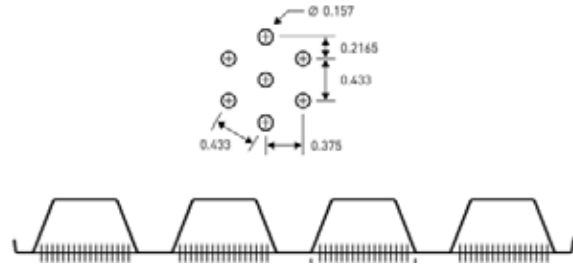
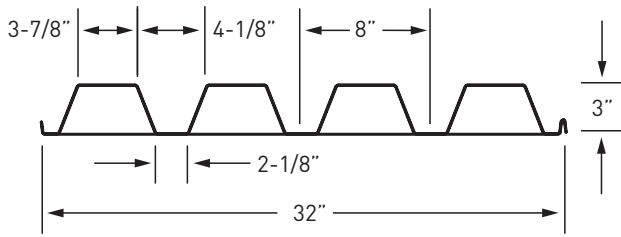


7.8 DGNF-32A & NF-32A

Pan Perforated Cellular Acustadek®



Panel Properties

Gage	Weight w psf	Base Metal Thickness t in	Yield Strength F _y ksi	Tensile Strength F _u ksi	Gross Section Properties				
					Area A _g in ² /ft	Moment of Inertia I _g in ⁴ /ft	Distance to N.A. from Bottom y _b in	Section Modulus S _g in ³ /ft	Radius of Gyration r in
20/20	3.42	0.0359/0.036	50	65	1.004	1.687	1.18	0.849	1.250
20/18	3.78	0.0359/0.047	50	65	1.111	1.820	1.08	0.867	1.223
20/16	4.17	0.0359/0.059	50	65	1.226	1.939	1.00	0.881	1.192
18/20	4.15	0.0478/0.036	50	65	1.220	2.077	1.29	1.103	1.269
18/18	4.51	0.0478/0.047	50	65	1.326	2.244	1.20	1.128	1.255
18/16	4.91	0.0478/0.059	50	65	1.442	2.397	1.12	1.149	1.235
16/20	4.89	0.0598/0.036	50	65	1.437	2.447	1.37	1.354	1.277
16/18	5.25	0.0598/0.047	50	65	1.543	2.640	1.29	1.382	1.271
16/16	5.64	0.0598/0.059	50	65	1.659	2.823	1.21	1.410	1.259

Gage	Effective Section Modulus for Bending at F _y					Effective Moment of Inertia for Deflection at Service Load				
	Area A _e in ² /ft	Section Modulus S _e in ³ /ft	Distance to N.A. from Bottom y _b in	Section Modulus S _e in ³ /ft	Distance to N.A. from Bottom y _b in	Moment of Inertia I _e in ⁴ /ft	Moment of Inertia I _e in ⁴ /ft	Uniform Load Only		
								I _e in ⁴ /ft	I _e in ⁴ /ft	
20/20	0.525	0.479	0.85	0.799	1.43	1.342	1.371	1.457	1.476	
20/18	0.597	0.482	0.76	0.826	1.31	1.439	1.535	1.566	1.630	
20/16	0.700	0.513	0.73	0.848	1.20	1.476	1.732	1.631	1.801	
18/20	0.753	0.779	1.09	1.046	1.49	1.782	1.749	1.881	1.858	
18/18	0.825	0.796	1.01	1.079	1.38	1.914	1.917	2.024	2.026	
18/16	0.927	0.793	0.92	1.104	1.29	2.046	2.130	2.163	2.219	
16/20	1.015	1.047	1.22	1.296	1.52	2.250	2.123	2.316	2.231	
16/18	1.086	1.071	1.14	1.329	1.43	2.420	2.294	2.494	2.409	
16/16	1.189	1.094	1.07	1.358	1.36	2.581	2.517	2.661	2.619	

Reactions at Supports (plf) Based on Web Crippling

Gage	Condition	Bearing Length of Webs							
		ASD, R/Ω				LRFD, φR			
		1"	1.5"	2"	3"	1"	1.5"	2"	3"
22	End	500	566	622	716	764	866	952	1095
	Interior	876	973	1056	1194	1303	1448	1570	1776
20	End	709	799	876	1004	1084	1223	1340	1536
	Interior	1240	1371	1482	1669	1844	2040	2205	2482
18	End	1221	1367	1490	1697	1868	2092	2280	2597
	Interior	2133	2343	2519	2816	3173	3485	3748	4189
16	End	1864	2076	2254	2554	2852	3176	3449	3907
	Interior	3260	3560	3814	4239	4849	5296	5673	6305

Constants

h = 3.06"

r = 0.125"

θ = 70.7°

Inward Allowable (f_b/Ω) and Factored (Φf_b) Distributed Load (lbs/ft²)

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			4' - 0"	6' - 0"	8' - 0"	10' - 0"	12' - 0"	14' - 0"	16' - 0"	18' - 0"	20' - 0"
20/20	SS	f_b/Ω	597	266	149	96	66	49	37	30	24
		Φf_b	898	399	224	144	100	73	56	44	36
		L/360	995	295	124	64	37	23	16	11	8
		L/240	1492	442	187	95	55	35	23	16	12
		L/180	1989	589	249	127	74	46	31	22	16
		L/120	2984	884	373	191	111	70	47	33	24
	DS	f_b/Ω	996	443	249	159	111	81	62	49	40
		Φf_b	1497	665	374	240	166	122	94	74	60
		L/360	2396	710	300	153	89	56	37	26	19
		L/240	3594	1065	449	230	133	84	56	39	29
		L/180	4792	1420	599	307	177	112	75	53	38
		L/120	7188	2130	899	460	266	168	112	79	58
	TS	f_b/Ω	933	415	233	149	104	76	58	46	37
		Φf_b	1403	624	351	224	156	115	88	69	56
		L/360	1877	556	235	120	70	44	29	21	15
		L/240	2816	834	352	180	104	66	44	31	23
		L/180	3754	1112	469	240	139	88	59	41	30
		L/120	5631	1669	704	360	209	131	88	62	45
20/18	SS	f_b/Ω	601	267	150	96	67	49	38	30	24
		Φf_b	903	401	226	144	100	74	56	45	36
		L/360	1069	317	134	68	40	25	17	12	9
		L/240	1604	475	201	103	59	37	25	18	13
		L/180	2139	634	267	137	79	50	33	23	17
		L/120	3208	951	401	205	119	75	50	35	26
	DS	f_b/Ω	1030	458	257	165	114	84	64	51	41
		Φf_b	1548	688	387	248	172	126	97	76	62
		L/360	2576	763	322	165	95	60	40	28	21
		L/240	3864	1145	483	247	143	90	60	42	31
		L/180	5152	1526	644	330	191	120	80	57	41
		L/120	7728	2290	966	495	286	180	121	85	62
	TS	f_b/Ω	939	417	235	150	104	77	59	46	38
		Φf_b	1411	627	353	226	157	115	88	70	56
		L/360	2018	598	252	129	75	47	32	22	16
		L/240	3027	897	378	194	112	71	47	33	24
		L/180	4036	1196	504	258	149	94	63	44	32
		L/120	6054	1794	757	387	224	141	95	66	48
20/16	SS	f_b/Ω	640	284	160	102	71	52	40	32	26
		Φf_b	961	427	240	154	107	78	60	47	38
		L/360	1113	330	139	71	41	26	17	12	9
		L/240	1670	495	209	107	62	39	26	18	13
		L/180	2227	660	278	143	82	52	35	24	18
		L/120	3340	990	418	214	124	78	52	37	27
	DS	f_b/Ω	1057	470	264	169	117	86	66	52	42
		Φf_b	1589	706	397	254	177	130	99	78	64
		L/360	2682	795	335	172	99	63	42	29	21
		L/240	4023	1192	503	257	149	94	63	44	32
		L/180	5364	1589	671	343	199	125	84	59	43
		L/120	8046	2384	1006	515	298	188	126	88	64
	TS	f_b/Ω	999	444	250	160	111	82	62	49	40
		Φf_b	1502	668	376	240	167	123	94	74	60
		L/360	2101	623	263	134	78	49	33	23	17
		L/240	3152	934	394	202	117	74	49	35	25
		L/180	4202	1245	525	269	156	98	66	46	34
		L/120	6303	1868	788	403	233	147	98	69	50

7.8 DGNF-32A & NF-32A

Pan Perforated Cellular Acustadek®



Inward Allowable (f_b/Ω) and Factored (Φf_b) Distributed Load (lbs/ft²)

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			4' - 0"	6' - 0"	8' - 0"	10' - 0"	12' - 0"	14' - 0"	16' - 0"	18' - 0"	20' - 0"
18/20	SS	f_b/Ω	972	432	243	155	108	79	61	48	39
		Φf_b	1460	649	365	234	162	119	91	72	58
		L/360	1284	381	161	82	48	30	20	14	10
		L/240	1926	571	241	123	71	45	30	21	15
		L/180	2568	761	321	164	95	60	40	28	21
		L/120	3853	1142	482	247	143	90	60	42	31
	DS	f_b/Ω	1305	580	326	209	145	107	82	64	52
		Φf_b	1962	872	490	314	218	160	123	97	78
		L/360	3094	917	387	198	115	72	48	34	25
		L/240	4640	1375	580	297	172	108	73	51	37
		L/180	6187	1833	773	396	229	144	97	68	49
		L/120	9281	2750	1160	594	344	216	145	102	74
	TS	f_b/Ω	1518	675	380	243	169	124	95	75	61
		Φf_b	2282	1014	570	365	254	186	143	113	91
		L/360	2423	718	303	155	90	57	38	27	19
		L/240	3635	1077	454	233	135	85	57	40	29
		L/180	4847	1436	606	310	180	113	76	53	39
		L/120	7270	2154	909	465	269	170	114	80	58
18/18	SS	f_b/Ω	994	442	248	159	110	81	62	49	40
		Φf_b	1493	664	373	239	166	122	93	74	60
		L/360	1382	409	173	88	51	32	22	15	11
		L/240	2073	614	259	133	77	48	32	23	17
		L/180	2764	819	345	177	102	64	43	30	22
		L/120	4146	1228	518	265	154	97	65	45	33
	DS	f_b/Ω	1346	598	336	215	150	110	84	66	54
		Φf_b	2023	899	506	324	225	165	126	100	81
		L/360	3329	986	416	213	123	78	52	37	27
		L/240	4993	1479	624	320	185	116	78	55	40
		L/180	6657	1973	832	426	247	155	104	73	53
		L/120	9986	2959	1248	639	370	233	156	110	80
	TS	f_b/Ω	1553	690	388	248	173	127	97	77	62
		Φf_b	2333	1037	583	373	259	190	146	115	93
		L/360	2608	773	326	167	97	61	41	29	21
		L/240	3911	1159	489	250	145	91	61	43	31
		L/180	5215	1545	652	334	193	122	81	57	42
		L/120	7823	2318	978	501	290	182	122	86	63
18/16	SS	f_b/Ω	989	439	247	158	110	81	62	49	40
		Φf_b	1486	661	372	238	165	121	93	73	59
		L/360	1477	438	185	95	55	34	23	16	12
		L/240	2216	657	277	142	82	52	35	24	18
		L/180	2955	875	369	189	109	69	46	32	24
		L/120	4432	1313	554	284	164	103	69	49	35
	DS	f_b/Ω	1377	612	344	220	153	112	86	68	55
		Φf_b	2070	920	518	331	230	169	129	102	83
		L/360	3559	1054	445	228	132	83	56	39	28
		L/240	5338	1582	667	342	198	125	83	59	43
		L/180	7117	2109	890	456	264	166	111	78	57
		L/120	10676	3163	1335	683	395	249	167	117	85
	TS	f_b/Ω	1545	687	386	247	172	126	97	76	62
		Φf_b	2322	1032	581	372	258	190	145	115	93
		L/360	2788	826	348	178	103	65	44	31	22
		L/240	4182	1239	523	268	155	98	65	46	33
		L/180	5576	1652	697	357	207	130	87	61	45
		L/120	8364	2478	1045	535	310	195	131	92	67

Inward Allowable (f_b/Ω) and Factored (Φf_b) Distributed Load (lbs/ft²)

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			4' - 0"	6' - 0"	8' - 0"	10' - 0"	12' - 0"	14' - 0"	16' - 0"	18' - 0"	20' - 0"
16/20	SS	f_b/Ω	1306	580	327	209	145	107	82	64	52
		Φf_b	1963	872	491	314	218	160	123	97	79
		L/360	1581	469	198	101	59	37	25	17	13
		L/240	2372	703	296	152	88	55	37	26	19
		L/180	3162	937	395	202	117	74	49	35	25
		L/120	4744	1406	593	304	176	111	74	52	38
	DS	f_b/Ω	1616	718	404	259	180	132	101	80	65
		Φf_b	2429	1080	607	389	270	198	152	120	97
		L/360	3809	1129	476	244	141	89	60	42	30
		L/240	5713	1693	714	366	212	133	89	63	46
		L/180	7618	2257	952	488	282	178	119	84	61
		L/120	11427	3386	1428	731	423	267	179	125	91
	TS	f_b/Ω	2020	898	505	323	224	165	126	100	81
		Φf_b	3037	1350	759	486	337	248	190	150	121
		L/360	2984	884	373	191	111	70	47	33	24
		L/240	4476	1326	559	286	166	104	70	49	36
		L/180	5968	1768	746	382	221	139	93	65	48
		L/120	8952	2652	1119	573	332	209	140	98	72
16/18	SS	f_b/Ω	1336	594	334	214	148	109	84	66	53
		Φf_b	2008	893	502	321	223	164	126	99	80
		L/360	1703	505	213	109	63	40	27	19	14
		L/240	2554	757	319	163	95	60	40	28	20
		L/180	3406	1009	426	218	126	79	53	37	27
		L/120	5108	1514	639	327	189	119	80	56	41
	DS	f_b/Ω	1658	737	415	265	184	135	104	82	66
		Φf_b	2492	1108	623	399	277	203	156	123	100
		L/360	4102	1215	513	263	152	96	64	45	33
		L/240	6153	1823	769	394	228	144	96	68	49
		L/180	8203	2431	1025	525	304	191	128	90	66
		L/120	12305	3646	1538	788	456	287	192	135	98
	TS	f_b/Ω	2073	921	518	332	230	169	130	102	83
		Φf_b	3115	1385	779	498	346	254	195	154	125
		L/360	3213	952	402	206	119	75	50	35	26
		L/240	4820	1428	602	308	179	112	75	53	39
		L/180	6427	1904	803	411	238	150	100	71	51
		L/120	9640	2856	1205	617	357	225	151	106	77
16/16	SS	f_b/Ω	1364	606	341	218	152	111	85	67	55
		Φf_b	2050	911	513	328	228	167	128	101	82
		L/360	1817	538	227	116	67	42	28	20	15
		L/240	2726	808	341	174	101	64	43	30	22
		L/180	3635	1077	454	233	135	85	57	40	29
		L/120	5452	1615	682	349	202	127	85	60	44
	DS	f_b/Ω	1694	753	424	271	188	138	106	84	68
		Φf_b	2547	1132	637	407	283	208	159	126	102
		L/360	4378	1297	547	280	162	102	68	48	35
		L/240	6567	1946	821	420	243	153	103	72	53
		L/180	8755	2594	1094	560	324	204	137	96	70
		L/120	13133	3891	1642	841	486	306	205	144	105
	TS	f_b/Ω	2118	941	530	339	235	173	132	105	85
		Φf_b	3183	1415	796	509	354	260	199	157	127
		L/360	3429	1016	429	219	127	80	54	38	27
		L/240	5144	1524	643	329	191	120	80	56	41
		L/180	6859	2032	857	439	254	160	107	75	55
		L/120	10288	3048	1286	658	381	240	161	113	82