

# Electro Forged Steel Grating



GRATING with load bearing bars @ 30 mm centres Cross bars @ 100 or 50 mm centres



Safe Uniformly distributed loads (U.D.L.) in kilonewtons per square metre on simply supported panels with deflections (D) in mm. Based on a maximum permissible stress of 180 N/mm<sup>2</sup> which allows for a safety factor of 1.6.

Note: For pedestrian traffic there are three loading categories which are (a) light duty, (b) normal duty and © heavy duty. These categories are described as (a) access limited to one person only, (b) regular two way traffic and © high density traffic, Bs4592, part one 1987.

Note : Add 2:99 kg/m<sup>2</sup> approx. finished weight for cross bars @ 50 mm centres

LOADING CONSIDERED		
a =	3.0	kN/m <sup>2</sup>
b =	5.0	kN/m <sup>2</sup>
c =	7.5	kN/m <sup>2</sup>

## SAFE WORKING LOADS & DEFLECTION TABLES FOR 30 mm pitch

Max clear span for pedestrian Load (mm)	'D' (mm)	Bearing Bar (mm)	UNITS	MAXIMUM UNIFORMLY DISTRIBUTED LOAD IN kN/m <sup>2</sup> AND MAXIMUM DEFLECTION IN mm @ INDIVIDUAL CLEAR SPANS SHOWN IN mm.												SCF		Approx. Fin. Wt kg/m <sup>2</sup>	
				300	450	600	750	900	1000	1200	1350	1500	1650	1800	1950	2000	U.D.L.		D
a	1526	7.63	kN/m <sup>2</sup>	171.67	76.30	42.92	25.25	14.61	10.65	6.16	4.33	3.16	2.37	1.83	1.44	1.33	0.85	1.08	25.21
b	1287	6.43	D (mm)	0.65	1.47	2.61	3.75	4.50	5.00	6.00	6.75	7.50	8.25	9.00	9.75	10.00			
c	1124	5.62	25 x 3																
a	1831	9.15	kN/m <sup>2</sup>	247.20	109.87	61.80	39.55	25.25	18.41	10.65	7.48	5.45	4.10	3.16	2.48	2.30	0.87	1.06	29.65
b	1544	7.72	D (mm)	0.54	1.22	2.18	3.40	4.50	5.00	6.00	6.75	7.50	8.25	9.00	9.75	10.00			
c	1349	6.74	30 x 3																
a	2101	10.00	kN/m <sup>2</sup>	367.47	149.54	84.12	53.83	37.39	29.23	16.92	11.88	8.66	6.51	5.01	3.94	3.65	0.89	1.05	34.09
b	1801	9.01	D (mm)	0.47	1.05	1.86	2.91	4.20	5.00	6.00	6.75	7.50	8.25	9.00	9.75	10.00			
c	1574	7.87	35 x 3																
a	2322	10.00	kN/m <sup>2</sup>	439.47	195.32	109.87	70.31	48.83	39.55	25.25	17.73	12.93	9.71	7.48	5.88	5.45	0.90	1.05	38.53
b	2044	10.00	D (mm)	0.41	0.92	1.63	2.55	3.67	4.53	6.00	6.75	7.50	8.25	9.00	9.75	10.00			
c	1799	8.99	40 x 3																
a	2490	10.00	kN/m <sup>2</sup>	583.00	259.00	145.00	92.70	64.50	52.20	33.34	23.40	17.10	12.82	9.88	7.77	7.21	0.90	1.05	50.92
b	2191	10.00	D (mm)	0.41	0.92	1.63	2.55	3.67	4.53	6.00	6.75	7.50	8.25	9.00	9.75	10.00			
c	1950	9.41	40 x 4																
a	1809	9.04	kN/m <sup>2</sup>	286.11	127.16	71.53	42.08	24.35	17.75	10.27	7.22	5.26	3.95	3.04	2.39	2.22	0.85	1.08	40.02
b	1526	7.63	D (mm)	0.65	1.47	2.61	3.75	4.50	5.00	6.00	6.75	7.50	8.25	9.00	9.75	10.00			
c	1333	6.66	25 x 5																
a	2127	10.00	kN/m <sup>2</sup>	412.00	183.11	103.00	65.92	42.08	30.68	17.75	12.47	9.09	6.83	5.26	4.14	3.83	0.87	1.06	47.42
b	1831	9.15	D (mm)	0.54	1.22	2.18	3.40	4.50	5.00	6.00	6.75	7.50	8.25	9.00	9.75	10.00			
c	1599	8.00	30 x 5																
a	2227	10.00	kN/m <sup>2</sup>	455.00	198.00	114.50	75.00	47.20	37.00	21.35	14.99	10.95	8.21	6.35	4.97	4.61	0.89	1.05	50.92
b	1900	8.84	D (mm)	0.50	1.10	2.01	3.21	4.20	5.00	6.00	6.75	7.50	8.25	9.00	9.75	10.00			
c	1700	8.50	32 x 5																
a	2387	10.00	kN/m <sup>2</sup>	560.78	249.23	140.19	89.72	62.31	48.72	28.19	19.80	14.43	10.84	8.35	6.57	6.09	0.89	1.05	54.82
b	2101	10.00	D (mm)	0.47	1.05	1.86	2.91	4.20	5.00	6.00	6.75	7.50	8.25	9.00	9.75	10.00			
c	1866	9.33	35 x 5																
a	2639	10.00	kN/m <sup>2</sup>	732.44	325.53	183.11	117.19	81.38	65.92	42.08	29.56	21.55	16.19	12.47	9.81	9.09	0.90	1.05	62.23
b	2322	10.00	D (mm)	0.41	0.92	1.63	2.55	3.67	4.53	6.00	6.75	7.50	8.25	9.00	9.75	10.00			
c	2098	10.00	40 x 5																
a	3119	10.00	kN/m <sup>2</sup>	1144.44	508.64	286.11	183.11	127.16	103.00	71.53	56.52	42.08	31.62	24.35	19.15	17.75	0.92	1.03	77.04
b	2745	10.00	D (mm)	0.33	0.73	1.31	2.04	2.94	3.63	5.22	6.61	7.50	8.25	9.00	9.75	10.00			
c	2481	10.00	50 x 5																
a	3567	10.00	kN/m <sup>2</sup>	1800.00	830.00	439.00	277.00	204.00	170.15	117.30	87.90	67.30	54.10	41.70	32.77	30.38	0.92	1.03	92.86
b	3140	10.00	D (mm)	0.30	0.70	1.17	1.80	2.75	3.50	5.00	6.00	7.00	8.25	9.00	9.75	10.00			
c	2837	10.00	60 x 5																

S.C.F is the serrated conversion factor by which the safe loads and deflections must be multiplied to obtain those for the equivalent overall load bearing bar depth with serrated top surface.

## NOMINAL O/A DIMENSION OF BARS(in mm)

No. of Bars	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5 mm Load Bars	95	125	155	185	215	245	275	305	335	365	395	425	455	485	515	545
No. of Bars	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	
5 mm Load Bars	575	605	635	665	695	725	755	785	815	845	875	905	935	965	995	

NOTE:

- For 3 mm load bars subtract 2 mm from widths
- width dimensions can vary due to manufacturing process
- In addition to 30 and 41 mm pitch we also manufacture the gratings with 33 mm c/c, 35 mm c/c, 40 mm c/c and 60 mm c/c

Standard width

