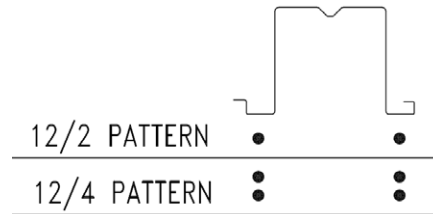
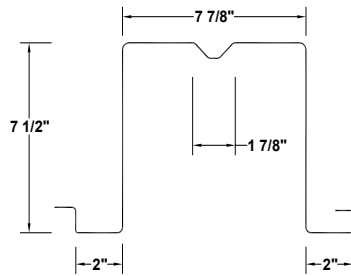


5.5 7.5D-12

Deep Deck



Panel Properties

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties					
					Area	Moment of Inertia	Distance to N.A. from Bottom	Distance to N.A. from Top	Section Modulus	Radius of Gyration
	w psf	t in	F _y ksi	F _u ksi	A _g in ² /ft	I _g in ⁴ /ft	y _b in	y _t in	S _{gbot} in ³ /ft	r in
20	3.61	0.0359	40	55	1.083	9.317	3.92	3.583	2.379	2.933
18	4.84	0.0478	40	55	1.441	12.359	3.92	3.583	3.156	2.929
16	6.08	0.0598	40	55	1.801	15.400	3.92	3.584	3.932	2.924
14	6.86	0.0750	40	55	2.249	18.920	3.94	3.559	4.800	2.900

Gauge	Effective Section Modulus for Bending at F _y					Effective Moment of Inertia for Deflection at Service Load			
	Area	Section Modulus	Max Distance to N.A. from Extreme Fiber	Section Modulus	Max Distance to N.A. from Extreme Fiber	Moment of Inertia	Moment of Inertia	Uniform Load Only	
								I _d = (2I _e +I _g)/3	
A _e ⁺ in ² /ft	S _e ⁺ in ³ /ft	y _b in	S _e ⁻ in ³ /ft	y _b in	I _e ⁺ in ⁴ /ft	I _e ⁻ in ⁴ /ft	I ⁺ in ⁴ /ft	I ⁻ in ⁴ /ft	
20	1.021	2.248	3.79	2.281	4.00	8.529	9.120	8.792	9.186
18	1.404	3.112	3.83	3.112	3.95	11.905	12.279	12.056	12.306
16	1.799	3.933	3.92	3.929	3.92	15.404	15.396	15.403	15.397
14	2.249	4.802	3.94	4.802	3.94	18.925	18.925	18.923	18.923

Reactions and supports (plf) Based on Web Crippling

Gauge	Condition	Bearing Length of Webs							
		ASD (Pn/Ω) (lbs/ft width)				LRFD (ϕPn) (lbs/ft width)			
		1"	2"	4"	8"	1"	2"	4"	8"
20	End	321	397	504	641	492	608	772	980
	Interior	620	742	913	1132	923	1103	1359	1684
18	End	575	702	882	1136	880	1075	1350	1739
	Interior	1088	1285	1564	1959	1619	1912	2327	2913
16	End	900	1088	1355	1732	1377	1665	2073	2650
	Interior	1685	1971	2376	2948	2506	2932	3534	4385
14	End	1408	1686	2080	2637	2154	2580	3183	4034
	Interior	2616	3031	3618	4449	3892	4509	5382	6617
Constants		h = 7.5"		r = 0.25"		θ = 90°			

7.5D-12 5.5 Deep Deck

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

Inward Allowable (f_b/Ω) and Factored (Φf_b) Distributed Load (lbs/ft ²)													
Gauge	Span	Limit Condition	Panel Span (Support Spacing)										
			10' - 0"	12' - 0"	14' - 0"	16' - 0"	18' - 0"	20' - 0"	22' - 0"	24' - 0"	26' - 0"	28' - 0"	30' - 0"
20	SS	f_b/Ω	359	249	183	140	111	90	74	62	53	46	40
		Φf_b	570	396	291	222	176	142	118	99	84	73	63
		L/360	-	222	140	94	66	48	36	28	22	18	14
		L/240	-	-	-	-	99	72	54	42	33	26	21
		L/180	-	-	-	-	-	-	72	56	44	35	28
		L/120	-	-	-	-	-	-	-	-	-	-	-
	DS	f_b/Ω	364	253	186	142	112	91	75	63	54	46	40
		Φf_b	578	401	295	226	178	144	119	100	85	74	64
		L/360	-	-	-	-	-	-	-	-	-	44	36
		L/240	-	-	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-	-	-
	TS	f_b/Ω	455	316	232	178	141	114	94	79	67	58	51
		Φf_b	722	502	369	282	223	181	149	125	107	92	80
		L/360	-	-	-	-	-	111	83	64	50	40	33
L/240		-	-	-	-	-	-	-	-	-	-	49	
L/180		-	-	-	-	-	-	-	-	-	-	-	
L/120		-	-	-	-	-	-	-	-	-	-	-	
18	SS	f_b/Ω	497	345	254	194	153	124	103	86	74	63	55
		Φf_b	788	547	402	308	243	197	163	137	117	101	88
		L/360	-	305	192	129	90	66	49	38	30	24	20
		L/240	-	-	-	193	136	99	74	57	45	36	29
		L/180	-	-	-	-	-	-	99	76	60	48	39
		L/120	-	-	-	-	-	-	-	-	-	-	-
	DS	f_b/Ω	497	345	254	194	153	124	103	86	74	63	55
		Φf_b	788	547	402	308	243	197	163	137	117	101	88
		L/360	-	-	-	-	-	-	-	-	-	59	48
		L/240	-	-	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-	-	-
	TS	f_b/Ω	621	431	317	243	192	155	128	108	92	79	69
		Φf_b	985	684	503	385	304	246	204	171	146	126	109
		L/360	-	-	-	-	-	148	111	86	68	54	44
L/240		-	-	-	-	-	-	-	-	-	-	66	
L/180		-	-	-	-	-	-	-	-	-	-	-	
L/120		-	-	-	-	-	-	-	-	-	-	-	
16	SS	f_b/Ω	628	436	320	245	194	157	130	109	93	80	70
		Φf_b	996	692	508	389	308	249	206	173	147	127	111
		L/360	-	390	245	164	115	84	63	49	38	31	25
		L/240	-	-	-	-	173	126	95	73	57	46	37
		L/180	-	-	-	-	-	-	126	97	77	61	50
		L/120	-	-	-	-	-	-	-	-	-	-	-
	DS	f_b/Ω	627	436	320	245	194	157	130	109	93	80	70
		Φf_b	995	691	508	389	307	249	206	173	147	127	111
		L/360	-	-	-	-	-	-	-	-	92	74	60
		L/240	-	-	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-	-	-
	TS	f_b/Ω	784	545	400	306	242	196	162	136	116	100	87
		Φf_b	1244	864	635	486	384	311	257	216	184	159	138
		L/360	-	-	-	-	-	186	139	107	84	68	55
L/240		-	-	-	-	-	-	-	-	-	-	83	
L/180		-	-	-	-	-	-	-	-	-	-	-	
L/120		-	-	-	-	-	-	-	-	-	-	-	
14	SS	f_b/Ω	767	532	391	299	237	192	158	133	113	98	85
		Φf_b	1216	845	621	475	375	304	251	211	180	155	135
		L/360	-	479	301	202	142	103	78	60	47	38	31
		L/240	-	-	-	-	213	155	117	90	71	57	46
		L/180	-	-	-	-	-	-	155	120	94	75	61
		L/120	-	-	-	-	-	-	-	-	-	-	-
	DS	f_b/Ω	767	532	391	299	237	192	158	133	113	98	85
		Φf_b	1216	845	621	475	375	304	251	211	180	155	135
		L/360	-	-	-	-	-	-	-	-	113	91	74
		L/240	-	-	-	-	-	-	-	-	-	-	-
		L/180	-	-	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-	-	-
	TS	f_b/Ω	958	666	489	374	296	240	198	166	142	122	106
		Φf_b	1520	1056	776	594	469	380	314	264	225	194	169
		L/360	-	-	-	-	-	228	171	132	104	83	68
L/240		-	-	-	-	-	-	-	-	-	-	101	
L/180		-	-	-	-	-	-	-	-	-	-	-	
L/120		-	-	-	-	-	-	-	-	-	-	-	

DEEP DECK PANELS