

Stainless Steel Bar Grating

IGtru™ 11 Space Load Table

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

IGtru™ is manufactured to NAAMM standards and is fully ADA compliant with a minimum 3/16" bearing bar thickness

Bearing Bar Size	Approx. Weight psf *	Maximum Pedestrian Span**		Unsupported 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 3/16	8.9	4'-4"	U	1.023	655	455	334	256	202	164	135	All loads and deflections are theoretical and based upon the gross sections of the bearing bars, using a fiber stress of 20,000 psi.							
			D	0.114	0.179	0.257	0.350	0.457	0.579	0.714	0.864								
			C	1.023	818	682	584	511	455	409	372						372		
			D	0.091	0.143	0.206	0.280	0.366	0.463	0.571	0.691						0.691		
1 x 1/8	8.0	4'-10"	U	1.212	776	539	396	303	239	194	160	135	The values are not intended to be absolute since the actual load capacity will be affected by the slight variations in mill and manufacturing tolerances.						
			D	0.086	0.134	0.193	0.263	0.343	0.434	0.536	0.648	0.771							
			C	1.212	970	808	693	606	539	485	441	404						404	
			D	0.069	0.107	0.154	0.210	0.274	0.347	0.429	0.519	0.617						0.617	
1 x 3/16	11.7	5'-4"	U	1.818	1,164	808	594	455	359	291	240	202	172	Grating for spans to the left of the heavy line have a deflection ≤ 1/4" for uniform loads of 100 psi.					
			D	0.086	0.134	0.193	0.263	0.343	0.434	0.536	0.648	0.771	0.905						
			C	1.818	1,455	1,212	1,039	909	808	727	661	606	559				559		
			D	0.069	0.107	0.154	0.210	0.274	0.347	0.429	0.519	0.617	0.724				0.724		
1-1/4 x 1/8	9.9	5'-9"	U	1.894	1,212	842	618	473	374	303	250	210	179	155	U = Safe Uniform Load in pounds/sq. ft. C = Concentrated Load in pounds/ft. of grating width D = Deflection in inches				
			D	0.069	0.107	0.154	0.210	0.274	0.347	0.429	0.519	0.617	0.724	0.840					
			C	1.894	1,515	1,263	1,082	947	842	758	689	631	583	541			541		
			D	0.055	0.086	0.123	0.168	0.219	0.278	0.343	0.415	0.494	0.579	0.672			0.672		
1-1/4 x 3/16	14.5	6'-4"	U	2.841	1,818	1,263	928	710	561	455	376	316	269	232	178				
			D	0.069	0.107	0.154	0.210	0.274	0.347	0.429	0.519	0.617	0.724	0.840	1,097				
			C	2.841	2,273	1,894	1,623	1,420	1,263	1,136	1,033	947	874	812	710			710	
			D	0.055	0.086	0.123	0.168	0.219	0.278	0.343	0.415	0.494	0.579	0.672	0.878			0.878	
1-1/2 x 1/8	11.7	6'-7"	U	2.727	1,745	1,212	891	682	539	436	361	303	258	223	170	135			
			D	0.057	0.089	0.129	0.175	0.229	0.289	0.357	0.432	0.514	0.604	0.700	0.914	1,157			
			C	2.727	2,182	1,818	1,558	1,364	1,212	1,091	992	909	839	779	682	606			606
			D	0.046	0.071	0.103	0.140	0.183	0.231	0.286	0.346	0.411	0.483	0.560	0.672	0.826			0.926
1-1/2 x 3/16	17.5	7'-3"	U	4.091	2,618	1,818	1,336	1,023	808	655	541	455	387	334	256	202			
			D	0.057	0.089	0.129	0.175	0.229	0.289	0.357	0.432	0.514	0.604	0.700	0.914	1,157			
			C	4.091	3,273	2,727	2,338	2,045	1,818	1,636	1,488	1,364	1,259	1,169	1,023	909			909
			D	0.046	0.071	0.103	0.140	0.183	0.231	0.286	0.346	0.411	0.483	0.560	0.731	0.926			0.926
1-3/4 x 1/8	13.8	7'-5"	U	3.712	2,376	1,650	1,212	928	733	594	491	412	351	303	232	183			
			D	0.049	0.077	0.110	0.150	0.196	0.248	0.306	0.370	0.441	0.517	0.600	0.784	0.992			
			C	3.712	2,970	2,475	2,121	1,856	1,650	1,485	1,350	1,237	1,142	1,061	928	825			825
			D	0.039	0.061	0.088	0.120	0.157	0.198	0.245	0.296	0.353	0.414	0.480	0.627	0.793			0.793
1-3/4 x 3/16	20.3	8'-0"	U	5.568	3,564	2,475	1,818	1,392	1,100	891	736	619	527	455	348	275			
			D	0.049	0.077	0.110	0.150	0.196	0.248	0.306	0.370	0.441	0.517	0.600	0.784	0.992			
			C	5.568	4,455	3,712	3,182	2,784	2,475	2,227	2,025	1,856	1,713	1,591	1,392	1,237			1,237
			D	0.039	0.061	0.088	0.120	0.157	0.198	0.245	0.296	0.353	0.414	0.480	0.627	0.793			0.793
2 x 1/8	15.6	8'-2"	U	4.848	3,103	2,155	1,583	1,212	958	776	641	539	459	396	303	239			
			D	0.043	0.067	0.096	0.131	0.171	0.217	0.268	0.324	0.386	0.453	0.525	0.686	0.868			
			C	4.848	3,879	3,232	2,771	2,424	2,155	1,939	1,763	1,616	1,492	1,385	1,212	1,077			1,077
			D	0.034	0.054	0.077	0.105	0.137	0.174	0.214	0.259	0.309	0.362	0.420	0.549	0.694			0.694
2 x 3/16	23.1	9'-0"	U	7.273	4,655	3,232	2,375	1,818	1,437	1,184	962	808	689	594	455	359			
			D	0.043	0.067	0.096	0.131	0.171	0.217	0.268	0.324	0.386	0.453	0.525	0.686	0.868			
			C	7.273	5,818	4,848	4,156	3,636	3,232	2,909	2,645	2,424	2,238	2,078	1,818	1,616			1,616
			D	0.034	0.054	0.077	0.105	0.137	0.174	0.214	0.259	0.309	0.362	0.420	0.549	0.694			0.694
2-1/4 x 3/16	25.8	9'-10"	U	9.205	5,891	4,091	3,006	2,301	1,818	1,473	1,217	1,023	871	751	575	455			
			D	0.038	0.060	0.086	0.117	0.152	0.193	0.238	0.288	0.343	0.402	0.467	0.610	0.771			
			C	9.205	7,364	6,136	5,260	4,602	4,091	3,682	3,347	3,088	2,832	2,630	2,301	2,045			2,045
			D	0.030	0.048	0.069	0.093	0.122	0.154	0.190	0.230	0.274	0.322	0.373	0.488	0.617			0.617
2-1/2 x 3/16	28.6	10'-8"	U	11.364	7,273	5,051	3,711	2,841	2,245	1,818	1,503	1,263	1,076	928	710	561			
			D	0.034	0.054	0.077	0.105	0.137	0.174	0.214	0.259	0.309	0.362	0.420	0.549	0.694			
			C	11.364	9,091	7,576	6,494	5,682	5,051	4,545	4,132	3,788	3,497	3,247	2,841	2,525			2,525
			D	0.027	0.043	0.062	0.084	0.110	0.139	0.171	0.207	0.247	0.290	0.336	0.439	0.555			0.555

* Weight per square foot based upon IGtru™ 11-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 (24" max for type "WS"). 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.

No. of Bearing Bars Panel Width	2 7/8"	3 1-1/2"	4 2-3/16"	5 2-13/16"	6 3-1/2"	7 4-1/8"	8 4-13/16"	9 5-7/16"	10 6-1/8"	11 6-3/4"	12 7-7/16"	13 8-1/16"	14 8-3/4"	15 9-3/8"	16 10-1/16"
No. of Bearing Bars Panel Width	17 10-11/16"	18 11-3/8"	19 12"	20 12-11/16"	21 13-5/16"	22 14"	23 14-5/8"	24 15-5/16"	25 15-15/16"	26 16-5/8"	27 17-1/4"	28 17-15/16"	29 18-9/16"	30 19-1/4"	31 19-7/8"
No. of Bearing Bars Panel Width	32 20-9/16"	33 21-3/16"	34 21-7/8"	35 22-1/2"	36 23-3/16"	37 23-13/16"	38 24-1/2"	39 25-1/8"	40 25-13/16"	41 26-7/16"	42 27-1/8"	43 27-3/4"	44 28-7/16"	45 29-1/16"	46 29-3/4"
No. of Bearing Bars Panel Width	47 30-3/8"	48 31-1/16"	49 31-11/16"	50 32-3/8"	51 33"	52 33-11/16"	53 34-5/16"	54 35"	55 35-5/8"	56 36-5/16"					

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 for type "DTS".

■ Indicates stock panel widths for type "WS" (24" max).