic ceilings


Gratings & platforms


Metallic furniture


Balustrades


Containers & fixtures


Facade screening


Concrete stopers

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