

Aluminum Grating

I-BAR SWAGE-LOCKED

11/16" Center to Center of Bearing Bars



11-SI-4
Cross Rods 4" C/C



11-SI-2
Cross Rods 2" C/C

LOAD & DEFLECTION TABLE

Bar Size	Symbol	Approx. Weight psf	Sec. Mod Per Ft. Of Width	SPAN (Length of Bearing Bar)								U = safe uniform load, psf C = safe concentrated load, lbs. D = deflection, inches E = modulus of elasticity, F = fiber stress, 12,000 psi Material: ASTM B-221, 6061-T6						
				2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"								
1" x 1/4"	11-4-44	3.2	0.545	U	1091	698	485	356	273	215	175							
		D		0.144	0.225	0.324	0.441	0.576	0.729	0.900								
	11-2-44	3.5		C	1091	873	727	623	545	485	436							
1-1/4" x 1/4"	11-4-54	3.8	0.852	D	0.115	0.180	0.259	0.353	0.461	0.583	0.720	5'-6"						
		U		1705	1091	758	557	426	337	273	225							
	11-2-54	4.2		D	0.115	0.180	0.259	0.353	0.461	0.583	0.720	0.871						
1-1/2" x 1/4"	11-4-64	4.5	1.227	C	1705	1364	1136	974	852	758	682	620						
		D		0.092	0.144	0.207	0.282	0.369	0.467	0.576	0.697	6'-0"	6'-6"					
	11-2-64	4.8		U	2455	1571	1091	801	614	485	393	325	273	232				
1-3/4" x 1/4"	11-4-74	5.1	1.670	D	0.096	0.150	0.216	0.294	0.384	0.486	0.600	0.726	0.864	1.014				
		C		2455	1964	1636	1403	1227	1091	982	893	818	755					
	11-2-74	5.4		D	0.077	0.120	0.173	0.235	0.307	0.389	0.480	0.581	0.691	0.811	7'-0"			
2" x 1/4"	11-4-84	5.8	2.182	U	3341	2138	1485	1091	835	660	535	442	371	316	273			
		D		0.082	0.129	0.185	0.252	0.329	0.417	0.514	0.622	0.741	0.869	1.008				
	11-2-84	6.1		C	3341	2673	2227	1909	1670	1485	1336	1215	1114	1028	955			
2-1/4" x 1/4"	11-4-94	6.4	2.761	D	0.066	0.103	0.148	0.202	0.263	0.333	0.411	0.498	0.592	0.695	0.806	8'-0"	9'-0"	
		U		4364	2793	1939	1425	1091	862	698	577	485	413	356	273	215		
	11-2-94	6.8		D	0.072	0.113	0.162	0.221	0.288	0.365	0.450	0.545	0.648	0.761	0.882	1.152	1.458	
2-1/2" x 1/4"	11-4-104	7.1	3.409	C	4364	3491	2909	2494	2182	1939	1745	1587	1455	1343	1247	1091	970	
		D		0.058	0.090	0.130	0.176	0.230	0.292	0.360	0.436	0.518	0.608	0.706	0.922	1.166		
	11-2-104	7.4		U	5523	3535	2455	1803	1381	1091	884	730	614	523	451	345	273	
				D	0.064	0.100	0.144	0.196	0.256	0.324	0.400	0.484	0.576	0.676	0.784	1.024	1.296	
				C	5523	4418	3682	3156	2761	2455	2209	2008	1841	1699	1578	1381	1227	
				D	0.051	0.080	0.115	0.157	0.205	0.259	0.320	0.387	0.461	0.541	0.627	0.819	1.037	
				U	6818	4364	3030	2226	1705	1347	1091	902	758	646	557	426	337	
				D	0.058	0.090	0.130	0.176	0.230	0.292	0.360	0.436	0.518	0.608	0.706	0.922	1.166	
				C	6818	5455	4545	3896	3409	3030	2727	2479	2273	2098	1948	1705	1515	
				D	0.046	0.072	0.104	0.141	0.184	0.233	0.288	0.348	0.415	0.487	0.564	0.737	0.933	

U = safe uniform load, psf

C = safe concentrated load, pfw

D = deflection, inches

E = modulus of elasticity, 10,000,000 psi

F = fiber stress, 12,000 psi

Material: ASTM B-221, 6063 or 6061

Deflection: Spans and loads to the right of the bold line exceed 1/4" deflection for uniform load of 100 psf which provides safe pedestrian comfort. These can be exceeded for other types of loads with engineer's approval.

General: Loads and deflections are theoretical and based on static loading.

Finish: Mill finish unless otherwise specified.

SI-11 PANEL WIDTH (inches)

Note: Includes 1/4" (1/8" each side) for extended cross rods on swage-locked (SI).

No. of Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1/4" Bar	1 ³ / ₁₆	1 ⁷ / ₈	2 ⁹ / ₁₆	3 ¹ / ₄	3 ¹⁵ / ₁₆	4 ⁵ / ₈	5 ⁵ / ₁₆	6	6 ¹¹ / ₁₆	7 ³ / ₈	8 ¹ / ₁₆	8 ³ / ₄	9 ⁷ / ₁₆	10 ¹ / ₈	10 ¹³ / ₁₆	11 ¹ / ₂	12 ³ / ₁₆	12 ⁷ / ₈	13 ⁹ / ₁₆
No. of Bars	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
1/4" Bar	14 ¹ / ₄	14 ¹⁵ / ₁₆	15 ⁵ / ₈	16 ⁵ / ₁₆	17	17 ¹¹ / ₁₆	18 ³ / ₈	19 ¹ / ₁₆	19 ³ / ₄	20 ⁷ / ₁₆	21 ¹ / ₈	21 ¹³ / ₁₆	22 ¹ / ₂	23 ³ / ₁₆	23 ⁷ / ₈	24 ⁹ / ₁₆	25 ¹ / ₄	25 ¹⁵ / ₁₆	26 ⁵ / ₈
No. of Bars	40	41	42	43	44	45													
1/4" Bar	27 ⁵ / ₁₆	28	28 ¹¹ / ₁₆	29 ³ / ₈	30 ¹ / ₁₆	30 ³ / ₄													