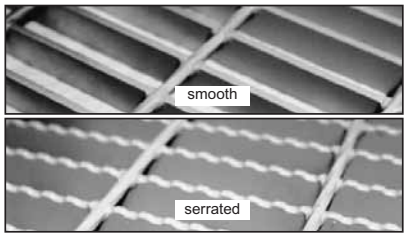
WELDED STEEL BAR GRATING

Welded steel bar grating is manufactured by a resistance-weld process. Cross-bars are fused to bearing bars to form a permanent joint. Economical, yet durable for most applications. Available in standard panel widths of 2' or 3' and lengths of 20' or 24'. Material types include A569-carbon steel as well as stainless steel. Finishes include mill, H. D. galvanized, painted black. Custom colors upon request. Surfaces include, smooth, serrated or SlipNOT® anti-slip coating.



LIGHT DUTY LOAD TABLE

SIZE (Symbol)	Load & Deflections	Span (Length of Bearing Bar)											
		2' - 0"	2' - 6"	3' - 0"	3' - 6"	4' - 0"	4' - 6"	5' - 0"	5' - 6"	6' - 0"	6' - 6"	7' - 0"	8' - 0"
3/4 x 3/16 (19-4-2)	U	578	370	258	188	144	115						
	D	0.095	0.151	0.215	0.295	0.374	0.486						
	C	578	462	386	331	289	257						
	D	0.076	0.119	0.173	0.234	0.308	0.389						
1 x 1/8 (19-4-3)	U	686	439	304	224	171	135	109	91	76			
	D	0.072	0.111	0.159	0.219	0.288	0.366	0.451	0.547	0.673			
	C	686	549	457	392	343	305	275	250	228			
	D	0.057	0.09	0.129	0.176	0.231	0.293	0.36	0.434	0.518			
1x 3/16 (19-4-4)	U	1029	659	459	338	257	203	164	135	114			
	D	0.072	0.111	0.159	0.219	0.288	0.366	0.451	0.547	0.673			
	C	1029	824	686	587	514	458	412	375	343			
	D	0.057	0.09	0.129	0.176	0.231	0.293	0.36	0.434	0.518			
1 1/4 x 1/8 (19-4-5)	U	1027	686	476	350	268	212	172	142	119	101	87	
	D	0.057	0.09	0.129	0.176	0.231	0.291	0.358	0.433	0.52	0.608	0.704	
	C	1027	858	716	613	536	477	430	390	358	330	306	
	D	0.046	0.072	0.104	0.141	0.183	0.233	0.288	0.349	0.416	0.487	0.565	
1 1/4 x 3/16 (19-4-6)	U	1608	1028	716	526	403	318	258	213	179	152	131	
	D	0.057	0.09	0.129	0.176	0.231	0.291	0.358	0.433	0.52	0.608	0.704	
	C	1608	1285	1073	918	803	716	644	585	536	495	459	
	D	0.046	0.072	0.104	0.141	0.183	0.233	0.288	0.349	0.416	0.487	0.565	
1 1/2 x 1/8 (19-4-7)	U	1544	987	686	505	387	306	248	205	172	149	128	96
	D	0.047	0.075	0.106	0.147	0.192	0.243	0.3	0.365	0.433	0.506	0.587	0.774
	C	1544	1235	1029	883	772	687	619	563	515	475	441	386
	D	0.038	0.059	0.087	0.117	0.154	0.195	0.241	0.289	0.347	0.406	0.47	0.614
1 1/2 x 3/16 (19-4-8)	U	2321	1485	1031	758	581	458	371	307	260	222	191	145
	D	0.047	0.072	0.106	0.147	0.192	0.243	0.3	0.365	0.433	0.506	0.587	0.774
	C	2321	1856	1547	1325	1159	1031	928	844	773	714	663	581
	D	0.038	0.059	0.087	0.117	0.154	0.195	0.241	0.289	0.347	0.406	0.47	0.614
1 3/4 x 3/16 (19-4-9)	U	3151	2016	1401	1029	788	622	505	416	351	299	259	197
	D	0.042	0.064	0.092	0.126	0.165	0.208	0.258	0.31	0.371	0.435	0.506	0.664
	C	3151	2521	2100	1800	1575	1400	1260	1145	1049	969	899	786
	D	0.033	0.052	0.074	0.101	0.132	0.167	0.206	0.249	0.297	0.347	0.403	0.527
2 x 3/16 (19-4-10)	U	4116	2633	1829	1344	1029	813	659	546	460	393	339	258
	D	0.036	0.056	0.081	0.111	0.144	0.183	0.226	0.273	0.325	0.384	0.447	0.58
	C	4116	3292	2745	2351	2058	1828	1646	1496	1370	1266	1175	1027
	D	0.029	0.045	0.064	0.088	0.115	0.145	0.18	0.217	0.259	0.303	0.353	0.46
2 1/4x 3/16 (19-4-11)	U	5209	3332	2314	1670	1302	1028	835	689	583	496	428	327
	D	0.032	0.05	0.072	0.098	0.127	0.162	0.199	0.241	0.287	0.338	0.393	0.512
	C	5209	4167	3472	2916	2604	2314	2082	1892	1733	1601	1487	1301
	D	0.026	0.039	0.057	0.079	0.102	0.129	0.16	0.194	0.23	0.27	0.314	0.41
2 1/2x 3/16 (19-4-12)	U	6432	4115	2858	2099	1609	1271	1029	850	720	613	529	405
	D	0.028	0.044	0.064	0.088	0.116	0.145	0.18	0.217	0.26	0.305	0.354	0.465
	C	6432	5147	4286	3673	3214	2858	2571	2338	2141	1977	1836	1607
	D	0.023	0.036	0.051	0.071	0.092	0.116	0.144	0.173	0.207	0.242	0.282	0.369

Code:
U = safe uniform load, lb/sq. ft.
D = deflection in inches
C = safe concentrated load, lb/ft. of grating width, at mid-span

Note (ALL LOAD TABLES):
1/4" is recommended as the maximum deflection consistent with pedestrian comfort but can be exceeded for other loading conditions at the discretion of the engineer.

Based on 11 bearing bars per foot of width
Maximum allowable stress 18,000 psi

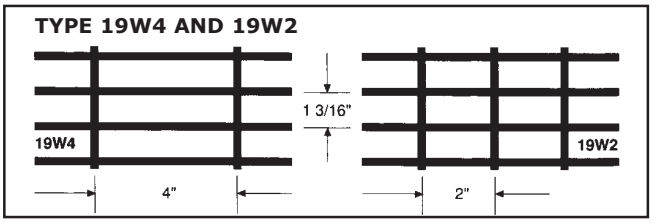
Conversion Table

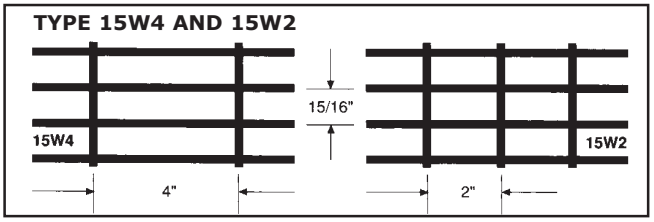
Type	Multiplier
9W4	2.00
11W4	1.64
15W4	1.18

WEIGHT IN POUNDS PER SQUARE FOOT

Bearing Bars	Cross Bars	Type 19W4	Type 19W2	Type 15W4	Type 15W2
3/4 x 1/8	1/4	3.99	4.63	4.95	5.59
3/4 x 3/16	1/4	5.67	6.31	7.11	7.75
1 x 1/8	1/4	5.15	5.79	6.44	7.08
1 x 3/16	1/4	7.35	7.99	9.27	9.91
1 1/4 x 1/8	1/4	6.2	6.84	7.79	8.43
1 1/4 x 3/16	1/4	9.03	9.67	11.43	12.07
1 1/2 x 1/8	1/4	7.35	7.99	9.27	9.91
1 1/2 x 3/16	5/16	10.94	11.8	13.82	14.68
1 3/4 x 3/16	5/16	12.62	13.48	15.98	16.84
2 x 3/16	5/16	14.3	15.16	18.14	19.00
2 1/4 x 3/16	5/16	15.87	16.74	20.16	21.03
2 1/2 x 3/16	5/16	17.55	18.42	22.32	23.19

Note: 9W & 11W grating use 5/16 cross rods. Consult salesperson for 9W grating specifications & availability.





WELDED STEEL BAR GRATING

PANEL WIDTHS

19W4	# of bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
	1/8" bar	1-5/16	2-1/2	3-11/16	4-7/8	6-1/16	7-1/4	8-7/16	9-5/8	10-13/16	12	13-3/16	14-3/8	15-9/16	16-3/4	17-15/16				
	3/16" bar	1-3/8	2-9/16	3-3/4	4-15/16	6-1/8	7-5/16	8-1/2	9-11/16	10-7/8	12-1/16	13-1/4	14-7/16	15-5/8	16-13/16	18				
	# of bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
	1/8" bar	19-1/8	20-5/16	21-1/2	22-11/16	23-7/8	25-1/16	26-1/4	27-7/16	28-5/8	29-13/16	31	32-3/16	33-3/8	34-9/16	35-3/4				
	3/16" bar	19-3/16	20-3/8	21-9/16	22-3/4	23-15/16	25-1/8	26-5/16	27-1/2	28-11/16	29-7/8	31-1/16	32-1/4	33-7/16	34-5/8	35-13/16				
15W4	# of bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	1/8" bar	1-1/16	2	2-15/16	3-7/8	4-13/16	5-3/4	6-11/16	7-5/8	8-9/16	9-1/2	10-7/16	11-3/8	12-5/16	13-1/4	14-3/16	15-1/8	16-1/16	17	17-15/16
	3/16" bar	1-1/8	2-1/16	3	3-15/16	4-7/8	5-13/16	6-3/4	7-11/16	8-5/8	9-9/16	10-1/2	11-7/16	12-3/8	13-5/16	14-1/4	15-3/16	16-1/8	17-1/16	18
	# of bars	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
	1/8" bar	18-7/8	19-13/16	20-3/4	21-11/16	22-5/8	23-9/16	24-1/2	25-7/16	26-3/8	27-5/16	28-1/4	29-3/16	30-1/8	31-1/16	32	32-15/16	33-7/8	34-13/16	35-3/4
	3/16" bar	18-15/16	19-7/8	20-13/16	21-3/4	22-11/16	23-5/8	24-9/16	25-1/2	26-7/16	27-3/8	28-5/16	29-1/4	30-3/16	31-1/8	32-1/16	33	33-15/16	34-7/8	35-13/16
11W4	# of bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
	3/16" bar	7/8	1-9/16	2-1/4	2-15/16	3-5/8	4-5/16	5	5-11/16	6-3/8	7-1/16	7-3/4	8-7/16	9-1/8	9-13/16	10-1/2	11-3/16	11-7/8	12-9/16	
	# of bars	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		
	3/16" bar	13-1/4	13-15/16	14-5/8	15-5/16	16	16-11/16	17-3/8	18-1/16	18-3/4	19-7/16	20-1/8	20-13/16	21-1/2	22-3/16	22-7/8	23-9/16	24-1/4		

PERCENTAGE OF FREE AREA

	x-Rod	15W					19W				
Bar Hgt.	Space	1/8	3/16	1/4	5/16	3/8	1/8	3/16	1/4	5/16	3/8
3/4	W4	80.4	74.1				83.0	78.0			
3/4	W2	74.5	68.6				76.9	72.3			
1	W4	80.4	74.1	67.3	60.2		83.0	78.0	72.4	66.5	61.7
1	W2	74.5	68.6	61.7	54.3		76.9	72.3	66.4	60.6	55.7
1 1/4	W4	80.4	74.1	67.3	60.2		83.0	78.0	72.4	66.5	61.7
1 1/4	W2	74.5	68.6	61.7	54.3		76.9	72.3	66.4	60.6	55.7
1 1/2	W4	80.4	73.5	67.3	60.2		83.0	77.4	72.4	66.5	61.7
1 1/2	W2	74.5	67.4	61.7	54.3		76.9	71.0	66.4	60.6	55.7
1 3/4	W4		72.5	66.3	60.2			76.3	71.4	66.5	61.7
1 3/4	W2		65.4	59.9	54.3			68.9	64.4	60.6	55.7
2	W4		72.5	66.3	60.2			76.3	71.4	66.5	60.5
2	W2		65.4	59.9	54.3			68.9	64.4	60.6	53.3
2 1/4	W4		72.5	66.3	60.2			76.3	71.4	66.5	60.5
2 1/4	W2		65.4	59.9	54.3			68.9	64.4	60.6	58.3
2 1/2	W4		72.5	66.3	60.2			76.3	71.4	66.5	60.5
2 1/2	W2		65.4	59.9	54.3			68.9	64.4	60.6	53.3
2 3/4	W4		72.5	66.3	60.2			76.3	71.4	66.5	60.5
2 3/4	W2		65.4	59.9	54.3			68.9	64.4	60.6	53.3
3	W4			65	59				70	65.2	60.5
3	W2			57.3	52				61.6	57.4	53.3
3 1/4	W4			65	59				70	65.2	60.5
3 1/4	W2			57.3	52				61.6	57.4	53.3
3 1/2	W4			65	59				70	65.2	60.5
3 1/2	W2			57.3	52				61.6	57.4	53.3
3 3/4	W4								70	65.2	60.5
3 3/4	W2								61.6	57.4	53.3
4	W4			7					70.0	65.2	60.5
4	W2								61.6	57.4	53.3

ORDERING INFORMATION

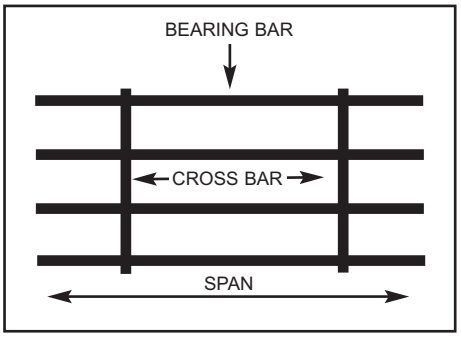
GRATING

1. Specify type of grating (steel, aluminum, stainless steel)
2. Bearing bar size and center to center of spacing.
3. Span (Bearing Bar Direction)
4. Drawing: Area to be covered, including all cutouts and critical dimensions.
5. Type of anchorage (welded, saddle clip, friction clip, others).
6. Finish: Galvanized or black paint
7. Surfaces: Smooth, serrated or Slip-Not® anti-slip coating.

STAIR TREADS

1. Type of grating and bearing bar size
2. Nosing: Checker-plate or abrasive
3. Finish: Mill, galvanized, or black paint
4. Surface: Smooth, serrated, or Slip-Not® anti-slip coating.

If you have any further questions, please let us know and we will be happy to help you!



BANDING BAR — A flat bar welded to the end of a panel of grating. The bar is mostly the same thickness and depth as the bearing bar.
BEARING BAR — The main load carrying bar which runs the same direction as the span.
CIRCULAR CUT-BAND — The circular cutting and banding of a panel to conform to a specific layout. Example: grating going around a tank or pipe.
CROSS BARS — The connecting bars made from steel strip or rolled bars which extend across the bearing bars, usually perpendicular to them. They are welded, forget or mechanically locked.
NOSING — An L-shaped section, usually made of checker plate or cast iron and cast aluminum abrasive material.
SERRATED GRATING — Grating which has that top surfaces of the bearing bar notched, which provides non-skid footing.
SPAN — The distance between points of grating support. Mostly direction of bearing bar.
STRAIGHT CUT — The cutting of grating along a straight edge. Mostly figured when cutting around columns or posts.
TOE PLATE — A flat bar attached flat against the outer edge of grating and projecting above the top surface of grating to form lip or curve.