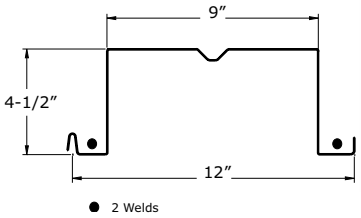
5.1 **4.5D-12**



Panel Properties

Gage	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Radius of Gyration
	w psf	t in	F_y ksi	F_u ksi	A_g in²/ft	I_g in⁴/ft	y_b in	S_g in³/ft	r in
20	2.96	0.0359	33	45	0.869	2.831	2.62	1.082	1.805
18	3.91	0.0478	33	45	1.151	3.724	2.62	1.421	1.799
16	4.87	0.0598	33	45	1.432	4.605	2.62	3.950	1.793
14	6.07	0.075	33	45	1.785	5.691	2.63	2.166	1.786

Gage	Effective Section Modulus for Bending at F_y					Effective Moment of Inertia for Deflection at Service Load			
	Area	Section Modulus	Distance to N.A. from Bottom	Section Modulus	Distance to N.A. from Bottom	Moment of Inertia	Moment of Inertia	Uniform Load Only	
								$I_d = (2I_e+I_g)/3$	
	A_e+ in²/ft	S_e+ in³/ft	y_b in	S_e- in³/ft	y_b in	I_e+ in⁴/ft	I_e- in⁴/ft	I+ in⁴/ft	I- in⁴/ft
20	0.533	0.963	2.21	1.074	2.62	2.205	2.816	2.414	2.821
18	0.821	1.359	2.38	1.421	2.62	3.231	3.724	3.395	3.724
16	1.147	1.723	2.51	1.755	2.62	4.330	4.605	4.422	4.605
14	1.599	2.166	2.63	2.166	2.63	5.691	5.691	5.691	5.691

Reactions at Supports (plf) Based on Web Crippling

Gage	Condition	Bearing Length of Webs							
		Allowable (R_n/Ω)				Factored (ΦR_n)			
		1"	2"	4"	6"	1"	2"	4"	6"
20	End	300	371	471	548	459	567	721	839
	Interior	547	655	808	925	814	975	1202	1376
18	End	529	647	813	940	810	989	1243	1438
	Interior	958	1132	1379	1568	1425	1684	2051	2333
16	End	818	990	1233	1419	1251	1514	1886	2171
	Interior	1475	1726	2082	2355	2193	2568	3097	3502
14	End	1292	1547	1908	2185	1976	2367	2920	3344
	Interior	2325	2693	3215	3615	3458	4007	4782	5378

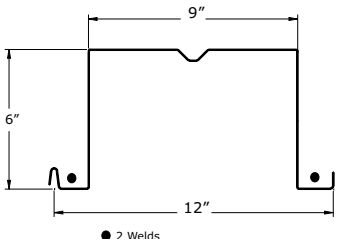
Web Crippling Constraints h=4.1" r=0.125" θ=90°

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

Gage	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	127	88	65	50	39	32	26	22	19	16	14
		Φf_b	201	140	103	79	62	50	42	35	30	26	22
		L/360	105	61	38	26	18	13	10	8	6	5	4
		L/240	-	-	58	39	27	20	15	11	9	7	6
		L/180	-	-	-	-	36	26	20	15	12	10	8
		L/120	-	-	-	-	-	-	-	-	18	14	12
	DS	f_b / Ω	141	98	72	55							
		Φf_b	224	156	114	88							
		L/360	-	-	-	-							
		L/240	-	-	-	-							
		L/180	-	-	-	-							
		L/120	-	-	-	-							
	TS	f_b / Ω	177										
		Φf_b	280										
		L/360	-										
		L/240	-										
		L/180	-										
		L/120	-										
18	SS	f_b / Ω	179	124	91	70	55	45	37	31	26	23	20
		Φf_b	284	197	145	111	88	71	59	49	42	36	32
		L/360	148	86	54	36	25	19	14	11	8	7	5
		L/240	-	-	81	54	38	28	21	16	13	10	8
		L/180	-	-	-	-	51	37	28	21	17	14	11
		L/120	-	-	-	-	-	-	-	-	25	20	16
	DS	f_b / Ω	187	130	95	73							
		Φf_b	297	206	152	116							
		L/360	-	-	-	-							
		L/240	-	-	-	-							
		L/180	-	-	-	-							
		L/120	-	-	-	-							
	TS	f_b / Ω	234										
		Φf_b	371										
		L/360	-										
		L/240	-										
		L/180	-										
		L/120	-										
16	SS	f_b / Ω	227	158	116	89	70	57	47	39	34	29	25
		Φf_b	360	250	184	141	111	90	74	63	53	46	40
		L/360	193	112	70	47	33	24	18	14	11	9	7
		L/240	-	-	106	71	50	36	27	21	16	13	11
		L/180	-	-	-	-	66	48	36	28	22	18	14
		L/120	-	-	-	-	-	-	-	-	33	26	21
	DS	f_b / Ω	231	161	118	90							
		Φf_b	367	255	187	143							
		L/360	-	-	-	-							
		L/240	-	-	-	-							
		L/180	-	-	-	-							
		L/120	-	-	-	-							
	TS	f_b / Ω	289										
		Φf_b	459										
		L/360	-										
		L/240	-										
		L/180	-										
		L/120	-										
14	SS	f_b / Ω	285	198	146	111	88	71	59	50	42	36	32
		Φf_b	453	314	231	177	140	113	94	79	67	58	50
		L/360	249	144	91	61	43	31	23	18	14	11	9
		L/240	-	-	136	91	64	47	35	27	21	17	14
		L/180	-	-	-	-	85	62	47	36	28	23	18
		L/120	-	-	-	-	-	-	-	-	-	34	28
	DS	f_b / Ω	285	198	146	111							
		Φf_b	453	314	231	177							
		L/360	-	-	-	-							
		L/240	-	-	-	-							
		L/180	-	-	-	-							
		L/120	-	-	-	-							
	TS	f_b / Ω	357										
		Φf_b	566										
		L/360	-										
		L/240	-										
		L/180	-										
		L/120	-										

Exceeds Maximum Product Length

5.1 **6D-12**



Panel Properties

Gage	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Radius of Gyration
	w psf	t in	F_y ksi	F_u ksi	A_g in²/ft	I_g in⁴/ft	y_b in	S_g in³/ft	r in
20	3.32	0.0359	33	45	0.977	5.527	3.43	1.611	2.378
18	4.40	0.0478	33	45	1.294	7.282	3.44	2.119	2.372
16	5.48	0.0598	33	45	1.612	9.021	3.44	2.623	2.366
14	6.83	0.075	33	45	2.009	11.173	3.44	3.244	2.358

Gage	Effective Section Modulus for Bending at F_y					Effective Moment of Inertia for Deflection at Service Load			
	Area	Section Modulus	Distance to N.A. from Bottom	Section Modulus	Distance to N.A. from Bottom	Moment of Inertia	Moment of Inertia	Uniform Load Only	
								$I_d = (2I_e+I_g)/3$	
	A_e+ in²/ft	S_e+ in³/ft	y_b in	S_e- in³/ft	y_b in	I_e+ in⁴/ft	I_e- in⁴/ft	I+ in⁴/ft	I- in⁴/ft
20	0.537	1.421	2.94	1.504	3.53	4.349	5.314	4.742	5.385
18	0.831	2.018	3.13	2.119	3.44	6.319	7.282	6.640	7.282
16	1.167	2.565	3.29	2.623	3.44	8.447	9.021	8.638	9.021
14	1.638	3.242	3.44	3.244	3.44	11.144	11.173	11.154	11.173

Reactions at Supports (plf) Based on Web Crippling

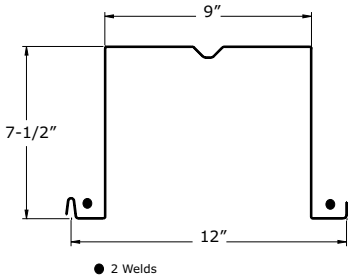
Gage	Condition	Bearing Length of Webs							
		Allowable (R_n/Ω)				Factored (ΦR_n)			
		1"	2"	4"	6"	1"	2"	4"	6"
20	End	280	346	440	512	428	530	673	784
	Interior	543	650	801	918	808	967	1192	1365
18	End	501	612	769	889	766	936	1176	1361
	Interior	951	1125	1370	1558	1415	1673	2037	2317
16	End	780	943	1175	1353	1193	1444	1798	2070
	Interior	1466	1716	2069	2340	2180	2552	3078	3481
14	End	1240	1485	1832	2098	1897	2272	2802	3209
	Interior	2312	2679	3198	3596	3439	3985	4757	5349

Web Crippling Constraints h=5.68" r=0.125" θ=90°

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

Gage	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	187	130	95	73	58	47	39	32	28	24	21
		Φf_b	297	206	151	116	92	74	61	52	44	38	33
		L/360	-	120	76	51	36	26	19	15	12	9	8
		L/240	-	-	-	-	53	39	29	22	18	14	12
		L/180	-	-	-	-	-	-	-	30	24	19	15
		L/120	-	-	-	-	-	-	-	-	-	-	-
	DS	f_b / Ω	198	138	101	77	Exceeds Maximum Product Length						
		Φf_b	314	218	160	123							
		L/360	-	-	-	-							
		L/240	-	-	-	-							
		L/180	-	-	-	-							
		L/120	-	-	-	-							
	TS	f_b / Ω	248										
		Φf_b	393										
		L/360	-										
		L/240	-										
		L/180	-										
		L/120	-										
18	SS	f_b / Ω	266	185	136	104	82	66	55	46	39	34	30
		Φf_b	422	293	215	165	130	105	87	73	62	54	47
		L/360	-	168	106	71	50	36	27	21	17	13	11
		L/240	-	-	-	-	75	54	41	31	25	20	16
		L/180	-	-	-	-	-	-	55	42	33	26	21
		L/120	-	-	-	-	-	-	-	-	-	-	-
	DS	f_b / Ω	279	194	142	109	Exceeds Maximum Product Length						
		Φf_b	443	308	226	173							
		L/360	-	-	-	-							
		L/240	-	-	-	-							
		L/180	-	-	-	-							
		L/120	-	-	-	-							
	TS	f_b / Ω	349										
		Φf_b	554										
		L/360	-										
		L/240	-										
		L/180	-										
		L/120	-										
16	SS	f_b / Ω	338	235	172	132	104	84	70	59	50	43	38
		Φf_b	536	372	274	209	165	134	111	93	79	68	60
		L/360	-	218	138	92	65	47	35	27	21	17	14
		L/240	-	-	-	-	97	71	53	41	32	26	21
		L/180	-	-	-	-	-	-	-	55	43	34	28
		L/120	-	-	-	-	-	-	-	-	-	-	-
	DS	f_b / Ω	346	240	176	135	Exceeds Maximum Product Length						
		Φf_b	548	381	280	214							
		L/360	-	-	-	-							
		L/240	-	-	-	-							
		L/180	-	-	-	-							
		L/120	-	-	-	-							
	TS	f_b / Ω	432										
		Φf_b	685										
		L/360	-										
		L/240	-										
		L/180	-										
		L/120	-										
14	SS	f_b / Ω	427	297	218	167	132	107	88	74	63	54	47
		Φf_b	677	470	346	265	209	169	140	118	100	86	75
		L/360	-	282	178	119	84	61	46	35	28	22	18
		L/240	-	-	-	-	125	91	69	53	42	33	27
		L/180	-	-	-	-	-	-	-	71	55	44	36
		L/120	-	-	-	-	-	-	-	-	-	-	-
	DS	f_b / Ω	427	297	218	167	Exceeds Maximum Product Length						
		Φf_b	678	471	346	265							
		L/360	-	-	-	-							
		L/240	-	-	-	-							
		L/180	-	-	-	-							
		L/120	-	-	-	-							
	TS	f_b / Ω	534										
		Φf_b	848										
		L/360	-										
		L/240	-										
		L/180	-										
		L/120	-										

5.1 **7.5D-12**



Panel Properties

Gage	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Radius of Gyration
	w psf	t in	F_y ksi	F_u ksi	A_g in²/ft	I_g in⁴/ft	y_b in	S_g in³/ft	r in
20	3.69	0.0359	33	45	1.085	9.316	4.23	2.201	2.930
18	4.89	0.0478	33	45	1.438	12.287	4.24	2.899	2.924
16	6.09	0.0598	33	45	1.791	15.240	4.24	3.592	2.917
14	7.60	0.075	33	45	2.235	18.900	4.25	4.451	2.908

Gage	Effective Section Modulus for Bending at F_y					Effective Moment of Inertia for Deflection at Service Load			
	Area	Section Modulus	Distance to N.A. from Bottom	Section Modulus	Distance to N.A. from Bottom	Moment of Inertia	Moment of Inertia	Uniform Load Only	
								$I_d = (2I_e+I_g)/3$	
	A_e+ in²/ft	S_e+ in³/ft	y_b in	S_e- in³/ft	y_b in	I_e+ in⁴/ft	I_e- in⁴/ft	I+ in⁴/ft	I- in⁴/ft
20	0.540	1.805	3.55	1.850	4.58	7.137	8.476	7.863	8.756
18	0.837	2.752	3.88	2.598	4.46	10.688	11.597	11.221	11.827
16	1.178	3.504	4.06	3.367	4.38	14.241	14.733	14.574	14.902
14	1.661	4.440	4.23	4.360	4.29	18.778	18.700	18.819	18.767

Reactions at Supports (plf) Based on Web Crippling

Gage	Condition	Bearing Length of Webs							
		Allowable (R_n/Ω)				Factored (ΦR_n)			
		1"	2"	4"	6"	1"	2"	4"	6"
20	End	265	327	416	484	405	501	636	740
	Interior	540	646	796	912	803	961	1185	1356
18	End	478	584	734	850	732	894	1124	1300
	Interior	946	1119	1362	1549	1408	1664	2026	2304
16	End	750	907	1130	1301	1147	1388	1729	1991
	Interior	1459	1707	2059	2329	2170	2540	3063	3464
14	End	1199	1436	1771	2029	1835	2197	2710	3104
	Interior	2302	2668	3184	3580	3425	3968	4736	5326

Web Crippling Constraints h=7.1" r=0.125" θ=90°

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

Gage	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	238	165	121	93	73	59	49	41	35	30	26
		Φf_b	377	262	192	147	116	94	78	65	56	48	42
		L/360	-	-	-	84	59	43	32	25	20	16	13
		L/240	-	-	-	-	-	-	48	37	29	23	19
		L/180	-	-	-	-	-	-	-	-	-	-	25
		L/120	-	-	-	-	-	-	-	-	-	-	-
	DS	f_b / Ω	244	169	124	95	Exceeds Maximum Product Length						
		Φf_b	387	268	197	151							
		L/360	-	-	-	-							
		L/240	-	-	-	-							
		L/180	-	-	-	-							
		L/120	-	-	-	-							
	TS	f_b / Ω	305										
		Φf_b	483										
		L/360	-										
		L/240	-										
		L/180	-										
		L/120	-										
18	SS	f_b / Ω	362	252	185	142	112	91	75	63	54	46	40
		Φf_b	575	399	293	225	178	144	119	100	85	73	64
		L/360	-	-	179	120	84	61	46	35	28	22	18
		L/240	-	-	-	-	-	-	69	53	42	34	27
		L/180	-	-	-	-	-	-	-	-	-	45	36
		L/120	-	-	-	-	-	-	-	-	-	-	-
	DS	f_b / Ω	342	238	175	134	Exceeds Maximum Product Length						
		Φf_b	543	377	277	212							
		L/360	-	-	-	-							
		L/240	-	-	-	-							
		L/180	-	-	-	-							
		L/120	-	-	-	-							
	TS	f_b / Ω	428										
		Φf_b	679										
		L/360	-										
		L/240	-										
		L/180	-										
		L/120	-										
16	SS	f_b / Ω	462	321	236	180	142	115	95	80	68	59	51
		Φf_b	732	509	374	286	226	183	151	127	108	93	81
		L/360	-	-	232	156	109	80	60	46	36	29	24
		L/240	-	-	-	-	-	-	90	69	54	44	35
		L/180	-	-	-	-	-	-	-	-	-	58	47
		L/120	-	-	-	-	-	-	-	-	-	-	-
	DS	f_b / Ω	444	308	226	173	Exceeds Maximum Product Length						
		Φf_b	704	489	359	275							
		L/360	-	-	-	-							
		L/240	-	-	-	-							
		L/180	-	-	-	-							
		L/120	-	-	-	-							
	TS	f_b / Ω	554										
		Φf_b	880										
		L/360	-										
		L/240	-										
		L/180	-										
		L/120	-										
14	SS	f_b / Ω	585	406	298	228	181	146	121	102	87	75	65
		Φf_b	928	644	473	362	286	232	192	161	137	118	103
		L/360	-	-	-	201	141	103	77	59	47	37	30
		L/240	-	-	-	-	-	-	116	89	70	56	46
		L/180	-	-	-	-	-	-	-	-	-	-	61
		L/120	-	-	-	-	-	-	-	-	-	-	-
	DS	f_b / Ω	574	399	293	224	Exceeds Maximum Product Length						
		Φf_b	911	633	465	356							
		L/360	-	-	-	-							
		L/240	-	-	-	-							
		L/180	-	-	-	-							
		L/120	-	-	-	-							
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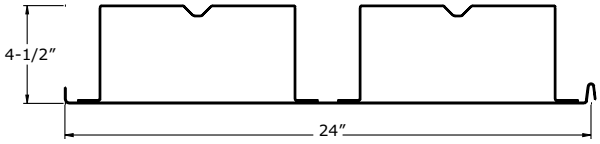
		Φf_b	1139										
		L/360	-										
		L/240	-										
		L/180	-										
		L/120	-										

5.2 **4.5DF-24**

K



Section Properties

Gage	Weight psf	I in^4/ft	S+ in^3/ft	S– in^3/ft
20/20	4.22	4.14	1.14	1.26
20/18	4.77	4.39	1.13	1.57
20/16	5.32	4.84	1.13	1.65
18/20	5.08	4.68	1.75	1.54
18/18	5.63	5.35	1.79	1.85
18/16	6.18	5.93	1.82	2.15
16/16	7.04	6.86	2.44	2.45

AISI 2001 NASPEC with 2004 Supplement

Allowable Reactions, plf

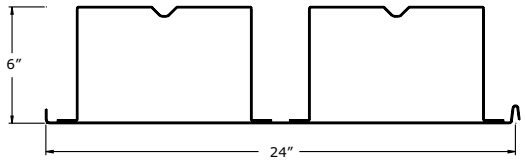
Gage		Bearing Length 3”	Gage		Bearing Length 3”
20/20	End	390	**18/18**	End	815
	Interior	853		Interior	1477
20/18	End	390	**18/16**	End	815
	Interior	853		Interior	1477
20/16	End	390	**16/16**	End	1362
	Interior	853		Interior	2316
18/20	End	815			
	Interior	1477			

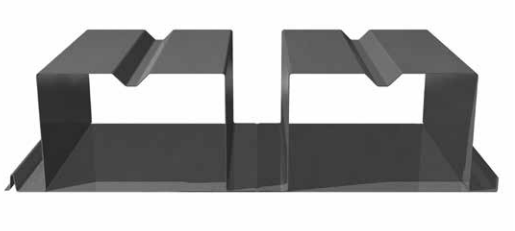
Allowable Total (DL + LL) Uniform Load, psf (f_b/Ω)

Span Condition	Gage		Span 10’0”	12’0”	14’0”	16’0”	18’0”	20’0”	22’0”	24’0”	26’0”	28’0”	30’0”
SINGLE SPAN	**20/20**	f_b/Ω	173	120	88	67	53	43	35	30	25	22	19
		L/240	173	120	88	66	46	33	25	19	15	12	10
	20/18	f_b/Ω	171	119	87	67	53	42	35	29	25	21	19
		L/240	171	119	87	67	49	36	27	20	16	13	10
	20/16	f_b/Ω	171	119	87	67	53	42	35	29	25	21	19
		L/240	171	119	87	67	53	39	29	22	18	14	11
	18/20	f_b/Ω	266	184	135	103	82	66	54	46	39	33	29
		L/240	266	177	111	75	52	38	28	22	17	13	11
	18/18	f_b/Ω	272	188	138	106	83	68	56	47	40	34	30
		L/240	272	188	128	85	60	43	32	25	19	16	13
	18/16	f_b/Ω	276	192	141	108	85	69	57	48	40	35	30
		L/240	276	192	141	95	66	48	36	28	22	17	14
	16/16	f_b/Ω	370	257	189	144	114	92	76	64	54	47	41
		L/240	370	257	164	109	77	56	42	32	25	20	16
DOUBLE SPAN	**20/20**	f_b/Ω	191	133	97	74							
		L/240	191	133	97	74							
	20/18	f_b/Ω	238	165	121	93							
		L/240	238	165	121	93							
	20/16	f_b/Ω	250	174	127	97							
		L/240	250	174	127	97							
	18/20	f_b/Ω	234	162	119	91							
		L/240	234	162	119	91							
	18/18	f_b/Ω	281	195	143	109							
		L/240	281	195	143	109							
	18/16	f_b/Ω	326	226	166	127							
		L/240	326	226	166	127							
	16/16	f_b/Ω	372	258	190	145							
		L/240	372	258	190	145							
TRIPLE SPAN	**20/20**	f_b/Ω	239										
		L/240	239										
	20/18	f_b/Ω	268										
		L/240	268										
	20/16	f_b/Ω	268										
		L/240	268										
	18/20	f_b/Ω	292										
		L/240	292										
	18/18	f_b/Ω	351										
		L/240	351										
	18/16	f_b/Ω	408										
		L/240	408										
	16/16	f_b/Ω	465										
		L/240	465										

Exceeds Maximum Product Length

6DF-24 5.2





Section Properties

Gage	Weight psf	I in^4/ft	S+ in^3/ft	S– in^3/ft
20/20	4.59	7.25	1.55	1.78
20/18	5.14	8.23	1.55	2.24
20/16	5.69	8.93	1.55	2.35
18/20	5.57	8.85	2.54	2.24
18/18	6.12	9.99	2.51	2.65
18/16	6.67	11.10	2.49	3.05
16/16	7.65	12.88	3.52	3.49

AISI 2001 NASPEC with 2004 Supplement

Allowable Reactions, plf

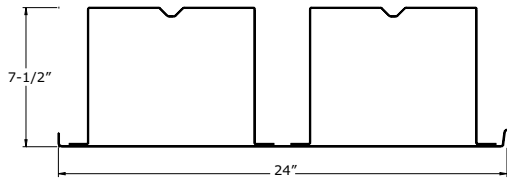
Gage		Bearing Length 3”	Gage		Bearing Length 3”
20/20	End	351	**18/18**	End	757
	Interior	793		Interior	1403
20/18	End	351	**18/16**	End	757
	Interior	793		Interior	1403
20/16	End	351	**16/16**	End	1289
	Interior	793		Interior	2226
18/20	End	757			
	Interior	1403			

Allowable Total (DL + LL) Uniform Load, psf (f_b/Ω)

Span Condition	Gage		Span 10’0”	12’0”	14’0”	16’0”	18’0”	20’0”	22’0”	24’0”	26’0”	28’0”	30’0”
SINGLE SPAN	**20/20**	f_b/Ω	235	163	120	92	72	58	48	40	34	30	26
		L/240	235	163	120	92	72	58	44	34	27	21	17
	20/18	f_b/Ω	235	163	120	92	72	58	48	40	34	30	26
		L/240	235	163	120	92	72	58	48	39	30	24	20
	20/16	f_b/Ω	235	163	120	92	72	58	48	40	34	30	26
		L/240	235	163	120	92	72	58	48	40	33	26	21
	18/20	f_b/Ω	386	268	196	150	119	96	79	67	57	49	42
		L/240	386	268	196	141	99	72	54	42	33	26	21
	18/18	f_b/Ω	381	264	194	149	117	95	78	66	56	48	42
		L/240	381	264	194	149	112	81	61	47	37	29	24
	18/16	f_b/Ω	378	262	193	147	116	94	78	65	55	48	42
		L/240	378	262	193	147	116	91	68	52	41	33	26
	16/16	f_b/Ω	535	371	272	209	165	133	110	92	79	68	59
		L/240	535	371	272	206	145	105	79	61	48	38	31
DOUBLE SPAN	**20/20**	f_b/Ω	270	187	138	105							
		L/240	270	187	138	105							
	20/18	f_b/Ω	340	236	173	133							
		L/240	340	236	173	133							
	20/16	f_b/Ω	357	248	182	139							
		L/240	357	248	182	139							
	18/20	f_b/Ω	340	236	173	133							
		L/240	340	236	173	133							
	18/18	f_b/Ω	402	279	205	157							
		L/240	402	279	205	157							
	18/16	f_b/Ω	463	321	236	181							
		L/240	463	321	236	181							
	16/16	f_b/Ω	530	368	270	207							
		L/240	530	368	270	207							
TRIPLE SPAN	**20/20**	f_b/Ω	338										
		L/240	338										
	20/18	f_b/Ω	368										
		L/240	368										
	20/16	f_b/Ω	368										
		L/240	368										
	18/20	f_b/Ω	425										
		L/240	425										
	18/18	f_b/Ω	503										
		L/240	503										
	18/16	f_b/Ω	579										
		L/240	579										
	16/16	f_b/Ω	663										
		L/240	663										

Exceeds Maximum Product Length

5.2 **7.5DF-24**



Section Properties

Gage	Weight psf	I In^4/ft	S+ In^3/ft	S– In^3/ft
20/20	4.96	12.02	1.97	2.23
20/18	5.51	13.51	1.97	2.90
20/16	6.06	14.36	1.97	3.10
18/20	6.06	14.63	3.20	2.93
18/18	6.61	16.36	3.18	3.53
18/16	7.16	18.16	3.17	4.03
16/16	8.27	21.08	4.63	4.63

AISI 2001 NASPEC with 2004 Supplement

Allowable Reactions, plf

Gage		Bearing Length 3"	Gage		Bearing Length 3"
20/20	End	311	**18/18**	End	700
	Interior	733		Interior	1330
20/18	End	311	**18/16**	End	700
	Interior	733		Interior	1330
20/16	End	311	**16/16**	End	1216
	Interior	733		Interior	2137
18/20	End	700			
	Interior	1330			

Allowable Total (DL + LL) Uniform Load, psf (f_b/Ω)

Span Condition	Gage		Span 10'0"	12'0"	14'0"	16'0"	18'0"	20'0"	22'0"	24'0"	26'0"	28'0"	30'0"
SINGLE SPAN	**20/20**	f_b/Ω	299	207	152	116	92	74	61	51	44	38	33
		L/240	299	207	152	116	92	74	61	51	44	35	29
	20/18	f_b/Ω	299	207	152	116	92	74	61	51	44	38	33
		L/240	299	207	152	116	92	74	61	51	44	38	32
	20/16	f_b/Ω	299	207	152	116	92	74	61	51	44	38	33
		L/240	299	207	152	116	92	74	61	51	44	38	33
	18/20	f_b/Ω	486	337	248	190	150	121	100	84	71	62	54
		L/240	486	337	248	190	150	120	90	69	54	43	35
	18/18	f_b/Ω	483	335	246	188	149	120	99	83	71	61	53
		L/240	483	335	246	188	149	120	99	77	61	48	39
	18/16	f_b/Ω	481	334	245	188	148	120	99	83	71	61	53
		L/240	481	334	245	188	148	120	99	83	67	54	44
	16/16	f_b/Ω	703	488	359	274	217	175	145	122	104	89	78
		L/240	703	488	359	274	217	173	129	100	78	63	51
DOUBLE SPAN	**20/20**	f_b/Ω	338	235	172	132							
		L/240	338	235	172	132							
	20/18	f_b/Ω	440	306	224	172							
		L/240	440	306	224	172							
	20/16	f_b/Ω	471	327	240	184							
		L/240	471	327	240	184							
	18/20	f_b/Ω	445	309	227	173							
		L/240	445	309	227	173							
	18/18	f_b/Ω	536	372	273	209							
		L/240	536	372	273	209							
	18/16	f_b/Ω	612	425	312	239							
		L/240	612	425	312	239							
	16/16	f_b/Ω	703	488	359	274							
		L/240	703	488	359	274							
TRIPLE SPAN	**20/20**	f_b/Ω	423										
		L/240	423										
	20/18	f_b/Ω	467										
		L/240	467										
	20/16	f_b/Ω	467										
		L/240	467										
	18/20	f_b/Ω	556										
		L/240	556										
	18/18	f_b/Ω	670										
		L/240	670										
	18/16	f_b/Ω	752										
		L/240	752										
	16/16	f_b/Ω	879										
		L/240	879										

Exceeds Maximum Product Length

5.3 4.5D-12, 6D-12 & 7.5D-12

Arc Spot/Seam Welds to Supports with Button Punch or Top Seam Welded Side Seam Attachment

Allowable Diaphragm Shear, q_a, plf

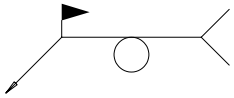
Flexibility Factor, F (10^{-6}in/lbs)

Arc Spot Welds	Gage	Seam Attachment	Spacing		Span 6′-0″	7′-0″	8′-0″	9′-0″	10′-0″	11′-0″	12′-0″	13′-0″	14′-0″	15′-0″	16′-0″	17′-0″
12/2	20	Button Punch	12″	q_a	300	280	260	240	230	220	210	210	200	200	190	190
				F	31.4+ 583R	34.9+ 500R	38.1+ 437R	41.0+ 389R	43.8+ 350R	46.4+ 318R	48.8+ 292R	51.1+ 269R	53.3+ 250R	55.4+ 233R	57.4+ 219R	59.3+ 206R
		Top Seam Weld	12″	q_a	450	430	410	400	390	380	370	360	350	350	350	350
				F	17.9+ 583R	16.6+ 500R	15.5+ 437R	14.5+ 389R	13.7+ 350R	13.0+ 318R	12.4+ 292R	11.9+ 269R	11.4+ 250R	11.0+ 233R	10.7+ 219R	10.3+ 206R
	18	Button Punch	12″	q_a	530	480	440	410	380	360	350	340	320	310	310	300
				F	21.4+ 241R	24.2+ 206R	27.0+ 181R	29.6+ 161R	32.1+ 144R	34.5+ 131R	36.9+ 120R	39.2+ 111R	41.3+ 103R	43.5+ 96R	45.5+ 90R	47.5+ 85R
		Top Seam Weld	12″	q_a	920	860	820	780	760	730	720	700	690	670	660	660
				F	12.9+ 241R	12.1+ 206R	11.4+ 181R	10.9+ 161R	10.4+ 144R	9.9+ 131R	9.5+ 120R	9.2+ 111R	8.9+ 103R	8.6+ 96R	8.3+ 90R	8.1+ 85R
	16	Button Punch	12″	q_a	780	690	630	580	540	510	490	460	450	430	420	410
				F	15.4+ 122R	17.7+ 104R	19.9+ 91R	22.1+ 81R	24.2+ 73R	26.3+ 66R	28.4+ 60R	30.4+ 56R	322.4+ 52R	34.4+ 48R	36.3+ 45R	38.2+ 43R
		Top Seam Weld	12″	q_a	1320	1250	1190	1150	1120	1100	1080	1070	1060	1050	1040	1040
				F	9.7+ 122R	9.2+ 104R	8.8+ 91R	8.4+ 81R	8.1+ 73R	7.8+ 66R	7.5+ 60R	7.3+ 56R	7.0+ 52R	6.8+ 48R	6.7+ 45R	6.5+ 43R
	14	Button Punch	12″	q_a	780	690	630	580	540	510	490	460	450	430	420	410
				F	15.4+ 122R	17.7+ 104R	1.9+ 91R	22.1+ 81R	24.2+ 73R	26.3+ 66R	28.4+ 60R	30.4+ 56R	32.4+ 52R	34.4+ 48R	36.3+ 45R	38.2+ 43R
		Top Seam Weld	12″	q_a	1320	1250	1190	1150	1120	1100	1080	1070	1060	1050	1040	1040
				F	9.7+ 122R	9.2+ 104R	8.8+ 91R	8.4+ 81R	8.1+ 73R	7.8+ 66R	7.5+ 60R	7.3+ 56R	7.0+ 52R	6.8+ 48R	6.7+ 45R	6.5+ 43R

Continued on next page

(cont'd) 4.5D-12, 6D-12 & 7.5D-12 5.3

Arc Spot/Seam Welds to Supports with Button Punch or Top Seam Welded Side Seam Attachment



Allowable Diaphragm Shear, q_a, plf

Flexibility Factor, F (10^{-6}in/lbs)

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Gage	Seam Attachment	Spacing		Span 18′-0″	19′-0″	20′-0″	21′-0″	22′-0″	23′-0″	24′-0″	25′-0″	26′-0″	27′-0″	28′-0″	29′-0″	30′-0″
20	Button Punch	12″	q_a	190	190	180	180	180	170	170	170	170	170	160	160	160
			F	61.1+ 194R	62.9+ 184R	64.5+ 175R	66.2+ 167R	67.7+ 159R	69.2+ 152R	70.7+ 146R	72.1+ 140R	73.5+ 135R	74.8+ 130R	76.1+ 125R	77.4+ 121R	78.6 117R
	Top Seam Weld	12″	q_a	340	340	340	340	330	330	330	330	330	320	320	320	320
			F	10.0+ 194R	9.7+ 184R	9.5+ 175R	9.2+ 167R	9 159R	8.8+ 152R	8.6+ 146R	8.4+ 140R	8.3+ 135R	8.1+ 130R	8.0+ 125R	7.9+ 121R	7.7+ 117R
18	Button Punch	12″	q_a	290	290	280	280	280	270	270	260	260	250	250	250	240
			F	49.5+ 80R	51.3+ 76R	53.2+ 72R	54.9+ 68R	56.7+ 65R	58.3+ 62R	60.0+ 60R	61.6+ 57R	63.1+ 55R	64.7+ 53R	66.2+ 51R	67.6+ 49R	69.0+ 48R
	Top Seam Weld	12″	q_a	650	640	630	630	620	620	620	610	610	600	600	600	600
			F	7.9+ 80R	7.7+ 76R	7.5+ 72R	7.3+ 66R	7.2+ 65R	7.0+ 62R	6.9+ 60R	6.8+ 57R	6.6+ 55R	6.5+ 53R	6.4+ 51R	6.3+ 49R	6.2+ 48R
16	Button Punch	12″	q_a	400	390	380	370	370	360	360	350	350	350	340	340	330
			F	40.0+ 40R	41.8+ 38R	43.6+ 36R	45.3+ 34R	47.0+ 33R	48.7+ 31R	50.3+ 30R	51.9+ 29R	53.5+ 28R	55.0+ 27R	56.5+ 26R	58.0+ 25R	59.5+ 24R
	Top Seam Weld	12″	q_a	1040	1040	1030	1020	1010	1000	990	990	980	970	970	960	960
			F	6.3+ 40R	6.2+ 38R	6.1+ 36R	5.9+ 34R	5.8+ 33R	5.7+ 31R	5.6+ 30R	5.5+ 29R	5.4+ 28R	5.3+ 27R	5.3+ 26R	5.2+ 25R	5.1+ 24R
14	Button Punch	12″	q_a	400	390	380	370	370	360	360	350	350	350	340	340	330
			F	40.0+ 40R	41.8+ 38R	43.6+ 36R	45.3+ 34R	47.0+ 33R	48.7+ 31R	50.3+ 30R	51.9+ 29R	53.5+ 28R	55.0+ 27R	56.5+ 26R	58.0+ 25R	59.5+ 24R
	Top Seam Weld	12″	q_a	1040	1040	1030	1020	1010	1000	990	990	980	970	970	960	960
			F	6.3+ 40R	6.2+ 38R	6.1+ 36R	5.9+ 34R	5.8+ 33R	5.7+ 31R	5.6+ 30R	5.5+ 29R	5.4+ 28R	5.3+ 27R	5.3+ 26R	5.2+ 25R	5.1+ 24R