

# Aluminum Bar Grating

## I-BAR SWAGE-LOCKED 1-3/16" C/C Bearing Bars



Cross Rods 4" C/C



Cross Rods 2" C/C

### LOAD & DEFLECTION TABLE

Bar Size	Symbol	Approx. Weight psf	Sec. Mod Per Ft. Of Width	SPAN (Direction of Bearing Bar)																	
				24"	30"	36"	40"	48"	54"												
1" x 1/4"	19-SI-4	1.98	0.316	U	632	404	281	206	158	125											
				D	0.144	0.225	0.324	0.441	0.576	0.729											
	19-SI-2	2.30		C	632	505	421	361	316	281											
1-1/4" x 1/4"	19-SI-4	2.35	0.493	U	987	632	439	322	247	195											
				D	0.115	0.180	0.259	0.353	0.461	0.583											
	19-SI-2	2.66		C	987	789	658	564	493	439											
1-1/2" x 1/4"	19-SI-4	2.71	0.711	U	1421	909	632	464	355	281											
				D	0.096	0.150	0.216	0.294	0.384	0.486											
	19-SI-2	3.02		C	1421	1137	947	812	711	632											
1-3/4" x 1/4"	19-SI-4	3.08	0.967	U	1934	1238	860	632	484	382											
				D	0.082	0.129	0.185	0.252	0.329	0.417											
	19-SI-2	3.39		C	1934	1547	1289	1105	967	860											
2" x 1/4"	19-SI-4	3.45	1.263	U	2526	1617	1123	825	632	499											
				D	0.072	0.113	0.162	0.221	0.288	0.365											
	19-SI-2	3.76		C	2526	2021	1684	1444	1263	1123											
2-1/4" x 1/4"	19-SI-4	3.81	1.599	U	3197	2046	1421	1044	799	632											
				D	0.064	0.100	0.144	0.196	0.256	0.324											
	19-SI-2	4.12		C	3197	2558	2132	1827	1599	1421											
2-1/2" x 1/4"	19-SI-4	4.21	1.974	U	3947	2526	1754	1289	987	780											
				D	0.058	0.090	0.130	0.176	0.230	0.292											
	19-SI-2	4.52		C	3947	3158	2632	2256	1974	1754											
				D	0.046	0.072	0.104	0.141	0.184	0.233											

U = safe uniform load, psf (page 92)  
 C = safe concentrated load, pfw (page 92)  
 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-19 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 <sup>11</sup> / <sub>16</sub>	2 <sup>7</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>16</sub>	5 <sup>1</sup> / <sub>4</sub>	6 <sup>7</sup> / <sub>16</sub>	7 <sup>5</sup> / <sub>8</sub>	8 <sup>13</sup> / <sub>16</sub>	10	11 <sup>3</sup> / <sub>16</sub>	12 <sup>3</sup> / <sub>8</sub>	13 <sup>9</sup> / <sub>16</sub>	14 <sup>3</sup> / <sub>4</sub>	15 <sup>15</sup> / <sub>16</sub>	17 <sup>1</sup> / <sub>8</sub>	18 <sup>5</sup> / <sub>16</sub>	19 <sup>1</sup> / <sub>2</sub>	20 <sup>11</sup> / <sub>16</sub>	21 <sup>7</sup> / <sub>8</sub>	23 <sup>1</sup> / <sub>16</sub>
No. of Bars	21	22	23	24	25	26	27	28	29	30	31								
1/4" Bar	24 <sup>1</sup> / <sub>4</sub>	25 <sup>7</sup> / <sub>16</sub>	26 <sup>5</sup> / <sub>8</sub>	27 <sup>13</sup> / <sub>16</sub>	29	30 <sup>3</sup> / <sub>16</sub>	31 <sup>3</sup> / <sub>8</sub>	32 <sup>9</sup> / <sub>16</sub>	33 <sup>3</sup> / <sub>4</sub>	34 <sup>15</sup> / <sub>16</sub>	36 <sup>1</sup> / <sub>8</sub>								