Welded steel bar grating is strong, durable, has an exceptional strength to weight ratio, and can be easily fabricated to many configurations. Welded grating is widely used in many industrial applications including mezzanines, platforms, and walkways.

Metal bar grating is manufactured by welding a series of equally spaced bearing bars to connecting cross-rods using automated forge welding equipment. Bar grating comes in a variety of thicknesses and spacing that can be selected to meet anticipated loads. Bearing bars can be either smooth or serrated

Railroad grating in 1-9/16" (25-W-4) and 1-11/16" (27-W-4) spacings, is AAR (Association of American Railroads) approved and specified for a variety of rail applications. DFW Grating railroad grating is used on both new car and car repair applications and is fully interchangeable with other AAR approved gratings.





19-W-4











15-W-4



15-W-2



27-W-4

11-W-4







8-W-2

Standard Widths 2'&3' (4' Available On Request)



**DFW Grating** 3835 Singleton Blvd. Dallas, TX 75212 www.dfwgrating.com 214-630-0033

## Welded bar grating isometric view



### DFW Grating



## 19 Space Load Table

Use this table when evaluating spans and loads for the following types of steel grating: 19-W-4 and 19-W-2

Bearing Bar	Approx. Weight	Maximum     Unsupported Span       Pedestrian     Soan**       22.0     22.6     32.6     42.6     52.6     52.6     52.6     62.6     72.0     82.0     92.0														
Size	psf *	Span**		2'-0	246	340	34-6	4-0	4-6	5'-0	5-6	61-0	6-6	7-0	8-0	94-0
	100000		U	355	227	158	116	89	70		All load	s and defle	tions are t	heoretical	and based	upon
3/4 x 1/8	3.9	3'-5"	D	0.099	0.155	0.223	0.304	0.397	0.503		of 18,0	oo psi.	or the bear	ing pars, u	sing a noe	suess
			Ď	0.079	0.124	0.179	0.243	0.318	0.402		The val	ues are not	intended to	he absolu	te since th	e
-		3	U	533	341	237	174	133	105	85	actual I	oad capacit	y will be a	fected by t	he slight	50
3/4 x 3/16	5.6	3'-10"	D	0.099	0.155	0.223	0.304	0.397	0.503	0.621	variatio	ns in mill ar	id manufad	ctuning tole	rances.	
0/4 × 0/10	0.0	0.10	C	533	426	355	305	266	237	213	Grating	for spans to	o the left o	the heavy	line have a	10
		-	D	0.079	0.124	0.179	0.243	0.318	0.402	0.497	001000	0151/41	A GIMOITH	roaus or ro	o pai.	
		10000	6	0.074	404	281	0 228	158	0 377	0.466	0.563	U = Safe	Uniform L	oad in pou	nds/sq. fo	at
1 x 1/8	5.0	4'-3"	c	632	505	421	361	316	281	253	230	u = coa	th	Load in pot	alus/11. 01	grating
			D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	D = Def	lection in in	nches		
2	9		U	947	606	421	309	237	187	152	125	105				
1 + 2/16	72	4'-0"	D	0.074	0.116	0.168	0.228	0.298	0.377	0.466	0.563	0.670				
1 x 3/10	1.2	4-5	C	947	758	632	541	474	421	379	345	316				
			D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536				
			U	987	632	439	322	247	195	158	131	110	93			
1-1/4 x 1/8	6.1	5'-1"	L C	0.060	0.093	659	0.182	0.238	0.302	0.372	0.451	0.530	304			
	10000		D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429	0.504			
			U	1,480	947	658	483	370	292	237	196	165	140	121		
1 1/4 - 0/40		E1 70	D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	0.629	0.730		
1-1/4 X 3/10	8.9	5-7	C	1,480	1,184	987	846	740	658	592	538	493	456	423		
			D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429	0.504	0.584		
			U	1,421	910	632	464	355	281	227	188	158	135	116		
1-1/2 x 1/8	7.2	5'-10"	D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.524	0.608		
10.0000000	(18774)	2 5'-10"	C	1,421	1,137	94/	0 122	/11	0 201	0 249	51/	4/4	437	406		
			11	2 132	1 364	947	696	533	421	341	282	237	202	174	133	1
			D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.524	0.608	0.794	
1-1/2 x 3/16	10.7	6'-5"	C	2,132	1,705	1,421	1,218	1,066	947	853	775	711	656	609	533	
			D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358	0.420	0.487	0.636	
	·		U	1,934	1,238	860	632	484	382	310	256	215	183	158	121	96
1-3/4 x 1/8	8.5	6'-6"	D	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0.450	0.521	0.681	0.862
1 0/ 1 / 1/ 0	0.0		C	1,934	1,547	1,290	1,105	967	860	774	703	645	595	553	484	430
	-		0	0.034	1.053	1.200	0.104	0.130	672	0.213	0.257	0.306	0.360	0.417	0.545	0.689
				0.043	0.067	0.096	0 130	0 170	0 215	0.266	0 322	0 383	0.450	0 521	0.681	0.862
1-3/4 x 3/16	12.3	7'-3"	C C	2,901	2.321	1.934	1.658	1.451	1.290	1.161	1.055	967	893	829	725	645
			D	0.034	0.053	0.077	0.104	0.136	0.172	0.213	0.257	0.306	0.360	0.417	0.545	0.689
			U	2,526	1,617	1,123	825	632	499	404	334	281	239	206	158	125
2 x 1/8	9.6	7'-4"	D	0.037	0.058	0.084	0.114	0.149	0.189	0.233	0.282	0.335	0.393	0.456	0.596	0.754
2 1/0	5.0	7-4	C	2,526	2,021	1,684	1,444	1,263	1,123	1,011	919	842	777	722	632	561
		-	D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477	0.603
	02000	service of the	U	3,790	2,425	1,684	1,237	947	749	606	501	421	359	309	237	187
2 x 3/16	13.9	8'-0"		3 700	3.032	2.526	2 165	1 805	1.694	1.516	1 379	1 263	1.166	1.083	0.590	9.42
2000/0222/025		1.000	D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477	0.603
			U	4,796	3,070	2,132	1,566	1,199	947	767	634	533	454	392	300	237
2.1/4 + 2/40	15.0	01.011	D	0.033	0.052	0.074	0.101	0.132	0.168	0.207	0.250	0.298	0.350	0.406	0.530	0.670
2-1/4 X 3/16	15.0	8-9	C	4,796	3,837	3,197	2,741	2,398	2,132	1,918	1,744	1,599	1,476	1,370	1,199	1,066
			D	0.026	0.041	0.060	0.081	0.106	0.134	0.166	0.200	0.238	0.280	0.324	0.424	0.536
	·		U	5,921	3,790	2,632	1,933	1,480	1,170	947	783	658	561	483	370	292
2-1/2 x 3/16	17.2	9'-5"	D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477	0.603
	2014	9'-5"	0	0,024	4,/3/	3,94/	3,384	2,901	2,032	2,368	2,153	0.016	1,822	1,092	1,480	1,316
44		11	10	0.024	0.037	0.054	0.073	0.095	0.121	0.149	0.100	0.213	0.202	0.292	0.301	0.403

Weight per square foot based upon 19-W-4 grating. Add .60 psf for 2° on center cross bars.
Maximum pedestrian load is defined as a 100# Uniform Load with deflection ≤ 1/4 inch.
The 1/4" maximum deflection criteria is considered consistent with pedestrian comfort, but may be exceeded for other loading conditions at the discretion of the specifying authority.
Note: When gratings with serrated surface are specified, the depth of the grating required for a specific load will be 1/4" greater than that shown in these tables.

**Panel Widths** 

Grating panels are available from stock in nominal 24" and 36" widths. When considering alternative widths, consult this table to select widths that will maintain uniform "out-to-out" spacing of the bearing bars. Specified widths deviating from this table will be fabricated to size with side banding and the bar spacing on one side of the finished panel will deviate from the spacing throughout the remainder of the panel.

Number of Bearing Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Panel Width	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"
Number of Bearing Bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Panel Width	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"

Panel widths indicated are for gratings with 3/16" thick bearing bars. For 1/8" thick bearing bars deduct 1/16" from the stated values.

Indicates stock panel widths.

### **DFW Grating**



## 15 Space Load Table

Use this table when evaluating spans and loads for the following types of steel grating: 15-W-4 and 15-W-2

Bearing Bar	Approx. Weight	Maximum Pedestrian							Unsu	pportea	l Span					
Size	psf *	Span**		2'-0	24-6	340	3-6	4-0	4-6	5-0	546	61-0	6-6	740	8-0	9-0
			U	675	432	300	220	169	133	108	All loads	and deflect	lione are th	enretical an	d bacad un	on the
3/4 x 3/16	6.9	4'-0"	D	0.099	0.155	0.223	0.304	0.397	0.503	0.621	gross sed	ctions of the	e bearing b	ars, using a	fiber stres	sof
0/ 1 / 0/ 10	0.0		C	675	540	450	386	338	300	270	18,000 p	si.				
2			D	0.079	0.124	0.179	0.243	0.318	0.402	0.497	The value	es are not in	tended to	be absolute	since the a	actual
			U	800	512	356	261	200	158	128	and man	ufacturing t	olerances.	y the sugar	variations	
1 x 1/8	6.2	4'-6"	U	0.074	0.116	0.168	0.228	0.298	0.377	0.466	Grating f	or spans to	the left of t	the beavy li	ne have a d	effection
			C D	0.060	0.002	533	45/	400	350	0 272	s 1/4" fo	r uniform lo	ads of 100	pst.	in nuire a e	0110001011
-			0	1,000	0.093	0.134	0.102	0.230	0.302	0.372	160	122	1 U = Safe	Uniform Lo	ad in count	ds/sa.ft.
			0	0.074	0.116	0 169	0.229	0.200	0 377	0.466	0.562	0.670	C = Cond	centrated Lo	ad in poun	ds/ft. of
1 x 3/16	8.9	5'-0"		1 200	0.110	800	696	600	522	490	426	400	grati	ing width	haa	
			0	0.060	0.093	0.134	0.182	0.238	0 302	0 372	0.451	0.536	D = Dette	scoon in inc	nes	
				1 250	800	556	408	313	247	200	165	139	118	1		
	1,272.5	10220102221	D	0.060	0.093	0.134	0 182	0 238	0 302	0.372	0.451	0.536	0.629			
1-1/4 x 1/8	7.5	5'-4"	c	1.250	1.000	833	714	625	556	500	455	417	385			
			D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429	0.504			
			U	1.875	1,200	833	612	469	370	300	248	208	178	153	1	
			D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	0.629	0.730		
1-1/4 x 3/16	11.0	5'-11"	C	1,875	1,500	1,250	1.071	938	833	750	682	625	577	536		
			D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429	0.504	0.584		
			U	1,800	1,152	800	588	450	356	288	238	200	170	147	113	1
4 4 10 4 10		01.011	D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.524	0.608	0.794	
1-1/2 x 1/8	8.9	6-2"	C	1,800	1,440	1,200	1,029	900	800	720	655	600	554	514	450	
			D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358	0.420	0.487	0.636	
			U	2,700	1,728	1,200	882	675	533	432	357	300	256	220	169	133
1 1/2 - 2/16	12.2	61 101	D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.524	0.608	0.794	1.006
1-1/2 x 3/10	13.2	0-10	C	2,700	2,160	1,800	1,543	1,350	1,200	1,080	982	900	831	771	675	600
			D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358	0.420	0.487	0.636	0.804
			U	2,450	1,568	1,089	800	613	484	392	324	272	232	200	153	121
1-3/4 x 1/8	10.4	6'-11"	D	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0.450	0.521	0.681	0.862
1-5/4 × 1/0	10.4	0-11	C	2,450	1,960	1,633	1,400	1,225	1,089	980	891	817	754	700	613	544
			D	0.034	0.053	0.077	0.104	0.136	0.172	0.213	0.257	0.306	0.360	0.417	0.545	0.689
			U	3,675	2,352	1,633	1,200	919	726	588	486	408	348	300	230	182
1-3/4 x 3/16	15.3	7'-8"	D	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0.450	0.521	0.681	0.862
1 0/1 / 0/10	10.0		C	3,675	2,940	2,450	2,100	1,838	1,633	1,470	1,336	1,225	1,131	1,050	919	817
		-	D	0.034	0.053	0.077	0.104	0.136	0.172	0.213	0.257	0.306	0.360	0.417	0.545	0.689
			U	3,200	2,048	1,422	1,045	800	632	512	423	356	303	261	200	158
2 x 1/8	11.8	7'-7"	0	0.037	0.058	0.084	0,114	0.149	0.189	0.233	0.282	0.335	0.393	0.456	0.596	0.754
	1000000	14.50.50.50.4	L C	3,200	2,500	2,133	1,029	1,000	1,422	1,200	1,104	1,007	900	914	0.477	0.000
	<u> </u>		0	4.000	2.072	0.007	1.567	1,200	0.131	0.100	0.225	0.200	0.515	0.303	0.4//	0.003
	1000	10000000	0	4,000	0.059	2,133	0.114	0.149	0 190	0 222	0.392	0.335	404	0.456	0.506	0.754
2 x 3/16	17.3	8'-6"	L C	4 900	2 840	3 200	2.742	2,400	2 122	1.020	1 746	1.600	1.477	1.271	1,200	1.067
	110466		D D	0.030	0.047	0.067	0.091	0.119	0 151	0.186	0.225	0.268	0.315	0.365	0.477	0.603
			Н	6.075	3.889	2 700	1.984	1 510	1 200	972	803	675	575	496	380	300
	10.1		D	0.033	0.052	0.074	0 101	0.132	0.168	0.207	0.250	0.298	0.350	0.406	0.530	0.670
2-1/4 x 3/16	19.4	9'-3"	c	6.075	4,860	4.050	3.471	3.038	2,700	2,430	2,209	2.025	1.869	1736	1,519	1 350
			D	0.026	0.041	0.060	0.081	0.106	0.134	0.166	0.200	0.238	0.280	0.324	0.424	0.536
			U	7,500	4,800	3.333	2,449	1.875	1,482	1,200	992	833	710	612	469	370
0.4/0.0/45		101.01	D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477	0.603
2-1/2 x 3/16	21.5	100.	C	7,500	6,000	5,000	4,286	3,750	3,333	3,000	2,727	2,500	2,308	2,143	1,875	1,667
			D	0.024	0.037	0.054	0.073	0.095	0.121	0.149	0.180	0.215	0.252	0.292	0.381	0.483

\* Weight per square foot based upon 15-W-4 grating. Add .60 psf for 2" on center cross bars.

\*\* Maximum pedestrian load is defined as a 100# Uniform Load with deflection s 1/4 inch. The 1/4" maximum deflection criteria is considered consistent with pedestrian comfort, but may be exceeded for other loading conditions at the discretion of the specifying authority.

Note: When gratings with serrated surface are specified, the depth of the grating required for a specific load will be 1/4" greater than that shown in these tables.

#### **Panel Widths**

Grating panels are available from stock in nominal 24" and 36" widths. When considering alternative widths, consult this table to select widths that will maintain uniform "out-to-out" spacing of the bearing bars. Specified widths deviating from this table will be fabricated to size with side banding and the bar spacing on one side of the finished panel will deviate from the spacing throughout the remainder of the panel.

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

Panel widths indicated are for gratings with 3/16" thick bearing bars. For 1/8" thick bearing bars deduct 1/16" from the stated values. Indicates stock panel widths.

### DFW Grating



## 11 Space Load Table

Use this table when evaluating spans and loads for the following types of steel grating: 11-W-4 and 11-W-2

Bearing Bar	Approx. Weight	Maximum Pedestrian							Unsu	pported	Span					
Size	psf *	Span**		240	246	3'-0	34-6	4-0	44-6	5-0	5-6	64-0	6-6	7'-0	8-0	9-0
			U	921	589	409	301	230	182	147	All loads	and deflect	tions are the	eoretical ar	id based up	oon the
3/4 x 3/16	91	4'-4"	D	0.099	0.155	0.223	0.304	0.397	0.503	0.621	gross set 18.000 p	ctions of the	e bearing bi	ars, using a	a fiber stres	sot
0/4 / 0/10	5.1		C	921	736	614	526	460	409	368						
	-		0	0.079	0.124	0.179	0.243	0.318	0.402	0.497	The value	is are not in	ntended to I	be absolute	since the a	actual
01 000000	12764	2022-0107	0	1,091	0.116	465	350	2/3	216	1/5	144	variation	s in mill and	i manufact	uring tolera	inces.
1 x 1/8	8.1	4'-11"	c	1.091	873	727	623	546	485	436	307	Grating f	or enane to	the left of t	the beavy li	ne have a
10.0174999401	0000	225-028	Ď	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	deflection	$n \le 1/4$ " for	uniform lo	ads of 100	pst.
			U	1,636	1,047	727	534	409	323	262	216	182	U = Safe	Uniform Lo	ad in pound	ds/sq. ft.
1 + 2/16	11.0	E! E!	D	0.074	0.116	0.168	0.228	0.298	0.377	0.466	0.563	0.670	C = Conc	entrated Lo	ad in poun	ds/ft. of
1 X 3/10	11.9	5-5	C	1,636	1,309	1,091	935	818	727	655	595	546	D = Defle	ction in inc	thes	
			D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	-		0.00	
		104.000.000	U	1,705	1,091	758	557	426	337	273	225	189	161			
1-1/4 x 1/8	10.0	5'-9"	D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	0.629			
			C	1,705	1,364	1,136	9/4	852	/58	0 209	0.260	0.420	525			
	3		11	2 557	1.636	1.136	0.140	630	505	400	0.300	20.423	242	200	12	
610102 000100	00000	1000	n	0.060	0.093	0.134	0.182	0.238	0.302	0 372	0.451	0.536	0.629	0.730		
1-1/4 x 3/16	14.7	6'-5"	c	2.557	2.046	1,705	1.461	1.278	1,136	1.023	930	852	787	731		
			D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429	0.504	0.584		
			U	2,455	1,571	1,091	802	614	485	393	325	273	232	200	153	
1-1/2 × 1/9	11.0	6'-9"	D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.524	0.608	0.794	
1-1/2 x 1/8 11.9	0-0	C	2,455	1,964	1,636	1,403	1,227	1,091	982	893	818	755	701	614		
			0	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358	0.420	0.487	0.636	
			U	3,682	2,356	1,636	1,202	921	727	589	487	409	349	301	230	182
1-1/2 x 3/16	17.7	7'-4"		0.050	0.078	0.112	0.152	0.199	0.251	0.310	1.320	0.447	0.524	1.052	0.794	1.006
			n	0.040	2,940	0.089	0.122	0.159	0.201	0.248	0.300	0.358	0.420	0.487	0.636	0.804
			U	3.341	2,138	1.485	1.091	835	660	535	442	371	316	273	209	165
1 0/11 1/10	10.0	71.54	D	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0.450	0.521	0.681	0.862
1-3/4 x 1/8	13.9	7-5"	C	3,341	2,673	2,227	1,909	1,671	1,485	1,336	1,215	1,114	1,028	955	835	742
			D	0.034	0.053	0.077	0.104	0.136	0.172	0.213	0.257	0.306	0.360	0.417	0.545	0.689
			U	5,011	3,207	2,227	1,636	1,253	990	802	663	557	474	409	313	248
1-3/4 x 3/16	20.5	8'-3"	D	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0.450	0.521	0.681	0.862
1 0/1 / 0/10	20.0		C	5,011	4,009	3,341	2,864	2,506	2,227	2,005	1,822	1,671	1,542	1,432	1,253	1,114
			0	0.034	0.053	0.077	0.104	0.136	0.172	0.213	0.257	0.306	0.360	0.417	0.545	0.689
07007303-010	575703555	02070-02221	0	9,309	2,793	0.084	0.114	0.149	0.190	0.233	0 282	400	0 303	0.456	0.596	0.754
2 x 1/8	15.8	8'-3"	c	4 364	3 491	2 909	2 494	2 182	1 939	1.746	1 587	1 455	1343	1 247	1.091	970
	-		D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477	0.603
			U	6,546	4,189	2,909	2,137	1,636	1,293	1,047	866	727	620	534	409	323
2 4 2/16	22.2	01.11	D	0.037	0.058	0.084	0.114	0.149	0.189	0.233	0.282	0.335	0.393	0.456	0.596	0.754
2 X 3/10	23.5	9-1	C	6,546	5,236	4,364	3,740	3,273	2,909	2,618	2,380	2,182	2,014	1,870	1,636	1,455
	5		D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477	0.603
			U	8,284	5,302	3,682	2,705	2,071	1,636	1,326	1,095	921	784	676	518	409
2-1/4 x 3/16	26.1	10'-0"	0	0.033	0.052	0.074	0.101	0.132	0.168	0.207	0.250	0.298	0.350	0.406	0.530	0.670
			0	0,026	0,027	0,060	4,734	9,192	3,682	3,314	3,012	2,/01	2,549	2,307	2,071	1,841
	-		11	10.020	6.546	4.546	3 340	2.557	2 0 20	1.636	1 352	1126	062.0	925	630	5.05
			D	0.030	0.047	0.067	0.091	0,119	0.151	0.186	0.225	0.268	0.315	0.365	0.477	0.603
2-1/2 x 3/16	28.9	10'-9"	C	10,227	8,182	6,818	5.844	5,114	4,546	4,091	3,719	3,409	3,147	2,922	2,557	2.273
2-1/2 x 3/10	2		D	0.024	0.037	0.054	0.073	0.095	0.121	0.149	0.180	0.215	0.252	0.292	0.381	0.483

\* Weight per square foot based upon 11-W-4 grating. Add .60 pst for 2" on center cross bars.

\*\* Maximum pedestrian load is defined as a 100# Uniform Load with deflection s 1/4 inch. The 1/4\* maximum deflection criteria is considered consistent with pedestrian comfort, but may be exceeded for other loading conditions at the discretion of the specifying authority.

Note: When gratings with serrated surface are specified, the depth of the grating required for a specific load will be 1/4" greater than that shown in these tables. **Panel Widths** 

Grating panels are available from stock in nominal 24" and 36" widths. When considering alternative widths, consult this table to select widths that will maintain uniform "out-to-out" spacing of the bearing bars. Specified widths deviating from this table will be fabricated to size with side banding and the bar spacing on one side of the finished panel will deviate from the spacing throughout the remainder of the panel.

	1 .				-	-									
Number of Bearing Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Panel Width	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*
Number of Bearing Bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Panel Width	11-3/16*	11-7/8"	12-9/16*	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*
Number of Bearing Bars	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Panel Width	21-1/2*	22-3/16*	22-7/8*	23-9/16"	24-1/4"	24-15/16"	25-5/8"	26-5/16*	27*	27-11/16"	28-3/8"	29-1/16"	29-3/4"	30-7/16"	31-1/8"
Number of Bearing Bars	47	48	49	50	51	52	53								
Panel Width	31-13/16"	32-1/2"	33-3/16"	33-7/8"	34-9/16"	35-1/4"	35-15/16"								

Panel widths indicated are for gratings with 3/16" thick bearing bars. For 1/8" thick bearing bars deduct 1/16" from the stated values.

Indicates stock panel widths.

**DFW Grating** 



# 8 Space

Use this table when evaluating spans and loads for the following types of steel grating: 8-W-4 and 8-W-2

Bearing Bar	Approx. Weight	Maximum Pedestrian							Unsu	pported	Span					
Size	psf *	Span**		240	246	340	346	4-0	4-6	51-0	5-6	6-0	6-6	740	8-0	9-0
			U	1,266	810	563	413	316	250	203	167	All loads a	od deflections	are theoretic	al and hased	upon the
3/4 x 3/16	12.3	4'-9"	D	0.099	0.155	0.223	0.304	0.397	0.503	0.621	0.751	gross sect	ions of the bea	aring bars, us	ing a fiber str	ess of
5/4 × 5/10	12.0	4-5	C	1,266	1,013	844	723	633	563	506	460	18,000 ps				
			D	0.079	0.124	0.179	0.243	0.318	0.402	0.497	0.601	The values	are not inten	ded to be abs	olute since the	e actual
			U	1,500	960	667	490	375	296	240	198	167	variations in	mill and ma	nufacturing t	olerances.
1 x 1/8	11.0	5'-3"	0	0.074	0.116	0.168	0.228	0.298	0.3/7	0.466	0.563	0.670	Grating for s	spans to the I	eft of the hea	wy line have
10101010	1400300	100.000	L.	1,500	1,200	1,000	0.100	/50	0 202	0.070	0.461	0.520	a deflection	s 1/4" for ut	iform loads	of 100 pst.
	2 2		0	0.060	1.440	1.000	0.102	0.230	0.302	0.372	0.901	0.536	012	I II - Safe II	niform Load	in .
	2010/01/01	1000000000	D D	0.074	0.116	0.169	0 228	0.208	0 377	0.466	290	0.670	0.797	pound	s/sq. ft.	
1 x 3/16	16.2	5'-10"	6	2.250	1,800	1,500	1.286	1 1 2 5	1.000	0.400	0.303	750	602	C = Conce	ntrated Load	Section 1
			ň	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	0.629	pound D Deflect	s/ft. of gratin tion in inches	g width
			U	2 344	1.500	1.042	765	586	463	375	310	260	222	191	]	
			D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	0.629	0.730		
1-1/4 x 1/8	13.6	6'-3"	c	2.344	1.875	1.563	1.339	1,172	1.042	938	852	781	721	670		
		1.000	D	0.048	0.074	0.107	0.146	0,191	0.241	0.298	0.360	0.429	0.504	0.584		
	2		U	3,516	2.250	1,563	1,148	879	694	563	465	391	333	287	220	1
4 414 0.140	00.0	C1 441	D	0.060	0.093	0.134	0.182	0.238	0.302	0.372	0.451	0.536	0.629	0.730	0.953	
1-1/4 X 3/16	20.0	6-11"	C	3,516	2,813	2,344	2,009	1,758	1,563	1,406	1,278	1,172	1,082	1,005	879	
			D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.360	0.429	0.504	0.584	0.763	
			U	3,375	2,160	1,500	1,102	844	667	540	446	375	320	276	211	
1 1/0 - 1/0	16.0	71.01	D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.524	0.608	0.794	
1-1/2 X 1/0	10.2	1-2	C	3,375	2,700	2,250	1,929	1,688	1,500	1,350	1,227	1,125	1,039	964	844	
			D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358	0.420	0.487	0.636	
			U	5,063	3,240	2,250	1,653	1,266	1,000	810	669	563	479	413	316	250
1-1/2 × 3/16	24.0	7'-11"	D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.524	0.608	0.794	1.006
1-1/2 x 3/10	24.0	7-11	C	5,063	4,050	3,375	2,893	2,531	2,250	2,025	1,841	1,688	1,558	1,446	1,266	1,125
	· · · ·		D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358	0.420	0.487	0.636	0.804
		101110300	U	4,594	2,940	2,042	1,500	1,148	907	735	607	510	435	375	287	227
1-3/4 x 1/8	18.9	8'-1"	D	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0,450	0.521	0.681	0.862
1 0/1 / 1/0	10.0		C	4,594	3,675	3,063	2,625	2,297	2,042	1,838	1,671	1,531	1,414	1,313	1,148	1,021
			D	0.034	0.053	0.077	0.104	0.136	0.172	0.213	0.257	0.306	0.360	0.417	0.545	0.689
			U	6,891	4,410	3,063	2,250	1,723	1,361	1,103	911	766	652	563	431	340
1-3/4 x 3/16	27.9	8'-11"	U	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0.450	0.521	0.681	0.862
		1000000	L C	0,091	0,053	4,094	3,930	0,126	3,003	2,730	2,000	0,206	0,260	0,417	1,123	1,001
			0	6.000	3.940	2.667	1.050	1.500	1 195	0.213	703	0.300	0.300	400	0.343	0.009
22.272.222.0	510020	2012/07/07/07/07	ň	0,000	0.058	0.084	0.114	0 149	0.189	0 233	0.282	0 335	0 393	0.456	0.506	0.754
2 x 1/8	21.5	8'-11"	č	6.000	4 800	4 000	3 429	3,000	2 667	2 400	2 182	2 000	1.846	1714	1 500	1 333
			D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477	0.603
	2		U	9.000	5.760	4.000	2,939	2,250	1,778	1.440	1,190	1.000	852	735	563	444
0.040	24.0	01 441	D	0.037	0.058	0.084	0.114	0.149	0.189	0.233	0.282	0.335	0.393	0.456	0.596	0.754
2 X 3/16	31.8	9'-11"	C	9,000	7,200	6,000	5,143	4,500	4,000	3,600	3.273	3,000	2,769	2,571	2,250	2,000
			D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477	0.603
			U	11,391	7,290	5,063	3,719	2,848	2,250	1,823	1,506	1,266	1,078	930	712	563
2.1/4 - 2/16	25.7	10'-10"	D	0.033	0.052	0.074	0.101	0.132	0.168	0.207	0.250	0.298	0.350	0.406	0.530	0.670
2-1/4 X 3/10	35.7	10-10	C	11,391	9,113	7,594	6,509	5,695	5,063	4,556	4,142	3,797	3,505	3,255	2,848	2,531
			D	0.026	0.041	0.060	0.081	0.106	0.134	0.166	0.200	0.238	0.280	0.324	0.424	0.536
	-		U	14,063	9,000	6,250	4,592	3,516	2,778	2,250	1,860	1,563	1,331	1,148	879	694
2-1/2 x 3/16	39.6	11'-8"	D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.477	0.603
2-112 x 3/10	35.0	11-0	C	14,063	11,250	9,375	8,036	7,031	6,250	5,625	5,114	4,688	4,327	4,018	3,516	3,125
			D	0.024	0.037	0.054	0.073	0.095	0.121	0.149	0.180	0.215	0 252	0.292	0.381	0.483

\* Weight per square foot based upon 8-W-4 grating. Add .60 psf for 2" on center cross bars.

\*\* Maximum pedestrian load is defined as a 100# Uniform Load with deflection s 1/4 inch. The 1/4\* maximum deflection criteria is considered consistent with pedestrian comfort, but may be exceeded for other loading conditions at the discretion of the specifying authority.

Note: When gratings with serrated surface are specified, the depth of the grating required for a specific load will be 1/4" greater than that shown in these tables.

Welded grating types 8-W-4 and 8-W-2 are available with plain surface only, in bearing bar depths from 3/4" to 2".

#### **Panel Widths**

Grating panels are available from stock in nominal 24" and 36" widths. When considering alternative widths, consult this table to select widths that will maintain uniform "out-to-out" spacing of the bearing bars. Specified widths deviating from this table will be fabricated to size with side banding and the bar spacing on one side of the finished panel will deviate from the spacing throughout the remainder of the panel.

Number of Bearing Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Panel Width	11/16"	1-3/16"	1-11/16*	2-3/16"	2-11/16*	3-3/16"	3-11/16"	4-3/16*	4-11/16"	5-3/16"	5-11/16"	6-3/16"	6-11/16*	7-3/16"	7-11/16*
Number of Bearing Bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Panel Width	8-3/16"	8-11/16"	9-3/16*	9-11/16"	10-3/16"	10-11/16*	11-3/16"	11-11/16"	12-3/16"	12-11/16"	13-3/16"	13-11/16"	14-3/16"	14-11/16*	15-3/16*
Number of Bearing Bars	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
Panel Width	15-11/16"	16-3/16"	16-11/16"	17-3/16"	17-11/16*	18-3/16"	18-11/16"	19-3/16"	19-11/16"	20-3/16*	20-11/16"	21-3/16"	21-11/16"	22-3/16"	22-11/16"
Number of Bearing Bars	47	48	49												· · · ·
Panel Width	23-3/16"	23-11/16"	24-3/16*												

Panel widths indicated are for gratings with 3/16" thick bearing bars. For 1/8" thick bearing bars deduct 1/16" from the stated values. Indicates stock panel widths.

DFW Grating



## Glossary

**Anchor:** A device by which grating is attached to its supports.

**Band:** A flat bar welded to a side or end of a grating panel, or along the line of a cutout, and extending above or below the bearing bars.

*Load-Carrying Band:* A band used in a cutout to transfer the load from unsupported bearing bars in the cutout to the supported bearing bars.

*Trim Band*: A band which carries no load, but is used chiefly to improve appearance and to protect open ends of bearing bars.

**Bearing Bars**: Load-carrying bars extending in the direction of the grating span.

**Bearing Bar Centers (spacing):** The distance center to center of the bearing bars.

**Carriers (Punched Plate):** Flats or angles which are welded to the grating panel and nosing of a stair tread and are attached to a stair stringer to support the tread.

**Clear Opening:** The distance between faces of bearing bars in a rectangular grating, or between a bent connecting bar and a bearing bar in a riveted grating.

**Cross Rods or Cross Bars:** The connecting rods or bars which extend perpendicular across bearing bars. Where they intersect the bearing bars, they are welded, forged or mechanically locked to them.

**Cross Rod or Cross Bar Centers (spacing):** The distance center to center of the cross rods or bars.

Curved Cut: A cutout following a curved pattern.

**Cutout:** An area of grating removed to clear an obstruction or to permit pipes, ducts, columns, etc. to pass through the grating.

**End Gauge:** The distance from the centerline of the last cross rod to the end of the panel.

**Finish:** The coating, usually paint or galvanizing, which is applied to the grating.

**Grating:** An open grid assembly of metal bars in which the bearing bars, running in one direction, are spaced by rigid cross bars attached to them.

**I-Bar:** An extruded aluminum bearing bar having a cross sectional shape resembling the letter "I".

**Length:** The dimension of a grating panel measured parallel to the bearing bars.

**Nosing:** A special L-section member serving as the front or leading edge of a stair tread, or of grating at the head of a stair. Usually manufactured of checkered plate, cast iron or aluminum abrasive material.

#### DFW Grating

3835 Singleton Blvd. Dallas, TX 75212 www.dfwgrating.com 214-630-0033 Plain Bars: Non-serrated.

**Press-Locked:** A method for manufacturing grating where the bearing bars are locked in position by a specialized press fit with cross bar deformation instead of riveting or welding.

**Radially Cut Grating**: Rectangular grating which is cut into panels shaped as annular segments, for use in circular or annular areas.

**Reticuline Bar:** A sinuously bent connecting bar extending between two adjacent bearing bars, alternately contacting and being riveted to each.

**Reversible Grating:** Grating so constructed that it may be installed either side up, with no difference in appearance or carrying capacity.

**Rivet Centers:** The distance center to center of rivets along one bearing bar.

**Riveted Grating:** Grating composed of straight bearing bars and bent connecting bars which are joined at their contact points by riveting.

**Serrated Grating:** Grating which has the top surfaces of the bearing bars notched for slip resistance.

**Span of Grating:** The distance between points of grating support, or the direction of this dimension. It must always be measured parallel to the bearing bars.

**Straight Cut:** That portion of the cut edge or cutout of grating which follows a straight line.

**Swage-Locked:** Grating manufactured by altering the cross sectional shape of a metal cross bar by applying pressure through dies.

**Toeplate:** A flat bar attached flat against the outer edge of a grating panel or rear edge of tread, and projecting above the top surface of grating or tread to form a lip or curb.

**Tread:** A panel of grating having carrier end plates and nosing attached by welding, and designed specifically to serve as a stair tread.

Welded Grating: Grating in which the bearing bars and cross bars are joined at their intersections by resistance welding or conventional hand welding. A resistance weld is obtained by the heat produced by the resistance of the material to the flow of electric current causing the material to become plastic. At this point, the pressure on the cross bar is rapidly increased causing the cross bar to penetrate the bearing bar so that they are fused together.

**Width:** The overall dimension of a grating panel, measured perpendicular to the bearing bars





DFW Grating