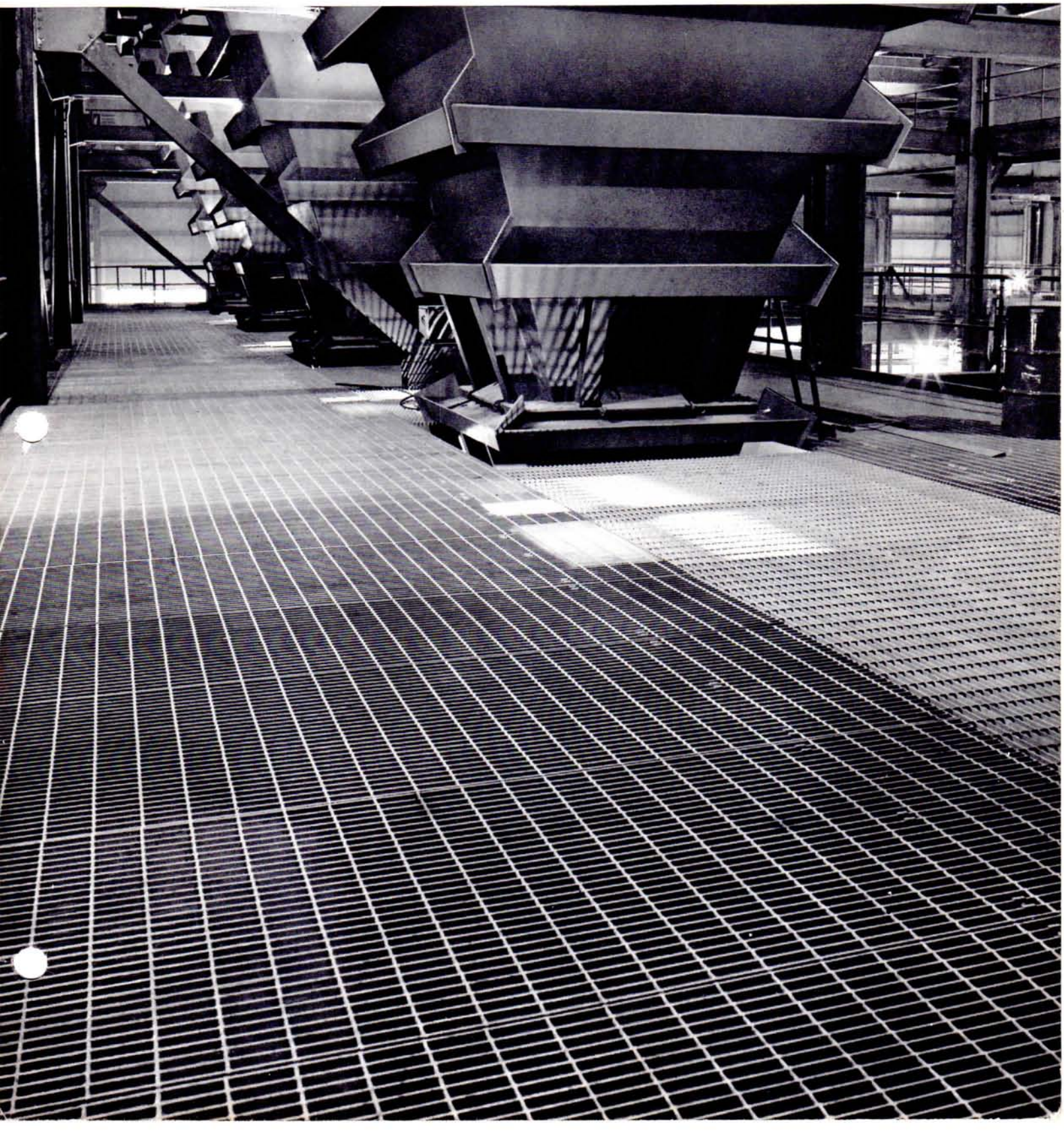
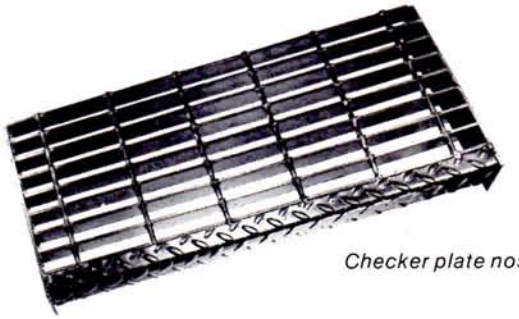
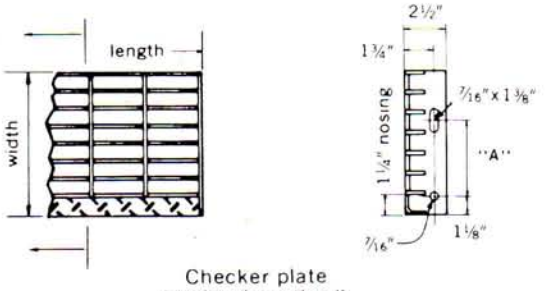


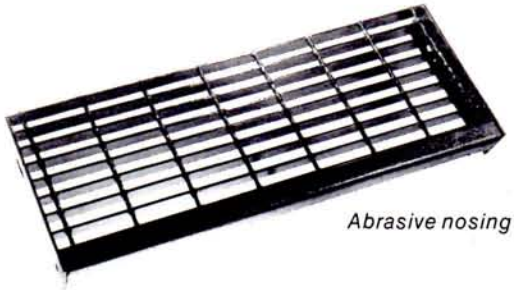
STAIR TREADS



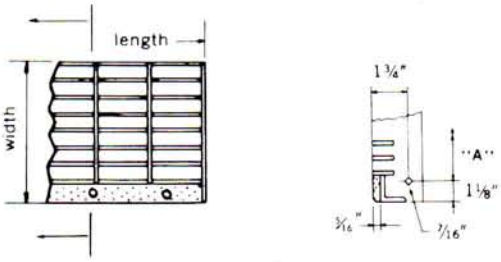
Checker plate nosing



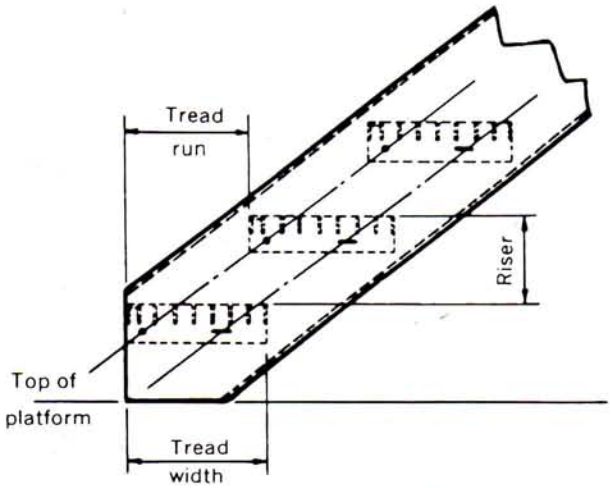
Checker plate
Nosing (standard)



Abrasive nosing



Cast Iron Nosing
(Cast Aluminum Nosing Available)



Typical Stair Stringer Detail

Standard	
Width	"A" Dim.
6 3/16	2 1/2
7 3/8	4 1/2
8 5/16	4 1/2
9 3/4	7
10 15/16	7
12 1/8	7

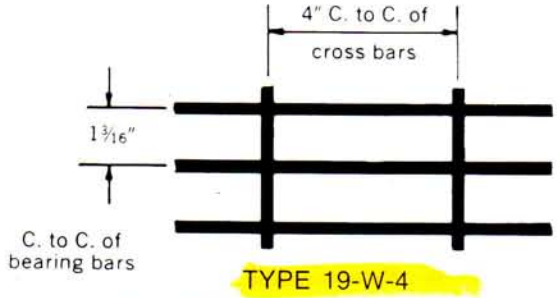
TREAD WEIGHTS

Tread Width	¾ x 3/16		1 x 3/16		1¼ x 3/16	
	Wgt.	Add for Additional Inch	Wgt.	Add for Additional Inch	Wgt.	Add for Additional Inch
6 3/16	7.83	.34	9.03	.41	10.23	.48
7 3/8	8.97	.39	10.41	.47	11.85	.55
8 5/16	10.11	.43	11.79	.52	13.47	.62
9¾	11.25	.48	13.17	.59	15.09	.69
10 15/16	12.39	.53	14.55	.65	16.71	.76
12 1/8	13.53	.57	15.93	.71	18.33	.84

Based on standard spacing of bearing bars and base lenght of tread 1'6" — for ⅛" thick bearing bars deduct 10% from above weights. For close space bearing bars add 20%.

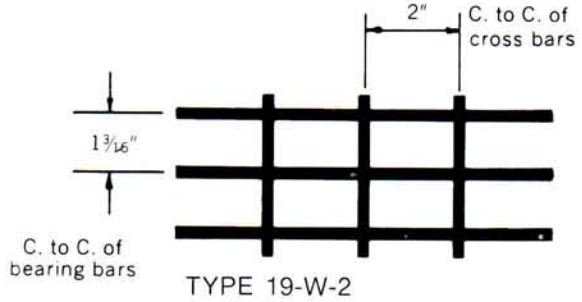
Stair treads are fabricated in any grating type complete with carrier plates at each end of tread for bolting to stair stringers. Tread nosing makes the leading edge of each step Stand out clearly. Serrated treads are recommended to eliminate hazardous footing conditions.

Steel GRATING TYPES



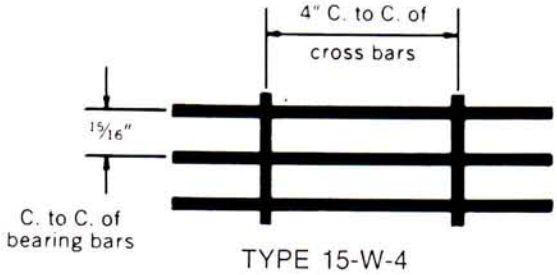
TYPE 19-W-4

Standard spacing recommended for all general flooring.



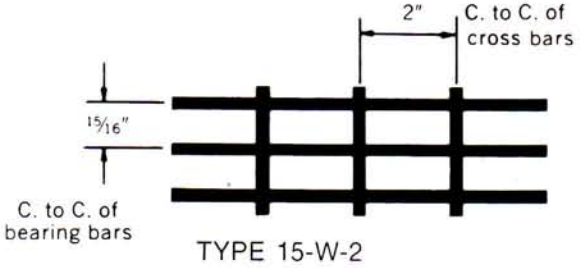
TYPE 19-W-2

Used where smaller openings are desired.



TYPE 15-W-4

Used where heavy loads are required.



TYPE 15-W-2

Used where heavy loads and small openings are required.

The first numerals designate number of sixteenths of an inch center to center of bearing bars. The second numeral designates center to center of cross bars in inches.

The letter shows type of grating: W—Welded (Tru-Weld).

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

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

Type 30-W-4		
No. Brg. Bars	Brg. Bar Thickness 3/16"	1/8"
6	9 9/16	9 1/2
7	11 7/8	11 3/4
8	13 5/16	13 1/4
9	15 3/16	15 1/8
10	17 1/16	17
11	18 15/16	18 7/8
12	20 13/16	20 3/4
13	22 11/16	22 5/8
14	24 9/16	24 1/2
15	26 7/16	26 3/8
16	28 5/16	28 1/4
17	30 3/16	30 1/8
18	32 1/16	32
19	33 15/16	33 7/8
20	35 13/16	35 3/4

Type 38-W-4		
No. Brg. Bars	Brg. Bar Thickness 3/16"	1/8"
4	7 5/16	7 1/4
5	9 11/16	9 5/8
6	12 1/16	12
7	14 7/16	14 3/8
8	16 13/16	16 3/4
9	19 3/16	19 1/8
10	21 5/16	21 1/2
11	23 15/16	23 7/8
12	26 5/16	26 1/4
13	28 11/16	28 5/8
14	31 1/16	31
15	33 1/16	33 3/8
16	35 13/16	35 3/4

WEIGHT in pounds per sq. ft.

Bearing Bars	Cross Bars	Type 19-W-4	Type 19-W-2	Type 15-W-4	Type 15-W-2	Type 30-W-4	Type 38-W-4
3/4 x 1/8	1/4	3.99	4.63	4.95	5.59	3.09	2.60
3/4 x 3/16	1/4	5.67	6.31	7.11	7.75	3.83	3.19
1 x 1/8	1/4	5.15	5.79	6.44	7.08	3.79	2.89
1 x 3/16	1/4	7.35	7.99	9.27	9.91	5.23	4.04
1 1/4 x 1/8	1/4	6.20	6.84	7.79	8.43	3.98	3.31
1 1/4 x 3/16	1/4	9.03	9.67	11.43	12.07	5.96	4.89
1 1/2 x 1/8	1/4	7.35	7.99	9.27	9.91	5.56	4.57
1 1/2 x 3/16	3/16	10.94	11.80	13.82	14.68	7.26	5.98
1 3/4 x 3/16	3/16	12.62	13.48	15.98	16.84	8.33	6.83
2 x 3/16	3/16	14.30	15.16	18.14	19.00	9.39	7.69
2 1/4 x 3/16	3/16	15.87	16.74	20.16	21.03	10.46	8.54
2 1/2 x 3/16	3/16	17.55	18.42	22.32	23.19	11.53	9.39

* Stock panel widths

Steel GRATING

LOAD TABLE

This table is based on non-serrated rectangular grating with bearing bars on 1 3/16" centers. To determine safe loads for other types multiply by the following factor:

Type	15-W-4 & 15-W-2
Factor	1.25

Loads and deflections given are based on a maximum allowable fiber stress of 18,000 P.S.I.

U—safe uniform load in pounds per square foot.
C—safe concentrated load in pounds per foot of width.
D—deflection in inches.

Bearing Bar Size	LOAD & DEFLECTIONS	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"	9'-0"
3/4 x 1/8	U	386	247	172	126	96	76	109	91	76	101	87	96	75
	D	.095	.151	.216	.295	.374	.486	.451	.547	.673	.608	.704	.774	.978
	C	386	308	258	220	194	171	275	250	228	330	306	386	342
	D	.076	.119	.173	.234	.308	.389	.360	.434	.518	.487	.565	.614	.777
3/4 x 3/16	U	578	370	258	188	144	115	164	135	114	152	131	145	115
	D	.095	.151	.216	.295	.374	.486	.451	.547	.673	.608	.704	.774	.978
	C	578	462	386	331	289	257	412	375	343	495	459	581	515
	D	.076	.119	.173	.234	.308	.389	360	.434	.518	.487	.565	.614	.777
1 x 1/8	U	686	439	304	224	171	135	172	142	119	149	128	197	155
	D	.072	.111	.159	.219	.288	.366	.358	.433	.520	.506	.587	.664	.838
	C	686	549	457	392	343	305	430	390	358	475	441	786	700
	D	.057	.090	.129	.176	.231	.293	.288	.349	.416	.406	.470	.527	.667
1 x 3/16	U	1029	659	459	338	257	203	258	213	179	222	191	258	204
	D	.072	.111	.159	.219	.288	.366	.358	.433	.520	.506	.587	.580	.732
	C	1029	824	686	587	514	458	644	585	536	714	663	1027	914
	D	.057	.090	.129	.176	.231	.293	.288	.349	.416	.406	.470	.460	.583
1 1/4 x 1/8	U	1027	686	476	350	268	212	172	142	119	101	87	96	75
	D	.057	.090	.129	.176	.231	.291	.358	.433	.520	.608	.704	.774	.978
	C	1027	858	716	613	536	477	430	390	358	330	306	386	342
	D	.046	.072	.104	.141	.183	.233	.288	.349	.416	.487	.565	.614	.777
1 1/4 x 3/16	U	1608	1028	716	526	403	318	258	213	179	152	131	145	115
	D	.057	.090	.129	.176	.231	.291	.358	.433	.520	.608	.704	.774	.978
	C	1608	1285	1073	918	803	716	644	585	536	495	459	581	515
	D	.046	.072	.104	.141	.183	.233	.288	.349	.416	.487	.565	.614	.777
1 1/2 x 1/8	U	1544	987	686	505	387	306	248	205	172	149	128	197	155
	D	.047	.075	.106	.147	.192	.243	.300	.365	.433	.506	.587	.664	.838
	C	1544	1235	1029	883	772	687	619	563	515	475	441	786	700
	D	.038	.059	.087	.117	.154	.195	.241	.289	.347	.406	.470	.527	.667
1 1/2 x 3/16	U	2321	1485	1031	758	581	458	371	307	260	222	191	258	204
	D	.047	.075	.106	.147	.192	.243	.300	.365	.433	.506	.587	.580	.732
	C	2321	1856	1547	1325	1159	1031	928	844	773	714	663	1027	914
	D	.038	.059	.087	.117	.154	.195	.241	.289	.347	.406	.470	.460	.583
1 3/4 x 3/16	U	3151	2016	1401	1029	788	622	505	416	351	299	259	258	204
	D	.042	.064	.092	.126	.165	.208	.258	.310	.371	.435	.506	.580	.732
	C	3151	2521	2100	1800	1575	1400	1260	1145	1049	969	899	1027	914
	D	.033	.052	.074	.101	.132	.167	.206	.249	.297	.347	.403	.460	.583
2 x 3/16	U	4116	2633	1829	1344	1029	813	659	546	460	393	339	327	259
	D	.036	.056	.081	.111	.144	.183	.226	.273	.325	.384	.447	.512	.646
	C	4116	3292	2745	2351	2058	1828	1646	1496	1370	1266	1175	1027	914
	D	.029	.045	.064	.088	.115	.145	.180	217	.259	.303	.353	.460	.583
2 1/4 x 3/16	U	5209	3332	2314	1670	1302	1028	835	689	583	496	428	327	259
	D	.032	.050	.072	.098	.127	.162	.199	.241	.287	.338	.393	.512	.646
	C	5209	4167	3473	2916	2604	2314	2082	1892	1733	1601	1487	1301	1157
	D	.026	.039	.057	.079	.102	.129	.160	.194	.230	.270	.314	.410	.518
2 1/2 x 3/16	U	6432	4115	2858	2099	1609	1271	1029	850	720	613	529	405	320
	D	.028	.044	.064	.088	.116	.145	.180	.217	.260	.305	.354	.465	.586
	C	6432	5147	4286	3673	3214	2858	2571	2338	2141	1977	1836	1607	1429
	D	.023	.036	.051	.071	.092	.116	.144	.173	.207	.242	.282	.369	.467

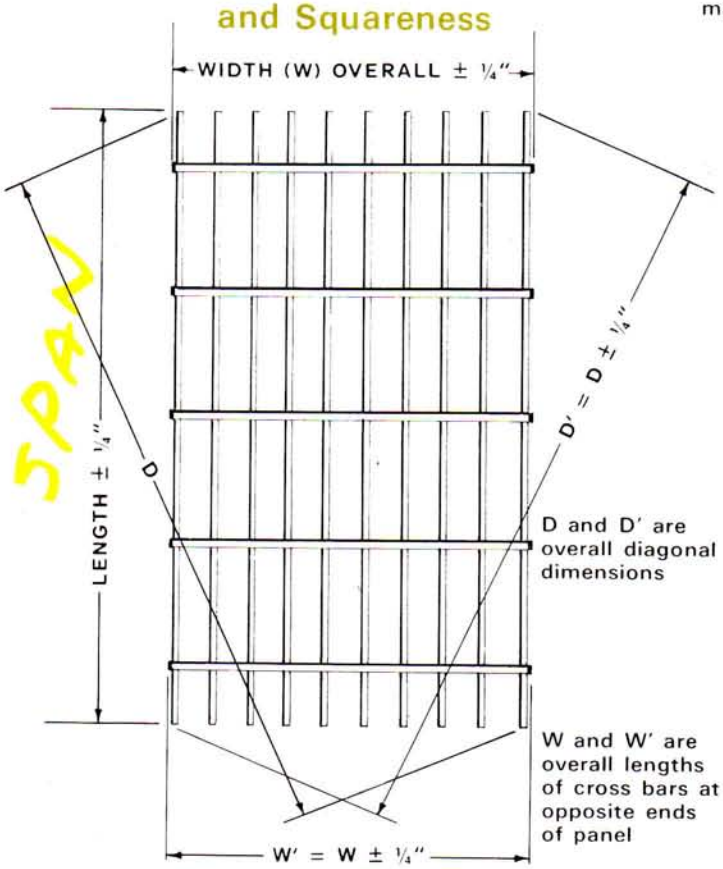
Spans in shaded area NOT RECOMMENDED.

BEARING BAR GUIDE TABLE

Bearing Bars	Maximum Length
3/4 x 3/16	2'3"
1 x 1/8	3'0"
1 x 3/16	3'6"
1 1/4 x 1/8	4'0"
1 1/4 x 3/16	4'6"
1 1/2 x 3/16	5'6"

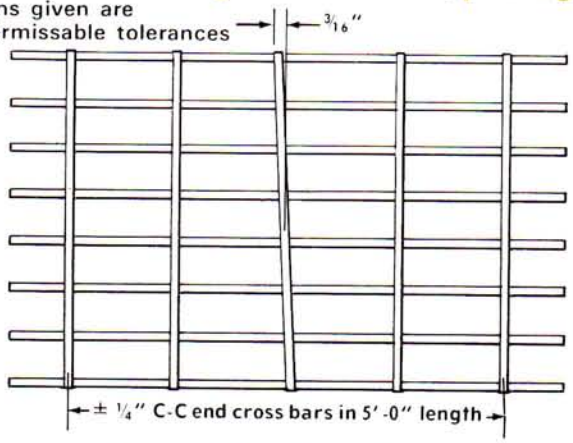
MANUFACTURING TOLERANCES

Overall Dimensions and Squareness

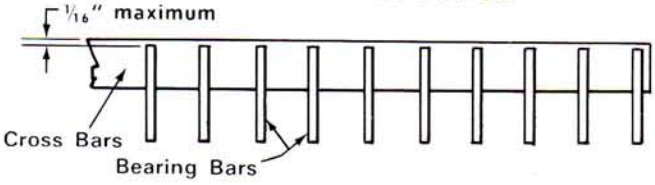


Cross Bar Alignment and Spacing

All dimensions given are maximum permissable tolerances

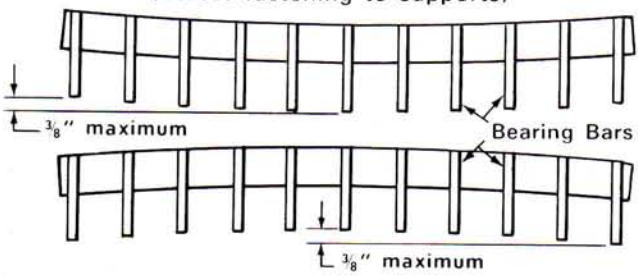


Cross Bar Location

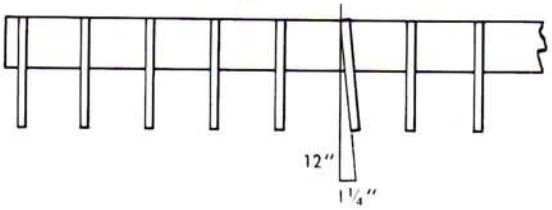


Transverse Bow

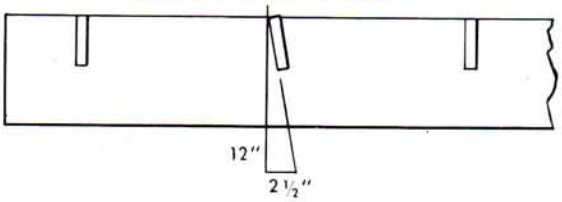
(before fastening to supports)



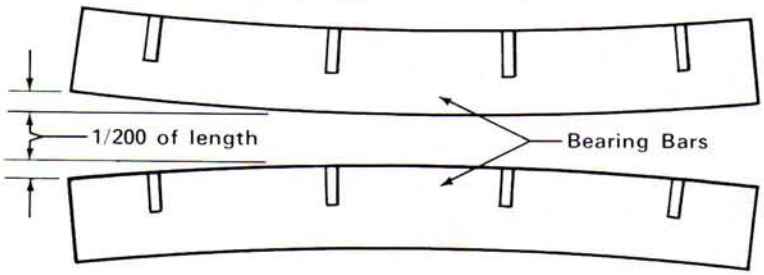
Bearing Bar Lean



Cross Bar Lean

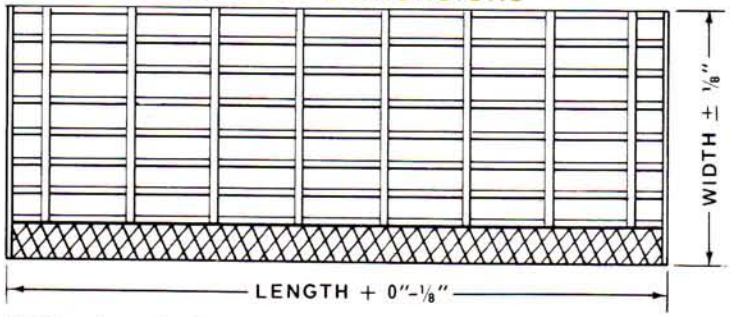


Longitudal Bow



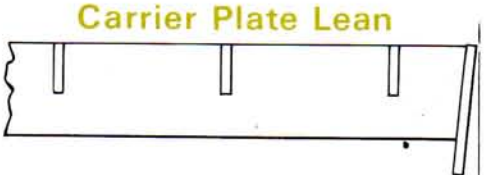
Stair Tread Tolerances

Overall Dimensions

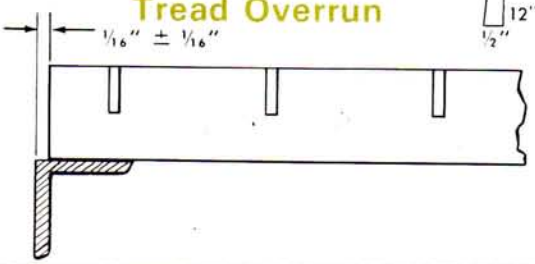


NOTE: Length of tread is distance between outer faces of carrier plates or back to back of carrier angles.

Carrier Plate Lean



Tread Overrun

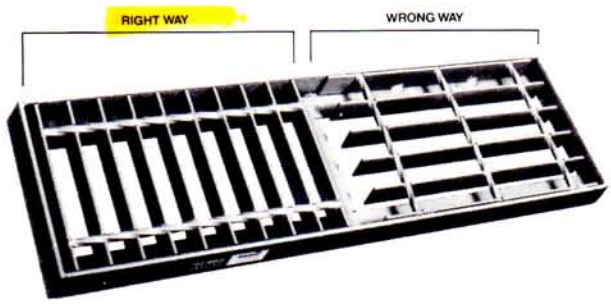


HOW TO ORDER GRATING

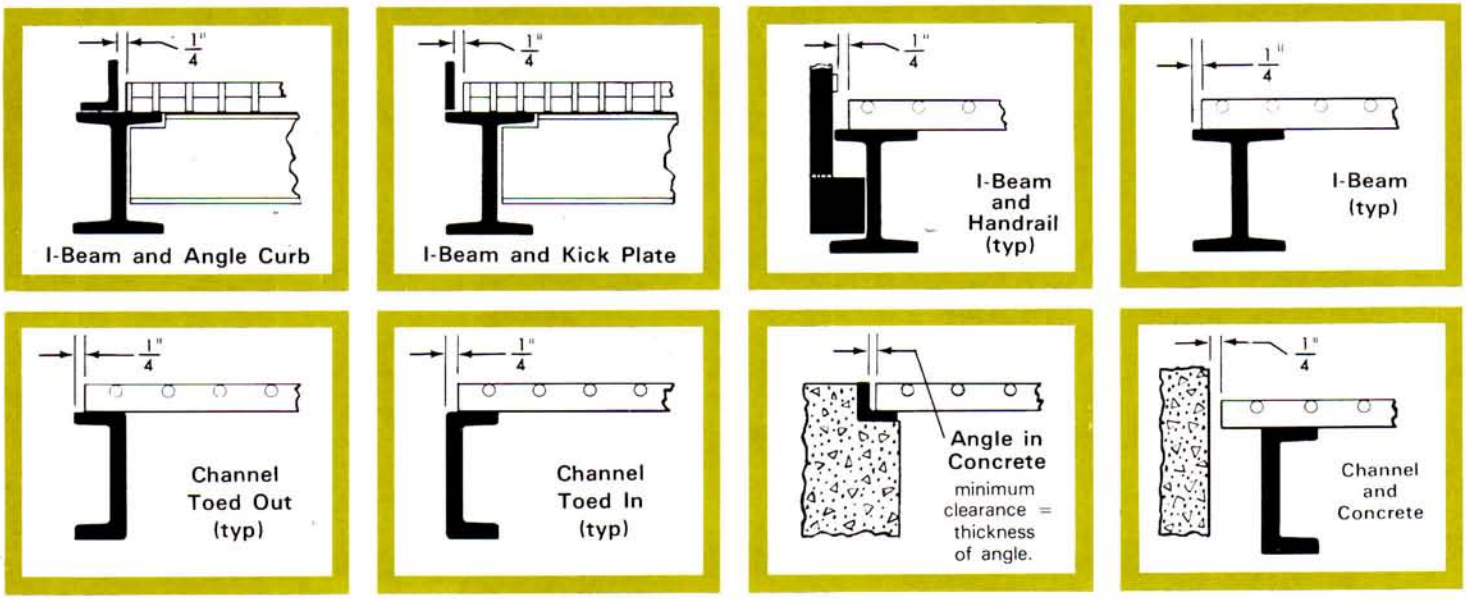
Be sure to specify:

1. Type of grating
2. Depth and thickness of bearing bars.
3. Directions in which bars are to run (span). See illustrations.
4. Dimensions of area or areas to be covered.
5. Allowable tolerance (unless otherwise specified, our standard 1/4" will apply).
6. Type of anchors required.
7. Painted or galvanized finish.
8. Shipping instructions.
9. Submit sketch of area to be covered, showing supporting structures, etc.

DESIGNATING BEARING BAR DIRECTION

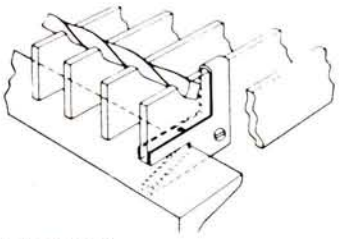


STANDARD INSTALLATION CLEARANCES



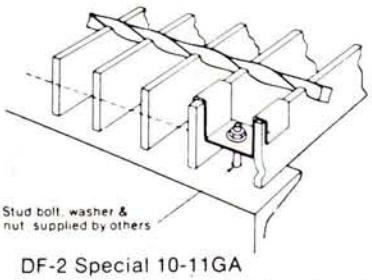
FASTENERS

(ZINC COATED STEEL)



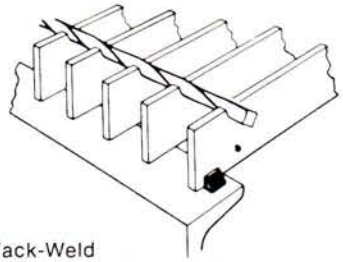
DF-1 Standard

For removable panels. Does not require field holes or welding. Clips, nuts and bolts for all sizes of grating in stock.



DF-2 Special 10-11GA

For removable panels. Clips for 19-W bearing bar spacing in stock.



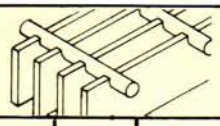
Tack-Weld

Positive fastening method—grating is welded to supporting steel.

Heavy Duty STEEL GRATING

Loading Table for Maximum Safe Spans

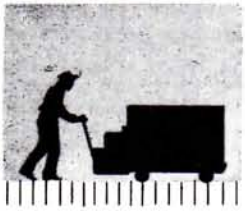
Bearing Bars 1 3/8 '' c/c
Cross Bars 4'' c/c
Cross bar spacing 2'' c/c also available



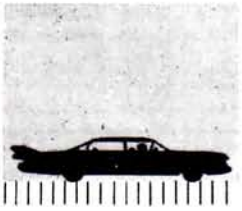
Bearing Bar Sizes	Cross Bar Round or Twisted Square	CLEAR SPAN 1 Ton	2 Ton	5 Ton	H 10	H 15	H 20	Catalog Number	Weight lbs/sq. ft.	Sec. Mod. Per ft. of Width
1 x 1/4"	5/16"	0'9"	0'7"	0'6"				H1-4B	8.43	.363
1 x 5/16"	3/4"	0'11"	0'8"	0'7"				H1-4C	10.34	.455
1 x 3/8"	3/8"	1'2"	0'9"	0'8"	0'11"	0'11"	0'11"	H1-4D	12.60	.545
1 1/4 x 1/4"	5/16"	1'2"	0'10"	0'8"	0'11"	0'11"	0'11"	H1-5B	10.34	.567
1 1/4 x 5/16"	3/8"	1'6"	1'0"	0'10"	1'1"	1'0"	1'0"	H1-5C	12.72	.711
1 1/4 x 3/8"	3/8"	1'9"	1'2"	0'11"	1'2"	1'2"	1'2"	H1-5D	15.47	.851
1 1/2 x 1/4"	5/16"	1'8"	1'1"	0'11"	1'1"	1'1"	1'1"	H1-6B	12.25	.817
1 1/2 x 5/16"	3/8"	2'1"	1'5"	1'1"	1'4"	1'3"	1'3"	H1-6C	15.12	1.024
1 1/2 x 3/8"	3/8"	2'6"	1'8"	1'3"	1'6"	1'4"	1'4"	H1-6D	18.34	1.226
1 3/4 x 1/4"	5/16"	2'3"	1'6"	1'2"	1'4"	1'3"	1'3"	H1-7B	14.17	1.113
1 3/4 x 5/16"	3/8"	2'10"	1'10"	1'4"	1'8"	1'5"	1'5"	H1-7C	17.51	1.393
1 3/4 x 3/8"	3/8"	*3'4"	2'5"	1'7"	1'11"	1'8"	1'7"	H1-7D	21.20	1.670
2 x 1/4"	5/16"	3'0"	1'11"	1'5"	1'8"	1'5"	1'5"	H1-8B	16.08	1.455
2 x 5/16"	3/8"	3'8"	2'5"	1'9"	2'1"	1'9"	1'8"	H1-8C	19.90	1.821
2 x 3/8"	3/8"	*4'1"	2'10"	2'0"	2'5"	1'11"	1'10"	H1-8D	24.07	2.182
2 1/4 x 1/4"	5/16"	3'9"	2'5"	1'9"	2'0"	1'8"	1'7"	H1-9B	17.99	1.840
2 1/4 x 5/16"	3/8"	*4'6"	3'0"	2'1"	2'6"	2'0"	1'11"	H1-9C	22.30	2.340
2 1/4 x 3/8"	3/8"	*4'10"	3'7"	2'6"	2'11"	2'4"	2'1"	H1-9D	26.94	2.761
2 1/2 x 1/4"	5/16"	4'7"	3'0"	2'1"	2'4"	1'11"	1'10"	H1-10B	19.90	2.272
2 1/2 x 5/16"	3/8"	*5'2"	3'8"	2'7"	3'0"	2'4"	2'1"	H1-10C	24.68	2.845
2 1/2 x 3/8"	3/8"	*5'7"	4'5"	3'0"	3'6"	2'9"	2'5"	H1-10D	29.81	3.409

Bearing Bars 1 7/8 '' c/c
Cross Bars 4'' c/c
Cross bar spacing 2'' c/c also available

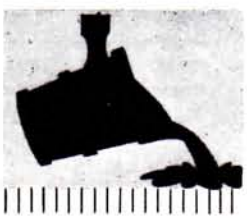
Bearing Bar Sizes	CLEAR SPAN 1 Ton	2 Ton	5 Ton	H 10
1 x 1/4"	0'8"	0'6"		
1 x 5/16"	0'10"	0'7"		
1 x 3/8"	1'1"	0'8"		
1 1/4 x 1/4"	1'1"	0'9"		
1 1/4 x 5/16"	1'4"	0'10"		0'11"
1 1/4 x 3/8"	1'8"	1'0"		1'0"
1 1/2 x 1/4"	1'7"	1'0"	0'9"	1'0"
1 1/2 x 5/16"	1'11"	1'3"	0'11"	1'1"
1 1/2 x 3/8"	2'5"	1'6"	1'1"	1'3"
1 3/4 x 1/4"	2'2"	1'4"	1'0"	1'2"
1 3/4 x 5/16"	2'8"	1'8"	1'2"	1'5"
1 3/4 x 3/8"	3'3"	2'0"	1'4"	1'7"
2 x 1/4"	2'10"	1'9"	1'3"	1'5"
2 x 5/16"	3'6"	2'2"	1'6"	1'8"
2 x 3/8"	4'3"	2'7"	1'9"	1'11"
2 1/4 x 1/4"	3'7"	2'3"	1'6"	1'8"
2 1/4 x 5/16"	*4'4"	2'9"	1'10"	2'0"
2 1/4 x 3/8"	*4'9"	3 3"	2'2"	2'4"
2 1/2 x 1/4"	4'5"	2'8"	1'9"	1'11"
2 1/2 x 5/16"	*5'1"	3'4"	2'2"	2'4"
2 1/2 x 3/8"	*5'7"	4'1"	2'7"	2'10"



1-TON LOADING
Hand trucks, compact automobiles.



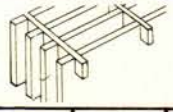
2-TON LOADING
Heavy automobiles, 1-ton fork lifts.



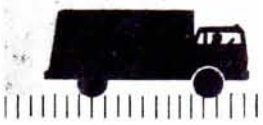
5-TON LOADING
Industrial working areas—painting, casting, forging, assembly, etc., 2-ton fork lifts or 5-ton straddle carrier.

Loading Table for Maximum Safe Spans

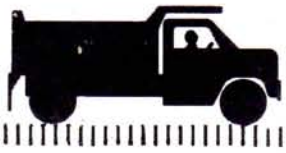
Bearing Bars 1 3/8 '' c/c
Cross Bars 4'' c/c
Cross bar spacing 2'' c/c also available



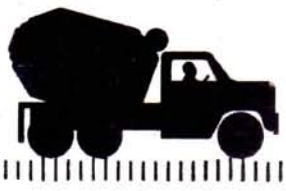
Bearing Bar Sizes	Cross Bar Sizes	CLEAR SPAN H 10	H 15	H 20	Catalog Number	Weight lbs/sq. ft.	Sec. Mod. Per ft. of Width
3 x 1/4"	3/4 x 1/4"	3'2"	2'6"	2'3"	H1-12B	24.86	3.273
3 x 5/16"	5/16"	4'1"	3'1"	2'8"	H1-12C	30.60	4.098
3 x 3/8"	3/8"	4'11"	3'7"	3'1"	H1-12D	33.33	4.910
3 1/2 x 1/4"	1 x 1/4"	4'3"	3'2"	2'9"	H1-14B	29.32	4.455
3 1/2 x 5/16"	5/16"	5'5"	4'0"	3'4"	H1-14C	36.02	5.578
3 1/2 x 3/8"	3/8"	*6'4"	4'8"	3'11"	H1-14D	42.71	6.682
4 x 1/4"	1 x 1/4"	5'5"	4'0"	3'4"	H1-16B	33.15	5.820
4 x 5/16"	5/16"	6'10"	5'0"	4'1"	H1-16C	40.80	7.286
4 x 3/8"	3/8"	*7'5"	6'0"	4'10"	H1-16D	48.45	8.730
4 1/2 x 1/4"	1 x 1/4"	6'9"	4'10"	4'0"	H1-18B	36.97	7.365
4 1/2 x 5/16"	5/16"	7'9"	6'1"	4'11"	H1-18C	45.57	9.221
4 1/2 x 3/8"	3/8"	*8'4"	7'0"	5'10"	H1-18D	54.19	11.047
5 x 1/4"	1 x 1/4"	7'6"	5'10"	4'9"	H1-20B	40.80	9.093
5 x 5/16"	5/16"	8'9"	7'1"	5'11"	H1-20C	50.36	11.385
5 x 3/8"	3/8"	*9'4"	7'10"	6'10"	H1-20D	59.92	13.640
5 1/2 x 1/4"	1 x 1/4"	8'5"	6'10"	5'7"	H1-22B	44.62	11.002
5 1/2 x 5/16"	5/16"	*9'8"	7'10"	6'10"	H1-22C	55.14	13.775
5 1/2 x 3/8"	3/8"	*10'4"	8'9"	7'6"	H1-22D	65.66	16.504
6 x 1/4"	1 x 1/4"	9'4"	7'5"	6'5"	H1-24B	48.45	13.095
6 x 5/16"	5/16"	*10'8"	8'7"	7'5"	H1-24C	59.92	16.394
6 x 3/8"	3/8"	*11'6"	9'9"	8'3"	H1-24D	71.40	19.642
7 x 1/4"	1 1/4 x 1/4"	11'5"	8'10"	7'7"	H1-28B	56.73	17.823
7 x 5/16"	5/16"	*12'10"	10'5"	8'10"	H1-28C	70.12	22.315
7 x 3/8"	3/8"	*13'11"	*11'9"	9'11"	H1-28D	83.51	26.735



H-10 LOADING
For fork lifts, truck cranes with pneumatic tires and light trucks. Use the H-10 loading chart.



H-15 LOADING
Industrial truck cranes with pneumatic tires, heavy fork lifts, dump trucks, and high lifts. Use the H-15 loading chart.

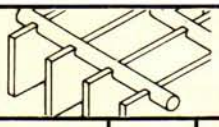


H-20 LOADING
Heavy trucks such as concrete mixers, warehouse trucks and tractor trailers. Use the H-20 loading chart.

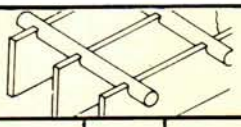
*Span limited to allowable maximum deflection of 1/240 of span

NOTE: Distance between C/C supports = clear span + ½ flange width of supports.

Heavy Duty STEEL GRATING

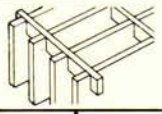


Bearing Bars 2 3/8 " c/c
Cross Bars 4" c/c
Cross bar spacing 2" c/c also available



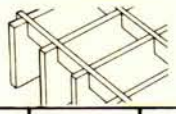
		H 15	H 20	Catalog Number	Weight lbs/sq. ft.	Sec. Mod. Per ft. of Width	Bearing Bar Sizes		CLEAR SPAN 1 Ton	2 Ton	5 Ton	H 10	H 15	H 20	Catalog Number	Weight lbs/sq. ft.	Sec. Mod. Per ft. of Width
1 x	¼"			H2-4B	6.8	.266	1 x	¼"	0'8"						H3-4B	5.5	.210
	5/16"			H2-4C	8.5	.333		5/16"	0'10"						H3-4C	6.6	.263
	⅜"			H2-4D	10.1	.400		⅜"	1'0"						H3-4D	7.7	.315
1¼ x	¼"			H2-5B	8.5	.416	1¼ x	¼"	1'1"	0'8"					H3-5B	6.6	.328
	5/16"	0'11"	0'11"	H2-5C	10.4	.521		5/16"	1'4"	1'0"					H3-5C	7.8	.411
	⅜"	1'0"	1'0"	H2-5D	12.2	.624		⅜"	1'7"	1'0"		0'11"	0'11"	0'11"	H3-5D	9.4	.492
1½ x	¼"	0'11"	0'11"	H2-6B	10.1	.599	1½ x	¼"	1'6"	0'11"		0'10"	0'10"	0'10"	H3-6B	7.7	.473
	5/16"	1'1"	1'1"	H2-6C	12.2	.750		5/16"	1'11"	1'2"		1'0"	1'0"	1'0"	H3-6C	9.4	.592
	⅜"	1'2"	1'2"	H2-6D	14.5	.899		⅜"	2'3"	1'5"		1'2"	1'1"	1'1"	H3-6D	10.6	.709
1¾ x	¼"	1'1"	1'1"	H2-7B	11.5	.816	1¾ x	¼"	2'1"	1'3"	0'10"	1'0"	1'0"	1'0"	H3-7B	8.8	.644
	5/16"	1'3"	1'3"	H2-7C	14.1	1.021		5/16"	2'7"	1'7"	1'1"	1'3"	1'2"	1'2"	H3-7C	10.8	.806
	⅜"	1'5"	1'5"	H2-7D	16.7	1.224		⅜"	3'1"	1'10"	1'3"	1'5"	1'3"	1'3"	H3-7D	12.7	.966
2 x	¼"	1'3"	1'3"	H2-8B	13.3	1.066	2 x	¼"	2'8"	1'8"	1'1"	1'3"	1'2"	1'2"	H3-8B	10.2	.842
	5/16"	1'6"	1'5"	H2-8C	16.2	1.335		5/16"	3'4"	2'0"	1'4"	1'6"	1'4"	1'4"	H3-8C	12.4	1.054
	⅜"	1'8"	1'7"	H2-8D	19.2	1.600		⅜"	4'1"	2'5"	1'6"	1'8"	1'6"	1'5"	H3-8D	14.5	1.263
2¼ x	¼"	1'5"	1'5"	H2-9B	14.8	1.349	2¼ x	¼"	3'5"	2'1"	1'4"	1'5"	1'4"	1'4"	H3-9B	11.3	1.065
	5/16"	1'8"	1'8"	H2-9C	18.1	1.689		5/16"	4'3"	2'7"	1'7"	1'6"	1'6"	1'6"	H3-9C	13.8	1.333
	⅜"	1'11"	1'10"	H2-9D	21.5	2.024		⅜"	*4'8"	3'1"	1'11"	2'0"	1'8"	1'8"	H3-9D	16.4	1.598
2½ x	¼"	1'8"	1'7"	H2-10B	16.3	1.666	2½ x	¼"	4'2"	2'6"	1'7"	1'8"	1'6"	1'5"	H3-10B	12.4	1.315
	5/16"	1'11"	1'10"	H2-10C	20.1	2.086		5/16"	*5'0"	3'2"	1'11"	2'1"	1'9"	1'8"	H3-10C	15.2	1.647
	⅜"	2'3"	2'0"	H2-10D	23.7	2.499		⅜"	*5'5"	3'9"	2'4"	2'5"	1'11"	1'10"	H3-10D	18.0	1.973

Bearing Bars 1 7/8 " c/c
Cross Bars 4" c/c
Cross bar spacing 2" c/c also available



		CLEAR SPAN H 10	H 15	H 20	Catalog Number	Weight lbs/sq. ft.	Sec. Mod. Per ft. of Width	Bearing Bar Sizes		CLEAR SPAN H 10	H 15	H 20	Catalog Number	Weight lbs/sq. ft.	Sec. Mod. Per ft. of Width
3 x	¼"	2'7"	2'1"	1'11"	H2-12B	18.50	2.400	3 x	¼"	2'3"	1'10"	1'9"	H3-12B	15.31	1.894
	5/16"	3'3"	2'6"	2'3"	H2-12C	22.66	3.004		5/16"	2'9"	2'2"	2'0"	H3-12C	18.67	2.370
	⅜"	3'10"	2'11"	2'7"	H2-12D	28.62	3.600		⅜"	3'4"	2'7"	2'3"	H3-12D	22.03	2.842
	7/16"	4'6"	3'4"	2'10"	H2-12E	31.87	4.199		7/16"	3'10"	2'11"	2'6"	H3-12E	26.30	3.315
	½"								½"	4'4"	3'3"	2'10"	H3-12F	29.66	3.789
3½ x	¼"	3'4"	2'7"	2'4"	H2-14B	21.92	3.266	3½ x	¼"	2'11"	2'3"	2'1"	H3-14B	18.20	2.578
	5/16"	4'3"	3'2"	2'9"	H2-14C	26.73	4.089		5/16"	3'6"	2'9"	2'5"	H3-14C	22.08	3.228
	⅜"	5'1"	3'9"	3'2"	H2-14D	31.54	4.899		⅜"	4'4"	3'3"	2'10"	H3-14D	25.97	3.867
	7/16"	6'0"	4'4"	3'7"	H2-14E	37.71	5.716		7/16"	5'1"	3'8"	3'2"	H3-14E	31.19	4.512
	½"								½"	5'9"	4'2"	3'6"	H3-14F	35.08	5.157
4 x	¼"	4'3"	3'2"	2'9"	H2-16B	24.65	4.266	4 x	¼"	3'8"	2'9"	2'5"	H3-16B	20.40	3.368
	5/16"	5'5"	4'0"	3'4"	H2-16C	30.18	5.342		5/16"	4'7"	3'5"	2'11"	H3-16C	24.86	4.217
	⅜"	6'7"	4'9"	3'11"	H2-16D	35.70	6.400		⅜"	5'6"	4'1"	3'5"	H3-16D	29.33	5.053
	7/16"	7'3"	5'5"	4'5"	H2-16E	42.52	7.466		7/16"	6'6"	4'8"	3'10"	H3-16E	35.08	5.894
	½"								½"	7'1"	5'3"	4'4"	H3-16F	39.54	6.736
4½ x	¼"	5'4"	3'11"	3'3"	H2-18B	27.45	5.399	4½ x	¼"	4'6"	3'4"	2'10"	H3-18B	22.66	4.263
	5/16"	6'9"	4'10"	4'0"	H2-18C	33.62	6.760		5/16"	5'9"	4'2"	3'5"	H3-18C	27.65	5.337
	⅜"	7'6"	5'10"	4'9"	H2-18D	39.86	8.099		⅜"	6'10"	4'11"	4'1"	H3-18D	32.69	6.394
	7/16"	*8'1"	6'9"	5'5"	H2-18E	47.33	9.449		7/16"	7'6"	5'8"	4'8"	H3-18E	38.96	7.460
	½"								½"	*7'10"	6'6"	5'3"	H3-18F	44.00	8.526
5 x	¼"	6'5"	4'8"	3'10"	H2-20B	30.18	6.666	5 x	¼"	5'5"	4'0"	3'4"	H3-20B	24.86	5.263
	5/16"	7'7"	5'9"	4'9"	H2-20C	37.07	8.346		5/16"	6'10"	5'0"	4'1"	H3-20C	30.43	6.589
	⅜"	8'6"	6'10"	5'8"	H2-20D	44.02	10.000		⅜"	7'8"	5'11"	4'10"	H3-20D	36.05	7.894
	7/16"	*9'0"	7'6"	6'6"	H2-20E	52.20	11.666		7/16"	8'5"	6'10"	5'7"	H3-20E	42.90	9.210
	½"								½"	*8'9"	7'4"	6'3"	H3-20F	48.47	10.526
5½ x	¼"	7'3"	5'6"	4'6"	H2-22B	32.97	8.066	5½ x	¼"	6'6"	4'8"	3'11"	H3-22B	27.12	6.367
	5/16"	8'5"	6'10"	5'7"	H2-22C	40.51	10.099		5/16"	7'7"	5'11"	4'10"	H3-22C	33.21	7.973
	⅜"	*9'4"	7'7"	6'8"	H2-22D	48.12	12.099		⅜"	8'6"	6'11"	5'8"	H3-22D	39.35	9.551
	7/16"	*9'11"	8'4"	7'2"	H2-22E	57.01	14.116		7/16"	*9'3"	7'6"	6'7"	H3-22E	46.19	11.144
	½"								½"	*9'9"	8'2"	7'1"	H3-22F	52.93	12.736
6 x	¼"	8'0"	6'5"	5'2"	H2-24B	35.70	9.600	6 x	¼"	7'3"	5'5"	4'5"	H3-24B	29.33	7.579
	5/16"	9'4"	7'6"	6'6"	H2-24C	44.02	12.019		5/16"	8'5"	6'10"	5'7"	H3-24C	36.05	9.488
	⅜"	*10'4"	8'4"	7'3"	H2-24D	52.28	14.400		⅜"	9'6"	7'7"	6'7"	H3-24D	42.71	11.368
	7/16"	*11'0"	9'3"	7'11"	H2-24E	61.89	16.800		7/16"	*10'3"	8'3"	7'2"	H3-24E	50.72	13.263
	½"								½"	*10'10"	9'0"	7'8"	H3-24F	57.39	15.157
	⅝"								⅝"	*11'9"	*10'1"	8'8"	H3-24G	71.04	18.947
7 x	¼"	9'8"	7'8"	6'8"	H2-28B	44.62	13.067	7 x	¼"	8'8"	7'0"	5'9"	H3-28B	35.62	10.315
	5/16"	11'5"	8'11"	7'8"	H2-28C	55.12	16.359		5/16"	10'2"	8'0"	6'11"	H3-28C	44.62	12.915
	⅜"	*12'6"	10'1"	8'7"	H2-28D	65.62	19.600		⅜"	*11'7"	9'0"	7'7"	H3-28D	52.22	15.473
	7/16"	*13'5"	11'2"	9'5"	H2-28E	77.64	22.866		7/16"	*12'4"	9'11"	8'5"	H3-28E	62.25	18.052
	½"								½"	*13'0"	10'11"	9'1"	H3-28F	70.22	20.631
	⅝"								⅝"	*14'4"	*12'1"	10'7"	H3-28G	86.61	25.789

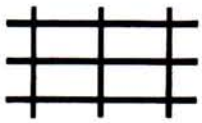
Bearing Bars 2 3/8 " c/c
Cross Bars 4" c/c
Cross bar spacing 2" c/c also available



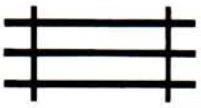
*Span limited to allowable maximum deflection of 1/400 of span **NOTE:** Distance between C/C supports = clear span + ½ flange width of supports.

ALUMINUM GRATING

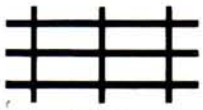
19-AP-4
STANDARD MESH



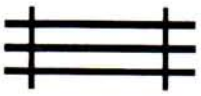
19-AP-2
STANDARD MESH



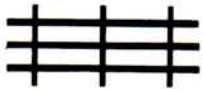
15-AP-4
CLOSE MESH



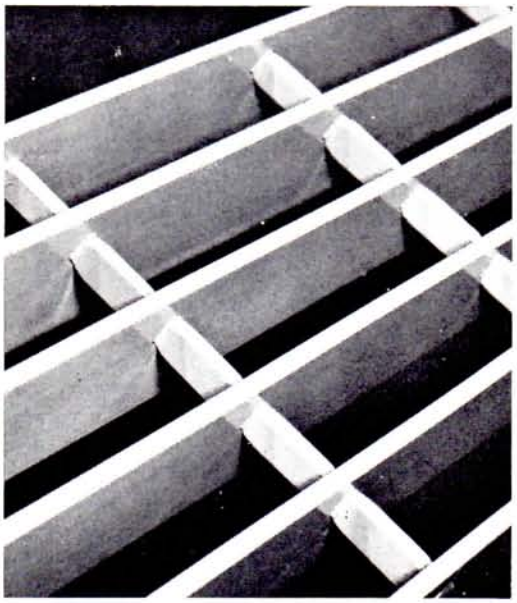
15-AP-2
CLOSE MESH



11-AP-4
SPECIAL NARROW MESH



11-AP-2
SPECIAL NARROW MESH



BEARING BAR	LOAD AND DEFLECTIONS	SPAN					
Size and Wt.		2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"
3/4" x 1/8" 1.53 lbs.	U	258	165	115	84	64	51
	D	.192	.301	.434	.590	.764	.975
	C	258	206	172	147	129	114
	D	.154	.240	.347	.470	.614	.775
3/4" x 3/16" 2.12 lbs.	U	387	248	172	126	97	76
	D	.192	.301	.434	.590	.764	.975
	C	387	310	258	222	194	172
	D	.154	.240	.347	.470	.614	.775
1" x 1/8" 1.92 lbs.	U	458	293	203	149	114	90
	D	.144	.224	.324	.440	.573	.723
	C	458	366	305	262	229	203
	D	.115	.180	.260	.354	.462	.582
1" x 3/16" 2.72 lbs.	U	688	441	306	225	172	136
	D	.144	.224	.324	.440	.573	.723
	C	688	552	459	394	345	306
	D	.115	.180	.260	.354	.462	.582
1 1/4" x 1/8" 2.31 lbs.	U	718	459	318	234	180	137
	D	.115	.180	.258	.354	.460	.580
	C	718	575	479	410	359	319
	D	.093	.144	.207	.282	.368	.467
1 1/4" x 3/16" 3.31 lbs.	U	1075	688	477	351	269	212
	D	.115	.180	.258	.354	.460	.580
	C	1075	858	714	613	537	477
	D	.093	.144	.207	.282	.368	.467
1 1/2" x 1/8" 2.72 lbs.	U	1032	662	460	337	258	204
	D	.096	.151	.216	.295	.384	.487
	C	1032	825	687	589	516	458
	D	.077	.120	.172	.235	.307	.386
1 1/2" x 3/16" 3.89 lbs.	U	1550	990	687	505	387	306
	D	.096	.151	.216	.295	.384	.487
	C	1550	1238	1032	884	775	688
	D	.077	.120	.172	.235	.307	.386
1 3/4" x 3/16" 4.48 lbs.	U	2110	1348	935	687	527	416
	D	.082	.127	.185	.252	.329	.416
	U	2110	1690	1408	1205	1055	935
	D	.066	.103	.148	.202	.264	.333
2" x 3/16" 5.08 lbs.	U	2750	1760	1223	898	687	543
	D	.072	.113	.161	.222	.289	.366
	C	2750	2200	1835	1570	1375	1223
	D	.057	.090	.129	.178	.230	.292
2 1/4" x 3/16" 5.68 lbs.	U	3482	2230	1549	1138	870	687
	D	.064	.100	.144	.196	.256	.324
	C	3482	2786	2320	1990	1740	1548
	D	.051	.080	.115	.156	.204	.258
2 1/2" x 3/16" 6.28 lbs.	U	4300	2753	1910	1405	1075	850
	D	.057	.090	.130	.177	.230	.292
	C	4300	3440	2860	2455	2150	1910
	D	.046	.072	.103	.141	.184	.234

CONVERSION FACTORS

This table based on types 19-AP-4 and 19-AP-2.To determine safe loads for other types multiply tabulated load by following factors:

Types 11-AP-4 and 11-AP-2	1.71
Types 15-AP-4 and 15-AP-2	1.28

U Uniform Load in pounds per sq. ft.
C Concentrated Load per ft. of width
D Deflection in inches

Max. allow. Fibre Stress — 12,000 lbs. sq. in.

Deflections shown based on tabulated loadings. For lesser design loads reduce deflection in direct proportion.

SPAN						
5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	8'-0"
114	95	80	68	58	45
.720	.868	1.032	1.220	1.418	1.840
288	261	240	221	205	179
.575	.695	.830	.975	1.131	1.475
172	142	119	102	88	67
.720	.868	1.032	1.220	1.418	1.840
428	390	357	330	307	268
.574	.695	830	.975	1.131	1.475
165	136	115	98	84	65
.603	.724	.865	1.030	1.173	1.540
413	375	344	317	295	258
.479	.579	.690	.825	.939	1.228
248	204	172	146	126	97
.603	.724	.865	1.030	1.173	1.540
618	562	516	476	442	387
.479	.579	.690	.825	.939	1.228
337	278	234	200	172	132
.515	.621	.740	.868	1.005	1.316
842	765	703	648	603	528
.412	.497	.595	.696	.809	1.060
440	364	306	260	224	172
.451	.547	.650	.760	.881	1.155
1100	1002	917	845	786	688
.360	.436	.517	.606	.703	.923
557	460	387	330	284	217
.400	.483	.577	.677	.783	1.020
1393	1265	1160	1072	995	870
.319	.387	.460	.540	.627	.817
688	569	477	407	351	269
.360	.435	.515	.605	.704	.919
1720	1562	1430	1320	1228	1075
.288	.348	.413	.485	.562	.735

Spans in shaded area NOT RECOMMENDED.

HEXTEEL

HEXTEEL STANDARD

OFFSET HEXTEEL

HEXTEEL SPECIFICATIONS

Depth x Ga. Thickness	FORMED MIN. ID		WEIGHT LBS. PER SQ.FT.		
	Stiff Direction	Flexible Direction	Carbon Steel 1010 Carbon	Stainless Steel 300 Series	Stainless Steel 400 Series
3/4 x 14 GA.	1'-0"	4'-0"	2.8	2.88	2.75
3/4 x 12 GA.	1'-0"	4'-11"	3.9	4.01	3.82
1 x 14 GA.	1'-7"	4'-6"	4.3	4.42	4.22
1 x 12 GA.	1'-7"	5'-5"	5.4	5.55	5.30
1-1/4" x 14 GA.	2'-2"	5'-0"	5.0	5.08	4.92
1-1/4" x 12 GA.	2'-2"	5'-11"	6.8	6.91	6.72
3/4 x 14 GA. Offset Every 3 Bar 1" x 14 GA.	1'-7"	4'-6"	3.34	3.58	3.29
3/4 x 14 GA. Offset Every 4th Bar 1" x 14 GA.	1'-7"	4'-6"	3.24	3.51	3.19
3/4 x 14 GA. Offset Every 5th Bar 1" x 14 GA.	1'-7"	4'-6"	3.21	3.49	3.16
3/4 x 14 GA. Offset Every 6th Bar 1" x 14 GA.	1'-7"	4'-6"	3.15	3.44	3.10

GENERAL SPECIFICATIONS

Panel Size 10' Long; 3' Wide

Special Size Panels - On Request

A. Lengths In Multiples of 3"

B. Widths In Multiples of 1"

Loose Clinch Hexteel 14 Ga. Only, Minimum Formed Size in Flexible Dir. 16" I.D.

Clear Opening of Hexteel

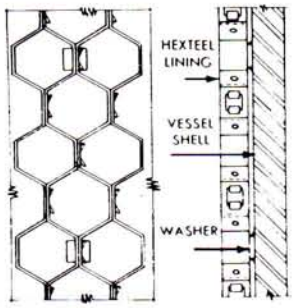
12 Gage 81%

14 Gage 87%

Hexteel Fabricated With 1/4" Round Holes In Face of Hexagon

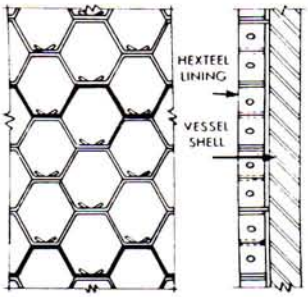
CHARACTERISTICS... STAINLESS HEXTEEL

Type	Corrosion Resistance	Oxidation Resistance	Melting Point °F.
302	Excellent	Up To 1600°	2600° To 2680°
304	Good	Up To 1600°	2600° To 2680°
309	Excellent	Up to 2100°	2550° To 2650°
405	Atmospheric Corrosion Good	Intermittent Service 1500° Continuous Service 1300°	2700° To 2735°
410	Atmospheric Corrosion Good	Intermittent Service 1500° Continuous Service 1300°	2723°



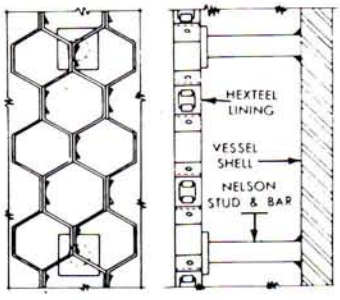
MOUNTED ON WASHERS ON THE VESSEL WALL

Washer spacers let castable refractory material flow under as well as through Hexteel, reducing heat transfer to the vessel wall. Recommended wherever erosion is a problem.



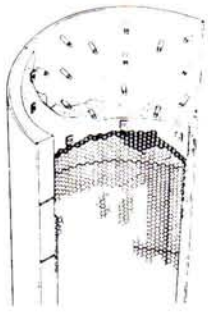
OFFSET HEXTEEL MOUNTED DIRECTLY TO VESSEL WALL

Spacers aren't needed with offset Hexteel because every third to sixth bar (as specified in order) is 1" deeper than the others, allowing 1" layer of refractory behind reinforcement to form a truly monolithic lining.



HEXTEEL MOUNTED ON WELDED STUDS

In double-layer construction, a light castable insulating material is used between the vessel wall and the refractory lining supported by Hexteel. Heat loss is minimized, and lining is both reinforced and armored.



INTERIOR OF A DOUBLE-LAYER VESSEL LINING

Welded-stud spacers determine thickness of insulating layer. Hexteel retains insulation, supports and reinforces dense refractory lining, and retards erosion by hot gases.