

Aluminum Bar Grating

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

PRESS-LOCKED 1-3/16" C/C Bearing Bars



19-SR-4

Cross Rods 4" C/C



19-SR-2

Cross Rods 2" C/C



19-AP-4

Cross Bars 4" C/C



19-AP-2

Cross Bars 2" C/C

NON-SERRATED & SERRATED

LOAD & DEFLECTION TABLE

Bar Size	Symbol	Approx. Weight psl	Sec. Mod Per Ft. Of Width		SPAN (Length of Bearing Bar)														
					24"	30"	36"	42"	48"	54"	60"	66"	72"	78"	84"	96"	108"		
3/4" x 1/8"	19-SR-4	1.4		U	237	152	105	77											
	19-SR-2	1.6	0.118	D	0.192	0.300	0.432	0.588											
	19-AP-4	1.5		C	237	189	158	135											
	19-AP-2	1.8		D	0.154	0.240	0.346	0.470											
3/4" x 3/16"	19-SR-4	1.9		U	355	227	158	116											
	19-SR-2	2.1	0.178	D	0.192	0.300	0.432	0.588											
	19-AP-4	2.2		C	355	284	237	203											
	19-AP-2	2.7		D	0.154	0.240	0.346	0.470											
1" x 1/8"	19-SR-4	1.7		U	421	269	187	137	105										
	19-SR-2	1.9	0.211	D	0.144	0.225	0.324	0.441	0.576										
	19-AP-4	1.8		C	421	337	281	241	211										
	19-AP-2	2.2		D	0.115	0.180	0.259	0.353	0.461										
1" x 3/16"	19-SR-4	2.5		U	632	404	281	206	158	125									
	19-SR-2	2.7	0.316	D	0.144	0.225	0.324	0.441	0.576	0.729									
	19-AP-4	2.8		C	632	505	421	361	316	281									
	19-AP-2	3.3		D	0.115	0.180	0.259	0.353	0.461	0.583									
1-1/4" x 1/8"	19-SR-4	2.1		U	658	421	292	215	164	130									
	19-SR-2	2.3	0.329	D	0.115	0.180	0.259	0.353	0.461	0.583									
	19-AP-4	2.4		C	658	526	439	376	329	292									
	19-AP-2	2.8		D	0.092	0.144	0.207	0.282	0.369	0.467									
1-1/4" x 3/16"	19-SR-4	3.1		U	987	632	439	322	247	195									
	19-SR-2	3.3	0.493	D	0.115	0.180	0.259	0.353	0.461	0.583									
	19-AP-4	3.5		C	987	789	658	564	493	439									
	19-AP-2	4.2		D	0.092	0.144	0.207	0.282	0.369	0.467									
1-1/2" x 1/8"	19-SR-4	2.5		U	947	606	421	309	237	187									
	19-SR-2	2.7	0.474	D	0.096	0.150	0.216	0.294	0.384	0.486									
	19-AP-4	2.8		C	947	758	632	541	474	421									
	19-AP-2	3.2		D	0.077	0.120	0.173	0.235	0.307	0.389									
1-1/2" x 3/16"	19-SR-4	3.7		U	1421	909	632	464	355	281									
	19-SR-2	3.9	0.711	D	0.096	0.150	0.216	0.294	0.384	0.486									
	19-AP-4	4.1		C	1421	1137	947	812	711	632									
	19-AP-2	4.8		D	0.077	0.120	0.173	0.235	0.307	0.389									
1-3/4" x 3/16"	19-SR-4	4.2		U	1934	1238	860	632	484	382									
	19-SR-2	4.4	0.967	D	0.082	0.129	0.185	0.252	0.329	0.417									
	19-AP-4	4.7		C	1934	1547	1289	1105	967	860									
	19-AP-2	5.3		D	0.066	0.103	0.148	0.202	0.263	0.333									
2" x 3/16"	19-SR-4	4.8		U	2526	1617	1123	825	632	499									
	19-SR-2	5.0	1.263	D	0.072	0.113	0.162	0.221	0.288	0.365									
	19-AP-4	5.3		C	2526	2021	1684	1444	1263	1123									
	19-AP-2	5.9		D	0.058	0.090	0.130	0.176	0.230	0.292									
2-1/4" x 3/16"	19-SR-4	5.4		U	3197	2046	1421	1044	799	632									
	19-SR-2	5.6	1.599	D	0.064	0.100	0.144	0.196	0.256	0.324									
	19-AP-4	5.8		C	3197	2558	2132	1827	1599	1421									
	19-AP-2	6.5		D	0.051	0.080	0.115	0.157	0.205	0.259									
2-1/2" x 3/16"	19-SR-4	5.9		U	3947	2526	1754	1289	987	780									
	19-SR-2	6.1	1.974	D	0.058	0.090	0.130	0.176	0.230	0.292									
	19-AP-4	6.4		C	3947	3158	2632	2256	1974	1754									
	19-AP-2	7.1		D	0.046	0.072	0.104	0.141	0.184	0.233									

U = safe uniform load, psl (page 92)
 C = safe concentrated load, plw (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 psl which provides safe pedestrian comfort. These can be exceeded for other types of loads with engineer's approval.
Serrated Bars: For serrated grating, the depth of grating required for a specified load is 1/4" deeper than that shown in the table.
General: Loads and deflections are theoretical and based on static loading.
Finish: Mill finish unless otherwise specified.

SR/AP-19 PANEL WIDTH (inches)

Note: Includes 1/4" (1/8" each side) for extended cross rods on swage-locked (SR) and extended cross bars on press-locked (AP).

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

