

EXPANDED METAL UNWELDED GRATINGS FOR INDUSTRIAL WALKWAYS/FLOORING



STRETCH METAL UN-WELDED & ONE PIECE EXPANDED MESH GUARD RAILS FOR PROTECTION & SAFETY

PROTECTING FROM OIL & GREASE, FIERCE SUN, WIND, RAIN OR SNOW,
EXPANDED METAL GRATINGS OFFER ENDLESS SCOPE
IN INTERNAL & EXTERNAL APPLICATIONS





Whatever is your Industrial Flooring Application,

our Gratings are extensively used for making High Tension Tower & Oil Rig Walkways, Boilers and Industrial Machinery Platforms, Chemical Industries Platforms, Walkways & Catwalks, Bridges, Drainage Coverings, Staircases, Racks, Partitions, Industrial and Housing / Plot Fencing... for Indoor and Outdoor applications.

WHAT IS EXPANDED METAL

We die-cut, slit and stretch a metal sheet up to 5mm thick with no welded joints to make a one piece heavy-duty Grating (Mesh):

Expanded Metal Sheet is one continuous piece of metal pressed into networks of regular diamond shape meshes with no cracks, joints, welds or links of maximum original metal tensile strength with dependability & durability. Expanded Metal is extremely useful and is used both in Industrial and Household fittings. It can be put to any kind of use either protective or decorative or different constructional works. It can be manufactured on Mild Steel, Stainless Steel, Brass, Copper, Aluminum Sheet etc. Manufactured as per IS: 412 - 1975 and BS4592 Part 2 and as per customers specification.

OTHER USAGES OF EXPANDED METAL SHEETS

Reinforced Concrete, Vaults, Staircases, Insulating material, Screening Plants, Cage Coverings, Footing to Wall, Foundation Raft for Suspended Ceilings, Window Guards, Ventilators, Partitions, Tree Guards, Bed & Compound Fencing. Racks & Shelves, Enclosures, Machinery Guards, Air Conditioners, Filters etc. and for various other uses.

Load bearing capacity up to 500kgs/sq. mtrs.

60% saving in Steel & other casts.

Expanded Metal Gratings is a substitute for Bar Gratings and Chequered Plates. Being light weight and economical, it is ideal for use wherever a strong, durable, light-weight and skid-proof surface is needed to ensure complete safety and sure-footing.

SALIENT FEATURES OF EXPANDED METAL

UN-WELDED GRATINGS

1. Safer and Serrated Non-Skid Surface.
2. Light weight yet strong, one piece construction with

No Cracks, Joints or Welds.

3. High load capacity, long life with minimum deflection.
4. Maintenance free open design.
5. Fast and Easy to install.
6. Economical as being light weight it reduces structural steel requirement.
7. Versatile in Application.

Expanded Metal also can be manufactured in heavy gauges for applications such as Walk-ways, ramps and cat walks of all types. Frequently, the heavier gratings and catwalks are used in industrial plants for flooring and stairs-treads.

Asian Streck Metals is an ISO 9001: 2008 Certified Company and leading manufacturer of Expanded Metal and Expanded Metal Gratings. Our centrally located plant maintains a wide range of Expanded Metal products in a variety of material grades, styles and meshes.

Our inventory is constantly evolving and expanding everyday to meet the changing needs of our customers around the country and around the world. Contact one of our experienced sales staff to discuss how we can work together to meet your needs.

MANUFACTURED IN

WEST GERMAN PLANT

Capacity Max.:

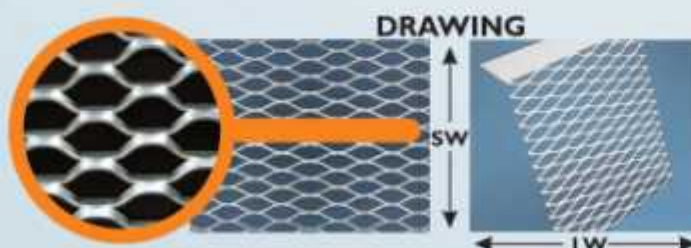
Width: 2.50 Mtrs. Max.

Thickness: 5mm Max

SWM: 10mm to 75mm

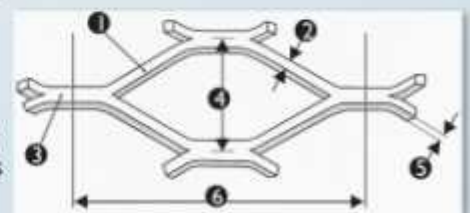
LWM: 40mm to 200mm

While ordering, always specify size of mesh in the format SWM x LWM x Strand Width x Thickness of Sheet as also the Width and Length of Sheet.



TERMINOLOGY

- 1 - Strand
- 2 - Strand Width
- 3 - Knuckle
- 4 - Short Way (SW)
- 5 - Strand Thickness
- 6 - Long Way (LW)



Allowable Load Bearing Capacities of M.S. Unwelded Expanded Gratings

Nominal Size of Mesh		Normal Strand Size		Weight in kgs per Sq.Mtr.of Gratings (approx.)	Load	Span (mm) LW Or L							
						300 mm	500 mm	600 mm	750 mm	900 mm	1000 mm	1100 mm	1200 mm
SWM	LWM	Thickness (b)	Width (d)			Kgs	Kgs	Kgs	Kgs	Kgs	Kgs	Kgs	Kgs
30	75	4	8	14	U	4927	1774	1232	788	547	443	366	308
					C	2464	887	616	394	274	222	183	154
30	75	4	6	11	U	2079	748	520	333	231	187	155	130
					C	1039	374	260	166	115	94	77	65
30	75	4	5	9	U	1203	433	301	192	134	108	89	75
					C	601	217	150	96	67	54	45	38
30	75	4	4	7	U	616	222	154	99	68	55	46	38
					C	308	111	77	49	34	28	23	19
42	115	4	8	11	U	3520	1267	880	563	391	317	262	220
					C	1760	634	440	282	196	158	131	110
42	115	4	6	8	U	1485	535	371	238	165	134	110	93
					C	742	267	186	119	82	67	55	46
42	115	4	5	7	U	859	309	215	137	95	77	64	54
					C	430	155	107	69	48	39	32	27
42	115	4	4	5.5	U	440	158	110	70	49	40	33	27
					C	220	79	55	35	24	20	16	14
25	62	4	8	15	U	5913	2129	1478	946	657	532	440	370
					C	2956	1064	739	473	328	266	220	185
25	62	4	8	12.5	U	2494	898	624	399	277	225	186	156
					C	1247	449	312	200	139	112	93	78
25	62	4	5	10.5	U	1444	520	361	231	160	130	107	90
					C	722	260	180	115	80	65	54	45
25	62	4	4	8	U	739	266	185	118	82	67	55	46
					C	370	133	92	59	41	33	27	23

For pedestrian traffic, the deflection of a floor panel under the design load shall not exceed 10mm or 1/200th of a span, whichever is lesser.

Where U = Uniform Load and C = Concentrated Load.

Tolerances : Expanded Metal Gratings have tolerances of $\pm 10\%$ in Weight and $\pm 10\%$ in Length.

Note : All values for the purpose of Load calculations are approximations and may vary in case of actual physical values.

- Load capacities given in the table are for spanning in LW direction over clear spans, having every fourth strand welded to support
- The beams are laid all across the length and secured with each other as if woven to form a single panel every strand is considered one beam. The beam when subjected to work has to withstand a) Turning b) Bending c) Shearing actions
- Case discussed is a catwalk where travelling load and panel is a beam secured tight at ends to avoid deflection.
- The axis of moment is the neutral axis of the section of strand.
- Equivalent beam section represents: b= thickness of sheet in mm. & d= strand length in mm.

$I =$ moment of inertia of such strand section = $bxd^3/12$

6. Deflection of beam: The maximum permissible deflection as accepted for comfortable walk is 8mm. Therefore deflection is also counted in panel fabrication. The formula for beams of uniform section fixed at ends and loaded is:

deflection - uniformly loaded = $w \times L^3 / 384 \times E \times I$ and deflection - loaded in centre = $w \times L^3 / 192 \times E \times I$

Where:

w = weight of a person weighing 100kg. and carrying a load of 100kg. totaling 200kg weight. L = Span of the Panel in mm, i.e length of panel.

E = Elongation of Steel = 29×10^6 Psi, as per American standard (Steel for bridges, buildings & structural purpose ASTM A7-61 T, all shapes).

7. Expanded metal walkway gratings behave like a net, even when heavily loaded they can carry loads far in excess of the recommended data shown. The inherent properties of Expanded Metal walkway gratings provide maximum safety pursuant to complete failure.

Reference : Applied Mechanics (Strength & Elasticity of Materials) by David Allan Low. Machinery Handbook (26th edition) by Industrial Press Incorporation, New York by Eric Oberg, Franklin D Jones, Holbrook L Norton & Henry H Ryffel.

Economy Comparison Chart of Expanded Metal Grating with Chequered Plate and Bar Grating

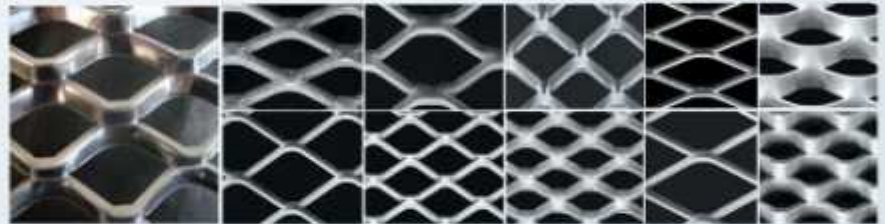
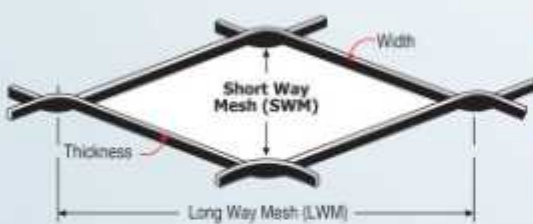
Chequered Plates		Bar Grating			Expanded Metal Grating			
Thickness	Weight per Sq. Metre	Bar Spacing	Bearing Bar Size	Weight per Sq. Metre	Sr. No.	Mesh Size SWM x LWM	Strand Size Width x Thickness	Weight per Sq. Mtr.
05 mm	45 Kg.	100 x 30 mm	20 x 03 mm	20 Kg.	1.	42 x 115	8 x 4 mm	11 Kg.
06 mm	53 Kg.	100 x 30 mm	20 x 05 mm	28 Kg.	2.	30 x 75	8 x 4 mm	14 Kg.
07 mm	61 Kg.	100 x 30 mm	25 x 03 mm	25 Kg.	3.	25 x 62	8 x 4 mm	15 Kg.
08 mm	69 Kg.	100 x 30 mm	25 x 05 mm	36 Kg.				
10 mm	85 Kg.	50 x 30 mm	20 x 03 mm	24 Kg.				
		50 x 30 mm	20 x 05 mm	31 Kg.				
		50 x 30 mm	25 x 03 mm	29 Kg.				
		50 x 30 mm	25 x 05 mm	40 Kg.				

(In above Mesh Sizes, Max. Width of Strand has been considered).

Dimensional Details of Unwelded Gratings & Mesh

	ITEM CODE	Mesh Size in mm				xpm w x l in mtrs.		sq.mtrs.	weight per sq.mtr. Kgs
		SWM	LWM	Strand	Thickness	Width	Length		
1	G30105	30	75	10	5	1.25	2.2	2.75	21.82
2	G30104	30	75	10	4	1.25	2.2	2.75	17.09
3	G30103	30	75	10	3	1.25	2	2.5	15.20
4	G3085	30	75	8	5	1.25	2.65	3.31	18.11
5	G3084	30	75	8	4	1.25	2.65	3.31	14.19
6	G3083	30	75	8	3	1.25	2.5	3.12	12.16
7	G3065	30	75	6	5	1.25	3.5	4.37	13.71
8	G3064	30	75	6	4	1.25	3.5	4.37	10.74
9	X3063	30	75	6	3	1.25	3.4	4.25	8.94
10	G3055	30	75	5	5	1.25	4.25	5.31	11.29
11	G3054	30	75	5	4	1.25	4.2	5.25	8.95
12	X3053	30	75	5	3	1.25	4	5	7.60
13	X3044	30	75	4	4	1.25	5.35	6.68	7.03
14	X3043	30	75	4	3	1.25	5.15	6.43	5.90
15	X3042.5	30	75	4	2.5	1.25	5	6.25	4.64
16	X3042	30	75	4	2	1.25	5	6.25	3.68
17	X3033	30	75	3	3	1.25	6.75	8.43	4.50
18	X3032.5	30	75	3	2.5	1.25	6.7	8.37	3.46
19	X3032	30	75	3	2	1.25	6.7	8.37	2.75
20	X3031.6	30	75	3	1.6	1.25	6.65	8.31	2.17
21	X302.52	30	75	2.5	2	1.25	8	10	2.30
22	X302.51.6	30	75	2.5	1.6	1.25	8	10	1.80
1	X1643	16	40	4	3	1.25	2.81	3.51	10.80
2	X1642.5	16	40	4	2.5	1.25	2.81	3.51	8.24
3	X1642	16	40	4	2	1.25	2.81	3.51	6.54
4	X1641.6	16	40	4	1.6	1.25	2.75	3.43	5.23
5	X1633	16	40	3	3	1.25	3.53	4.42	8.59
6	X1632.5	16	40	3	2.5	1.25	3.53	4.42	6.55
7	X1631.6	16	40	3	1.6	1.25	3.5	4.37	4.11
8	X162.52.5	16	40	2.5	2.5	1.25	4.25	5.31	5.45
9	X162.52	16	40	2.5	2	1.25	4.25	5.31	4.32
10	X162.51.6	16	40	2.5	1.6	1.25	4.25	5.31	3.38

	ITEM CODE	Mesh Size in mm				xpm w x l in mtrs.		sq.mtrs.	weight per sq.mtr. Kgs
		SWM	LWM	Strand	Thickness	Width	Length		
1	G40105	40	115	10	5	1.25	2.75	3.43	17.45
2	G40104	40	115	10	4	1.25	2.75	3.43	13.67
3	G40103	40	115	10	3	1.25	2.65	3.31	11.47
4	G4085	40	115	8	5	1.25	3.45	4.31	13.91
5	G4084	40	115	8	4	1.25	3.45	4.31	10.90
6	G4083	40	115	8	3	1.25	3.35	4.18	9.07
7	G4065	40	115	6	5	1.25	4.6	5.75	10.43
8	G4064	40	115	6	4	1.25	4.5	5.62	8.36
9	X4063	40	115	6	3	1.25	4.4	5.5	6.91
10	G4055	40	115	5	5	1.25	5.5	6.87	8.73
11	X4054	40	115	5	4	1.25	5.4	6.75	6.96
12	X4053	40	115	5	3	1.25	5.25	6.56	5.79
13	X4044	40	115	4	4	1.25	6.9	8.62	5.45
14	X4043	40	115	4	3	1.25	6.9	8.62	4.41
1	G25104	25	62	10	4	1.25	1.75	2.18	21.49
2	G25103	25	62	10	3	1.25	1.75	2.18	17.37
3	G2584	25	62	8	4	1.25	2.5	3.12	15.09
4	G2583	25	62	8	3	1.25	2.5	3.12	13.82
5	G2564	25	62	6	4	1.25	2.9	3.62	12.97
6	G2563	25	62	6	3	1.25	2.9	3.62	10.48
7	G2554	25	62	5	4	1.25	3.5	4.37	10.74
8	X2553	25	62	5	3	1.25	3.4	4.25	8.94
9	X2544	25	62	4	4	1.25	4.4	5.5	8.55
10	X2543	25	62	4	3	1.25	4.2	5.25	7.24
11	X2533	25	62	3	3	1.25	5.45	6.81	5.58
12	X2532.5	25	62	3	2.5	1.25	5.37	6.71	4.31
13	X2531.6	25	62	3	1.6	1.25	5.37	6.71	2.67
14	X2532	25	62	3	2	1.25	5.37	6.71	3.42
15	X252.52.5	25	62	2.5	2.5	1.25	6.5	8.12	3.56
16	X252.52	25	62	2.5	2	1.25	6.5	8.12	2.83
17	X252.51.6	25	62	2.5	1.6	1.25	6.5	8.12	2.21



**ASIAN
STRECK
METALS**

ISO 9001 : 2008
Company

QUALITY & CUSTOMER SATISFACTION
SINCE 1962

Works: 35-36, Uppalwadi Industrial Estate, Kamptee Road, Nagpur 440026 INDIA
 City Office: Saraf Court, Opp. Yashwant Stadium, Dhantoli, Nagpur 440012 INDIA
 Phones: Works - 0712-2640542; Office: 0712-2440350;
 Fax: 0712-2448156 / 2640542; Cell: +919822695359
 E-mail: info@sarafbros.com, support@sarafbros.com
 Visit us at - www.sarafbros.com and www.expandedmesh.in