

SERRATE STYLE GRATING

● CONSTRUCTION

Serrate Style Grating is available in conformity with the all types of Plain Style Grating in either the 8J, J, 8L, L, 8N, N, O or P series with cross bars spaced on 4" centers.

This style of grating can be used for inclined walkway and where good traction is an important factor and where extreme conditions exist, such as oily or slippery surfaces.

Moreover, Serrate Style Grating is the most effective for slip-proof in all weathers.

PITCH OF SERRATION

The standard pitch of the serration is 3/8".

PITCHES OF BEARING BARS AND CROSS BARS

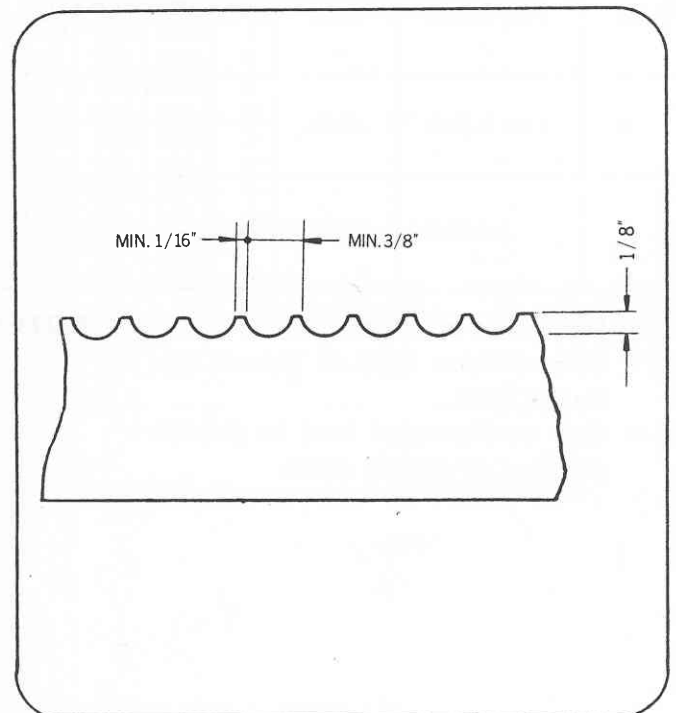
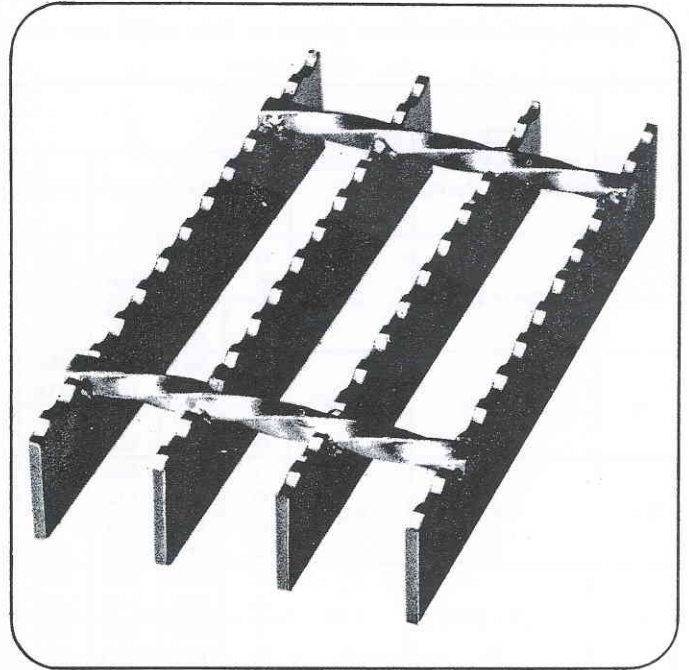
The pitches of bearing bars and cross bars are exactly same as the Plain Style Grating.

SIZES OF CROSS BARS

Twisted 1/4" x 1/4" square bars are used as the cross bars in all types of the Serrate Style Grating.

As a rule, Serrate Style Gratings shall be provided in each stock size of 3'x20', 3'x24', 2'x20' and 2'x24' with open end.

But the provision of the fabricated grating is available upon request.



SAFE LOAD TABLE (PLAIN)

● SAFE LOAD TABLE

Loads and deflections given in this table are theoretical, and are based on a unit stress of 18,000 psi.

TYPE	SIZE IN INCHES OF BEARING BARS	WEIGHTS OF PER Sq.ft.	LOAD AND DEFLECTION	SPAN IN FEET AND INCHES														
				2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	8'-0"	9'-0"		
8 G	3/4 x 1/8	lbs. 3.94	U	386	247	172	126	96	76									
			D	.096	.150	.216	.294	.382	.485									
			C	386	309	257	221	193	172									
			D	.077	.120	.173	.235	.307	.388									
G	3/4 x 3/16	5.54	U	581	372	258	190	145	115									
			D	.096	.150	.216	.294	.382	.485									
			C	581	465	387	332	290	258									
			D	.077	.120	.173	.235	.307	.388									
8 J	1 x 1/8	5.04	U	686	439	305	224	172	136	110	91	76						
			D	.072	.112	.162	.220	.289	.365	.451	.545	.646						
			C	636	549	458	392	343	305	274	250	229						
			D	.058	.090	.130	.176	.230	.292	.360	.436	.519						
J	1 x 3/16	7.19	U	1030	659	458	336	257	203	165	136	114						
			D	.072	.112	.162	.220	.289	.365	.451	.545	.646						
			C	1030	824	686	588	515	458	412	374	343						
			D	.058	.090	.130	.176	.230	.292	.360	.436	.519						
8 L	1-1/4 x 1/8	6.14	U	1072	686	477	350	268	212	172	142	119	102	88				
			D	.058	.090	.130	.176	.230	.292	.360	.435	.516	.607	.704				
			C	1072	858	715	613	536	477	429	390	358	330	306				
			D	.046	.072	.104	.141	.184	.233	.288	.348	.415	.486	.562				
L	1-1/4 x 3/16	8.84	U	1610	1031	716	526	403	318	258	213	179	152	131				
			D	.058	.090	.130	.176	.230	.292	.360	.435	.516	.607	.704				
			C	1610	1288	1074	920	805	716	644	586	537	496	406				
			D	.046	.072	.104	.141	.184	.233	.288	.348	.415	.486	.562				
8 N	1-1/2 x 1/8	7.24	U	1544	988	686	504	386	305	247	204	172	146	126	96	76		
			D	.048	.075	.108	.147	.192	.243	.300	.363	.432	.506	.587	.765	.967		
			C	1544	1236	1030	882	772	686	618	562	515	475	441	386	343		
			D	.038	.060	.086	.118	.154	.194	.240	.291	.346	.405	.470	.614	.777		
N	1-1/2 x 3/16	10.50	U	2320	1485	1031	758	580	458	371	307	253	220	189	145	114		
			D	.048	.075	.108	.147	.192	.243	.300	.363	.432	.506	.587	.765	.967		
			C	2320	1856	1547	1326	1160	1031	928	844	773	714	663	580	516		
			D	.038	.060	.086	.118	.154	.194	.240	.291	.346	.405	.470	.614	.777		
O	1-3/4 x 3/16	12.15	U	3158	2021	1404	1031	790	624	505	418	351	299	258	197	156		
			D	.041	.064	.093	.126	.165	.208	.257	.312	.370	.435	.505	.657	.834		
			C	3158	2526	2105	1805	1579	1404	1263	1148	1053	972	902	790	702		
			D	.033	.051	.074	.101	.132	.167	.206	.249	.296	.348	.403	.527	.667		
P	2 x 3/16	13.80	U	4125	2640	1833	1347	1031	815	660	545	458	390	337	258	204		
			D	.036	.056	.081	.110	.144	.182	.225	.272	.324	.380	.441	.576	.730		
			C	4125	3300	2750	2357	2062	1833	1650	1500	1375	1269	1178	1031	917		
			D	.029	.045	.065	.088	.115	.146	.180	.218	.259	.304	.353	.461	.583		

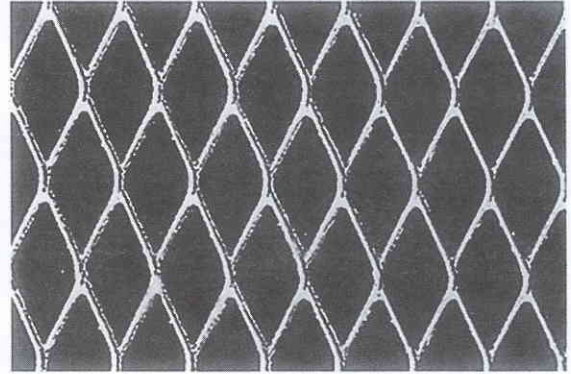
- D = Deflection in inches
- U = Safe uniform load in pounds per square foot.
- C = Safe concentrated load in pounds per foot of grating width.

NOTE: Grating for spans to the left of the thick line have a deflection less than 1/4" for uniform loads of 100 lbs per square foot.

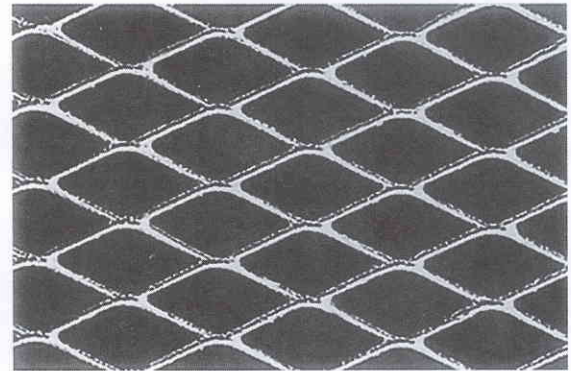
This is the maximum deflection to afford pedestrian comfort and can be exceeded for other types of load at the discretion of the engineer.

EXPANDED METAL

Manufactured from steel sheet, slit and expanded to form one continuous uniform shaped mesh. Different openings are created during this process.



2440mm (SWM) x 1220mm (LWM)



2440mm (LWM) x 1220mm (SWM)

Available Material

1. Mild Steel

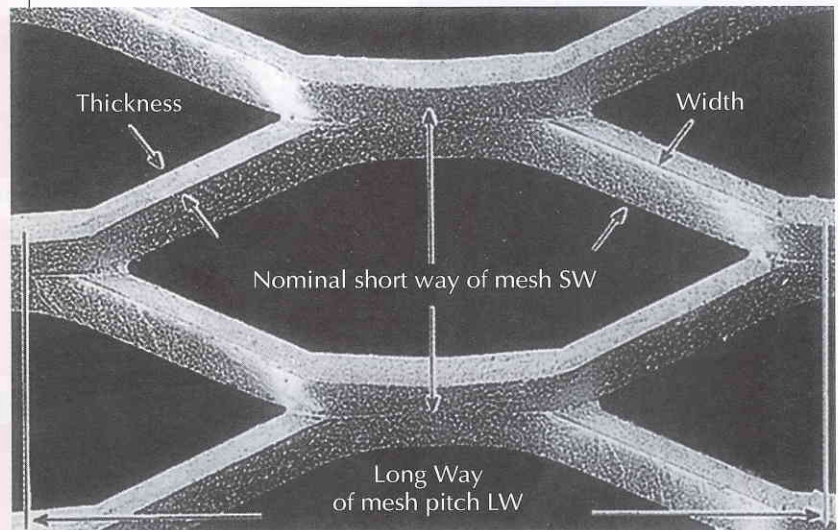
Made from low carbon steel conforming to JIS G3131/SPHC. For non-corrosion, it can be hot-dipped galvanized to BS729-1971 or powder coated.

2. Aluminium

Commercial Grade AA 1100 (mill finish). Other Grades of aluminium are also possible upon request.

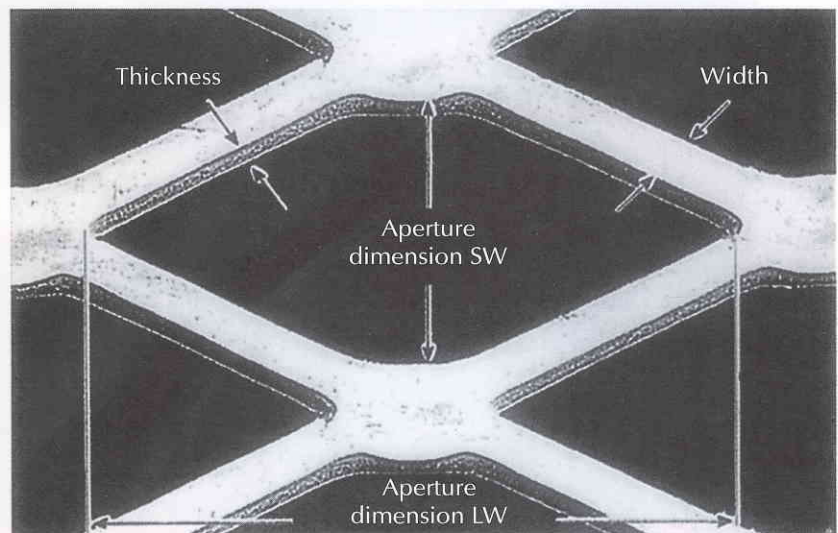
3. Stainless Steel

Usually produced from Grade SS 304 and SS 316.

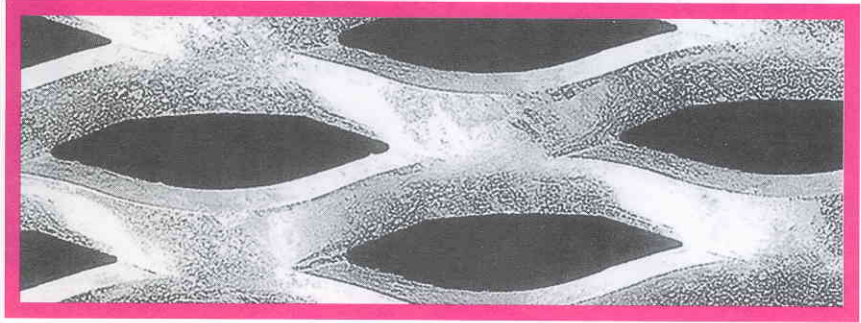


Specification of mesh opening

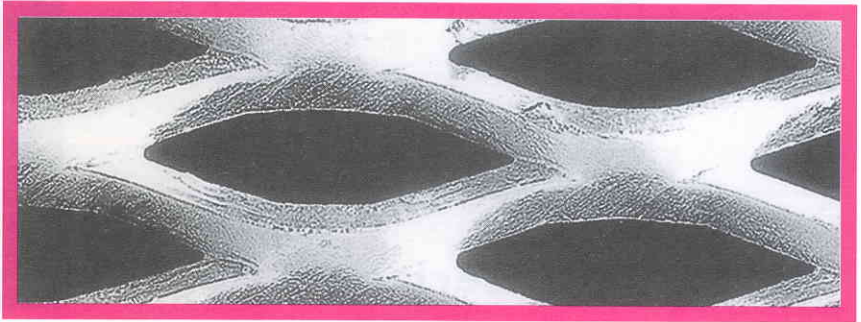
The Long Way (LWM) of the mesh opening is uniform, and the Short Way (SWM) is approximate only and is subject to variation depending on the strand width and material thickness. However, it may not generally alter the overall mesh type during manufacture.



WALKWAY MESH



WM 50105



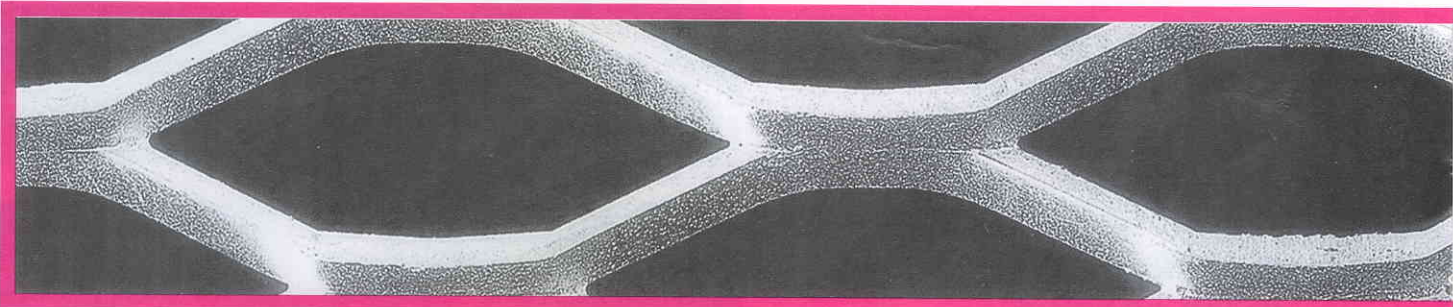
WM 50075

Ordering procedures

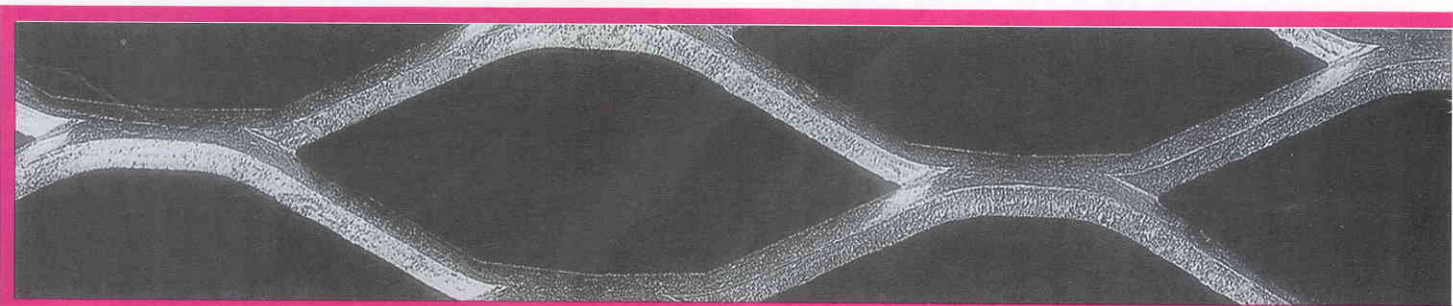
It is normal practice for purpose common frequency between customer and manufacturer to order in the following format:-

- Reference number of mesh
- Required thickness
- Material
- Sheet and roll dimension
- Mesh direction on sheet sizes
- Quantity

WM 50110

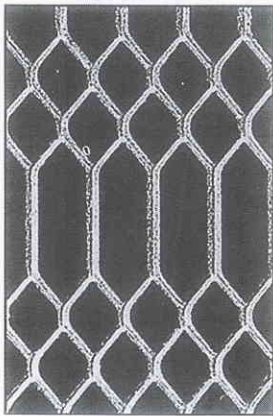


WM 50080

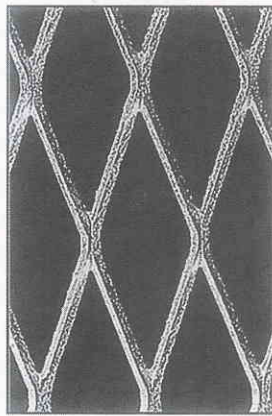


Sheet Sizes & Tolerance

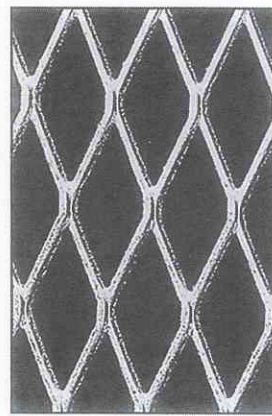
Expanded metal comes in standard sheet size of 2440mm (SWM) x 1220mm (LWM), other sheet sizes are available upon request. **WE ARE ALSO THE ONLY MANUFACTURER ABLE TO PRODUCE SHEETS WITH LONG WAY MESH DIRECTION OF 3100MM (LWM).** Some light and micro meshes are supplied in roll for easy handling and storage. All sheet and roll sizes are subject to tolerance.



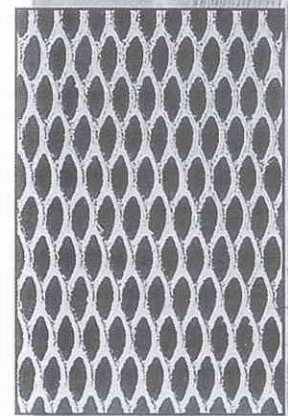
DM 3032



SM 3060



SM 3045



LM 2015

Product Benefits

- Because there are no welds or joints, it operates as a structural member that distributes loads evenly over a wider area.
- High strength-to-weight ratio makes it technically applicable in many engineering, industrial and ornamental applications. These include safety barricades against opposing traffic on highways, walkways, drain grating, anti-vandal screens, and decorative fencing.
- No loose strands or welds means minimal wear through constant exposure to natural elements or others normal movements.
- Fire resistant and vermin proof, it also provides an anti-slip surface for ramps, catwalks and stairtreads.
- Allow good visibility and the easy passage of air, heat, light and sound while ensuring security and protection.
- Anti-corrosive when hot-dipped galvanised or powder-coated.

Specifications

REF.NO	MATERIAL	NOMINAL SIZE OF MESH		THICKNESS* (mm)	STRAND WIDTH (mm)	WEIGHT kg/m ² ± 10%	STANDARD** SHEET SIZE SWM X LMW (mm)
		SWM (mm)	LWM (mm)				
LM 0515 (CI)	Steel	10	21	0.5	1.5	1.24	2440 x 1220
LM 0715 (CI)	Steel	10	21	0.7	1.5	1.75	2440 x 1220
LM 1015	Steel	9	29	1.0	1.5	2.69	2440 x 1220
LM 1515	Steel	9	29	1.5	1.5	4.03	2440 x 1220
LM 2015	Steel	9	29	2.0	1.5	5.37	2440 x 1220
SM1020	Steel	16	38	1.0	2.0	2.02	2440 x 1220
SM 1520	Steel	16	38	1.5	2.0	3.02	2440 x 1220
SM 1528	Steel	22	57	1.5	2.8	3.02	2440 x 1220
SM 2028	Steel	22	57	2.0	2.8	4.03	2440 x 1220
SM 3030	Steel	22	57	3.0	3.0	6.49	2440 x 1220
SM 30045	Steel	22	57	3.0	4.5	9.74	2440 x 1220
SM 2030	Steel	35	76	2.0	3.0	3.02	2440 x 1220
SM 30030	Steel	35	76	3.0	3.0	4.03	2440 x 1220
SM 3045	Steel	35	76	3.0	4.5	6.05	2440 x 1220
SM 45060	Steel	35	76	4.5	6.0	12.43	2440 x 1220
SM 3545	Steel	42	115	3.0	4.5	5.37	2440 x 1220
SM 3060	Steel	42	115	3.0	6.0	7.05	2440 x 1220
SM 4560	Steel	42	115	4.5	6.0	10.41	2440 x 1220
DM 3032	Steel	25	40/81	3.0	3.2	6.05	2440 x 1220
WM 50080	Steel	45	135	5.0	8.0	14.11	2440 x 1220
WM 50110	Steel	45	135	5.0	11.0	19.48	2440 x 1220
WM 30080	Steel	30	75	3.0	8.0	12.77	2440 x 1220
WM 50075	Steel	30	75	5.0	7.5	23.85	2440 x 1220
WM 50105	Steel	30	75	5.0	10.5	27.55	2440 x 1220
SM 74545	Steel	76	200	4.5	4.5	4.37	2440 x 1220
LOM 1563	Steel	16	76	1.5	6.3	9.41	2440 x 1220

Expanded Metal to Japan Standard

XG11	Steel	34	135.4	4.5	7.0	14.5	2440 x 1220
XG12	Steel	34	135.4	6.0	7.0	19.4	2440 x 1220
XG13	Steel	34	135.4	6.0	9.0	24.9	2440 x 1220
XG14	Steel	34	135.4	8.0	9.0	33.2	2440 x 1220
XG21	Steel	36	101.6	4.5	7.0	13.7	2440 x 1220
XG22	Steel	36	101.6	6.0	7.0	18.3	2440 x 1220
XG23	Steel	36	101.6	6.0	9.0	23.6	2440 x 1220
XG24	Steel	36	101.6	8.0	9.0	31.4	2440 x 1220

General Conditions

- Standard weight tolerance, subject to ± 10%
- Nominal sheet size-shortway direction, subject to ± 50mm.
Nominal sheet size-longway direction, subject to ± 10mm.
- Also available in material such as Aluminium and Stainless Steel.
- Special sheet sizes also available upon request.
- Short way mesh and strand width may vary ±10% due to manufacturing constraints. Should you need exact opening, you must discuss with our sales staff prior to ordering.

* Thickness up to 8.0mm (to a maximum of 1525mm LWM Direction)

** Available in 3100mm-LWM Direction (maximum thickness of 3.0mm)

Loading Table For Walkway Mesh

MILD STEEL

SPECIFICATIONS AND LOAD / SPAN TABLES														
LOAD TABLE Distributed Loads (kPa), Concentrated Loads (kN)														
CAT. No.	LOAD CONDITION	LOADING CRITERIA	SIMPLE SPAN - mm				DOUBLE SPAN - mm				TRIPLE SPAN - mm			
			600	750	900	1200	300	380	450	600	200	250	300	400
WM 50080	UNIFORM DIST.kPa	LOAD CAPACITY	4.8	3.1	2.2	1.2	19.6	12.6	8.9	5.1	43.0	30.3	21.0	11.9
		DEFLECTION LOAD	9.9	5.1	3.0	1.2				12.5				
WM 50110	UNIFORM DIST.kPa	LOAD CAPACITY	6.3	4.2	2.9	1.7	26.2	16.6	11.7	6.7	54.9	40.0	28.2	15.8
		DEFLECTION LOAD		9.4	5.5	2.2				22.9				
WM 50075	UNIFORM DIST.kPa	LOAD CAPACITY	5.7	3.7	2.6	1.5	23.4	14.9	10.5	6.0	50.4	35.9	24.9	14.3
		DEFLECTION LOAD	11.3	5.9	3.4	1.5				14.1				
WM 50105	UNIFORM DIST.kPa	LOAD CAPACITY	8.1	5.3	3.6	2.0	33.2	21.1	15.0	8.5	69.3	51.1	35.4	20.1
		DEFLECTION LOAD	18.3	9.6	5.5	2.4				35.7				
WM 30080/F	UNIFORM DIST.kPa	LOAD CAPACITY	1.40	0.92	0.63	0.35	14.00	9.20	6.30	3.50	16.41	10.94	7.55	4.19
		DEFLECTION LOAD	2.80	1.84	1.26	0.70				7.00				
WM 50080/A	CONC. kN	LOAD CAPACITY	1.07	0.85	0.72	0.53	2.45	1.96	1.64	1.24	3.94	3.17	2.64	2.00
		DEFLECTION LOAD	0.99	0.63	0.44	0.25				1.38				
WM 50110	CONC. kN	LOAD CAPACITY	1.41	1.13	0.94	0.70	3.23	2.58	2.18	1.65	4.98	4.17	3.49	2.67
		DEFLECTION LOAD	1.82	1.18	0.82	0.47				2.58				
WM 50075	CONC. kN	LOAD CAPACITY	1.27	1.01	0.84	0.63	2.90	2.31	1.93	1.47	4.50	3.74	3.12	2.38
		DEFLECTION LOAD	1.14	0.73	0.52	0.29				1.60				
WM 50105	CONC. kN	LOAD CAPACITY	1.79	1.43	1.20	0.90	4.12	3.29	2.76	2.08	6.28	5.29	4.49	3.38
		DEFLECTION LOAD	1.84	1.19	0.83	0.46				2.58				
WM 30080/F	CONC. kN	LOAD CAPACITY	0.92	0.58	0.24	0.13	1.13	0.76	0.56	0.31	1.22	0.82	0.48	0.25
		DEFLECTION LOAD	1.84	1.16	0.48	0.26				0.62				

ALUMINIUM

SPECIFICATIONS AND LOAD / SPAN TABLES														
LOAD TABLE Distributed Loads (kPa), Concentrated Loads (kN)														
CAT. No.	LOAD CONDITION	LOADING CRITERIA	SIMPLE SPAN - mm				DOUBLE SPAN - mm				TRIPLE SPAN - mm			
			600	750	900	1200	300	380	450	600	200	250	300	400
WM 50080/A	UNIFORM DIST.kPa	LOAD CAPACITY	4.5	3.0	2.0	1.1	18.4	11.7	8.5	4.7	40.2	28.4	19.8	11.4
		DEFLECTION LOAD	3.8	2.0	1.1	0.5	37.3	18.9	11.1	4.8				35.6
WM 50110/A	UNIFORM DIST.kPa	LOAD CAPACITY	5.4	3.6	2.5	1.4	22.3	14.3	10.0	5.7	49.1	34.4	24.1	13.9
		DEFLECTION LOAD	6.4	3.3	1.9	0.8	41.7	21.1	11.1	5.4				25.8
WM 50075/A	UNIFORM DIST.kPa	LOAD CAPACITY	4.9	3.2	2.2	1.2	20.1	12.7	8.9	5.1	44.0	30.8	21.5	12.2
		DEFLECTION LOAD	4.3	2.3	1.3	0.6	28.4	14.2	8.4	3.7	73.4	46.6	27.5	11.7
WM 50105/A	UNIFORM DIST.kPa	LOAD CAPACITY	6.7	4.4	3.0	1.7	27.5	17.3	12.3	7.0	58.1	42.3	29.6	17.0
		DEFLECTION LOAD	6.6	3.5	2.0	0.9	43.5	22.1	13.0	5.6	108.0	72.2	42.1	17.9
WM 50080/A	CONC. kN	LOAD CAPACITY	1.00	0.80	0.67	0.50	2.03	1.82	1.54	1.16	3.65	2.97	2.48	1.87
		DEFLECTION LOAD	0.38	0.24	0.17	0.10	2.08	1.31	0.93	0.53	3.78	2.80	1.93	1.15
WM 50110/A	CONC. kN	LOAD CAPACITY	1.21	0.97	0.81	0.60	2.79	2.21	1.87	1.41	4.38	3.60	3.00	2.29
		DEFLECTION LOAD	0.64	0.41	0.29	0.16	3.49	2.21	1.56	0.89	6.34	4.69	3.27	1.89
WM 50075/A	CONC. kN	LOAD CAPACITY	1.08	0.86	0.72	0.54	2.49	1.97	1.67	1.24	3.98	3.20	2.69	2.02
		DEFLECTION LOAD	0.43	0.28	0.19	0.11	2.36	1.49	1.05	0.60	4.38	3.18	2.22	1.27
WM 50105/A	CONC. kN	LOAD CAPACITY	1.48	1.19	1.00	0.74	3.41	2.71	2.29	1.72	5.31	4.40	3.69	2.78
		DEFLECTION LOAD	0.67	0.44	0.30	0.17	3.68	2.31	1.63	0.92	6.60	4.91	3.42	1.98
WM 30080/F	CONC. kN	LOAD CAPACITY	0.50	0.32	0.22	0.13	2.75	1.73	1.22	0.70	4.96	3.69	2.58	1.49
		DEFLECTION LOAD	1.00	0.64	0.44	0.26				1.40				

Assumption

The selection guide assumes mesh spanning in the direction of long way mesh (LWM) having a minimum of every fourth strand welded on support and minimum 25mm end bearing.

1. The recommended spans stated above are based upon the deflection not exceeding span/200 when subjected to the loads shown.

2. Spans stated in the table are nominal. Clear spans can be calculated by deducting 25mm from both ends.

3. Load capacities stated in the table are the heaviest loads that will cause no permanent deformation, with a built-in safety factor of 40% if a slight deformation or sag is allowed.

