

Comparative Performance Tables



8-Diamond Plank — 18³/₄" Width

Note

The data in these tables represents the performances of both side channels ignoring grating surface performance. These values are not to be used for product selection but should be used when comparisons are being made with other products whose published information does not include grating surface performance. For Product selection and Design Tables, see pages 14 through 25.

U=Uniform Load (lb./ft.²) C= Concentrated Load (lb.) D=Deflection (in.)

Material Gauge	Channel Depth in. (mm)	Weight lb./lin. ft. (kg/m)	Catalog Number	Span																			
				2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"			
Steel 14 ga.	1 1/2" (38.1)	6.1 (9.1)	81514	U	337	217	151	112	86	69	56	47	40										
				D	.06	.10	.14	.20	.26	.33	.41	.51	.61										
				C	525	421	355	306	270	242	220	202	187										
				D	.05	.08	.12	.16	.21	.27	.33	.41	.49										
	2" (50.8)	6.3 (9.4)	82014	U	557	358	250	184	142	113	92	76	65	55	48	42							
				D	.06	.09	.13	.17	.23	.29	.36	.44	.53	.62	.73	.84							
				C	873	698	583	501	440	396	358	328	303	281	264	248							
				D	.05	.07	.10	.14	.18	.23	.29	.35	.42	.50	.58	.67							
	2 1/2" (63.5)	6.6 (9.8)	82514	U	639	411	286	211	162	129	105	87	74	63	55	48	43						
				D	.04	.06	.08	.11	.14	.18	.23	.28	.33	.39	.46	.53	.61						
				C	1003	803	669	574	504	449	410	375	346	321	301	283	267						
				D	.03	.04	.06	.09	.12	.15	.18	.22	.27	.32	.37	.43	.49						
Steel 12 ga.	1 1/2" (38.1)	8.5 (12.6)	81512	U	446	287	201	148	115	91	75	63	53	46	40								
				D	.07	.11	.15	.21	.28	.36	.44	.54	.65	.78	.91								
				C	718	560	470	406	358	321	292	269	249	233	219								
				D	.06	.08	.12	.17	.22	.28	.35	.43	.52	.62	.73								
	2" (50.8)	8.9 (13.2)	82012	U	710	456	318	235	181	144	117	98	83	71	62	54	48						
				D	.05	.08	.11	.16	.21	.26	.33	.40	.48	.57	.66	.77	.88						
				C	1107	887	741	637	564	505	458	419	387	361	338	319	302						
				D	.04	.06	.09	.12	.16	.21	.26	.32	.38	.45	.53	.61	.71						
	2 1/2" (63.5)	9.2 (13.7)	82512	U	1059	680	473	348	267	212	172	143	120	103	89	78	69	55	45				
				D	.04	.06	.09	.13	.17	.21	.26	.32	.38	.45	.52	.60	.69	.88	1.10				
				C	1656	1325	1106	949	832	741	668	613	564	523	488	458	431	388	353				
				D	.03	.05	.07	.10	.13	.17	.21	.26	.30	.36	.42	.48	.55	.71	.88				
3" (76.2)	9.6 (14.3)	83012	U	1340	858	598	440	337	267	217	180	152	130	112	98	87	69	57	47	40			
			D	.04	.06	.08	.11	.14	.18	.23	.27	.33	.38	.45	.52	.59	.75	.94	1.15	1.39			
			C	2097	1678	1398	1200	1051	936	844	769	706	653	614	575	542	486	442	406	377			
			D	.03	.04	.06	.09	.11	.15	.18	.22	.26	.31	.36	.41	.47	.60	.75	.92	1.11			
Alum. Alloy 5052 .080"	1 1/2"* (38.1)	2.11 (3.13)	81512-A	U	253	162	112	83															
				D	.10	.15	.22	.31															
				C	395	316	263	226															
				D	.08	.12	.18	.25															
	2" (50.8)	2.20 (3.27)	82012-A	U	371	237	165	121	93	73	59	49											
				D	.08	.13	.18	.25	.33	.42	.52	.63											
				C	579	463	386	331	290	257	232	211											
				D	.06	.10	.15	.20	.27	.34	.42	.51											
	2 1/2"* (63.5)	2.29 (3.40)	8251A	U	557	357	248	182	139	110	89	74	62	53	46								
				D	.07	.10	.15	.21	.28	.35	.43	.53	.63	.74	.85								
				C	812	696	580	497	435	387	348	316	290	268	249								
				D	.05	.08	.12	.17	.22	.28	.35	.42	.50	.59	.68								
3"* (76.2)	2.39 (3.55)	8301A	U	684	438	304	223	171	135	109	90	76	65	56	49								
			D	.06	.09	.14	.19	.25	.31	.39	.47	.56	.66	.77	.88								
			C	1069	856	713	611	535	475	428	389	356	329	305	285								
			D	.04	.07	.11	.15	.20	.25	.31	.38	.45	.53	.61	.70								
Alum. Alloy 5052 .100"	1 1/2"* (38.1)	2.68 (3.98)	81510-A	U	288	184	128	94	72	57													
				D	.09	.15	.22	.30	.39	.50													
				C	450	360	300	257	225	200													
				D	.07	.12	.17	.24	.31	.40													
	2" (50.8)	2.79 (4.15)	82010-A	U	519	332	231	170	130	103	83	68	58	49									
				D	.09	.14	.20	.28	.37	.46	.58	.70	.83	.98									
				C	811	649	541	464	406	361	325	295	270	250									
				D	.07	.11	.16	.22	.29	.46	.46	.56	.66	.78									
	2 1/2"* (63.5)	2.91 (4.33)	82510-A	U	714	457	317	233	179	141	114	94	79	68	58	51	45	40					
				D	.07	.11	.16	.22	.28	.36	.45	.54	.64	.76	.88	1.01	1.15	1.30					
				C	1116	893	744	638	558	496	446	406	373	343	319	298	279	263					
				D	.05	.09	.12	.17	.23	.29	.36	.43	.51	.60	.70	.81	.92	1.04					
3"* (76.2)	3.02 (4.50)	83010-A	U	922	590	410	301	231	182	148	122	102	87	75	66	58	51	46					
			D	.05	.08	.12	.17	.22	.28	.34	.42	.50	.59	.68	.78	.89	1.01	1.13					
			C	1441	1153	961	823	720	640	576	524	480	443	412	384	360	339	320					
			D	.04	.06	.10	.13	.17	.22	.27	.33	.40	.47	.54	.62	.71	.80	.90					

* Available on special order.



Comparative Performance Tables

10-Diamond Plank & Walkway 24" Width

Note

The data in these tables represents the performances of both side channels ignoring grating surface performance. These values are not to be used for product selection but should be used when comparisons are being made with other products whose published information does not include grating surface performance.

For Product selection and Design Tables, see pages 14 through 25.

U=Uniform Load (lb./ft.²) G= Concentrated Load (lb.) D=Deflection (in.)

Material Gauge	Channel Depth in. (mm)	Weight lb./lin. ft. (kg/m)	Catalog Number	Span																		
				2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"		
Steel 14 ga. Plank	2" (50.8)	7.4 (11.0)	102014	U	514	329	228	168	128	102	82	68	57	49								
				D	.05	.08	.12	.16	.21	.27	.33	.40	.47	.55								
				C	1028	822	685	587	514	457	411	374	343	316	294	274	257	228	206	187	171	
				D	.04	.07	.09	.13	.17	.21	.26	.32	.38	.44	.51	.59	.67	.85	1.05	1.27	1.51	
	3" (76.2)	7.9 (11.8)	103014	U	810	518	360	264	202	160	130	107	90	77	66	58	51					
				D	.03	.05	.07	.09	.12	.15	.18	.22	.27	.31	.36	.41	.47					
				C	1620	1296	1080	926	810	720	648	589	540	498	463	432	405	360	324	295	270	
				D	.02	.04	.05	.07	.09	.12	.15	.18	.21	.25	.29	.33	.38	.48	.59	.71	.85	
Steel 12 ga. Plank	2" (50.8)	10.4 (15.5)	102012	U	650	416	289	212	162	128	104	86	72	62	53							
				D	.07	.08	.11	.15	.19	.24	.30	.37	.43	.51	.59							
				C	1300	1040	867	743	650	578	520	473	433	400	371	347	325	289	260	236	217	
				D	.04	.06	.09	.12	.15	.20	.24	.29	.35	.41	.47	.54	.62	.78	.96	1.17	1.39	
	3" (76.2)	11.1 (16.5)	103012	U	1200	768	533	392	300	237	192	159	133	114	98	85	75	59				
				D	.03	.05	.07	.10	.13	.16	.20	.25	.29	.34	.40	.46	.52	.66				
				C	2400	1920	1600	1371	1200	1067	960	873	800	736	686	640	600	533	480	436	400	
				D	.03	.04	.06	.08	.10	.13	.16	.20	.23	.27	.32	.37	.42	.53	.65	.79	.94	
Steel 14 ga. Walkway	4.5" (114.3)	8.9 (13.2)	104514-U	U	1330	851	591	434	332	263	213	176	148	126	109	95	83	66	53			
				D	.02	.04	.05	.07	.09	.12	.14	.17	.20	.24	.28	.32	.36	.46	.57			
				C	2660	2128	1773	1520	1339	1182	1064	967	887	818	760	709	665	591	532	484	443	
				D	.02	.03	.04	.06	.07	.09	.11	.14	.16	.19	.22	.26	.29	.37	.45	.55	.65	
Steel 12 ga. Walkway	4.5" (114.3)	12.5 (18.6)	104512-U	U	2125	1360	944	694	531	420	340	281	236	201	173	151	133	105	85	70	59	
				D	.02	.03	.05	.06	.08	.11	.13	.16	.19	.22	.26	.30	.34	.43	.53	.64	.76	
				C	4200	3400	2833	2429	2125	1889	1700	1545	1417	1308	1214	1133	1062	944	850	773	708	
				D	.02	.03	.04	.05	.07	.09	.11	.13	.15	.18	.21	.24	.27	.34	.42	.51	.61	

Load/Deflection Conversion Formulas

In the elastic range, deflection is proportional to the applied load for both uniform and concentrated loads. This relationship can be used to determine the deflection that any load which is less than the allowable load will produce, as shown in Example A. Also, if desired, the load which will produce a specific deflection can also be determined if the load is in the elastic range as illustrated in Example B.

Example A

What deflection will a 300 lb. concentrated load produce on a plank (catalog number 103012) spanning 5'-0"?

See page 24 for item 103012 at a span = 5'-0" C = 480 lb. D = 0.26"
D @ 300 lb. = 0.26"/480 lb. x 300 lb. = 0.16"

Example B

If a plank (catalog number 103012) is spanning 6'-0", what concentrated load will produce a 1/4" deflection?

See page 24 for item 103012 at a span = 6'-0" C = 400 lb. D = 0.26"
C @ 1/4" = 400 lb./0.26" x 0.25" = 385 lb.