

# LIGHT DUTY STEEL FEATURES & BENEFITS

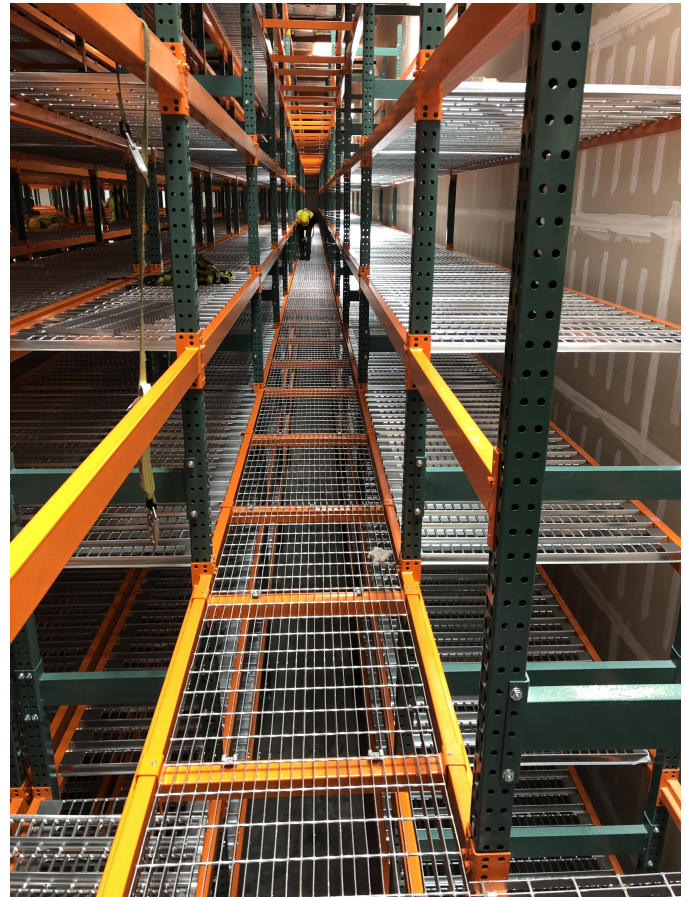
## Features & Benefits

Light Duty Steel grating is the workhorse of the industrial flooring market, finding applications in conveyor systems, operating plants, highways and bridge platforms and walkways, machinery floors, refineries, tank stairways and walkways, and power plants. The open grid construction of steel grating provides maximum passage for light, air circulation and drainage, while offering low installation and maintenance costs.

Grating Systems prides itself on offering the widest selection of Light Duty Steel grating available in the industry. As a stocker and fabricator of electro forge welded steel grating, we inventory a variety of sizes and spacings for shipment in panel form, or for fabrication per plans and specs. GS specializes in engineering those tough jobs requiring intricate layout and fabrication.

In addition to fabricating standard electro-forge welded steel grating, GS provides Dove Tail pressure locked grating, Riveted Steel grating, and Swaged Carbon and Stainless Steel grating. Dove Tail pressure locked, Riveted and Swaged grating offer smoother lines and a more pleasing appearance than typical welded grating. While still industrial in nature, these grating types may be more appropriate than welded grating for some applications. Please contact our team for assistance in choosing the right Light Duty steel grating for your particular application.

**Whether the requirement is for stock panels or custom fabrication, Grating Systems has you covered!**



# LIGHT DUTY STEEL PRODUCTS



## Light Duty Welded Steel

Electro-forging, a machine process combining hydraulic pressure and heat fusion, is the most popular and economical method for manufacturing steel grating panels. Grating Systems offers stock panels for immediate shipment, or custom fabricated sizes. Various spacings, bar depths, finishes, and OnGrip® Spray Traction Surface is also available.



## Light Duty Steel Dove Tail

Dove tail pressure locked grating offers the high strength and stiffness of welded steel grating along with the smooth, clean lines of a flush top rectangular cross bar. A variety of bar depths, finishes and spacings are available including 1/4" and 1/2" which conform to ADA requirements. OnGrip® Spray Traction Surface is also available.



## Light Duty Swaged Carbon Steel

Swaged Carbon Steel grating is similar in construction to our aluminum bar grating products. Rectangular bearing bars and tubular cross bars are joined together via the swaging process. This process keeps the material free from the warping and weld flash inherent in the electroforging process. This profile offers the same flexibility as our other mechanically locked grating products as to multiple spacings (including ADA requirements), bar depths and finishes. OnGrip® Spray Traction Surface is also available.



## Light Duty Riveted Steel

Riveted grating is the oldest style of bar grating, but still the choice of many engineers due to its reliability and durability. Grating Systems provides multiple sizes and spacings. OnGrip® Spray Traction Surface is also available.



## Light Duty PressLock

PressLock products are manufactured on our computer controlled production lines, where the bearing bars are notched and then "locked" with the cross bars at very high pressure. Available in increments of 7/16", PressLock offers a wide variety of mesh openings to match up to the appropriate loading requirements and project application. OnGrip® Spray Traction Surface is also available.



## Light Duty Swaged Stainless Steel

Swaged Stainless Steel is offered in alloys of either Type 304 or 316. As with the swaged grating, this product is also manufactured free of the warping, twisting and burn marks which are characteristic of electroforged stainless grating. A variety of spacing options and bar depths are available, including those that meet ADA Requirements. OnGrip® Spray Traction Surface is also available.

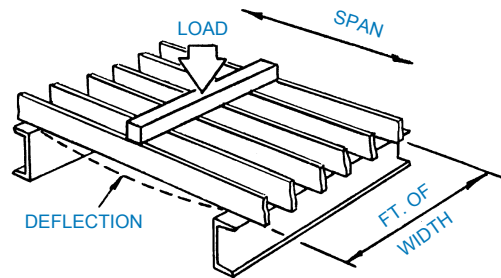
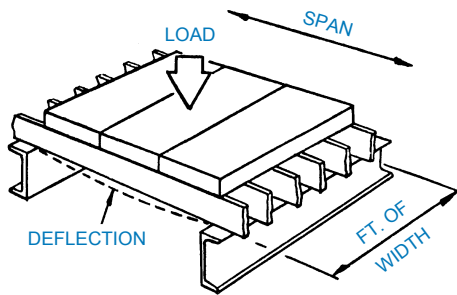
# LIGHT DUTY STEEL DESIGN CRITERIA

The tables of safe loads which follow have been computed using the following design parameters:

- U** = Uniform Load - lbs/ft<sup>2</sup>
- C** = Concentrated Load - lbs/ft of grating width
- S** = Section Modulus - in<sup>3</sup>/ft of grating width
- I** = Moment of Inertia - in<sup>4</sup>/ft of grating width
- L** = Simple Clear Span - feet
- D** = Deflection - inches
- E** = Modulus of Elasticity (Carbon Steel = 29,000,000 psi, T-304 and T-316 Stainless Steel = 28,000,000 psi)
- F** = Allowable Bending Stress (Carbon Steel = 18,000 psi, T-304 and T-316 Stainless Steel = 20,000 psi)
- M** = Bending Moment

## Design Service

Available at no charge to the specifying architect/engineer or fabricator, is access to a computer program which provides uniform load and deflection (actual or fraction of span) analysis of grating products. Just call, write or fax your design criteria – loading, span, allowable deflection, or grating size desired – and we will provide you with the information you require.



	Uniform Load	Concentrated Load
<b>Step 1.</b> Determine M:	$M = \frac{FS}{12}$	$M = \frac{FS}{12}$
<b>Step 2.</b> Determine U or C:	$U = \frac{8M}{L^2}$	$C = \frac{4M}{L}$
<b>Step 3.</b> Check D*:	$D = \frac{5UL (L \times 12)^3}{384 EI}$	$D = \frac{C (L \times 12)^3}{48 EI}$

\*Deflection should be limited to 1/4" under 100# uniform load to afford pedestrian comfort.

*Light Duty Steel Grating is best suited for use in conjunction with pedestrian traffic, and for very light, rubber pneumatic tired rolling traffic (carts, dollies and hand trucks). For other rolling loads (forklifts, cars, trucks, etc.) see the Heavy Duty Steel Grating section.*

Information of a technical nature contained herein is intended only for evaluation by technically skilled persons, with any use thereof to be at their independent discretion and risk. Such information is reliable when evaluated in the proper manner under conditions as described herein.

Grating Systems shall have no responsibility or liability for results obtained or damages resulting from improper evaluation or use.

# LIGHT DUTY WELDED STEEL

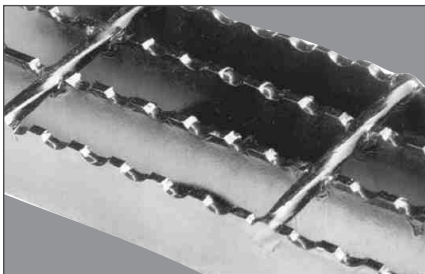


## W SERIES



Light duty steel grating is the workhorse of the industrial flooring market and is used for many different types of pedestrian (walking) applications. The open grid construction provides maximum passage for light, air circulation and drainage.

Electro-forging, a machine process combining hydraulic pressure and heat fusion, is readily available and an economical method for manufacturing steel grating panels. The bearing bar surface can be ordered smooth or with a serrated surface for maximum skid



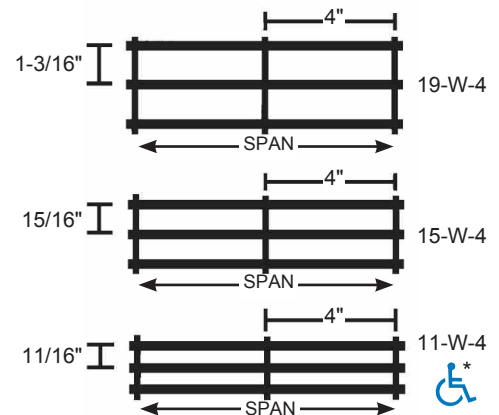
resistance. Also available in Stainless Steel, type 304 or 316, upon request. OnGrip® Spray Traction Surface is also available.

◀ **Serrated surface also available.**

### GRATING PROFILES AVAILABLE...

#### W SERIES Light Duty Welded Steel

All profiles shown below are also available with 2" cross bar centers. Product numbers would be 19-W-2, 15-W-2 and 11-W-2



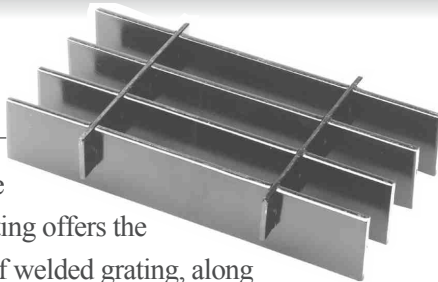
See load tables beginning on page 45.

\*Note: Conforms with the spacing requirements of ADA (September 2010) when installed with the elongated opening perpendicular to the dominant direction of travel. See ADA Guidelines

# LIGHT DUTY STEEL DOVE TAIL



## DT SERIES



Traditionally designed, Dove Tail slot pressure locked grating offers the high strength and stiffness of welded grating, along with the smooth, clean lines of a flush top rectangular cross bar. Bearing bars and cross bars are precision slotted, assembled in egg-crate fashion and hydraulically pressed together to form a tightly locked, rigidly stable panel grid. This grating is available in a wide variety of spacings including a 1/4" or 1/2" opening product, which conforms with provisions for the "Americans with Disabilities Act" (September 2010). These products are part of our Grater Access line and are available with cross bars on 2" or 4" centers. This is also a popular style in the architectural community because of the aesthetic eye appeal of the product and the ability to maintain tighter tolerances. This style is also available in stainless steel. OnGrip® Spray Traction Surface is also available.

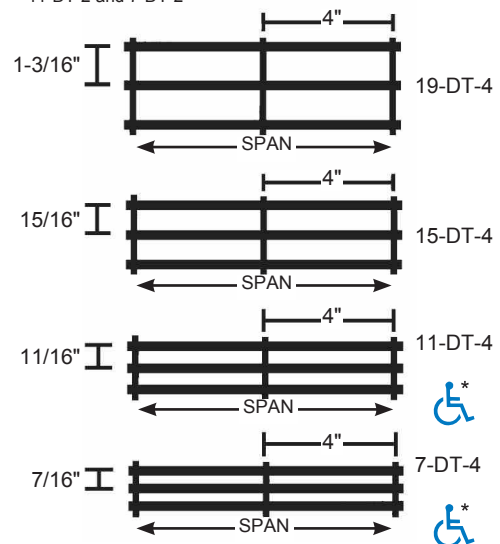
**Serrated surface also available.**

**\*8 Space available upon request.**

### GRATING PROFILES AVAILABLE...

#### DT SERIES Light Duty Steel Dove Tail

All profiles shown below are also available with 2" cross bar centers. Product numbers would be 19-DT-2, 15-DT-2, 11-DT-2 and 7-DT-2



See load tables beginning on page 45.

**\*Note:** Conforms with the spacing requirements of ADA (September 2010) when installed with the elongated opening perpendicular to the dominant direction of travel. See ADA Guidelines

# LIGHT DUTY SWAGED CARBON STEEL



## SGCS SERIES



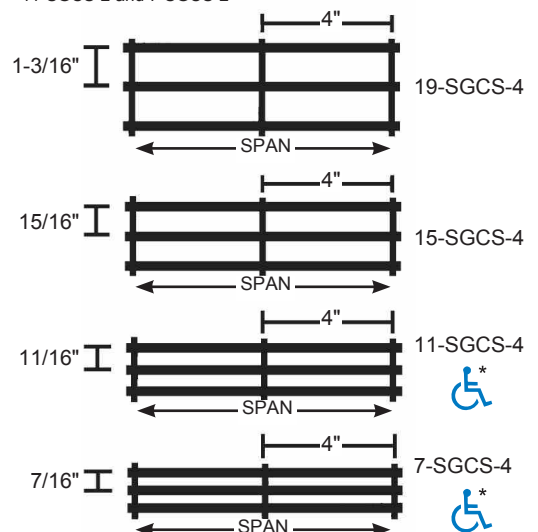
The swaging process allows the assembly of bar grating panels by mechanically locking the cross bars at right angles to the bearing bars. It provides the clean crisp lines of a recessed cross bar and eliminates the jagged weld flash inherent with welded bar grating. Additionally, the heat generated as part of the electro-forging process, limits how close together the bars may be placed. By using the most modern technology available, swaged bar grating is available in a wide variety of spacings including a 1/4" or 1/2" opening product, which conforms with provisions for the "Americans with Disabilities Act" (September 2010). Because of its aesthetic appeal and the ability to meet tight tolerances, this product is often used for architectural applications.

OnGrip® Spray Traction Surface is also available.

*\*8 Space available upon request.*

### GRATING PROFILES AVAILABLE... SGCS SERIES Light Duty Swaged Carbon Steel

All profiles shown below are also available with 2" cross bar centers. Product numbers would be 19-SGCS-2, 15-SGCS-2, 11-SGCS-2 and 7-SGCS-2

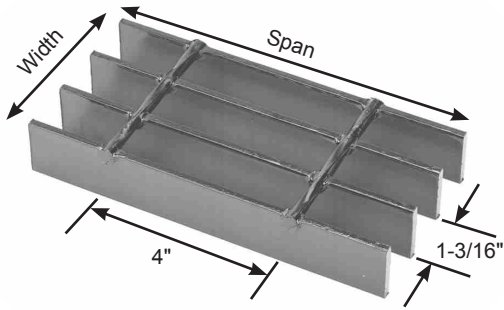


See load tables beginning on page 45.

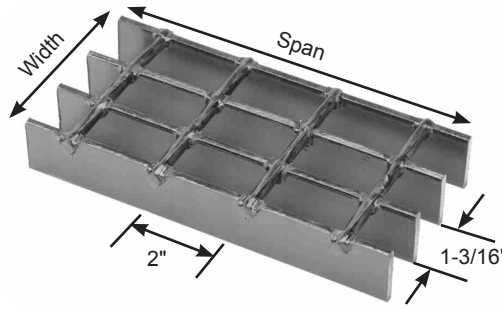
**\*Note:** Conforms with the spacing requirements of ADA (September 2010) when installed with the elongated opening perpendicular to the dominant direction of travel. See ADA Guidelines

# 19 SPACE PROFILES

## STEEL LIGHT DUTY WELDED



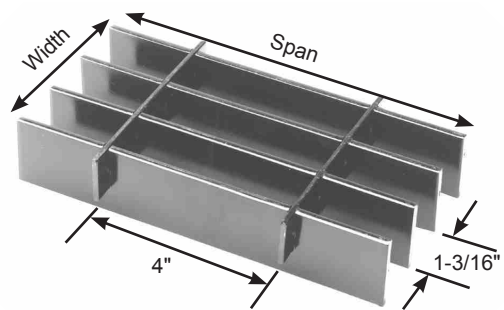
19-W-4



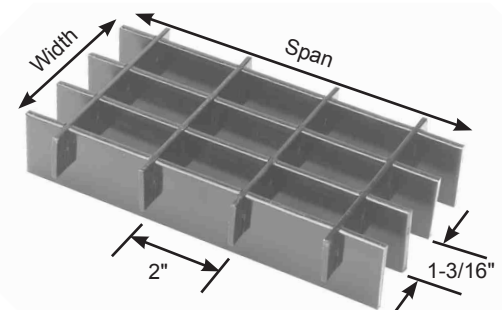
19-W-2

% Open Area*		
Bars	1/8"	3/16"
4" cc	83%	77%
2" cc	76%	71%

## STEEL LIGHT DUTY DOVE TAIL



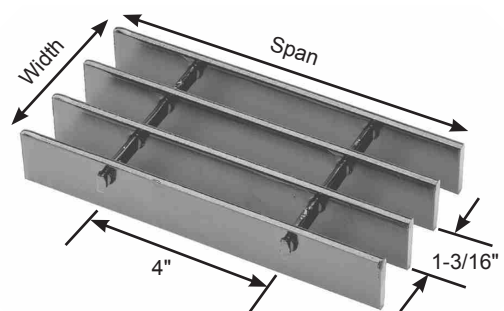
19-DT-4



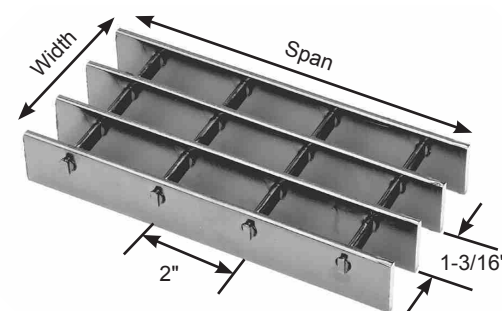
19-DT-2

% Open Area*		
Bars	1/8"	3/16"
4" cc	86%	81%
2" cc	84%	79%

## STEEL LIGHT DUTY SWAGED CARBON



19-SGCS-4



19-SGCS-2

% Open Area*		
Bars	1/8"	3/16"
4" cc	83%	78%
2" cc	76%	72%

# 19 SPACE LOAD TABLES

## Light Duty Welded, Light Duty Dove Tail & Light Duty Swaged Carbon Steel

Bar Size, Inches	Ped Span, Inches	Wt.* Lbs. Sq. Ft.	Sec. Prop Sx*, in <sup>3</sup> lx*, in <sup>4</sup>	Clear Span													
				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	46	5.43	0.178	U	533	341	237	174	133								
				D	0.099	0.155	0.224	0.304	0.397								
			0.067	C	533	426	355	305	266								
1 x 1/8	51	4.88	0.211	U	632	404	281	206	158	125							
				D	0.075	0.116	0.168	0.228	0.298	0.378							
			0.105	C	632	505	421	361	316	281							
1 x 3/16	57	7.04	0.316	U	947	606	421	309	237	187	152						
				D	0.074	0.116	0.168	0.228	0.298	0.377	0.467						
			0.158	C	947	758	632	541	474	421	379						
1-1/4 x 1/8	61	5.96	0.329	U	987	632	439	322	247	195	158	130					
				D	0.060	0.093	0.134	0.182	0.239	0.302	0.373	0.449					
			0.206	C	987	789	658	564	493	439	395	359					
1-1/4 x 3/16	67	8.64	0.493	U	1480	947	658	483	370	292	237	196	164				
				D	0.060	0.093	0.134	0.182	0.238	0.301	0.373	0.451	0.535				
			0.308	C	1480	1184	987	846	740	658	592	538	493				
1-1/2 x 1/8	70	7.04	0.474	U	1421	909	632	464	355	281	227	188	158				
				D	0.050	0.078	0.112	0.152	0.198	0.252	0.310	0.376	0.447				
			0.355	C	1421	1137	947	812	711	632	568	517	474				
1-1/2 x 3/16	77	10.25	0.711	U	2132	1364	947	696	533	421	341	282	237	202			
				D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.525			
			0.533	C	2132	1705	1421	1218	1066	947	853	775	711	656			
1-3/4 x 3/16	87	11.87	0.967	U	2901	1857	1289	947	725	573	464	384	322	275	237	181	
				D	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0.450	0.522	0.680	
			0.846	C	2901	2321	1934	1658	1451	1289	1160	1055	967	893	829	725	
2 x 3/16	96	13.48	1.263	U	3789	2425	1684	1237	947	749	606	501	421	359	309	237	
				D	0.037	0.058	0.084	0.114	0.149	0.189	0.233	0.282	0.335	0.394	0.456	0.596	
			1.263	C	3789	3032	2526	2165	1895	1684	1516	1378	1263	1166	1083	947	
2-1/4 x 3/16	105	15.08	1.599	U	4796	3069	2132	1566	1199	947	767	634	533	454	392	300	
				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	
			1.798	C	4796	3837	3197	2741	2398	2132	1918	1744	1599	1476	1370	1199	
2-1/2 x 3/16	113	16.70	1.974	U	5921	3789	2632	1933	1480	1170	947	783	658	561	483	370	
				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	
			2.467	C	5921	4737	3947	3383	2960	2632	2368	2153	1974	1822	1692	1480	
				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	

U - Safe uniform load in pounds/sq. ft.  
 C - Safe concentrated load in pounds/ft. grating width  
 D - Deflection in inches

Loads and deflections given in this table are theoretical, and based on a unit stress of 18,000 psi.

\*Based on 10.105 bars/ft. of grating width. Bearing bars 1-3/16" c.c. Add .6 lbs./sq. ft. for 19-SGCS-2. Note: Grating for spans to the left of the heavy line have a deflection less than 1/4" for uniform loads of 100 lbs./sq. ft. This is the maximum deflection to afford pedestrian comfort and can be exceeded for other types of load at the discretion of the engineer. The actual Ped (pedestrian) Span under this condition is shown above for each size of grating. When serrated grating is specified, the depth of grating required for a specific load will be 1/4" greater than that shown in these tables. 3/4" x 3/16" serrated grating is not available.

### Panel Width Chart (in.) - 19-W-4, 19-W-2, 19-DT-4, 19-DT-2, 19-SGCS-4 & 19-SGCS-2 Dimensions Are Out-to-Out of Bearing Bars\*\*

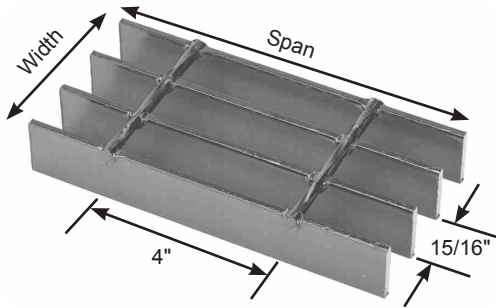
No. of Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3/16" Bars	1-3/8	2-9/16	3-3/4	4-15/16	6-1/8	7-5/16	8-1/2	9-11/16	10-7/8	12-1/16	13-1/4	14-7/16	15-5/8	16-13/16	18
No. of Bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
3/16" Bars	19-3/16	20-3/8	21-9/16	22-3/4	23-15/16	25-1/8	26-5/16	27-1/2	28-11/16	29-7/8	31-1/16	32-1/4	33-7/16	34-5/8	35-13/16

\*\*Add 1/4" for extended cross bars. Deduct 1/16" for 1/8" bearing bars. Standard panel widths indicated in blue.

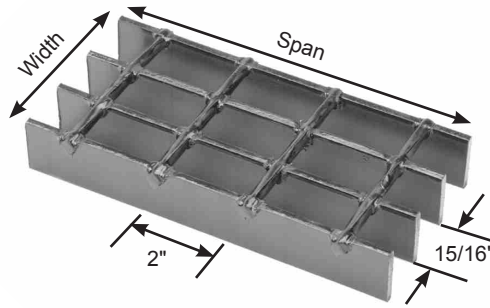


# 15 SPACE PROFILES

## STEEL LIGHT DUTY WELDED



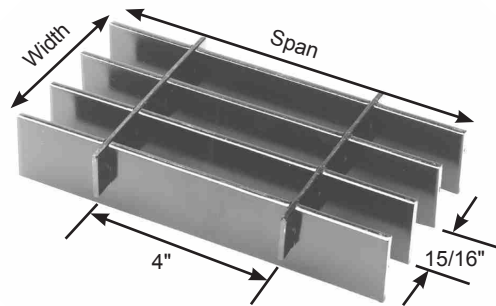
15-W-4



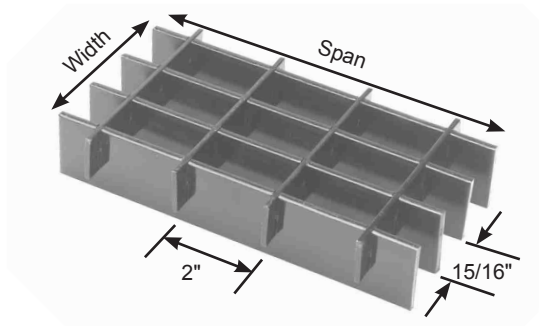
15-W-2

% Open Area*	
4" cc	73%
2" cc	67%

## STEEL LIGHT DUTY DOVE TAIL



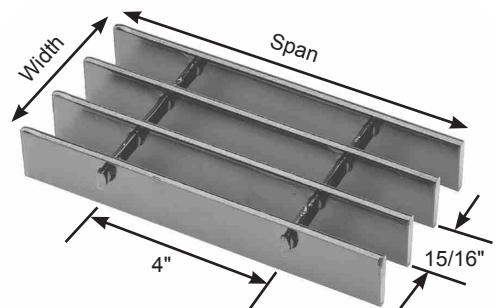
15-DT-4



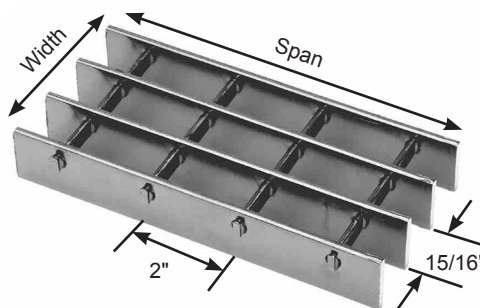
15-DT-2

% Open Area*	
4" cc	77%
2" cc	75%

## STEEL LIGHT DUTY SWAGED CARBON



15-SGCS-4



15-SGCS-2

% Open Area*	
4" cc	74%
2" cc	68%

# 15 SPACE LOAD TABLES

## Light Duty Welded, Light Duty Dove Tail & Light Duty Swaged Carbon Steel

Bar Size, Inches	Ped Span, Inches	Wt. Lbs. Sq. Ft.	Sec. Prop Sx*, in <sup>3</sup> Ix*, in <sup>4</sup>	Clear Span												
				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	49	7.11	0.225	U	675	432	300	220	169	133	U - Safe uniform load in pounds/sq. ft. C - Safe concentrated load in pounds/ft. grating width D - Deflection in inches					
				D	0.099	0.155	0.223	0.304	0.398	0.502						
			0.084	C	675	540	450	386	338	300						
				D	0.079	0.124	0.179	0.243	0.318	0.402						
1 x 3/16	60	9.27	0.400	U	1200	768	533	392	300	237	192	159	Loads and deflections given in this table are theoretical, and are based on a unit stress of 18,000 psi.			
				D	0.074	0.116	0.167	0.228	0.298	0.377	0.466	0.564				
			0.200	C	1200	960	800	686	600	533	480	436				
				D	0.060	0.093	0.134	0.183	0.238	0.301	0.372	0.450				
1-1/4 x 3/16	71	11.43	0.625	U	1875	1200	833	612	469	370	300	248	208			
				D	0.060	0.093	0.134	0.182	0.238	0.301	0.372	0.451	0.535			
			0.391	C	1875	1500	1250	1071	938	833	750	682	625			
				D	0.048	0.074	0.107	0.146	0.191	0.241	0.298	0.361	0.429			
1-1/2 x 3/16	82	13.82	0.900	U	2700	1728	1200	882	675	533	432	357	300	256	220	
				D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.375	0.447	0.525	0.607	
			0.675	C	2700	2160	1800	1543	1350	1200	1080	982	900	831	771	
				D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.358	0.420	0.486	
1-3/4 x 3/16	92	15.98	1.225	U	3675	2352	1633	1200	919	726	588	486	408	348	300	230
				D	0.043	0.067	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0.450	0.521	0.682
			1.072	C	3675	2940	2450	2100	1838	1633	1470	1336	1225	1131	1050	919
				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
2 x 3/16	102	18.14	1.600	U	4800	3072	2133	1567	1200	948	768	635	533	454	392	300
				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
			1.600	C	4800	3840	3200	2743	2400	2133	1920	1745	1600	1477	1371	1200
				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
2-1/4 x 3/16	111	20.16	2.025	U	6075	3888	2700	1984	1519	1200	972	803	675	575	496	380
				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
			2.278	C	6075	4860	4050	3471	3038	2700	2430	2209	2025	1869	1736	1519
				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
2-1/2 x 3/16	120	22.32	2.500	U	7500	4800	3333	2449	1875	1481	1200	992	833	710	612	469
				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
			3.125	C	7500	6000	5000	4286	3750	3333	3000	2727	2500	2308	2143	1875
				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

\*Based on 12.8 bars/ft. of grating width. Bearing bars 15/16" c.c. Add .8 lbs./sq. ft. for 15-W-2, 1/8" bearing bars available by inquiry. **Note:** Grating for spans to the left of the heavy line have a deflection less than 1/4" for uniform loads of 100 lbs./sq. ft. This is the maximum deflection to afford pedestrian comfort and can be exceeded for other types of load at the discretion of the engineer. The actual Ped (pedestrian) Span under this condition is shown above for each size of grating. When serrated grating is specified, the depth of grating required for a specific load will be 1/4" greater than that shown in these tables. 3/4" x 3/16" serrated grating is not available.

### Panel Width Chart (in.) - 15-W-4, 15-W-2, 15-DT-4, 15-DT-2, 15-SGCS-4 & 15-SGCS-2

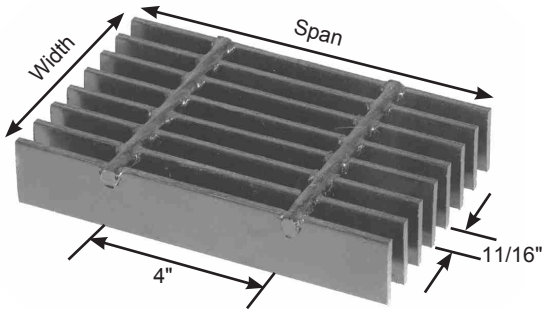
Dimensions Are Out-to-Out of Bearing Bars\*\*

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

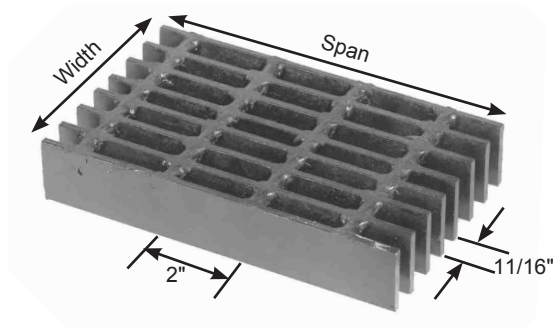
\*\*Add 1/4" for extended cross bars. Deduct 1/16" for 1/8" bearing bars. Standard panel widths indicated in blue.

# 11 SPACE PROFILES

## STEEL LIGHT DUTY WELDED



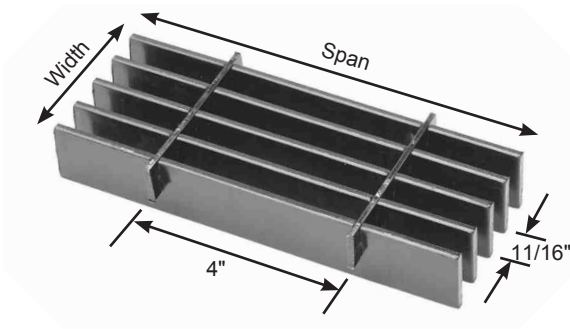
**11-W-4**



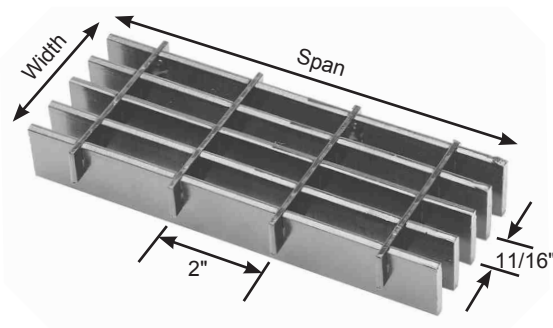
**11-W-2**

% Open Area*	
4" cc	66%
2" cc	57%

## STEEL LIGHT DUTY DOVE TAIL



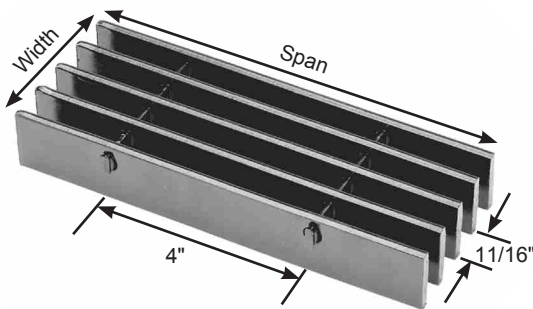
**11-DT-4**



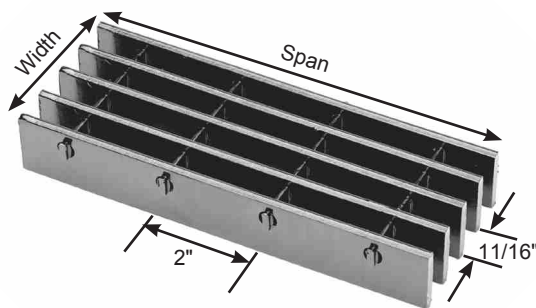
**11-DT-2**

% Open Area*	
4" cc	70%
2" cc	68%

## STEEL LIGHT DUTY SWAGED CARBON



**11-SGCS-4**



**11-SGCS-2**

% Open Area*	
4" cc	67%
2" cc	62%

# 11 SPACE LOAD TABLES

## Light Duty Welded, Light Duty Dove Tail & Light Duty Swaged Carbon Steel

Bar Size, Inches	Ped Span, Inches	Wt. Lbs. Sq. Ft.	Sec. Prop Sx*, in <sup>2</sup> lx*, in <sup>4</sup>	ClearSpan												
				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	53	9.28	0.307	U	920	589	409	301	230	182	U - Safe uniform load in pounds/sq. ft. C - Safe concentrated load in pounds/ft. grating width D - Deflection in inches <b>% Open Area*</b> 4" cc 66% 2" cc 57%					
				D	0.099	0.155	0.223	0.305	0.397	0.503						
			0.115	C	920	736	614	526	460	409						
				D	0.079	0.124	0.179	0.243	0.318	0.402						
1 x 3/16	65	12.16	0.545	U	1636	1047	727	534	409	323	262	216	Loads and deflections are theoretical and based on a unit stress of 18,000 psi.			
				D	0.074	0.116	0.168	0.228	0.298	0.377	0.466	0.562				
			0.273	C	1636	1309	1091	935	818	727	655	595				
				D	0.060	0.093	0.134	0.182	0.238	0.302	0.373	0.451				
1-1/4 x 3/16	77	15.04	0.852	U	2557	1636	1136	835	639	505	409	338	284	242		
				D	0.060	0.093	0.134	0.183	0.238	0.302	0.372	0.450	0.536	0.629		
			0.533	C	2557	2046	1705	1461	1278	1136	1023	930	852	787		
				D	0.048	0.075	0.107	0.146	0.191	0.241	0.298	0.361	0.429	0.504		
1-1/2 x 3/16	89	18.28	1.227	U	3682	2356	1636	1202	920	727	589	487	409	349	301	230
				D	0.050	0.078	0.112	0.152	0.199	0.251	0.310	0.376	0.447	0.525	0.609	0.794
			0.920	C	3682	2946	2455	2104	1841	1636	1473	1339	1227	1133	1052	920
				D	0.040	0.062	0.089	0.122	0.159	0.201	0.248	0.300	0.357	0.420	0.487	0.635
1-3/4 x 3/16	99	21.16	1.670	U	5011	3207	2227	1636	1253	990	802	663	557	474	409	313
				D	0.043	0.066	0.096	0.130	0.170	0.215	0.266	0.322	0.383	0.449	0.521	0.681
			1.462	C	5011	4009	3341	2864	2506	2227	2005	1822	1670	1542	1432	1253
				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
2 x 3/16	110	24.04	2.182	U	6546	4189	2909	2137	1636	1293	1047	866	727	620	534	409
				D	0.037	0.058	0.084	0.114	0.149	0.189	0.233	0.282	0.335	0.394	0.456	0.596
			2.182	C	6546	5237	4364	3740	3273	2909	2618	2380	2182	2014	1870	1636
				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
2-1/4 x 3/16	120	26.74	2.761	U	8284	5302	3682	2705	2071	1636	1325	1095	920	784	676	518
				D	0.033	0.052	0.074	0.101	0.132	0.168	0.207	0.250	0.298	0.350	0.405	0.530
			3.107	C	8284	6627	5523	4734	4142	3682	3314	3012	2761	2549	2367	2071
				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
2-1/2 x 3/16	130	29.62	3.409	U	10228	6546	4546	3340	2557	2020	1636	1352	1136	968	835	639
				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
			4.261	C	10228	8182	6818	5844	5114	4546	4091	3719	3409	3147	2922	2557
				D	0.024	0.037	0.054	0.073	0.095	0.121	0.149	0.180	0.214	0.252	0.292	0.381

\*Based on 17.455 bars/ft. of grating width. Bearing bars 11/16" c.c. Add .8 lbs./sq. ft. for 11-W-2, 1/8" bearing bars available by inquiry. **Note:** Grating for spans to the left of the heavy line have a deflection less than 1/4" for uniform loads of 100 lbs./sq. ft. This is the maximum deflection to afford pedestrian comfort and can be exceeded for other types of load at the discretion of the engineer. The actual Ped (pedestrian) Span under this condition is shown above for each size of grating. When serrated grating is specified, the depth of grating required for a specific load will be 1/4" greater than that shown in these tables. 3/4" x 3/16" serrated grating is not available.

### Panel Width Chart (in.) - 11-W-4 & 11-W-2 Dimensions Are Out-to-Out of Bearing Bars\*\*

No. of Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3/16" Bars	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
No. of Bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
3/16" Bars	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
No. of Bars	32	33	34	35											
3/16" Bars	21-1/2	22-3/16	22-7/8	23-9/16	24-1/4										

\*\*Deduct 1/16" for 1/8" bearing bars. Standard panel widths indicated in blue.

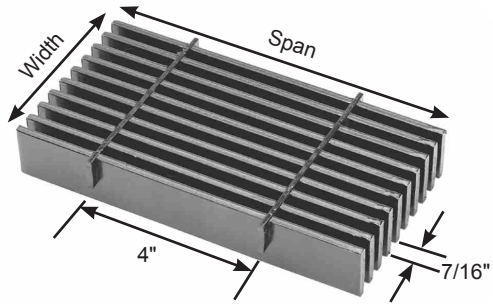
### Panel Width Chart (in.) - 11-SGCS-4, 11-SGCS-2, 11-DT-4 & 11-DT-2 Dimensions Are Out-to-Out of Bearing Bars\*\*

No. of Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3/16" Bars	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
No. of Bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
3/16" Bars	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
No. of Bars	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
3/16" Bars	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
No. of Bars	47	48	49	50	51	52	53								
3/16" Bars	31-13/16	32-1/2	33-3/16	33-7/8	34-9/16	35-1/4	35-15/16								

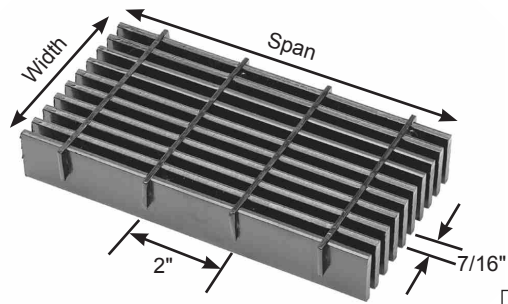
\*\*Add 1/4" for extended cross bars. Deduct 1/16" for 1/8" bearing bars. Standard panel widths indicated in blue.

# 7 SPACE PROFILES

## STEEL LIGHT DUTY DOVE TAIL



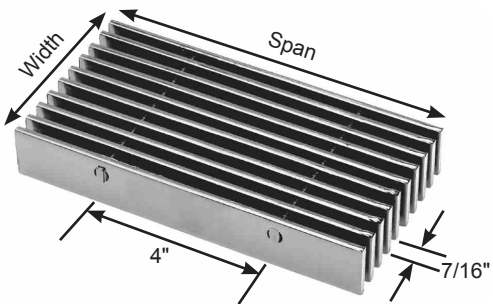
**7-DT-4**



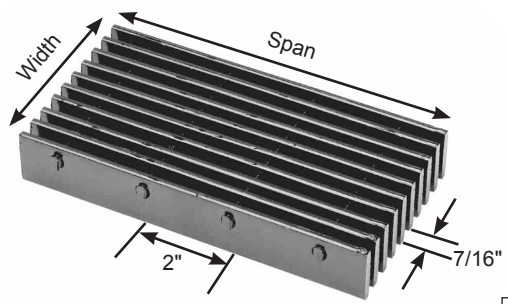
**7-DT-2**

% Open Area*	
4" cc	55%
2" cc	53%

## STEEL LIGHT DUTY SWAGED CARBON



**7-SGCS-4**



**7-SGCS-2**

% Open Area*	
4" cc	52%
2" cc	48%

# 7 SPACE LOAD TABLES

## Light Duty Dove Tail & Light Duty Swaged Carbon Steel

Bar Size, Inches	Ped Span, Inches	Wt.* Lbs. Sq. Ft.	Sec. Prop Sx*, in <sup>3</sup> lx*, in <sup>4</sup>	ClearSpan																				
				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	59	13.73	0.482	U	1446	926	643	472	362	286	231	U - Safe uniform load in pounds/sq. ft. C - Safe concentrated load in pounds/ft. grating width D - Deflection in inches Loads and deflections are theoretical and based on a unit stress of 18,000 psi.												
				D	0.099	0.155	0.223	0.304	0.398	0.503	0.620													
			C	1446	1157	964	827	723	643	579														
1 x 3/16	73	18.09	0.857	U	2571	1646	1143	840	643	508	411						340	286	<b>% Open Area*</b> 4" cc 52% 2" cc 48%					
				D	0.074	0.116	0.168	0.228	0.298	0.377	0.465						0.563	0.671						
			C	2571	2057	1714	1469	1286	1143	1029	935						857							
1-1/4 x 3/16	86	22.45	1.339	U	4018	2571	1786	1312	1004	794	643						531	446				380	328	251
				D	0.060	0.093	0.134	0.182	0.238	0.302	0.372						0.450	0.536				0.629	0.730	0.953
			C	4018	3214	2679	2296	2009	1786	1607	1461						1339	1236				1148	1004	
1-1/2 x 3/16	99	26.81	1.929	U	5786	3703	2571	1889	1446	1143	926						765	643				548	472	362
				D	0.050	0.078	0.112	0.152	0.199	0.251	0.310						0.375	0.447				0.525	0.608	0.795
			C	5786	4629	3857	3306	2893	2571	2314	2104						1929	1780				1653	1446	
1-3/4 x 3/16	111	31.20	2.625	U	7875	5040	3500	2571	1969	1556	1260	1041	875	746	643	492								
				D	0.043	0.067	0.096	0.130	0.170	0.216	0.266	0.322	0.383	0.450	0.521	0.681								
			C	7875	6300	5250	4500	3938	3500	3150	2864	2625	2423	2250	1969									
2 x 3/16	123	35.59	3.429	U	10286	6583	4572	3359	2571	2032	1646	1360	1143	974	840	643								
				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								
			C	10286	8229	6857	5878	5143	4572	4114	3740	3429	3165	2939	2571									
2-1/4 x 3/16	134	39.92	4.339	U	13018	8332	5786	4251	3255	2571	2083	1721	1446	1232	1063	814								
				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								
			C	13018	10414	8679	7439	6509	5786	5207	4734	4339	4006	3719	3255									
2-1/2 x 3/16	145	44.31	5.357	U	16072	10286	7143	5248	4018	3175	2571	2125	1786	1522	1312	1004								
				D	0.030	0.047	0.067	0.091	0.119	0.151	0.186	0.225	0.268	0.315	0.365	0.476								
			C	16072	12857	10714	9184	8036	7143	6429	5844	5357	4945	4592	4018									
			6.697	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								

\*Based on 27.429 bars/ft. of grating width. Bearing bars 7/16" c.c. Add .6 lbs./sq. ft. for 7-SGCS-2. 1/8" bearing bars available by inquiry. **Note:** Grating for spans to the left of the heavy line have a deflection less than 1/4" for uniform loads of 100 lbs./sq. ft. This is the maximum deflection to afford pedestrian comfort and can be exceeded for other types of load at the discretion of the engineer. The actual Ped (pedestrian) Span under this condition is shown above for each size of grating. When serrated grating is specified, the depth of grating required for a specific load will be 1/4" greater than that shown in these tables. 3/4" x 3/16" serrated grating is not available.

### Panel Width Chart (in.) - 7-SGCS-4, 7-SGCS-2, 7-DT-4 & 7-DT-2 Dimensions Are Out-to-Out of Bearing Bars\*\*

No. of Bars	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
3/16" Bars	5/8	1-1/16	1-1/2	1-15/16	2-3/8	2-13/16	3-1/4	3-11/16	4-1/8	4-9/16	5	5-7/16	5-7/8	6-5/16	6-3/4
No. of Bars	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
3/16" Bars	7-3/16	7-5/8	8-1/16	8-1/2	8-15/16	9-3/8	9-13/16	10-1/4	10-11/16	11-1/8	11-9/16	12	12-9/16	12-7/8	13-5/16
No. of Bars	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
3/16" Bars	13-3/4	14-3/16	14-5/8	15-1/16	15-1/2	15-15/16	16-3/8	16-13/16	17-1/4	17-11/16	18-1/8	18-9/16	19	19-7/16	19-7/8
No. of Bars	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61
3/16" Bars	20-5/16	20-3/4	21-3/16	21-5/8	22-1/16	22-1/2	22-15/16	23-3/8	23-13/16	24-1/4	24-11/16	25-1/8	25-9/16	26	26-7/16
No. of Bars	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
3/16" Bars	26-7/8	27-5/16	27-3/4	28-3/16	28-5/8	29-1/16	29-1/2	29-15/16	30-3/8	30-13/16	31-1/4	31-11/16	32-1/8	32-9/16	33
No. of Bars	77	78	79	80	81	82	83								
3/16" Bars	33-7/16	33-7/8	34-5/16	34-3/4	35-3/16	35-5/8	36-1/16								

\*\*Add 1/4" for extended cross bars. Deduct 1/16" for 1/8" bearing bars. Standard panel widths indicated in blue.