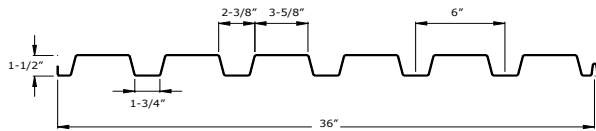
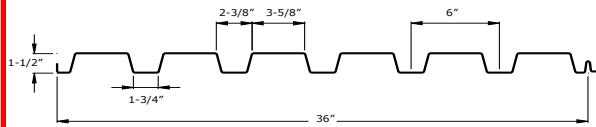


## 2.1 DGB-36, B-36, BS-36 & BN-36

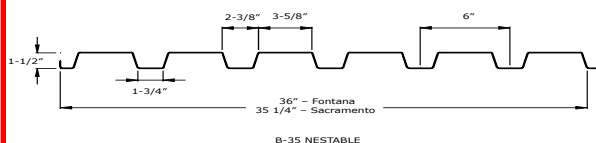
### DGB-36 & B-36



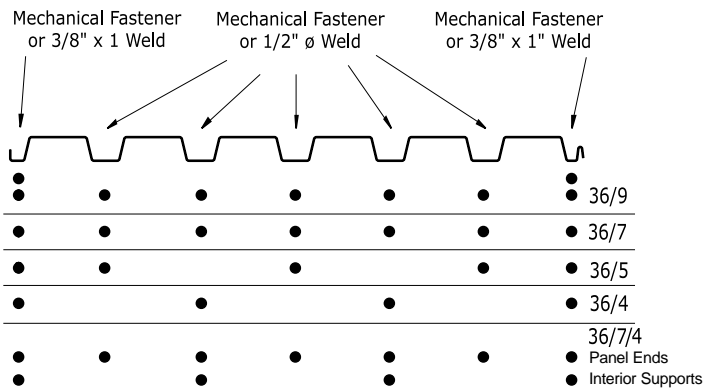
### BS-36 Screwable Sidelap



### BN-36 Nestable



### Attachment Patterns



**Note:** Weld sizes are effective not visible. Refer to AISI S100 or AWS D1.3 for additional welding requirements.

### Panel Properties

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus (Min.)	Radius of Gyration
	w psf	t in	F <sub>y</sub> ksi	F <sub>u</sub> ksi	A <sub>g</sub> in <sup>2</sup> /ft	I <sub>g</sub> in <sup>4</sup> /ft	y <sub>b</sub> in	S <sub>g</sub> in <sup>3</sup> /ft	r in
22	1.75	0.0299	50	65	0.514	0.200	0.94	0.213	0.625
21	1.93	0.0330	50	65	0.566	0.220	0.94	0.233	0.624
20	2.09	0.0359	50	65	0.615	0.240	0.94	0.053	0.623
19	2.43	0.0420	50	65	0.717	0.277	0.95	0.293	0.621
18	2.76	0.0478	50	65	0.814	0.313	0.95	0.330	0.619
16	3.44	0.0598	50	65	1.012	0.383	0.95	0.404	0.615

Gauge	Effective Section Properties at F <sub>y</sub> for Bending Strength					Effective Section Properties at Service Load Load for Deflection			
	Area	Section Modulus (Min.)	Distance to N.A. from Bottom	Section Modulus (Min.)	Distance to N.A. from Bottom	Moment of Inertia	Moment of Inertia	Uniform Load Only	
								I <sub>d</sub> = (2I <sub>e</sub> + I <sub>g</sub> )/3	
	A <sub>e</sub> in <sup>2</sup> /ft	S <sub>e</sub> in <sup>3</sup> /ft	y <sub>b</sub> in	S <sub>e</sub> in <sup>3</sup> /ft	y <sub>b</sub> in	I <sub>e</sub> in <sup>4</sup> /ft	I <sub>e</sub> in <sup>4</sup> /ft	I <sub>+</sub> in <sup>4</sup> /ft	I <sub>-</sub> in <sup>4</sup> /ft
22	0.179	0.175	0.74	0.187	0.98	0.157	0.197	0.171	0.198
21	0.207	0.202	0.77	0.213	0.97	0.197	0.220	0.204	0.220
20	0.235	0.228	0.77	0.236	0.96	0.197	0.237	0.211	0.238
19	0.296	0.271	0.81	0.287	0.95	0.263	0.277	0.268	0.277
18	0.351	0.311	0.84	0.329	0.94	0.287	0.313	0.296	0.313
16	0.330	0.392	0.89	0.404	0.95	0.377	0.383	0.379	0.383

### 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	772	874	960	1105	1180	1337	1469	1691
	Interior	1229	1366	1482	1675	1828	2032	2204	2492
20	End	1081	1220	1336	1532	1655	1866	2045	2344
	Interior	1737	1922	2078	2339	2584	2859	3091	3479
18	End	1834	2053	2239	2550	2805	3142	3425	3901
	Interior	2984	3277	3525	3940	4439	4875	5243	5860
16	End	2771	3086	3351	3796	4240	4721	5127	5809
	Interior	4555	4975	5329	5923	6776	7401	7927	8810

Constants

h = 1.32"

r = 0.125"

θ = 78.3°

## Inward Allowable ( $f_b/\Omega$ ) and Factored ( $\Phi f_b$ ) Distributed Load (lbs/ft<sup>2</sup>)

Gauge	Span	Limit Condition	Panel Span (Support Spacing)								
			4' - 0"	5' - 0"	6' - 0"	7' - 0"	8' - 0"	9' - 0"	10' - 0"	11' - 0"	12' - 0"
22	Single Span	$f_b / \Omega$	218	140	97	71	55	43	35	29	24
		$\Phi f_b$	328	210	146	107	82	65	52	43	36
		L/360	117	60	35	22	15	10	7	6	4
		L/240	175	90	52	33	22	15	11	8	6
		L/180	234	120	69	44	29	21	15	11	9
		L/120	351	179	104	65	44	31	22	17	13
	Double Span	$f_b / \Omega$	234	149	104	76	58	46	37	31	26
		$\Phi f_b$	351	225	156	115	88	69	56	46	39
		L/360	281	144	83	53	35	25	18	14	10
		L/240	422	216	125	79	53	37	27	20	16
		L/180	563	288	167	105	70	49	36	27	21
		L/120	844	432	250	158	106	74	54	41	31
	Triple Span	$f_b / \Omega$	292	187	130	95	73	58	47	39	32
		$\Phi f_b$	439	281	195	143	110	87	70	58	49
		L/360	220	113	65	41	28	19	14	11	8
		L/240	331	169	98	62	41	29	21	16	12
		L/180	441	226	131	82	55	39	28	21	16
		L/120	661	339	196	123	83	58	42	32	24
20	Single Span	$f_b / \Omega$	285	182	127	93	71	56	46	38	32
		$\Phi f_b$	428	274	190	140	107	85	69	57	48
		L/360	144	74	43	27	18	13	9	7	5
		L/240	216	111	64	40	27	19	14	10	8
		L/180	288	148	85	54	36	25	18	14	11
		L/120	432	221	128	81	54	38	28	21	16
	Double Span	$f_b / \Omega$	295	189	131	96	74	58	47	39	33
		$\Phi f_b$	443	284	197	145	111	88	71	59	49
		L/360	347	178	103	65	43	30	22	17	13
		L/240	521	267	154	97	65	46	33	25	19
		L/180	695	356	206	130	87	61	44	33	26
		L/120	1042	533	309	194	130	91	67	50	39
	Triple Span	$f_b / \Omega$	369	236	164	120	92	73	59	49	41
		$\Phi f_b$	554	355	246	181	138	109	89	73	62
		L/360	272	139	81	51	34	24	17	13	10
		L/240	408	209	121	76	51	36	26	20	15
		L/180	544	279	161	102	68	48	35	26	20
		L/120	816	418	242	152	102	72	52	39	30
18	Single Span	$f_b / \Omega$	388	248	172	127	97	77	62	51	43
		$\Phi f_b$	583	373	259	190	146	115	93	77	65
		L/360	202	103	60	38	25	18	13	10	7
		L/240	303	155	90	56	38	27	19	15	11
		L/180	404	207	120	75	50	35	26	19	15
		L/120	605	310	179	113	76	53	39	29	22
	Double Span	$f_b / \Omega$	411	263	183	134	103	81	66	54	46
		$\Phi f_b$	618	395	274	202	154	122	99	82	69
		L/360	486	249	144	91	61	43	31	23	18
		L/240	729	373	216	136	91	64	47	35	27
		L/180	972	498	288	181	122	85	62	47	36
		L/120	1459	747	432	272	182	128	93	70	54
	Triple Span	$f_b / \Omega$	514	329	228	168	128	101	82	68	57
		$\Phi f_b$	772	494	343	252	193	152	124	102	86
		L/360	381	195	113	71	48	33	24	18	14
		L/240	571	293	169	107	71	50	37	27	21
		L/180	762	390	226	142	95	67	49	37	28
		L/120	1143	585	339	213	143	100	73	55	42
16	Single Span	$f_b / \Omega$	489	313	217	160	122	97	78	65	54
		$\Phi f_b$	734	470	326	240	184	145	118	97	82
		L/360	259	132	77	48	32	23	17	12	10
		L/240	388	199	115	72	49	34	25	19	14
		L/180	517	265	153	97	65	45	33	25	19
		L/120	776	397	230	145	97	68	50	37	29
	Double Span	$f_b / \Omega$	504	323	224	165	126	100	81	67	56
		$\Phi f_b$	758	485	337	248	190	150	121	100	84
		L/360	623	319	185	116	78	55	40	30	23
		L/240	935	479	277	174	117	82	60	45	35
		L/180	1246	638	369	233	156	109	80	60	46
		L/120	1870	957	554	349	234	164	120	90	69
	Triple Span	$f_b / \Omega$	631	404	280	206	158	125	101	83	70
		$\Phi f_b$	948	607	421	309	237	187	152	125	105
		L/360	488	250	145	91	61	43	31	23	18
		L/240	732	375	217	137	92	64	47	35	27
		L/180	976	500	289	182	122	86	62	47	36
		L/120	1465	750	434	273	183	129	94	70	54