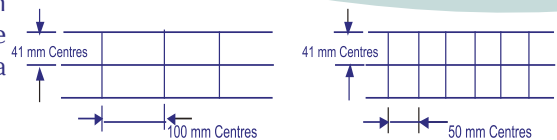


ELECTRO FORGED STEEL GRATING



ELECTRO FORGED GRATINGS

GRATING with load bearing bars @ 41 mm centres Cross bars @ 100 mm
Safe Uniformly distributed loads (U.D.L.) in kilonewtons per square metre on simply supported panels with deflections (D) in mm. Load table is made considering a maximum permissible stress of 165 N/mm² which allows for a safety factor of 1:6.



Safe Working Loads & Deflection Tables for 41mm Pitch

Note : For pedestrian traffic there are three loading categories which are (a) light duty, (b) normal duty and (c) heavy duty. These categories are described as (a) access limited to one person only, (b) regular two way pedestrian traffic and (c) high density pedestrian traffic, as per BS 4592, part one 1987.

Add 2.99kg/m² approx. finished weight for cross bars @ 50 mm centres

Max clear span for pedestrian Load (mm)	'D' (mm)	Bearing Bar (mm)	UNITS	MAXIMUM UNIFORMLY DISTRIBUTED LOAD IN kN/m ² AND MAXIMUM DEFLECTION IN mm @ INDIVIDUAL CLEAR SPANS SHOWN IN mm												Theoretical Finish Weight kg/m ²		
				300	450	600	750	900	1000	1200	1350	1500	1650	1800	1950		2000	
a b c	1380 1164 1017	6.90 5.82 5.08	25x3	kn/m ²	126.95	56.42	31.74	18.67	10.81	7.88	4.56	3.20	2.33	1.75	1.35	1.06	0.98	19.84
			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		
a b c	1656 1396 1220	8.28 6.98 6.10	30x3	kn/m ²	182.81	81.25	45.70	29.25	18.67	13.61	7.88	5.53	4.03	3.03	2.33	1.84	1.70	23.21
			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		
a b c	1931 1639 1423	9.66 8.15 7.12	35x3	kn/m ²	248.82	110.59	62.21	39.81	27.65	21.62	12.51	8.79	6.40	4.81	3.71	2.92	2.70	26.59
			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		
a b c	2154 1862 1626	10.00 9.31 8.13	40x3	kn/m ²	325.00	143.00	81.25	52.00	36.11	29.25	18.67	13.11	9.56	7.18	5.53	4.35	4.03	29.95
			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		
a b c	2305 2029 1700	10.00 10.00 7.40	40x4	kn/m ²	429.00	190.00	106.50	68.30	47.40	38.40	24.55	17.22	12.56	9.43	7.27	5.71	5.30	38.94
			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		
a b c	1636 1380 1205	8.18 6.90 6.03	25x5	kn/m ²	211.59	94.04	52.90	31.12	18.01	13.13	7.60	5.34	3.89	2.92	2.25	1.77	1.64	31.08
			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		
a b c	1963 1656 1446	9.81 8.28 7.23	30x5	kn/m ²	304.68	135.41	76.17	48.75	31.12	22.69	13.13	9.22	6.72	5.05	3.89	3.06	2.84	36.69
			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		
a b c	2062 1750 1500	10.00 8.65 7.00	32x5	kn/m ²	335.00	146.00	84.00	55.00	34.70	27.15	15.70	11.02	8.04	6.04	4.65	3.66	3.39	38.94
			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		
a b c	2214 1931 1687	10.00 9.66 8.44	35x5	kn/m ²	414.71	184.31	103.68	66.35	46.08	36.03	20.85	14.64	10.67	8.02	6.18	4.86	4.50	42.31
			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		
a b c	2447 2154 1928	10.00 10.00 9.64	40x5	kn/m ²	541.66	240.74	135.41	86.67	60.18	48.75	31.12	21.86	15.93	11.97	9.22	7.25	6.72	47.92
			D (mm)	0.41	1.05	1.86	2.91	4.20	5.00	6.00	6.75	7.50	8.25	9.00	9.75	10.00		
a b c	2893 2546 2301	10.00 10.00 10.00	50x5	kn/m ²	846.34	376.15	211.59	135.41	94.04	76.17	52.90	41.79	31.12	23.38	18.01	14.17	13.13	59.16
			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		
a b c	3303 2907 2627	10.00 10.00 10.00	60x5	kn/m ²	1100.00	488.89	275.00	176.00	122.00	90.00	68.75	54.32	44.00	39.78	30.64	24.10	19.00	70.39
			D (mm)	0.25	0.56	1.00	1.56	2.24	3.05	3.99	5.05	6.23	8.25	9.00	9.75	10.00		
a b c	3709 3264 2949	10.00 10.00 10.00	70 x 5	kn/m ²	1498.00	665.00	374.00	239.00	166.00	123.00	93.00	74.00	60.00	49.50	48.00	38.00	29.50	81.62
			D (mm)	0.21	0.48	0.85	1.34	1.92	2.62	3.42	4.33	5.34	6.46	9.00	9.75	10.00		

Serrated Conversion Factor: Calculating UDL and deflection for serrated gratings, allowance should be kept for the material removed from the load bearing bar to form the serration profile. Typically this is 0.9 % of the UDL and 1.05 % of the deflection. This figures vary depending on the type of serration. (To be confirmed during the design process.)



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

