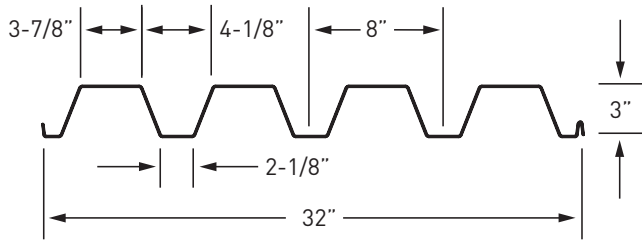


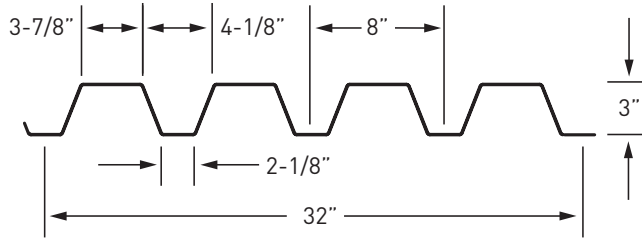
# 3.1 DGN-32, N-32 & NN-32



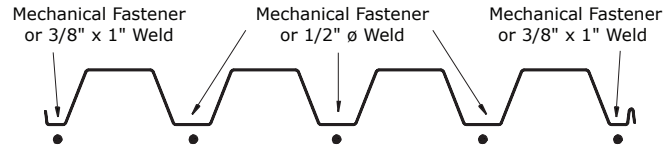
**DGN-32 & N-32**



**NN-32 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	1.96	0.0299	50	65	0.569	0.814	1.68	0.483	1.195
21	2.16	0.0330	50	65	0.628	0.893	1.68	0.531	1.192
20	2.35	0.0359	50	65	0.681	0.968	1.68	0.576	1.193
19	2.73	0.0420	50	65	0.795	1.125	1.69	0.668	1.190
18	3.10	0.0478	50	65	0.902	1.275	1.69	0.755	1.189
16	3.86	0.0598	50	65	1.123	1.575	1.69	0.931	1.185

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> <sup>+</sup> in <sup>2</sup> /ft	S <sub>e</sub> <sup>+</sup> in <sup>3</sup> /ft	y <sub>b</sub> in	S <sub>e</sub> <sup>-</sup> in <sup>3</sup> /ft	y <sub>b</sub> in	I <sub>e</sub> <sup>+</sup> in <sup>4</sup> /ft	I <sub>e</sub> <sup>-</sup> in <sup>4</sup> /ft	I <sup>+</sup> in <sup>4</sup> /ft	I <sup>-</sup> in <sup>4</sup> /ft		
22	0.272	0.349	1.37	0.402	1.78	0.668	0.754	0.716	0.774	
21	0.322	0.398	1.40	0.453	1.77	0.773	0.870	0.813	0.878	
20	0.372	0.446	1.41	0.505	1.76	0.848	0.930	0.888	0.943	
19	0.487	0.553	1.45	0.611	1.74	1.035	1.125	1.065	1.125	
18	0.604	0.661	1.48	0.715	1.72	1.219	1.275	1.238	1.275	
16	0.871	0.879	1.54	0.927	1.70	1.556	1.575	1.563	1.575	

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

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"
22	Single Span	$f_b / \Omega$	435	193	109	70	48	36	27	21	17
		$\Phi f_b$	654	291	163	105	73	53	41	32	26
		L/360	489	145	61	31	18	11	8	5	4
		L/240	734	217	92	47	27	17	11	8	6
		L/180	978	290	122	63	36	23	15	11	8
	L/120	1467	435	183	94	54	34	23	16	12	
	Double Span	$f_b / \Omega$	502	223	125	80	56	41	31	25	20
		$\Phi f_b$	754	335	189	121	84	62	47	37	30
		L/360	1178	349	147	75	44	27	18	13	9
		L/240	1767	524	221	113	65	41	28	19	14
		L/180	2356	698	295	151	87	55	37	26	19
	L/120	3535	1047	442	226	131	82	55	39	28	
	Triple Span	$f_b / \Omega$	627	279	157	100	70	51	39	31	25
		$\Phi f_b$	943	419	236	151	105	77	59	47	38
		L/360	923	273	115	59	34	22	14	10	7
L/240		1384	410	173	89	51	32	22	15	11	
L/180		1846	547	231	118	68	43	29	20	15	
L/120	2769	820	346	177	103	65	43	30	22		
20	Single Span	$f_b / \Omega$	557	247	139	89	62	45	35	27	22
		$\Phi f_b$	837	372	209	134	93	68	52	41	33
		L/360	606	180	76	39	22	14	9	7	5
		L/240	909	269	114	58	34	21	14	10	7
		L/180	1212	359	152	78	45	28	19	13	10
	L/120	1818	539	227	116	67	42	28	20	15	
	Double Span	$f_b / \Omega$	630	280	158	101	70	51	39	31	25
		$\Phi f_b$	947	421	237	152	105	77	59	47	38
		L/360	1460	433	182	93	54	34	23	16	12
		L/240	2190	649	274	140	81	51	34	24	18
		L/180	2920	865	365	187	108	68	46	32	23
	L/120	4380	1298	547	280	162	102	68	48	35	
	Triple Span	$f_b / \Omega$	788	350	197	126	88	64	49	39	32
		$\Phi f_b$	1184	526	296	189	132	97	74	58	47
		L/360	1144	339	143	73	42	27	18	13	9
L/240		1715	508	214	110	64	40	27	19	14	
L/180		2287	678	286	146	85	53	36	25	18	
L/120	3431	1017	429	220	127	80	54	38	27		
18	Single Span	$f_b / \Omega$	825	367	206	132	92	67	52	41	33
		$\Phi f_b$	1240	551	310	198	138	101	77	61	50
		L/360	845	250	106	54	31	20	13	9	7
		L/240	1268	376	158	81	47	30	20	14	10
		L/180	1690	501	211	108	63	39	26	19	14
	L/120	2535	751	317	162	94	59	40	28	20	
	Double Span	$f_b / \Omega$	892	396	223	143	99	73	56	44	36
		$\Phi f_b$	1341	596	335	215	149	109	84	66	54
		L/360	2036	603	254	130	75	47	32	22	16
		L/240	3053	905	382	195	113	71	48	34	24
		L/180	4071	1206	509	261	151	95	64	45	33
	L/120	6107	1809	763	391	226	142	95	67	49	
	Triple Span	$f_b / \Omega$	1115	496	279	178	124	91	70	55	45
		$\Phi f_b$	1676	745	419	268	186	137	105	83	67
		L/360	1595	472	199	102	59	37	25	17	13
L/240		2392	709	299	153	89	56	37	26	19	
L/180		3189	945	399	204	118	74	50	35	26	
L/120	4784	1417	598	306	177	112	75	52	38		
16	Single Span	$f_b / \Omega$	1097	487	274	175	122	90	69	54	44
		$\Phi f_b$	1648	733	412	264	183	135	103	81	66
		L/360	1067	316	133	68	40	25	17	12	9
		L/240	1600	474	200	102	59	37	25	18	13
		L/180	2134	632	267	137	79	50	33	23	17
	L/120	3201	948	400	205	119	75	50	35	26	
	Double Span	$f_b / \Omega$	1156	514	289	185	128	94	72	57	46
		$\Phi f_b$	1737	772	434	278	193	142	109	86	69
		L/360	2570	762	321	164	95	60	40	28	21
		L/240	3855	1142	482	247	143	90	60	42	31
		L/180	5140	1523	643	329	190	120	80	56	41
	L/120	7711	2285	964	493	286	180	120	85	62	
	Triple Span	$f_b / \Omega$	1445	642	361	231	161	118	90	71	58
		$\Phi f_b$	2172	965	543	347	241	177	136	107	87
		L/360	2013	597	252	129	75	47	31	22	16
L/240		3020	895	378	193	112	70	47	33	24	
L/180		4027	1193	503	258	149	94	63	44	32	
L/120	6040	1790	755	387	224	141	94	66	48		

# 3.2 DGN-32

## Allowable Wind Uplift Loads



DGN-32				Support Fastener Pattern: 32 / 5									
Allowable Wind Uplift Load (psf)													
Gauge	Fastener	Support Thickness	Fastener Capacity [lbs]	Span	Span (ft.-in.)								
					4	6	8	10	12	14	16	18	20
22	#12-14 ITW Buildex TEKS	16ga	165	Single Span	77	52	39	31	26	22	19	17	15
	#12-24 ITW Buildex TEKS	≥ 3/16"	280		131	88	66	53	44	38	31	25	20
	Hilti X-ENP-19 L15	≥ 1/4"	660		309	206	126	80	56	41	31	25	20
	Hilti X-HSN 24	1/8" - 3/8"	435		204	136	102	80	56	41	31	25	20
	1/2" Eff. Arc Spot Weld	≥ 1/8"	787		369	223	126	80	56	41	31	25	20
	Simpson XL Screws	≥ 1/8"	385		180	120	90	72	56	41	31	25	20
	#12-14 ITW Buildex TEKS	16ga	165		Double Span	77	52	39	31	26	22	19	17
	#12-24 ITW Buildex TEKS	≥ 3/16"	280	131		88	66	53	44	38	31	25	20
	Hilti X-ENP-19 L15	≥ 1/4"	660	309		206	126	80	56	41	31	25	20
	Hilti X-HSN 24	1/8" - 3/8"	435	204		136	102	80	56	41	31	25	20
	1/2" Eff. Arc Spot Weld	≥ 1/8"	787	369		223	126	80	56	41	31	25	20
	Simpson XL Screws	≥ 1/8"	385	180		120	90	72	56	41	31	25	20
	#12-14 ITW Buildex TEKS	16ga	165	Triple Span		77	52	39	31	26	22	19	17
	#12-24 ITW Buildex TEKS	≥ 3/16"	280		131	88	66	53	44	38	33	29	25
	Hilti X-ENP-19 L15	≥ 1/4"	660		309	206	155	101	70	51	39	31	25
	Hilti X-HSN 24	1/8" - 3/8"	435		204	136	102	82	68	51	39	31	25
	1/2" Eff. Arc Spot Weld	≥ 1/8"	787		369	246	157	101	70	51	39	31	25
	Simpson XL Screws	≥ 1/8"	385		180	120	90	72	60	51	39	31	25

DGN-32				Support Fastener Pattern: 32 / 5									
Allowable Wind Uplift Load (psf)													
Gauge	Fastener	Support Thickness	Fastener Capacity [lbs]	Span	Span (ft.-in.)								
					4	6	8	10	12	14	16	18	20
20	#12-14 ITW Buildex TEKS	16ga	165	Single Span	77	52	39	31	26	22	19	17	15
	#12-24 ITW Buildex TEKS	≥ 3/16"	336		158	105	79	63	53	45	39	31	25
	Hilti X-ENP-19 L15	≥ 1/4"	705		330	220	158	101	70	52	39	31	25
	Hilti X-HSN 24	1/8" - 3/8"	435		204	136	102	82	68	52	39	31	25
	1/2" Eff. Arc Spot Weld	≥ 1/8"	953		447	281	158	101	70	52	39	31	25
	Simpson XL Screws	≥ 1/8"	385		180	120	90	72	60	52	39	31	25
	#12-14 ITW Buildex TEKS	16ga	165		Double Span	77	52	39	31	26	22	19	17
	#12-24 ITW Buildex TEKS	≥ 3/16"	336	158		105	79	63	53	45	39	31	25
	Hilti X-ENP-19 L15	≥ 1/4"	705	330		220	158	101	70	52	39	31	25
	Hilti X-HSN 24	1/8" - 3/8"	435	204		136	102	82	68	52	39	31	25
	1/2" Eff. Arc Spot Weld	≥ 1/8"	953	447		281	158	101	70	52	39	31	25
	Simpson XL Screws	≥ 1/8"	385	180		120	90	72	60	52	39	31	25
	#12-14 ITW Buildex TEKS	16ga	165	Triple Span		77	52	39	31	26	22	19	17
	#12-24 ITW Buildex TEKS	≥ 3/16"	336		158	105	79	63	53	45	39	35	32
	Hilti X-ENP-19 L15	≥ 1/4"	705		330	220	165	126	88	64	49	39	32
	Hilti X-HSN 24	1/8" - 3/8"	435		204	136	102	82	68	58	49	39	32
	1/2" Eff. Arc Spot Weld	≥ 1/8"	953		447	298	197	126	88	64	49	39	32
	Simpson XL Screws	≥ 1/8"	385		180	120	90	72	60	52	45	39	32

Notes:

- 1) Deck uplift table evaluates for the allowable bending stress of the panel and the allowable fastener capacity.
- 2) Overall fastener capacities based on a minimum of: Fastener tensile capacity, Fastener pullout from substrate, and Deck pullover from fastener head.
- 3) ITW Buildex TEKS fastener capacities per ICC-ES ESR1976 compliance report utilizing a min. substrate Fu=45ksi.
- 4) Simpson XL fastener capacities per IAPMO-UES ER326 compliance report utilizing a min. substrate Fu=50ksi.
- 5) Hilti X-HSN 24 and X-ENP-19 pin capacities per ICC-ES ESR-2197 compliance report utilizing a min substrate Fu=58ksi.
- 6) Spot weld tensile capacities evaluated per AISI S100, Sec.J2.2.3 with a minimum effective weld diameter of 1/2".
- 7) Shaded values represent conditions where panel capacity governs vs. fastener capacity.

DGN-32				Support Fastener Pattern: 32 / 5									
Allowable Wind Uplift Load (psf)													
Gauge	Fastener	Support Thickness	Fastener Capacity [lbs]	Span	Span (ft.-in.)								
					4	6	8	10	12	14	16	18	20
<b>18</b>	#12-14 ITW Buildex TEKS	16ga	165	Single Span	77	52	39	31	26	22	19	17	15
	#12-24 ITW Buildex TEKS	≥ 3/16"	448		210	140	105	84	70	60	53	44	36
	Hilti X-ENP-19 L15	≥ 1/4"	805		377	252	189	143	99	73	56	44	36
	Hilti X-HSN 24	1/8" - 3/8"	435		204	136	102	82	68	58	51	44	36
	1/2" Eff. Arc Spot Weld	≥ 1/8"	1292		606	397	223	143	99	73	56	44	36
	Simpson XL Screws	≥ 1/8"	385		180	120	90	72	60	52	45	40	36
	#12-14 ITW Buildex TEKS	16ga	165	Double Span	77	52	39	31	26	22	19	17	15
	#12-24 ITW Buildex TEKS	≥ 3/16"	448		210	140	105	84	70	60	53	44	36
	Hilti X-ENP-19 L15	≥ 1/4"	805		377	252	189	143	99	73	56	44	36
	Hilti X-HSN 24	1/8" - 3/8"	435		204	136	102	82	68	58	51	44	36
	1/2" Eff. Arc Spot Weld	≥ 1/8"	1292		606	397	223	143	99	73	56	44	36
	Simpson XL Screws	≥ 1/8"	385		180	120	90	72	60	52	45	40	36
	#12-14 ITW Buildex TEKS	16ga	165	Triple Span	77	52	39	31	26	22	19	17	15
	#12-24 ITW Buildex TEKS	≥ 3/16"	448		210	140	105	84	70	60	53	47	42
	Hilti X-ENP-19 L15	≥ 1/4"	805		377	252	189	151	124	91	70	55	45
	Hilti X-HSN 24	1/8" - 3/8"	435		204	136	102	82	68	58	51	45	41
	1/2" Eff. Arc Spot Weld	≥ 1/8"	1292		606	404	279	179	124	91	70	55	45
	Simpson XL Screws	≥ 1/8"	385		180	120	90	72	60	52	45	40	36

**N PANELS**

DGN-32				Support Fastener Pattern: 32 / 5									
Allowable Wind Uplift Load (psf)													
Gauge	Fastener	Support Thickness	Fastener Capacity [lbs]	Span	Span (ft.-in.)								
					4	6	8	10	12	14	16	18	20
<b>16</b>	#12-14 ITW Buildex TEKS	16ga	165	Single Span	77	52	39	31	26	22	19	17	15
	#12-24 ITW Buildex TEKS	≥ 3/16"	515		241	161	121	97	80	69	60	54	46
	Hilti X-ENP-19 L15	≥ 1/4"	880		413	275	206	165	129	95	72	57	46
	Hilti X-HSN 24	1/8" - 3/8"	435		204	136	102	82	68	58	51	45	41
	1/2" Eff. Arc Spot Weld	≥ 1/8"	1622		761	507	290	185	129	95	72	57	46
	Simpson XL Screws	≥ 1/8"	385		180	120	90	72	60	52	45	40	36
	#12-14 ITW Buildex TEKS	16ga	165	Double Span	77	52	39	31	26	22	19	17	15
	#12-24 ITW Buildex TEKS	≥ 3/16"	515		241	161	121	97	80	69	60	54	46
	Hilti X-ENP-19 L15	≥ 1/4"	880		413	275	206	165	129	95	72	57	46
	Hilti X-HSN 24	1/8" - 3/8"	435		204	136	102	82	68	58	51	45	41
	1/2" Eff. Arc Spot Weld	≥ 1/8"	1622		761	507	290	185	129	95	72	57	46
	Simpson XL Screws	≥ 1/8"	385		180	120	90	72	60	52	45	40	36
	#12-14 ITW Buildex TEKS	16ga	165	Triple Span	77	52	39	31	26	22	19	17	15
	#12-24 ITW Buildex TEKS	≥ 3/16"	515		241	161	121	97	80	69	60	54	48
	Hilti X-ENP-19 L15	≥ 1/4"	880		413	275	206	165	138	118	91	72	58
	Hilti X-HSN 24	1/8" - 3/8"	435		204	136	102	82	68	58	51	45	41
	1/2" Eff. Arc Spot Weld	≥ 1/8"	1622		761	507	362	232	161	118	91	72	58
	Simpson XL Screws	≥ 1/8"	385		180	120	90	72	60	52	45	40	36

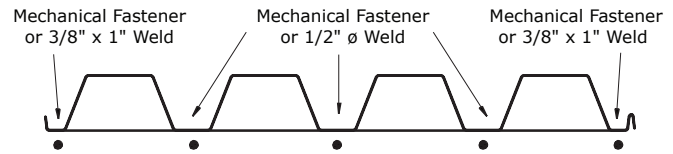
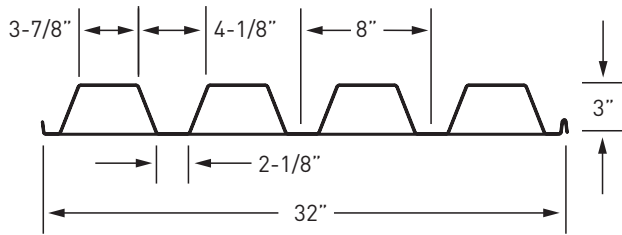
**Notes:**

- 1) Deck uplift table evaluates for the allowable bending stress of the panel and the allowable fastener capacity.
- 2) Overall fastener capacities based on a minimum of: Fastener tensile capacity, Fastener pullout from substrate, and Deck pullover from fastener head.
- 3) ITW Buildex TEKS fastener capacities per ICC-ES ESR1976 compliance report utilizing a min. substrate Fu=45ksi.
- 4) Simpson XL fastener capacities per IAPMO-UES ER326 compliance report utilizing a min. substrate Fu=50ksi.
- 5) Hilti X-HSN 24 and X-ENP-19 pin capacities per ICC-ES ESR-2197 compliance report utilizing a min substrate Fu=58ksi.
- 6) Spot weld tensile capacities evaluated per AISI S100, Sec.J2.2.3 with a minimum effective weld diameter of 1/2".
- 7) Shaded values represent conditions where panel capacity governs vs. fastener capacity.

### 3.3 DGNF-32 & NF-32



#### Attachment Patterns



Note: Weld sizes are effective not visible. Refer to AISI S100-2007 or AWS D1.3 for additional welding requirements.

#### 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
20/20	3.96	0.0359 / 0.036	50	65	1.114	1.740	1.07	0.867	1.250
20/18	4.44	0.0359 / 0.047	50	65	1.254	1.877	0.96	0.884	1.223
20/16	4.96	0.0359 / 0.059	50	65	1.406	1.999	0.87	0.899	1.192
18/20	4.71	0.0478 / 0.036	50	65	1.330	2.143	1.19	1.129	1.269
18/18	5.19	0.0478 / 0.047	50	65	1.470	2.316	1.09	1.153	1.255
18/16	5.71	0.0478 / 0.059	50	65	1.622	2.474	1.00	1.173	1.235
16/20	5.47	0.0598 / 0.036	50	65	1.547	2.522	1.27	1.385	1.277
16/18	5.95	0.0598 / 0.047	50	65	1.687	2.725	1.18	1.415	1.271
16/16	6.47	0.0598 / 0.059	50	65	1.839	2.914	1.10	1.442	1.259

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	
								$I_d = (2I_e + I_g)/3$	$I_+$
20/20	0.547	0.488	0.76	0.808	1.39	1.381	1.454	1.501	1.549
20/18	0.622	0.490	0.66	0.838	1.24	1.480	1.623	1.612	1.708
20/16	0.729	0.522	0.62	0.863	1.11	1.515	1.816	1.676	1.877
18/20	0.784	0.798	0.99	1.057	1.45	1.835	1.839	1.938	1.940
18/18	0.859	0.816	0.90	1.093	1.33	1.972	2.019	2.087	2.118
18/16	0.966	0.810	0.81	1.123	1.22	2.107	2.234	2.230	2.314
16/20	1.057	1.073	1.13	1.306	1.49	2.316	2.218	2.385	2.319
16/18	1.132	1.098	1.04	1.346	1.39	2.495	2.405	2.572	2.512
16/16	1.238	1.119	0.96	1.380	1.30	2.661	2.636	2.746	2.729

#### Reactions at Supports (plf) Based on Web Crippling

Gage	Condition	Bearing Length of Webs							
		ASD, $R/\Omega$				LRFD, $\phi R$			
		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

$h = 3.06"$

$r = 0.125"$

$\theta = 70.7^\circ$

## 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"	6' - 0"	8' - 0"	10' - 0"	12' - 0"	14' - 0"	16' - 0"	18' - 0"	20' - 0"
20/20	Single Span	$f_b/\Omega$	609	271	152	97	68	50	38	30	24
		$\Phi f_b$	915	407	229	146	102	75	57	45	37
		L/360	1025	304	128	66	38	24	16	11	8
		L/240	1537	455	192	98	57	36	24	17	12
		L/180	2049	607	256	131	76	48	32	22	16
		L/120	3074	911	384	197	114	72	48	34	25
	Double Span	$f_b/\Omega$	1008	448	252	161	112	82	63	50	40
		$\Phi f_b$	1516	674	379	242	168	124	95	75	61
		L/360	2468	731	309	158	91	58	39	27	20
		L/240	3703	1097	463	237	137	86	58	41	30
		L/180	4937	1463	617	316	183	115	77	54	39
		L/120	7405	2194	926	474	274	173	116	81	59
	Triple Span	$f_b/\Omega$	951	423	238	152	106	78	59	47	38
		$\Phi f_b$	1430	636	357	229	159	117	89	71	57
		L/360	1934	573	242	124	72	45	30	21	15
		L/240	2901	859	363	186	107	68	45	32	23
		L/180	3867	1146	483	248	143	90	60	42	31
		L/120	5801	1719	725	371	215	135	91	64	46
20/18	Single Span	$f_b/\Omega$	611	272	153	98	68	50	38	30	24
		$\Phi f_b$	919	408	230	147	102	75	57	45	37
		L/360	1101	326	138	70	41	26	17	12	9
		L/240	1651	489	206	106	61	39	26	18	13
		L/180	2202	652	275	141	82	51	34	24	18
		L/120	3303	979	413	211	122	77	52	36	26
	Double Span	$f_b/\Omega$	1045	464	261	167	116	85	65	52	42
		$\Phi f_b$	1571	698	393	251	175	128	98	78	63
		L/360	2652	786	331	170	98	62	41	29	21
		L/240	3978	1179	497	255	147	93	62	44	32
		L/180	5304	1571	663	339	196	124	83	58	42
		L/120	7956	2357	994	509	295	186	124	87	64
	Triple Span	$f_b/\Omega$	955	424	239	153	106	78	60	47	38
		$\Phi f_b$	1435	638	359	230	159	117	90	71	57
		L/360	2077	616	260	133	77	48	32	23	17
		L/240	3116	923	390	199	115	73	49	34	25
		L/180	4155	1231	519	266	154	97	65	46	33
		L/120	6232	1847	779	399	231	145	97	68	50
20/16	Single Span	$f_b/\Omega$	652	290	163	104	72	53	41	32	26
		$\Phi f_b$	979	435	245	157	109	80	61	48	39
		L/360	1144	339	143	73	42	27	18	13	9
		L/240	1717	509	215	110	64	40	27	19	14
		L/180	2289	678	286	146	85	53	36	25	18
		L/120	3433	1017	429	220	127	80	54	38	27
	Double Span	$f_b/\Omega$	1076	478	269	172	120	88	67	53	43
		$\Phi f_b$	1617	719	404	259	180	132	101	80	65
		L/360	2757	817	345	176	102	64	43	30	22
		L/240	4135	1225	517	265	153	96	65	45	33
		L/180	5514	1634	689	353	204	129	86	61	44
		L/120	8270	2451	1034	529	306	193	129	91	66
	Triple Span	$f_b/\Omega$	1018	453	255	163	113	83	64	50	41
		$\Phi f_b$	1530	680	383	245	170	125	96	76	61
		L/360	2160	640	270	138	80	50	34	24	17
		L/240	3240	960	405	207	120	76	51	36	26
		L/180	4319	1280	540	276	160	101	67	47	35
		L/120	6479	1920	810	415	240	151	101	71	52

### 3.3 DGNF-32 & NF-32



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

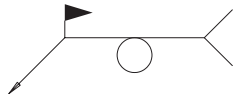
18/20	Single Span	$f_b/\Omega$	995	442	249	159	111	81	62	49	40
		$\Phi f_b$	1495	665	374	239	166	122	93	74	60
		L/360	1323	392	165	85	49	31	21	15	11
		L/240	1985	588	248	127	74	46	31	22	16
		L/180	2646	784	331	169	98	62	41	29	21
	L/120	3969	1176	496	254	147	93	62	44	32	
	Double Span	$f_b/\Omega$	1319	586	330	211	147	108	82	65	53
		$\Phi f_b$	1983	881	496	317	220	162	124	98	79
		L/360	3187	944	398	204	118	74	50	35	25
		L/240	4781	1417	598	306	177	112	75	52	38
		L/180	6374	1889	797	408	236	149	100	70	51
	L/120	9562	2833	1195	612	354	223	149	105	76	
	Triple Span	$f_b/\Omega$	1555	691	389	249	173	127	97	77	62
		$\Phi f_b$	2336	1038	584	374	260	191	146	115	93
		L/360	2497	740	312	160	92	58	39	27	20
L/240		3745	1110	468	240	139	87	59	41	30	
L/180		4994	1480	624	320	185	116	78	55	40	
L/120	7490	2219	936	479	277	175	117	82	60		
18/18	Single Span	$f_b/\Omega$	1018	452	254	163	113	83	64	50	41
		$\Phi f_b$	1529	680	382	245	170	125	96	76	61
		L/360	1425	422	178	91	53	33	22	16	11
		L/240	2137	633	267	137	79	50	33	23	17
		L/180	2850	844	356	182	106	66	45	31	23
	L/120	4275	1267	534	274	158	100	67	47	34	
	Double Span	$f_b/\Omega$	1363	606	341	218	151	111	85	67	55
		$\Phi f_b$	2049	911	512	328	228	167	128	101	82
		L/360	3433	1017	429	220	127	80	54	38	27
		L/240	5149	1526	644	330	191	120	80	57	41
		L/180	6865	2034	858	439	254	160	107	75	55
	L/120	10298	3051	1287	659	381	240	161	113	82	
	Triple Span	$f_b/\Omega$	1590	707	397	254	177	130	99	79	64
		$\Phi f_b$	2390	1062	597	382	266	195	149	118	96
		L/360	2689	797	336	172	100	63	42	30	22
L/240		4034	1195	504	258	149	94	63	44	32	
L/180		5378	1593	672	344	199	125	84	59	43	
L/120	8067	2390	1008	516	299	188	126	89	65		
18/16	Single Span	$f_b/\Omega$	1011	449	253	162	112	82	63	50	40
		$\Phi f_b$	1519	675	380	243	169	124	95	75	61
		L/360	1522	451	190	97	56	36	24	17	12
		L/240	2284	677	285	146	85	53	36	25	18
		L/180	3045	902	381	195	113	71	48	33	24
	L/120	4567	1353	571	292	169	107	71	50	37	
	Double Span	$f_b/\Omega$	1401	623	350	224	156	114	88	69	56
		$\Phi f_b$	2105	936	526	337	234	172	132	104	84
		L/360	3667	1087	458	235	136	86	57	40	29
		L/240	5501	1630	688	352	204	128	86	60	44
		L/180	7335	2173	917	469	272	171	115	80	59
	L/120	11002	3260	1375	704	407	257	172	121	88	
	Triple Span	$f_b/\Omega$	1579	702	395	253	175	129	99	78	63
		$\Phi f_b$	2373	1055	593	380	264	194	148	117	95
		L/360	2873	851	359	184	106	67	45	32	23
L/240		4310	1277	539	276	160	101	67	47	34	
L/180		5746	1703	718	368	213	134	90	63	46	
L/120	8619	2554	1077	552	319	201	135	95	69		



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

16/20	Single Span	$f_b/\Omega$	1338	595	335	214	149	109	84	66	54
		$\Phi f_b$	2011	894	503	322	223	164	126	99	80
		L/360	1629	483	204	104	60	38	25	18	13
		L/240	2443	724	305	156	90	57	38	27	20
		L/180	3257	965	407	208	121	76	51	36	26
	L/120	4886	1448	611	313	181	114	76	54	39	
	Double Span	$f_b/\Omega$	1630	724	407	261	181	133	102	80	65
		$\Phi f_b$	2449	1089	612	392	272	200	153	121	98
		L/360	3923	1162	490	251	145	92	61	43	31
		L/240	5885	1744	736	377	218	137	92	65	47
		L/180	7847	2325	981	502	291	183	123	86	63
	L/120	11770	3487	1471	753	436	275	184	129	94	
	Triple Span	$f_b/\Omega$	2037	905	509	326	226	166	127	101	81
		$\Phi f_b$	3062	1361	765	490	340	250	191	151	122
		L/360	3073	911	384	197	114	72	48	34	25
L/240		4610	1366	576	295	171	108	72	51	37	
L/180		6147	1821	768	393	228	143	96	67	49	
L/120	9220	2732	1153	590	341	215	144	101	74		
16/18	Single Span	$f_b/\Omega$	1369	609	342	219	152	112	86	68	55
		$\Phi f_b$	2058	915	515	329	229	168	129	102	82
		L/360	1756	520	220	112	65	41	27	19	14
		L/240	2634	781	329	169	98	61	41	29	21
		L/180	3512	1041	439	225	130	82	55	39	28
	L/120	5268	1561	659	337	195	123	82	58	42	
	Double Span	$f_b/\Omega$	1679	746	420	269	187	137	105	83	67
		$\Phi f_b$	2523	1121	631	404	280	206	158	125	101
		L/360	4230	1253	529	271	157	99	66	46	34
		L/240	6345	1880	793	406	235	148	99	70	51
		L/180	8461	2507	1058	541	313	197	132	93	68
	L/120	12691	3760	1586	812	470	296	198	139	102	
	Triple Span	$f_b/\Omega$	2098	933	525	336	233	171	131	104	84
		$\Phi f_b$	3154	1402	788	505	350	257	197	156	126
		L/360	3314	982	414	212	123	77	52	36	27
L/240		4971	1473	621	318	184	116	78	55	40	
L/180		6628	1964	828	424	245	155	104	73	53	
L/120	9942	2946	1243	636	368	232	155	109	80		
16/16	Single Span	$f_b/\Omega$	1396	621	349	223	155	114	87	69	56
		$\Phi f_b$	2099	933	525	336	233	171	131	104	84
		L/360	1875	556	234	120	69	44	29	21	15
		L/240	2813	833	352	180	104	66	44	31	23
		L/180	3750	1111	469	240	139	87	59	41	30
	L/120	5625	1667	703	360	208	131	88	62	45	
	Double Span	$f_b/\Omega$	1721	765	430	275	191	141	108	85	69
		$\Phi f_b$	2587	1150	647	414	287	211	162	128	103
		L/360	4517	1338	565	289	167	105	71	50	36
		L/240	6775	2007	847	434	251	158	106	74	54
		L/180	9033	2677	1129	578	335	211	141	99	72
	L/120	13550	4015	1694	867	502	316	212	149	108	
	Triple Span	$f_b/\Omega$	2152	956	538	344	239	176	134	106	86
		$\Phi f_b$	3234	1437	809	517	359	264	202	160	129
		L/360	3538	1048	442	226	131	83	55	39	28
L/240		5307	1573	663	340	197	124	83	58	42	
L/180		7077	2097	885	453	262	165	111	78	57	
L/120	10615	3145	1327	679	393	248	166	116	85		





Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																			
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"		
32/5	16 ga	4"	$q_a$	$q_f$	2742	4387	2742	4387	2742	4387	2742	4387	2742	4387	2742	4387	2349	3758	1856	2969	1503	2405
			F		3.5 -0.1R		3.6 -0.1R		3.6 -0.1R		3.6 -0.1R		3.6 -0.1R		3.6 -0.1R		3.6 +0R		3.6 +0R		3.6 +0R	
		6"	$q_a$	$q_f$	2742	4387	2742	4387	2742	4387	2742	4387	2742	4387	2742	4387	2349	3758	1856	2969	1503	2405
			F		4 -0.3R		4.1 -0.2R		4.2 -0.2R		4.2 -0.1R		4.2 -0.1R		4.3 -0.1R		4.3 -0.1R		4.3 -0.1R		4.3 -0.1R	
		8"	$q_a$	$q_f$	2742	4387	2742	4387	2742	4387	2742	4387	2742	4387	2742	4387	2349	3758	1856	2969	1503	2405
			F		4.4 -0.4R		4.6 -0.3R		4.7 -0.3R		4.8 -0.2R		4.8 -0.2R		4.9 -0.2R		4.9 -0.2R		4.9 -0.1R		4.9 -0.1R	
	12"	$q_a$	$q_f$	2569	4239	2382	3930	2281	3764	2219	3661	2176	3591	2145	3540	2122	3501	1856	2969	1503	2405	
		F		5.2 -0.6R		5.5 -0.6R		5.7 -0.5R		5.8 -0.4R		5.9 -0.4R		6 -0.4R		6.1 -0.3R		6.1 -0.3R		6.1 -0.3R		6.1 -0.3R
	18"	$q_a$	$q_f$	2240	4239	1889	3117	1905	3143	1749	2885	1640	2707	1687	2783	1612	2660	1553	2563	1503	2405	
		F		6 -1R		6.6 -1R		7 -0.9R		7.2 -0.8R		7.4 -0.8R		7.6 -0.7R		7.7 -0.6R		7.8 -0.6R		7.8 -0.6R		7.8 -0.6R
	24"	$q_a$	$q_f$	1857	3064	1606	2650	1474	2431	1392	2297	1337	2206	1297	2140	1267	2091	1243	2052	1225	2021	
		F		6.6 -1.3R		7.5 -1.3R		8 -1.3R		8.4 -1.2R		8.7 -1.1R		8.9 -1.1R		9.1 -1R		9.3 -1R		9.4 -0.9R		9.4 -0.9R
	18 ga	4"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735
			F		4.7 -0.3R		4.8 -0.2R		4.8 -0.2R		4.9 -0.1R		4.9 -0.1R		4.9 -0.1R		4.9 -0.1R		4.9 -0.1R		4.9 -0.1R	
		6"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735
			F		5.3 -0.5R		5.6 -0.4R		5.7 -0.3R		5.8 -0.3R		5.8 -0.2R		5.9 -0.2R		5.9 -0.2R		5.9 -0.2R		5.9 -0.2R	
		8"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735
			F		5.9 -0.7R		6.3 -0.6R		6.5 -0.5R		6.6 -0.5R		6.7 -0.4R		6.8 -0.4R		6.8 -0.3R		6.9 -0.3R		6.9 -0.3R	
	12"	$q_a$	$q_f$	1824	2918	1663	2744	1575	2599	1520	2508	1483	2447	1456	2402	1436	2369	1339	2142	1084	1735	
		F		6.8 -1R		7.5 -1R		7.8 -0.9R		8.1 -0.8R		8.3 -0.8R		8.4 -0.7R		8.5 -0.6R		8.6 -0.6R		8.7 -0.6R		8.7 -0.6R
	18"	$q_a$	$q_f$	1596	2918	1319	2177	1311	2164	1193	1969	1112	1835	1138	1877	1083	1787	1040	1716	1066	1735	
		F		7.8 -1.5R		8.8 -1.6R		9.5 -1.5R		10 -1.5R		10.3 -1.4R		10.6 -1.3R		10.8 -1.2R		11 -1.1R		11.1 -1.1R		11.1 -1.1R
	24"	$q_a$	$q_f$	1335	2203	1127	1859	1018	1679	952	1571	909	1499	877	1447	852	1406	833	1375	818	1350	
		F		8.5 -1.9R		9.9 -2.1R		10.8 -2.1R		11.5 -2.1R		12.1 -2R		12.5 -1.9R		12.8 -1.8R		13.1 -1.7R		13.3 -1.7R		13.3 -1.7R
20 ga	4"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		6.7 -0.5R		7 -0.5R		7.1 -0.4R		7.2 -0.3R		7.3 -0.3R		7.4 -0.3R		7.4 -0.2R		7.4 -0.2R		7.5 -0.2R		7.5 -0.2R
	6"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		7.7 -0.9R		8.2 -0.8R		8.5 -0.7R		8.7 -0.6R		8.8 -0.6R		8.9 -0.5R		9 -0.5R		9.1 -0.4R		9.1 -0.4R		9.1 -0.4R
	8"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		8.5 -1.2R		9.2 -1.2R		9.7 -1.1R		10 -1R		10.2 -0.9R		10.4 -0.8R		10.5 -0.8R		10.6 -0.7R		10.7 -0.7R		10.7 -0.7R
12"	$q_a$	$q_f$	1056	1728	956	1578	903	1490	870	1436	848	1399	832	1372	819	1352	810	1336	712	1139		
	F		9.6 -1.8R		10.8 -1.9R		11.6 -1.8R		12.2 -1.7R		12.6 -1.6R		12.9 -1.5R		13.2 -1.5R		13.4 -1.4R		13.6 -1.3R		13.6 -1.3R	
18"	$q_a$	$q_f$	922	1728	759	1253	752	1241	683	1127	636	1049	649	1071	618	1019	593	978	607	1001		
	F		10.7 -2.4R		12.5 -2.7R		13.8 -2.8R		14.7 -2.8R		15.5 -2.7R		16.1 -2.6R		16.6 -2.5R		17 -2.4R		17.3 -2.4R		17.3 -2.4R	
24"	$q_a$	$q_f$	773	1276	647	1067	583	961	544	897	518	855	500	825	486	802	475	784	466	769		
	F		11.5 -2.9R		13.7 -3.3R		15.4 -3.6R		16.7 -3.7R		17.8 -3.7R		18.7 -3.7R		19.4 -3.6R		20 -3.5R		20.5 -3.5R		20.5 -3.5R	
22 ga	4"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		8.5 -0.8R		8.9 -0.7R		9.2 -0.7R		9.3 -0.6R		9.5 -0.5R		9.6 -0.5R		9.6 -0.4R		9.7 -0.4R		9.7 -0.4R		9.7 -0.4R
	6"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		9.6 -1.3R		10.4 -1.3R		10.9 -1.2R		11.2 -1.1R		11.5 -1R		11.7 -0.9R		11.8 -0.8R		11.9 -0.8R		12 -0.7R		12 -0.7R
	8"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	767	1233	673	1076	545	872	
		F		10.5 -1.8R		11.6 -1.8R		12.4 -1.7R		12.9 -1.6R		13.3 -1.5R		13.6 -1.4R		13.8 -1.3R		14 -1.2R		14.1 -1.2R		14.1 -1.2R
12"	$q_a$	$q_f$	746	1231	673	1111	634	1047	610	1007	594	980	582	961	573	946	566	935	545	872		
	F		11.8 -2.4R		13.5 -2.6R		14.7 -2.7R		15.6 -2.6R		16.3 -2.5R		16.8 -2.4R		17.3 -2.3R		17.6 -2.2R		17.9 -2.1R		17.9 -2.1R	
18"	$q_a$	$q_f$	652	1231	535	883	528	872	479	791	445	735	455	750	432	713	414	684	424	700		
	F		12.9 -3.1R		15.4 -3.6R		17.2 -3.9R		18.6 -4R		19.8 -4R		20.7 -4R		21.5 -3.9R		22.1 -3.8R		22.7 -3.7R		22.7 -3.7R	
24"	$q_a$	$q_f$	548	904	455	751	409	675	381	629	363	598	349	577	340	560	332	547	326	537		
	F		13.7 -3.6R		16.6 -4.4R		19 -4.8R		20.9 -5.1R		22.4 -5.3R		23.7 -5.3R		24.9 -5.4R		25.8 -5.3R		26.6 -5.3R		26.6 -5.3R	

# 3.5 DGN-32 & DGNF-32

## No. 12 Self-Drilling Screws to Supports with

### DeltaGrip® Side Seam Attachment

Diaphragm Shear in pounds per linear foot (plf)



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																					
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"				
32/5	16 ga	4"	$q_a$	$q_f$	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380		
			F	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	
		6"	$q_a$	$q_f$	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380
			F	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R
		8"	$q_a$	$q_f$	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380
			F	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R
	12"	$q_a$	$q_f$	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	
		F	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	
	18"	$q_a$	$q_f$	1478	2380	1398	2251	1443	2323	1396	2247	1360	2190	1394	2245	1368	2203	1347	2168	1373	2211	1373	2211	
		F	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	
	24"	$q_a$	$q_f$	1289	2075	1239	1994	1211	1950	1194	1923	1183	1904	1174	1891	1168	1880	1163	1872	1159	1866	1159	1866	
		F	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	
	18 ga	4"	$q_a$	$q_f$	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1084	1735
			F	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R
		6"	$q_a$	$q_f$	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1084	1735
			F	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R
		8"	$q_a$	$q_f$	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1084	1735
			F	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R
	12"	$q_a$	$q_f$	1182	1903	1182	1903	1179	1898	1172	1887	1167	1879	1164	1874	1161	1870	1159	1866	1159	1866	1084	1735	
		F	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	
	18"	$q_a$	$q_f$	1104	1903	1019	1641	1055	1698	1010	1627	978	1574	1007	1621	983	1582	963	1550	986	1587	986	1587	
		F	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	
	24"	$q_a$	$q_f$	937	1508	886	1427	859	1383	842	1356	831	1337	822	1324	816	1313	811	1305	807	1299	807	1299	
		F	15.9 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	
20 ga	4"	$q_a$	$q_f$	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	879	1406	712	1139			
		F	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R		
	6"	$q_a$	$q_f$	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	879	1406	712	1139			
		F	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R		
	8"	$q_a$	$q_f$	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	879	1406	712	1139			
		F	11.5 +0R	11.5 +0R	11.5 +0R	11.5 +0R	11.5 +0R	11.5 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R		
12"	$q_a$	$q_f$	830	1336	806	1297	793	1276	785	1263	779	1254	775	1248	772	1243	769	1239	712	1139				
	F	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R				
18"	$q_a$	$q_f$	741	1336	666	1072	689	1109	651	1049	624	1005	645	1038	625	1007	609	981	626	1008				
	F	21.2 -0.1R	21.2 -0.1R	21.2 -0.1R	21.2 -0.1R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R				
24"	$q_a$	$q_f$	616	992	569	917	544	876	529	851	518	834	510	822	504	812	500	805	496	799				
	F	26.9 -0.2R	26.9 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 +0R	27 +0R	27 +0R	27 +0R	27 +0R	27 +0R	27 +0R					
22 ga	4"	$q_a$	$q_f$	739	1190	739	1190	739	1190	739	1190	739	1190	739	1190	739	1190	673	1076	545	872			
		F	10.1 +0R	10.1 +0R	10.2 +0R	10.2 +0R	10.2 +0R	10.2 +0R	10.2 +0R	10.2 +0R	10.2 +0R	10.2 +0R	10.2 +0R	10.2 +0R	10.2 +0R	10.2 +0R	10.2 +0R	10.2 +0R	10.2 +0R	10.2 +0R				
	6"	$q_a$	$q_f$	739	1190	739	1190	739	1190	739	1190	739	1190	739	1190	739	1190	673	1076	545	872			
		F	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R				
	8"	$q_a$	$q_f$	739	1190	729	1174	721	1161	717	1154	713	1148	711	1145	709	1142	673	1076	545	872			
		F	15.7 -0.1R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R				
12"	$q_a$	$q_f$	644	1037	619	997	606	975	597	961	591	952	587	945	584	940	581	936	545	872				
	F	21.2 -0.1R	21.3 -0.1R	21.3 -0.1R	21.3 -0.1R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R					
18"	$q_a$	$q_f$	569	1037	503	810	518	834	486	782	463	745	478	770	462	744	449	722	461	743				
	F	29.5 -0.3R	29.6 -0.2R	29.6 -0.1R	29.6 -0.1R	29.6 -0.1R	29.6 -0.1R	29.6 -0.1R	29.6 -0.1R	29.6 -0.1R	29.6 -0.1R	29.6 -0.1R	29.6 -0.1R	29.6 -0.1R	29.6 -0.1R	29.6 -0.1R	29.6 -0.1R	29.6 -0.1R	29.6 -0.1R					
24"	$q_a$	$q_f$	471	758	427	688	404	651	390	628	380	612	373	601	368	592	364	586	360	580				
	F	37.6 -0.5R	37.8 -0.3R	37.9 -0.2R	37.9 -0.2R	37.9 -0.2R	37.9 -0.2R	37.9 -0.2R	37.9 -0.2R	37.9 -0.2R	37.9 -0.2R	37.9 -0.2R	37.9 -0.2R	37.9 -0.2R	37.9 -0.2R	37.9 -0.2R	37.9 -0.2R	37.9 -0.2R	37.9 -0.2R					

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# DGN-32 & DGNF-32 3.5

## No. 12 Self-Drilling Screws to Supports with DeltaGrip® Side Seam Attachment

Diaphragm Shear in pounds per linear foot (plf)



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																					
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"				
32/7	16 ga	4"	$q_a$	$q_f$	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380		
			F	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R		
		6"	$q_a$	$q_f$	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380
			F	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	4.4 +0R	
		8"	$q_a$	$q_f$	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380
			F	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	5.1 +0R	
	12"	$q_a$	$q_f$	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	
		F	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R	6.5 +0R		
	18"	$q_a$	$q_f$	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	
		F	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R	8.6 +0R		
	24"	$q_a$	$q_f$	1478	2380	1478	2380	1454	2340	1414	2276	1386	2232	1366	2199	1351	2175	1339	2155	1329	2139	1329	2139	
		F	10.6 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	10.7 +0R	
	18 ga	4"	$q_a$	$q_f$	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1084	1735	1084	1735
			F	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	
		6"	$q_a$	$q_f$	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1084	1735
			F	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	6.1 +0R	
		8"	$q_a$	$q_f$	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1084	1735
			F	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	7.2 +0R	
	12"	$q_a$	$q_f$	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1084	1735	1084	1735	
		F	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R	9.4 +0R		
	18"	$q_a$	$q_f$	1182	1903	1182	1903	1182	1903	1182	1903	1151	1854	1182	1903	1146	1846	1115	1796	1084	1735	1084	1735	
		F	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R	12.7 +0R		
	24"	$q_a$	$q_f$	1182	1903	1083	1743	1024	1648	987	1589	961	1548	943	1518	929	1495	918	1478	909	1463	909	1463	
		F	15.9 -0.1R	15.9 -0.1R	15.9 +0R	15.9 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	16 +0R	
20 ga	4"	$q_a$	$q_f$	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	879	1406	712	1139	712	1139	
		F	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R	7.7 +0R		
	6"	$q_a$	$q_f$	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	879	1406	712	1139	712	1139	
		F	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R	9.6 +0R		
	8"	$q_a$	$q_f$	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	879	1406	712	1139	712	1139	
		F	11.5 +0R	11.5 +0R	11.5 +0R	11.5 +0R	11.5 +0R	11.5 +0R	11.5 +0R	11.5 +0R	11.5 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R	11.6 +0R		
12"	$q_a$	$q_f$	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	879	1406	712	1139	712	1139		
	F	15.4 -0.1R	15.4 -0.1R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R	15.4 +0R			
18"	$q_a$	$q_f$	888	1429	814	1310	823	1325	764	1231	723	1164	742	1195	713	1148	690	1111	708	1139	708	1139		
	F	21.1 -0.2R	21.1 -0.1R	21.2 -0.1R	21.2 -0.1R	21.2 -0.1R	21.2 -0.1R	21.2 -0.1R	21.2 -0.1R	21.2 -0.1R	21.2 -0.1R	21.2 -0.1R	21.2 -0.1R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R	21.2 +0R			
24"	$q_a$	$q_f$	795	1280	701	1129	651	1048	619	997	597	962	582	936	570	917	560	902	553	890	553	890		
	F	26.8 -0.3R	26.9 -0.2R	26.9 -0.2R	26.9 -0.2R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R	27 -0.1R			
22 ga	4"	$q_a$	$q_f$	739	1190	739	1190	739	1190	739	1190	739	1190	739	1190	739	1190	673	1076	545	872	545	872	
		F	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R	10.1 +0R		
	6"	$q_a$	$q_f$	739	1190	739	1190	739	1190	739	1190	739	1190	739	1190	739	1190	673	1076	545	872	545	872	
		F	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R	12.9 +0R		
	8"	$q_a$	$q_f$	739	1190	739	1190	739	1190	739	1190	739	1190	739	1190	739	1190	673	1076	545	872	545	872	
		F	15.7 -0.1R	15.7 -0.1R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R	15.7 +0R		
12"	$q_a$	$q_f$	739	1190	739	1190	727	1170	707	1138	693	1116	683	1100	675	1087	669	1076	545	872	545	872		
	F	21.1 -0.2R	21.2 -0.1R	21.2 -0.1R	21.2 -0.1R	21.3 -0.1R	21.3 -0.1R	21.3 -0.1R	21.3 -0.1R	21.3 -0.1R	21.3 -0.1R	21.3 -0.1R	21.3 -0.1R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R	21.3 +0R			
18"	$q_a$	$q_f$	725	1190	617	993	617	994	568	915	534	859	546	880	523	842	504	811	516	831	516	831		
	F	29.3 -0.4R	29.4 -0.3R	29.5 -0.2R	29.5 -0.2R	29.6 -0.2R	29.6 -0.2R	29.6 -0.2R	29.6 -0.2R	29.6 -0.2R	29.6 -0.2R	29.6 -0.2R	29.6 -0.2R	29.6 -0.2R	29.6 -0.2R	29.6 -0.2R	29.6 -0.2R	29.6 -0.2R	29.6 -0.2R	29.6 -0.2R	29.6 -0.2R			
24"	$q_a$	$q_f$	616	991	532	857	487	785	459	740	440	709	426	687	416	670	408	656	401	646	401	646		
	F	37.3 -0.7R	37.6 -0.5R	37.7 -0.4R	37.8 -0.3R	37.8 -0.3R	37.8 -0.3R	37.8 -0.3R	37.8 -0.3R	37.8 -0.3R	37.8 -0.3R	37.8 -0.3R	37.8 -0.3R	37.8 -0.3R	37.8 -0.3R	37.8 -0.3R	37.8 -0.3R	37.8 -0.3R	37.8 -0.3R	37.8 -0.3R	37.8 -0.3R			

N PANELS



# DGN-32 & DGNF-32 3.6

Hilti X-HSN-24 Fasteners to Supports  
with DeltaGrip® Side Seam Attachment  
Diaphragm Shear in pounds per linear foot (plf)



**HILTI**



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																			
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"		
32/7	16 ga	4"	$q_a$	$q_f$	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1856	2969	1503	2405		
			F		3.4 -0.2R		3.5 -0.1R		3.5 -0.1R		3.6 -0.1R		3.6 -0.1R		3.6 -0.1R		3.6 -0.1R		3.6 -0.1R		3.6 -0.1R	
		6"	$q_a$	$q_f$	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1856	2969	1503	2405
			F		3.8 -0.3R		4 -0.3R		4.1 -0.2R		4.1 -0.2R		4.2 -0.2R		4.2 -0.2R		4.2 -0.1R		4.2 -0.1R		4.2 -0.1R	
		8"	$q_a$	$q_f$	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1856	2969	1503	2405
			F		4.2 -0.4R		4.4 -0.4R		4.6 -0.3R		4.6 -0.3R		4.7 -0.3R		4.8 -0.2R		4.8 -0.2R		4.8 -0.2R		4.8 -0.2R	
	12"	$q_a$	$q_f$	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1856	2969	1503	2405	
		F		4.7 -0.7R		5.1 -0.6R		5.4 -0.6R		5.6 -0.6R		5.7 -0.5R		5.8 -0.5R		5.9 -0.4R		5.9 -0.4R		6 -0.4R		
	18"	$q_a$	$q_f$	1907	3070	1907	3070	1907	3070	1907	3070	1824	2937	1877	3022	1815	2922	1764	2841	1503	2405	
		F		5.3 -1R		6 -1R		6.4 -1R		6.7 -0.9R		7 -0.9R		7.1 -0.9R		7.3 -0.8R		7.4 -0.8R		7.5 -0.7R		
	24"	$q_a$	$q_f$	1897	3054	1720	2769	1623	2613	1562	2516	1521	2448	1490	2400	1467	2363	1449	2333	1435	2310	
		F		5.7 -1.2R		6.6 -1.3R		7.2 -1.3R		7.7 -1.3R		8 -1.3R		8.3 -1.2R		8.5 -1.2R		8.7 -1.2R		8.9 -1.1R		
	18 ga	4"	$q_a$	$q_f$	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1339	2142	1084	1735
			F		4.5 -0.3R		4.7 -0.3R		4.7 -0.2R		4.8 -0.2R		4.8 -0.2R		4.9 -0.1R		4.9 -0.1R		4.9 -0.1R		4.9 -0.1R	
		6"	$q_a$	$q_f$	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1339	2142	1084	1735
			F		5.1 -0.5R		5.3 -0.5R		5.5 -0.4R		5.6 -0.4R		5.7 -0.3R		5.7 -0.3R		5.8 -0.3R		5.8 -0.3R		5.9 -0.2R	
		8"	$q_a$	$q_f$	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1339	2142	1084	1735
			F		5.5 -0.7R		5.9 -0.7R		6.2 -0.6R		6.3 -0.6R		6.5 -0.5R		6.6 -0.5R		6.6 -0.4R		6.7 -0.4R		6.7 -0.4R	
	12"	$q_a$	$q_f$	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1339	2142	1084	1735	
		F		6.1 -1R		6.8 -1R		7.3 -1R		7.6 -1R		7.8 -0.9R		8 -0.9R		8.1 -0.8R		8.3 -0.8R		8.4 -0.7R		
	18"	$q_a$	$q_f$	1544	2485	1429	2301	1447	2330	1345	2166	1273	2049	1307	2105	1257	2024	1216	1958	1084	1735	
		F		6.8 -1.4R		7.8 -1.5R		8.5 -1.6R		9 -1.6R		9.5 -1.5R		9.8 -1.5R		10.1 -1.4R		10.3 -1.4R		10.5 -1.3R		
	24"	$q_a$	$q_f$	1393	2243	1232	1984	1145	1843	1090	1755	1052	1694	1025	1651	1005	1617	988	1591	975	1570	
		F		7.2 -1.6R		8.5 -1.9R		9.4 -2R		10.2 -2.1R		10.8 -2.1R		11.3 -2.1R		11.7 -2R		12 -2R		12.3 -1.9R		
20 ga	4"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		6.4 -0.6R		6.7 -0.5R		6.9 -0.5R		7 -0.4R		7.1 -0.4R		7.2 -0.4R		7.3 -0.3R		7.3 -0.3R		7.3 -0.3R		
	6"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		7.1 -0.9R		7.7 -0.9R		8 -0.9R		8.3 -0.8R		8.5 -0.7R		8.6 -0.7R		8.7 -0.6R		8.8 -0.6R		8.9 -0.6R		
	8"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		7.6 -1.2R		8.4 -1.2R		9 -1.2R		9.3 -1.2R		9.6 -1.1R		9.8 -1R		10 -1R		10.2 -0.9R		10.3 -0.9R		
12"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1060	1706	1036	1668	1019	1641	1006	1620	879	1406	712	1139		
	F		8.4 -1.6R		9.6 -1.8R		10.4 -1.9R		11.1 -1.9R		11.5 -1.8R		11.9 -1.8R		12.3 -1.7R		12.5 -1.6R		12.8 -1.6R			
18"	$q_a$	$q_f$	1080	1728	932	1500	926	1492	849	1366	794	1279	812	1307	775	1247	746	1200	712	1139		
	F		9 -2R		10.7 -2.4R		11.9 -2.6R		12.9 -2.7R		13.7 -2.8R		14.4 -2.8R		14.9 -2.8R		15.4 -2.7R		15.8 -2.7R			
24"	$q_a$	$q_f$	942	1516	806	1297	732	1179	687	1106	656	1056	633	1020	616	992	603	971	592	953		
	F		9.5 -2.3R		11.4 -2.8R		13 -3.2R		14.2 -3.4R		15.3 -3.6R		16.2 -3.7R		17 -3.7R		17.7 -3.7R		18.3 -3.7R			
22 ga	4"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		7.9 -0.9R		8.5 -0.9R		8.8 -0.8R		9 -0.7R		9.2 -0.7R		9.3 -0.6R		9.4 -0.6R		9.5 -0.5R		9.5 -0.5R		
	6"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		8.7 -1.3R		9.6 -1.3R		10.2 -1.3R		10.6 -1.2R		10.9 -1.2R		11.1 -1.1R		11.3 -1R		11.5 -1R		11.6 -0.9R		
	8"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		9.3 -1.6R		10.5 -1.8R		11.3 -1.8R		11.9 -1.8R		12.3 -1.7R		12.7 -1.6R		13 -1.6R		13.2 -1.5R		13.4 -1.4R		
12"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	769	1233	753	1212	741	1192	673	1076	545	872		
	F		10.1 -2.1R		11.7 -2.4R		12.9 -2.6R		13.9 -2.7R		14.6 -2.7R		15.3 -2.7R		15.8 -2.6R		16.2 -2.6R		16.6 -2.5R			
18"	$q_a$	$q_f$	771	1233	709	1142	695	1119	631	1016	587	945	596	960	567	912	543	875	545	872		
	F		10.7 -2.5R		12.8 -3.1R		14.5 -3.5R		15.9 -3.7R		17.1 -3.9R		18.1 -4R		18.9 -4R		19.7 -4R		20.3 -4R			
24"	$q_a$	$q_f$	736	1186	617	993	551	887	511	823	485	780	466	750	452	727	440	709	431	694		
	F		11.1 -2.7R		13.6 -3.5R		15.6 -4.1R		17.3 -4.5R		18.8 -4.8R		20.1 -5R		21.3 -5.2R		22.3 -5.3R		23.2 -5.3R			

N PANELS

# 3.6 DGN-32 & DGNF-32

## Hilti X-ENP-19 Fasteners to Supports with DeltaGrip® Side Seam Attachment

Diaphragm Shear in pounds per linear foot (plf)



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear (q <sub>a</sub> ) (plf), Factored Shear (q <sub>r</sub> ) (plf), and Flexibility Factor (F) (10 <sup>-6</sup> in/lbs)																				
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"			
32/5	16 ga	4"	q <sub>a</sub> q <sub>r</sub>	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	1856	2969	1503	2405		
			F	3.4 -0.2R		3.5 -0.1R		3.5 -0.1R		3.6 -0.1R		3.6 -0.1R		3.6 -0.1R		3.6 -0.1R		3.6 -0.1R		3.6 -0.1R			
		6"	q <sub>a</sub> q <sub>r</sub>	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	1856	2969	1503	2405
			F	3.8 -0.3R		4 -0.3R		4.1 -0.2R		4.1 -0.2R		4.2 -0.2R		4.2 -0.2R		4.2 -0.1R		4.2 -0.1R		4.2 -0.1R			
		8"	q <sub>a</sub> q <sub>r</sub>	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	1856	2969	1503	2405
			F	4.2 -0.4R		4.4 -0.4R		4.6 -0.3R		4.6 -0.3R		4.7 -0.3R		4.8 -0.2R		4.8 -0.2R		4.8 -0.2R		4.8 -0.2R		4.8 -0.2R	
		12"	q <sub>a</sub> q <sub>r</sub>	2040	3284	1997	3215	1974	3179	1960	3156	1950	3140	1943	3128	1938	3120	1856	2969	1503	2405		
			F	4.7 -0.7R		5.1 -0.6R		5.4 -0.6R		5.6 -0.6R		5.7 -0.5R		5.8 -0.5R		5.9 -0.4R		5.9 -0.4R		6 -0.4R			
		18"	q <sub>a</sub> q <sub>r</sub>	1845	3284	1687	2717	1747	2813	1666	2682	1606	2586	1656	2667	1613	2597	1577	2540	1503	2405		
			F	5.3 -1R		6 -1R		6.4 -1R		6.7 -0.9R		6.9 -0.9R		7.1 -0.9R		7.3 -0.8R		7.4 -0.8R		7.5 -0.7R			
		24"	q <sub>a</sub> q <sub>r</sub>	1552	2499	1457	2346	1405	2263	1373	2211	1351	2176	1336	2150	1324	2131	1314	2116	1306	2103		
			F	5.7 -1.2R		6.6 -1.3R		7.2 -1.3R		7.6 -1.3R		8 -1.3R		8.3 -1.3R		8.5 -1.2R		8.7 -1.2R		8.8 -1.1R			
	18 ga	4"	q <sub>a</sub> q <sub>r</sub>	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1339	2142	1084	1735
			F	4.5 -0.3R		4.7 -0.3R		4.7 -0.2R		4.8 -0.2R		4.8 -0.2R		4.9 -0.1R		4.9 -0.1R		4.9 -0.1R		4.9 -0.1R			
		6"	q <sub>a</sub> q <sub>r</sub>	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1339	2142	1084	1735
			F	5.1 -0.5R		5.3 -0.5R		5.5 -0.4R		5.6 -0.4R		5.7 -0.3R		5.7 -0.3R		5.8 -0.3R		5.8 -0.3R		5.9 -0.2R			
		8"	q <sub>a</sub> q <sub>r</sub>	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1339	2142	1084	1735
			F	5.5 -0.7R		5.9 -0.7R		6.2 -0.6R		6.3 -0.6R		6.5 -0.5R		6.6 -0.5R		6.6 -0.4R		6.7 -0.4R		6.7 -0.4R			
		12"	q <sub>a</sub> q <sub>r</sub>	1523	2452	1475	2374	1448	2332	1432	2306	1421	2288	1413	2274	1406	2264	1339	2142	1084	1735		
			F	6.1 -1R		6.8 -1R		7.3 -1R		7.6 -1R		7.8 -0.9R		8 -0.9R		8.1 -0.8R		8.3 -0.8R		8.4 -0.7R			
		18"	q <sub>a</sub> q <sub>r</sub>	1355	2452	1212	1951	1252	2016	1181	1902	1130	1819	1168	1880	1131	1820	1101	1772	1084	1735		
			F	6.8 -1.4R		7.8 -1.5R		8.5 -1.6R		9 -1.6R		9.5 -1.5R		9.8 -1.5R		10.1 -1.4R		10.3 -1.4R		10.5 -1.3R			
		24"	q <sub>a</sub> q <sub>r</sub>	1125	1811	1034	1665	985	1586	955	1538	935	1505	920	1481	908	1462	900	1448	892	1437		
			F	7.2 -1.6R		8.5 -1.9R		9.4 -2R		10.2 -2.1R		10.8 -2.1R		11.2 -2.1R		11.7 -2R		12 -2R		12.3 -1.9R			
20 ga	4"	q <sub>a</sub> q <sub>r</sub>	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F	6.4 -0.6R		6.7 -0.5R		6.9 -0.5R		7 -0.4R		7.1 -0.4R		7.2 -0.4R		7.3 -0.3R		7.3 -0.3R		7.3 -0.3R				
	6"	q <sub>a</sub> q <sub>r</sub>	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F	7.1 -0.9R		7.7 -0.9R		8 -0.9R		8.3 -0.8R		8.5 -0.7R		8.6 -0.7R		8.7 -0.6R		8.8 -0.6R		8.9 -0.6R				
	8"	q <sub>a</sub> q <sub>r</sub>	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F	7.6 -1.2R		8.4 -1.2R		9 -1.2R		9.3 -1.2R		9.6 -1.1R		9.8 -1R		10 -1R		10.2 -0.9R		10.3 -0.9R				
	12"	q <sub>a</sub> q <sub>r</sub>	1026	1651	974	1569	947	1524	929	1496	917	1477	909	1463	902	1453	879	1406	712	1139			
		F	8.4 -1.6R		9.5 -1.8R		10.4 -1.9R		11 -1.9R		11.5 -1.8R		11.9 -1.8R		12.3 -1.7R		12.5 -1.6R		12.8 -1.6R				
	18"	q <sub>a</sub> q <sub>r</sub>	900	1651	781	1258	800	1289	745	1199	705	1136	728	1173	701	1128	678	1092	698	1123			
		F	9 -2R		10.6 -2.4R		11.9 -2.6R		12.9 -2.7R		13.7 -2.8R		14.4 -2.8R		14.9 -2.8R		15.4 -2.7R		15.8 -2.7R				
	24"	q <sub>a</sub> q <sub>r</sub>	742	1194	662	1066	620	998	594	956	576	928	563	907	554	891	546	879	540	869			
		F	9.4 -2.2R		11.4 -2.8R		12.9 -3.2R		14.2 -3.4R		15.3 -3.6R		16.2 -3.7R		17 -3.7R		17.7 -3.7R		18.3 -3.7R				
22 ga	4"	q <sub>a</sub> q <sub>r</sub>	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F	7.9 -0.9R		8.4 -0.9R		8.8 -0.8R		9 -0.7R		9.2 -0.7R		9.3 -0.6R		9.4 -0.6R		9.5 -0.5R		9.5 -0.5R				
	6"	q <sub>a</sub> q <sub>r</sub>	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F	8.7 -1.3R		9.6 -1.3R		10.2 -1.3R		10.6 -1.2R		10.9 -1.2R		11.1 -1.1R		11.3 -1.1R		11.5 -1R		11.6 -0.9R				
	8"	q <sub>a</sub> q <sub>r</sub>	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F	9.3 -1.6R		10.5 -1.8R		11.3 -1.8R		11.9 -1.8R		12.3 -1.7R		12.7 -1.6R		13 -1.6R		13.2 -1.5R		13.4 -1.4R				
	12"	q <sub>a</sub> q <sub>r</sub>	771	1233	739	1190	712	1146	695	1119	683	1100	675	1087	669	1076	664	1068	654	872			
		F	10.1 -2R		11.7 -2.4R		12.9 -2.6R		13.9 -2.7R		14.6 -2.7R		15.2 -2.7R		15.8 -2.6R		16.2 -2.6R		16.6 -2.5R				
	18"	q <sub>a</sub> q <sub>r</sub>	689	1233	587	946	596	960	550	886	518	834	534	859	511	823	493	795	507	817			
		F	10.7 -2.5R		12.8 -3.1R		14.5 -3.5R		15.9 -3.7R		17.1 -3.9R		18.1 -4R		18.9 -4R		19.6 -4R		20.3 -4R				
	24"	q <sub>a</sub> q <sub>r</sub>	570	917	498	803	461	742	438	705	422	679	411	661	402	647	395	637	390	628			
		F	11.1 -2.7R		13.5 -3.5R		15.6 -4.1R		17.3 -4.5R		18.8 -4.8R		20.1 -5R		21.2 -5.2R		22.3 -5.3R		23.2 -5.3R				

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Support Attachment: Hilti X-ENP-19 PAF

Side Seam Attachment: DeltaGrip

# DGN-32 & DGNF-32 3.6

## Hilti X-ENP-19 Fasteners to Supports with DeltaGrip® Side Seam Attachment

Diaphragm Shear in pounds per linear foot (plf)



**HILTI**



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																					
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"				
32/7	16 ga	4"	$q_a$	$q_f$	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	1856	2969	1503	2405		
			F		3.3 -0.2R		3.4 -0.2R		3.5 -0.2R		3.5 -0.1R		3.5 -0.1R		3.5 -0.1R		3.5 -0.1R		3.6 -0.1R		3.6 -0.1R		3.6 -0.1R	
		6"	$q_a$	$q_f$	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	1856	2969	1503	2405
			F		3.6 -0.3R		3.8 -0.3R		3.9 -0.3R		4 -0.3R		4 -0.2R		4.1 -0.2R		4.1 -0.2R		4.1 -0.2R		4.1 -0.2R		4.2 -0.2R	
		8"	$q_a$	$q_f$	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	1856	2969	1503	2405
			F		3.8 -0.4R		4.1 -0.4R		4.3 -0.4R		4.4 -0.4R		4.5 -0.4R		4.6 -0.3R		4.6 -0.3R		4.6 -0.3R		4.7 -0.3R		4.7 -0.3R	
	12"	$q_a$	$q_f$	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	2053	3306	1856	2969	1503	2405	
		F		4.2 -0.6R		4.6 -0.7R		4.9 -0.7R		5.1 -0.6R		5.3 -0.6R		5.4 -0.6R		5.5 -0.6R		5.6 -0.5R		5.6 -0.5R		5.7 -0.5R		5.7 -0.5R
	18"	$q_a$	$q_f$	2053	3306	2053	3306	2053	3306	1973	3176	1877	3022	1931	3109	1864	3001	1809	2913	1503	2405			
		F		4.5 -0.8R		5.2 -0.9R		5.6 -1R		6 -1R		6.2 -1R		6.5 -1R		6.7 -1R		6.8 -0.9R		7 -0.9R				
	24"	$q_a$	$q_f$	1981	3190	1783	2870	1674	2696	1606	2586	1560	2511	1526	2457	1500	2415	1480	2383	1464	2357			
		F		4.7 -0.9R		5.5 -1.1R		6.1 -1.2R		6.6 -1.3R		7 -1.3R		7.3 -1.3R		7.6 -1.3R		7.8 -1.3R		8 -1.3R				
	18 ga	4"	$q_a$	$q_f$	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1339	2142	1084	1735		
			F		4.3 -0.3R		4.5 -0.3R		4.6 -0.3R		4.7 -0.3R		4.7 -0.2R		4.8 -0.2R		4.8 -0.2R		4.8 -0.2R		4.8 -0.2R			
		6"	$q_a$	$q_f$	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1339	2142	1084	1735		
			F		4.7 -0.5R		5 -0.5R		5.2 -0.5R		5.3 -0.5R		5.4 -0.4R		5.5 -0.4R		5.6 -0.4R		5.6 -0.3R		5.7 -0.3R			
		8"	$q_a$	$q_f$	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1339	2142	1084	1735		
			F		4.9 -0.7R		5.4 -0.7R		5.7 -0.7R		5.9 -0.7R		6.1 -0.6R		6.2 -0.6R		6.3 -0.6R		6.4 -0.5R		6.5 -0.5R			
	12"	$q_a$	$q_f$	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1662	2676	1646	2651	1339	2142	1084	1735			
		F		5.3 -0.9R		6 -1R		6.4 -1R		6.8 -1R		7.1 -1R		7.3 -1R		7.5 -1R		7.7 -1R		7.8 -0.9R				
	18"	$q_a$	$q_f$	1662	2676	1482	2386	1494	2406	1384	2228	1306	2103	1340	2158	1286	2071	1243	2001	1084	1735			
		F		5.6 -1.1R		6.5 -1.3R		7.2 -1.4R		7.8 -1.5R		8.2 -1.6R		8.6 -1.6R		8.9 -1.6R		9.2 -1.6R		9.5 -1.5R				
	24"	$q_a$	$q_f$	1456	2344	1277	2056	1180	1900	1120	1803	1078	1736	1048	1688	1026	1651	1008	1623	993	1600			
		F		5.9 -1.2R		6.9 -1.5R		7.8 -1.7R		8.5 -1.9R		9.1 -2R		9.6 -2R		10 -2.1R		10.4 -2.1R		10.8 -2.1R				
20 ga	4"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139			
		F		5.9 -0.6R		6.3 -0.6R		6.5 -0.6R		6.7 -0.5R		6.8 -0.5R		6.9 -0.5R		7 -0.4R		7.1 -0.4R		7.1 -0.4R				
	6"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139			
		F		6.4 -0.8R		7 -0.9R		7.4 -0.9R		7.7 -0.9R		7.9 -0.9R		8.1 -0.8R		8.2 -0.8R		8.4 -0.8R		8.5 -0.7R				
	8"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139			
		F		6.7 -1R		7.4 -1.2R		8 -1.2R		8.4 -1.2R		8.8 -1.2R		9.1 -1.2R		9.3 -1.2R		9.5 -1.1R		9.6 -1.1R				
12"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1064	1714	1045	1683	1031	1659	879	1406	712	1139				
	F		7 -1.3R		8.1 -1.5R		8.9 -1.7R		9.6 -1.8R		10.1 -1.8R		10.6 -1.9R		10.9 -1.9R		11.3 -1.8R		11.5 -1.8R					
18"	$q_a$	$q_f$	1080	1728	966	1555	955	1538	872	1404	814	1311	830	1337	791	1274	760	1224	712	1139				
	F		7.4 -1.5R		8.7 -1.9R		9.7 -2.2R		10.7 -2.4R		11.5 -2.5R		12.1 -2.6R		12.7 -2.7R		13.3 -2.8R		13.7 -2.8R					
24"	$q_a$	$q_f$	987	1588	837	1348	757	1218	707	1138	673	1083	648	1043	629	1013	615	990	603	971				
	F		7.5 -1.6R		9 -2.1R		10.3 -2.5R		11.4 -2.8R		12.4 -3.1R		13.2 -3.3R		14 -3.4R		14.7 -3.5R		15.3 -3.6R					
22 ga	4"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872			
		F		7.2 -0.8R		7.8 -0.9R		8.2 -0.9R		8.5 -0.9R		8.7 -0.8R		8.8 -0.8R		9 -0.7R		9.1 -0.7R		9.2 -0.7R				
	6"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872			
		F		7.7 -1.1R		8.5 -1.3R		9.1 -1.3R		9.6 -1.3R		10 -1.3R		10.3 -1.3R		10.5 -1.3R		10.7 -1.2R		10.9 -1.2R				
	8"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872			
		F		8 -1.3R		9 -1.6R		9.8 -1.7R		10.5 -1.8R		11 -1.8R		11.4 -1.8R		11.8 -1.8R		12.1 -1.7R		12.3 -1.7R				
12"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	757	1219	673	1076	545	872				
	F		8.4 -1.5R		9.7 -1.9R		10.8 -2.2R		11.7 -2.4R		12.5 -2.5R		13.1 -2.6R		13.7 -2.7R		14.2 -2.7R		14.6 -2.7R					
18"	$q_a$	$q_f$	771	1233	736	1185	717	1155	649	1045	602	968	610	982	579	932	554	892	545	872				
	F		8.7 -1.7R		10.3 -2.3R		11.6 -2.7R		12.8 -3.1R		13.9 -3.3R		14.8 -3.5R		15.7 -3.7R		16.4 -3.8R		17.1 -3.9R					
24"	$q_a$	$q_f$	771	1233	637	1026	566	911	523	843	495	797	475	764	459	739	447	720	438	705				
	F		8.8 -1.8R		10.6 -2.5R		12.2 -3.1R		13.6 -3.5R		14.8 -3.9R		16 -4.2R		17 -4.4R		18 -4.7R		18.8 -4.8R					



# 3.7 DGN-32 & DGNF-32

## Pneutek SDK61 Fasteners to Supports with DeltaGrip® Side Seam Attachment

Diaphragm Shear in pounds per linear foot (plf)



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																			
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"		
32/5	16 ga	4"	$q_a$	$q_f$	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1856	2969	1503	2405		
			F		3.6 -0.1R	3.6 +0R	3.6 +0R	3.6 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R		
		6"	$q_a$	$q_f$	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1856	2969	1503	2405
			F		4.2 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	
		8"	$q_a$	$q_f$	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1856	2969	1503	2405
			F		4.8 -0.2R	4.9 -0.2R	4.9 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	
	12"	$q_a$	$q_f$	1888	3040	1888	3040	1871	3012	1859	2994	1852	2981	1846	2972	1842	2965	1838	2959	1503	2405	
		F		5.9 -0.4R	6 -0.3R	6.1 -0.3R	6.2 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.1R	6.3 -0.1R	6.3 -0.1R	6.3 -0.1R		
	18"	$q_a$	$q_f$	1751	3040	1614	2598	1670	2689	1598	2574	1546	2489	1592	2563	1553	2501	1522	2450	1503	2405	
		F		7.3 -0.8R	7.7 -0.7R	7.9 -0.5R	8 -0.5R	8.1 -0.4R	8.1 -0.4R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.3 -0.3R	8.3 -0.3R	
	24"	$q_a$	$q_f$	1483	2388	1401	2256	1357	2184	1329	2140	1310	2110	1297	2088	1286	2071	1278	2058	1271	2047	
		F		8.5 -1.2R	9.1 -1R	9.4 -0.9R	9.7 -0.8R	9.8 -0.7R	9.9 -0.6R	9.9 -0.6R	10 -0.5R	10 -0.5R	10 -0.5R	10 -0.5R	10 -0.5R	10 -0.5R	10 -0.5R	10 -0.5R	10 -0.5R	10 -0.5R	10 -0.5R	
	18 ga	4"	$q_a$	$q_f$	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1339	2142	1084	1735
			F		4.9 -0.1R	4.9 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	
		6"	$q_a$	$q_f$	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1339	2142	1084	1735
			F		5.8 -0.3R	5.9 -0.2R	6 -0.2R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	
		8"	$q_a$	$q_f$	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1339	2142	1084	1735
			F		6.6 -0.4R	6.8 -0.3R	6.9 -0.3R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7.1 -0.1R	7.1 -0.1R	7.1 -0.1R	7.1 -0.1R	7.1 -0.1R	
	12"	$q_a$	$q_f$	1457	2346	1416	2280	1394	2244	1380	2221	1370	2206	1363	2195	1358	2187	1339	2142	1084	1735	
		F		8.1 -0.8R	8.5 -0.7R	8.7 -0.5R	8.8 -0.5R	8.9 -0.4R	9 -0.4R	9 -0.4R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	
	18"	$q_a$	$q_f$	1302	2346	1173	1888	1213	1953	1148	1848	1100	1772	1137	1830	1102	1775	1075	1730	1084	1735	
		F		10.1 -1.4R	10.8 -1.2R	11.2 -1.1R	11.5 -0.9R	11.7 -0.8R	11.8 -0.7R	11.8 -0.7R	11.9 -0.7R	11.9 -0.7R	11.9 -0.7R	11.9 -0.7R	11.9 -0.7R	12 -0.6R	12 -0.6R	12 -0.6R	12 -0.6R	12 -0.6R		
	24"	$q_a$	$q_f$	1084	1746	1003	1615	960	1545	933	1501	914	1472	901	1450	891	1434	883	1421	876	1411	
		F		11.7 -2R	12.8 -1.8R	13.4 -1.6R	13.9 -1.5R	14.2 -1.3R	14.4 -1.2R	14.6 -1.1R	14.7 -1R	14.8 -0.9R	14.8 -0.9R	14.8 -0.9R	14.8 -0.9R	14.8 -0.9R	14.8 -0.9R	14.8 -0.9R	14.8 -0.9R	14.8 -0.9R		
20 ga	4"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		7.3 -0.3R	7.4 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R		
	6"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		8.7 -0.6R	9 -0.5R	9.1 -0.4R	9.2 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R		
	8"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		10 -1R	10.5 -0.8R	10.7 -0.7R	10.9 -0.6R	11 -0.5R	11.1 -0.4R	11.1 -0.4R	11.1 -0.4R	11.1 -0.4R	11.1 -0.4R	11.1 -0.4R	11.1 -0.4R	11.2 -0.4R	11.2 -0.4R	11.2 -0.4R	11.2 -0.4R	11.2 -0.4R		
12"	$q_a$	$q_f$	994	1600	948	1526	923	1486	907	1461	897	1444	889	1431	883	1422	878	1406	712	1139		
	F		12.3 -1.7R	13.1 -1.5R	13.6 -1.3R	13.9 -1.1R	14.2 -1R	14.3 -0.9R	14.3 -0.9R	14.5 -0.8R	14.5 -0.8R	14.5 -0.8R	14.5 -0.8R	14.5 -0.8R	14.6 -0.7R	14.6 -0.7R	14.6 -0.7R	14.6 -0.7R	14.6 -0.7R			
18"	$q_a$	$q_f$	873	1600	763	1228	783	1260	730	1176	693	1116	716	1153	689	1110	668	1076	687	1107		
	F		14.9 -2.8R	16.5 -2.6R	17.4 -2.3R	18.1 -2.1R	18.5 -1.9R	18.9 -1.7R	19.1 -1.6R	19.4 -1.5R	19.4 -1.5R	19.4 -1.5R	19.4 -1.5R	19.4 -1.5R	19.4 -1.5R	19.4 -1.5R	19.4 -1.5R	19.4 -1.5R	19.4 -1.5R			
24"	$q_a$	$q_f$	720	1160	647	1041	608	978	583	939	567	913	555	894	546	879	539	868	533	859		
	F		17 -3.7R	19.3 -3.6R	20.7 -3.4R	21.7 -3.2R	22.5 -2.9R	23 -2.7R	23.4 -2.5R	23.8 -2.4R	24.1 -2.2R	24.1 -2.2R	24.1 -2.2R	24.1 -2.2R	24.1 -2.2R	24.1 -2.2R	24.1 -2.2R	24.1 -2.2R	24.1 -2.2R			
22 ga	4"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		9.4 -0.6R	9.6 -0.4R	9.7 -0.3R	9.8 -0.3R	9.9 -0.3R	9.9 -0.2R	9.9 -0.2R	9.9 -0.2R	9.9 -0.2R	9.9 -0.2R	9.9 -0.2R	9.9 -0.2R	10 -0.2R	10 -0.2R	10 -0.2R	10 -0.2R			
	6"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		11.3 -1.1R	11.8 -0.8R	12.1 -0.7R	12.2 -0.6R	12.3 -0.5R	12.4 -0.5R	12.4 -0.5R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R			
	8"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		13 -1.6R	13.8 -1.3R	14.2 -1.1R	14.5 -1R	14.7 -0.9R	14.8 -0.8R	14.9 -0.7R	15 -0.6R	15 -0.6R	15 -0.6R	15 -0.6R	15 -0.6R	15 -0.6R	15 -0.6R	15 -0.6R	15 -0.6R			
12"	$q_a$	$q_f$	769	1233	722	1163	698	1123	682	1098	671	1081	664	1068	658	1059	653	1052	545	872		
	F		15.8 -2.6R	17.2 -2.4R	18 -2.1R	18.6 -1.9R	19 -1.7R	19.3 -1.5R	19.3 -1.5R	19.3 -1.5R	19.3 -1.5R	19.3 -1.5R	19.3 -1.5R	19.3 -1.5R	19.3 -1.5R	19.3 -1.5R	19.3 -1.5R	19.3 -1.5R	19.3 -1.5R			
18"	$q_a$	$q_f$	672	1233	575	926	586	943	541	872	510	822	526	847	505	813	488	785	501	807		
	F		18.9 -4R	21.4 -3.9R	22.9 -3.7R	24 -3.4R	24.8 -3.2R	25.4 -2.9R	25.8 -2.7R	26.2 -2.5R	26.2 -2.5R	26.2 -2.5R	26.2 -2.5R	26.2 -2.5R	26.2 -2.5R	26.2 -2.5R	26.2 -2.5R	26.2 -2.5R	26.2 -2.5R			
24"	$q_a$	$q_f$	554	893	488	785	453	729	431	694	416	670	405	653	397	640	391	630	386	621		
	F		21.2 -5.2R	24.7 -5.4R	27 -5.2R	28.6 -5R	29.8 -4.7R	30.8 -4.5R	31.5 -4.2R	32.1 -4R	32.6 -3.8R	32.6 -3.8R	32.6 -3.8R	32.6 -3.8R	32.6 -3.8R	32.6 -3.8R	32.6 -3.8R	32.6 -3.8R				

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Support Attachment: Pneutek SDK61 PAF

Side Seam Attachment: DeltaGrip

# DGN-32 & DGNF-32 3.7

## Pneutek SDK61 Fasteners to Supports with DeltaGrip® Side Seam Attachment

Diaphragm Shear in pounds per linear foot (plf)



**PNEUTEK**



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																			
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"		
32/7	16 ga	4"	$q_a$	$q_f$	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1856	2969	1503	2405		
			F		3.6 -0.1R	3.6 -0.1R	3.6 -0.1R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	
		6"	$q_a$	$q_f$	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1856	2969	1503	2405
			F		4.1 -0.2R	4.2 -0.1R	4.2 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R
		8"	$q_a$	$q_f$	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1856	2969	1503	2405
			F		4.6 -0.3R	4.8 -0.2R	4.8 -0.2R	4.8 -0.2R	4.8 -0.2R	4.9 -0.2R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	5.0 -0.1R	5.0 -0.1R	5.0 -0.1R	5.0 -0.1R	5.0 -0.1R	5.0 -0.1R
	12"	$q_a$	$q_f$	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1888	3040	1856	2969	1503	2405	
		F		5.5 -0.6R	5.8 -0.5R	6.0 -0.4R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	
	18"	$q_a$	$q_f$	1888	3040	1888	3040	1888	3040	1888	3040	1817	2926	1870	3010	1808	2911	1759	2831	1503	2405	
		F		6.7 -1R	7.2 -0.8R	7.5 -0.7R	7.7 -0.7R	7.7 -0.7R	7.7 -0.7R	7.7 -0.7R	7.7 -0.7R	7.8 -0.6R	7.9 -0.5R	7.9 -0.5R	8.0 -0.5R	8.0 -0.5R	8.0 -0.5R	8.0 -0.5R	8.0 -0.5R	8.0 -0.5R	8.0 -0.5R	
	24"	$q_a$	$q_f$	1886	3037	1712	2756	1617	2603	1557	2506	1516	2440	1486	2392	1463	2356	1445	2327	1431	2304	
		F		7.6 -1.3R	8.3 -1.2R	8.8 -1.1R	9.1 -1R	9.1 -1R	9.1 -1R	9.1 -1R	9.1 -1R	9.3 -0.9R	9.5 -0.8R	9.5 -0.8R	9.6 -0.8R	9.6 -0.8R	9.6 -0.8R	9.6 -0.8R	9.6 -0.8R	9.6 -0.8R	9.6 -0.8R	
	18 ga	4"	$q_a$	$q_f$	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1339	2142	1084	1735
			F		4.8 -0.2R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	5.0 -0.1R	5.0 -0.1R	5.0 -0.1R	5.0 -0.1R	5.0 -0.1R	5.0 -0.1R	5.0 -0.1R	5.0 -0.1R	5.0 -0.1R	5.0 -0.1R
		6"	$q_a$	$q_f$	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1339	2142	1084	1735
			F		5.6 -0.4R	5.8 -0.3R	5.8 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	6.0 -0.2R	6.0 -0.2R	6.0 -0.2R	6.0 -0.2R	6.0 -0.2R	6.0 -0.2R	6.0 -0.2R	6.0 -0.2R	6.0 -0.2R	6.0 -0.2R
		8"	$q_a$	$q_f$	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1339	2142	1084	1735
			F		6.3 -0.6R	6.6 -0.5R	6.7 -0.4R	6.8 -0.3R	6.8 -0.3R	6.8 -0.3R	6.8 -0.3R	6.8 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R
	12"	$q_a$	$q_f$	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1551	2497	1339	2142	1084	1735	
		F		7.5 -1R	8.0 -0.9R	8.3 -0.7R	8.5 -0.7R	8.5 -0.7R	8.5 -0.7R	8.5 -0.7R	8.5 -0.7R	8.7 -0.6R	8.8 -0.5R	8.8 -0.5R	8.8 -0.5R	8.8 -0.5R	8.8 -0.5R	8.8 -0.5R	8.8 -0.5R	8.8 -0.5R	8.8 -0.5R	
	18"	$q_a$	$q_f$	1551	2497	1433	2307	1450	2335	1348	2170	1275	2052	1309	2108	1259	2026	1218	1961	1084	1735	
		F		8.9 -1.6R	9.9 -1.5R	10.4 -1.3R	10.8 -1.2R	10.8 -1.2R	10.8 -1.2R	10.8 -1.2R	10.8 -1.2R	11.1 -1.1R	11.3 -1R	11.3 -1R	11.4 -0.9R	11.4 -0.9R	11.4 -0.9R	11.4 -0.9R	11.4 -0.9R	11.4 -0.9R	11.4 -0.9R	
	24"	$q_a$	$q_f$	1397	2249	1235	1988	1147	1846	1092	1757	1054	1697	1027	1653	1006	1619	990	1593	976	1572	
		F		10 -2.1R	11.3 -2.1R	12.2 -2R	12.8 -1.8R	12.8 -1.8R	12.8 -1.8R	12.8 -1.8R	12.8 -1.8R	13.2 -1.7R	13.5 -1.6R	13.5 -1.6R	13.8 -1.5R	13.8 -1.5R	13.8 -1.5R	13.8 -1.5R	13.8 -1.5R	13.8 -1.5R	13.8 -1.5R	
20 ga	4"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		7 -0.4R	7.2 -0.4R	7.3 -0.3R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	
	6"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		8.2 -0.8R	8.6 -0.7R	8.8 -0.6R	9 -0.5R	9 -0.5R	9 -0.5R	9 -0.5R	9 -0.5R	9.1 -0.4R	9.2 -0.4R	9.2 -0.4R	9.2 -0.4R	9.2 -0.4R	9.2 -0.4R	9.2 -0.4R	9.2 -0.4R	9.2 -0.4R	9.2 -0.4R	
	8"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		9.3 -1.2R	9.9 -1R	10.2 -0.9R	10.5 -0.8R	10.5 -0.8R	10.5 -0.8R	10.5 -0.8R	10.5 -0.8R	10.6 -0.7R	10.6 -0.7R	10.6 -0.7R	10.6 -0.7R	10.6 -0.7R	10.6 -0.7R	10.6 -0.7R	10.6 -0.7R	10.6 -0.7R	10.6 -0.7R	
12"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1067	1718	1043	1679	1026	1651	1012	1630	879	1406	712	1139		
	F		10.9 -1.9R	12 -1.8R	12.7 -1.6R	13.1 -1.5R	13.1 -1.5R	13.1 -1.5R	13.1 -1.5R	13.1 -1.5R	13.5 -1.3R	13.7 -1.2R	13.7 -1.2R	13.9 -1.1R	13.9 -1.1R	13.9 -1.1R	13.9 -1.1R	13.9 -1.1R	13.9 -1.1R	13.9 -1.1R		
18"	$q_a$	$q_f$	1080	1728	940	1513	933	1503	854	1376	799	1287	816	1314	779	1254	749	1206	712	1139		
	F		12.7 -2.7R	14.5 -2.8R	15.7 -2.7R	16.5 -2.6R	16.5 -2.6R	16.5 -2.6R	16.5 -2.6R	16.5 -2.6R	17.1 -2.4R	17.6 -2.3R	17.6 -2.3R	18 -2.1R	18 -2.1R	18 -2.1R	18.3 -2R	18.3 -2R	18.3 -2R	18.3 -2R		
24"	$q_a$	$q_f$	953	1534	813	1309	738	1189	692	1113	660	1062	637	1025	619	997	606	975	595	958		
	F		14 -3.4R	16.4 -3.7R	18.1 -3.7R	19.3 -3.6R	19.3 -3.6R	19.3 -3.6R	19.3 -3.6R	19.3 -3.6R	20.2 -3.5R	21 -3.4R	21 -3.4R	21.6 -3.2R	21.6 -3.2R	21.6 -3.2R	22.1 -3.1R	22.1 -3.1R	22.1 -3.1R	22.1 -3.1R		
22 ga	4"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		9 -0.7R	9.3 -0.6R	9.5 -0.5R	9.6 -0.4R	9.6 -0.4R	9.6 -0.4R	9.6 -0.4R	9.6 -0.4R	9.7 -0.4R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	
	6"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		10.5 -1.3R	11.2 -1.1R	11.5 -1R	11.8 -0.8R	11.8 -0.8R	11.8 -0.8R	11.8 -0.8R	11.8 -0.8R	12 -0.8R	12.1 -0.7R	12.1 -0.7R	12.2 -0.6R	12.2 -0.6R	12.2 -0.6R	12.3 -0.6R	12.3 -0.6R	12.3 -0.6R	12.3 -0.6R	
	8"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		11.8 -1.8R	12.8 -1.6R	13.4 -1.5R	13.8 -1.3R	13.8 -1.3R	13.8 -1.3R	13.8 -1.3R	13.8 -1.3R	14 -1.2R	14.3 -1.1R	14.3 -1.1R	14.4 -1R	14.4 -1R	14.4 -1R	14.6 -0.9R	14.6 -0.9R	14.6 -0.9R	14.6 -0.9R	
12"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	759	1221	746	1201	673	1076	545	872		
	F		13.7 -2.7R	15.4 -2.6R	16.5 -2.5R	17.2 -2.4R	17.2 -2.4R	17.2 -2.4R	17.2 -2.4R	17.2 -2.4R	17.8 -2.2R	18.2 -2.1R	18.2 -2.1R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.8 -1.8R	18.8 -1.8R	18.8 -1.8R	18.8 -1.8R		
18"	$q_a$	$q_f$	771	1233	718	1156	702	1131	637	1026	592	952	601	967	571	919	547	881	545	872		
	F		15.7 -3.7R	18.3 -4R	20.1 -4R	21.4 -3.9R	21.4 -3.9R	21.4 -3.9R	21.4 -3.9R	21.4 -3.9R	22.4 -3.8R	23.2 -3.6R	23.2 -3.6R	23.8 -3.5R	23.8 -3.5R	23.8 -3.5R	24.4 -3.3R	24.4 -3.3R	24.4 -3.3R	24.4 -3.3R		
24"	$q_a$	$q_f$	748	1205	624	1004	556	895	515	829	488	786	469	755	454	731	443	713	434	698		
	F		17 -4.4R	20.4 -5.1R	22.8 -5.3R	24.7 -5.4R	24.7 -5.4R	24.7 -5.4R	24.7 -5.4R	24.7 -5.4R	26.2 -5.3R	27.4 -5.2R	27.4 -5.2R	28.3 -5R	28.3 -5R	28.3 -5R	29.2 -4.9R	29.2 -4.9R	29.2 -4.9R	29.2 -4.9R		

N PANELS

# 3.7 DGN-32 & DGNF-32

## Pneutek SDK63 Fasteners to Supports with DeltaGrip® Side Seam Attachment

Diaphragm Shear in pounds per linear foot (plf)



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																					
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"				
32/5	16 ga	4"	$q_a$	$q_f$	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1503	2405		
			F		3.6 -0.1R	3.6 +0R	3.6 +0R	3.6 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	
		6"	$q_a$	$q_f$	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1503	2405
			F		4.2 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R
		8"	$q_a$	$q_f$	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1503	2405
			F		4.8 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R
		12"	$q_a$	$q_f$	1826	2939	1826	2939	1826	2939	1819	2928	1812	2917	1806	2908	1803	2902	1799	2897	1799	2897	1503	2405
			F		5.9 -0.4R	6 -0.3R	6 -0.3R	6 -0.3R	6.1 -0.3R	6.2 -0.2R	6.2 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R
		18"	$q_a$	$q_f$	1713	2939	1584	2550	1639	2638	1571	2529	1521	2448	1565	2520	1528	2461	1498	2412	1498	2412	1503	2405
			F		7.3 -0.8R	7.7 -0.7R	7.7 -0.7R	7.9 -0.5R	8 -0.5R	8 -0.5R	8 -0.5R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.3 -0.3R	8.3 -0.3R
		24"	$q_a$	$q_f$	1455	2343	1378	2219	1337	2152	1311	2111	1293	2082	1280	2061	1271	2046	1263	2033	1263	2033	1257	2023
			F		8.5 -1.2R	9.1 -1R	9.1 -1R	9.4 -0.9R	9.7 -0.8R	9.7 -0.8R	9.7 -0.8R	9.8 -0.7R	9.8 -0.7R	9.8 -0.7R	9.9 -0.6R	10 -0.5R	10 -0.5R	10 -0.5R	10 -0.5R	10.1 -0.5R	10.1 -0.5R	10.1 -0.5R	10.1 -0.5R	10.1 -0.5R
	18 ga	4"	$q_a$	$q_f$	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1339	2142	1339	2142	1084	1735
			F		4.9 -0.1R	4.9 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R
		6"	$q_a$	$q_f$	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1339	2142	1339	2142	1084	1735
			F		5.8 -0.3R	5.9 -0.2R	6 -0.2R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R
		8"	$q_a$	$q_f$	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1339	2142	1339	2142	1084	1735
			F		6.6 -0.4R	6.8 -0.3R	6.9 -0.3R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7.1 -0.2R	7.1 -0.2R	7.1 -0.2R	7.1 -0.2R	7.1 -0.2R	7.1 -0.2R	7.1 -0.2R	7.1 -0.2R	7.1 -0.2R
		12"	$q_a$	$q_f$	1468	2364	1426	2296	1403	2259	1389	2236	1379	2220	1372	2209	1366	2200	1339	2142	1339	2142	1084	1735
			F		8.1 -0.8R	8.5 -0.7R	8.7 -0.5R	8.8 -0.5R	8.8 -0.5R	8.9 -0.4R	8.9 -0.4R	9 -0.4R	9 -0.4R	9 -0.4R	9 -0.4R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R
		18"	$q_a$	$q_f$	1311	2364	1179	1899	1220	1964	1153	1857	1106	1780	1142	1839	1107	1783	1079	1738	1079	1738	1084	1735
			F		10.1 -1.4R	10.8 -1.2R	11.2 -1.1R	11.5 -0.9R	11.5 -0.9R	11.7 -0.8R	11.7 -0.8R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.9 -0.7R	11.9 -0.7R	12 -0.6R	12 -0.6R	12 -0.6R	12 -0.6R	12 -0.6R	12 -0.6R	12 -0.6R	12 -0.6R
		24"	$q_a$	$q_f$	1091	1757	1008	1623	964	1552	936	1508	918	1477	904	1455	894	1439	885	1426	885	1426	879	1415
			F		11.7 -2R	12.8 -1.8R	13.4 -1.6R	13.9 -1.5R	13.9 -1.5R	14.2 -1.3R	14.2 -1.3R	14.4 -1.2R	14.4 -1.2R	14.4 -1.2R	14.6 -1.1R	14.6 -1.1R	14.7 -1R	14.7 -1R	14.7 -1R	14.7 -1R	14.7 -1R	14.7 -1R	14.8 -0.9R	14.8 -0.9R
20 ga	4"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	879	1406	712	1139	
		F		7.3 -0.3R	7.4 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R		
	6"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	879	1406	712	1139	
		F		8.7 -0.6R	9 -0.5R	9.1 -0.4R	9.2 -0.3R	9.2 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R		
	8"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	879	1406	712	1139	
		F		10 -1R	10.5 -0.8R	10.7 -0.7R	10.9 -0.6R	10.9 -0.6R	11 -0.5R	11 -0.5R	11.1 -0.4R	11.1 -0.4R	11.1 -0.4R	11.1 -0.4R	11.1 -0.4R	11.2 -0.4R	11.2 -0.4R	11.2 -0.4R	11.2 -0.4R	11.2 -0.4R	11.2 -0.4R	11.2 -0.4R		
	12"	$q_a$	$q_f$	1034	1665	982	1580	953	1534	935	1506	923	1486	914	1472	907	1461	879	1406	879	1406	712	1139	
		F		12.3 -1.7R	13.1 -1.5R	13.6 -1.3R	13.9 -1.1R	13.9 -1.1R	14.2 -1R	14.2 -1R	14.3 -0.9R	14.3 -0.9R	14.3 -0.9R	14.5 -0.8R	14.5 -0.8R	14.6 -0.7R	14.6 -0.7R	14.6 -0.7R	14.6 -0.7R	14.6 -0.7R	14.6 -0.7R	14.6 -0.7R		
	18"	$q_a$	$q_f$	907	1665	786	1266	805	1296	748	1205	709	1141	732	1178	704	1133	681	1097	681	1097	701	1128	
		F		14.9 -2.8R	16.5 -2.6R	17.4 -2.3R	18.1 -2.1R	18.1 -2.1R	18.5 -1.9R	18.5 -1.9R	18.9 -1.7R	18.9 -1.7R	18.9 -1.7R	19.1 -1.6R	19.1 -1.6R	19.4 -1.5R	19.4 -1.5R	19.4 -1.5R	19.4 -1.5R	19.4 -1.5R	19.4 -1.5R	19.5 -1.4R	19.5 -1.4R	
	24"	$q_a$	$q_f$	748	1204	667	1073	624	1004	597	961	579	932	566	911	556	895	548	882	548	882	542	872	
		F		17 -3.7R	19.3 -3.6R	20.7 -3.4R	21.7 -3.2R	21.7 -3.2R	22.5 -2.9R	22.5 -2.9R	23 -2.7R	23 -2.7R	23 -2.7R	23.4 -2.5R	23.4 -2.5R	23.8 -2.4R	23.8 -2.4R	23.8 -2.4R	23.8 -2.4R	23.8 -2.4R	23.8 -2.4R	24.1 -2.2R	24.1 -2.2R	
22 ga	4"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	673	1076	545	872	
		F		9.4 -0.6R	9.6 -0.4R	9.7 -0.3R	9.8 -0.3R	9.8 -0.3R	9.9 -0.3R	9.9 -0.3R	9.9 -0.2R	9.9 -0.2R	9.9 -0.2R	9.9 -0.2R	9.9 -0.2R	10 -0.2R	10 -0.2R	10 -0.2R	10 -0.2R	10 -0.2R	10 -0.2R			
	6"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	673	1076	545	872	
		F		11.3 -1.1R	11.8 -0.8R	12.1 -0.7R	12.2 -0.6R	12.2 -0.6R	12.3 -0.5R	12.3 -0.5R	12.4 -0.5R	12.4 -0.5R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.6 -0.3R	12.6 -0.3R		
	8"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	673	1076	545	872	
		F		13 -1.6R	13.8 -1.3R	14.2 -1.1R	14.5 -1R	14.5 -1R	14.7 -0.9R	14.7 -0.9R	14.8 -0.8R	14.8 -0.8R	14.9 -0.7R	14.9 -0.7R	15 -0.6R	15 -0.6R	15 -0.6R	15 -0.6R	15 -0.6R	15 -0.6R	15 -0.6R	15.1 -0.6R	15.1 -0.6R	
	12"	$q_a$	$q_f$	771	1233	758	1221	728	1173	710	1143	697	1122	688	1107	681	1096	673	1076	673	1076	545	872	
		F		15.8 -2.6R	17.2 -2.4R	18 -2.1R	18.6 -1.9R	18.6 -1.9R	19 -1.7R	19 -1.7R	19.3 -1.5R	19.3 -1.5R	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R	19.7 -1.3R	19.7 -1.3R	19.7 -1.3R	19.7 -1.3R	19.7 -1.3R	19.7 -1.3R	19.9 -1.2R	19.9 -1.2R	
	18"	$q_a$	$q_f$	710	1233	602	969	609	981	560	902	527	848	542	873	519	835	500						

# DGN-32 & DGNF-32 3.7

## Pneutek SDK63 Fasteners to Supports with DeltaGrip® Side Seam Attachment

Diaphragm Shear in pounds per linear foot (plf)



**PNEUTEK**



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																			
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"		
32/7	16 ga	4"	$q_a$	$q_f$	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1503	2405		
			F		3.6 -0.1R	3.6 -0.1R	3.6 -0.1R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R		
		6"	$q_a$	$q_f$	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1503	2405
			F		4.1 -0.2R	4.2 -0.1R	4.2 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R
		8"	$q_a$	$q_f$	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1503	2405
			F		4.6 -0.3R	4.8 -0.2R	4.8 -0.2R	4.8 -0.2R	4.9 -0.2R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R
	12"	$q_a$	$q_f$	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1826	2939	1503	2405	
		F		5.5 -0.6R	5.8 -0.5R	6 -0.4R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	
	18"	$q_a$	$q_f$	1826	2939	1826	2939	1826	2939	1826	2939	1793	2886	1826	2939	1785	2874	1737	2797	1503	2405	
		F		6.7 -1R	7.2 -0.8R	7.5 -0.7R	7.7 -0.7R	7.7 -0.7R	7.7 -0.7R	7.7 -0.7R	7.7 -0.7R	7.8 -0.6R	7.9 -0.5R	8 -0.5R	8 -0.5R	8 -0.5R	8 -0.5R	8 -0.4R	8 -0.4R	8.1 -0.4R	8.1 -0.4R	
	24"	$q_a$	$q_f$	1826	2939	1684	2711	1594	2566	1537	2474	1498	2412	1469	2366	1448	2331	1431	2304	1417	2282	
		F		7.6 -1.3R	8.3 -1.2R	8.8 -1.1R	9.1 -1R	9.1 -1R	9.1 -1R	9.1 -1R	9.1 -1R	9.3 -0.9R	9.5 -0.8R	9.6 -0.8R	9.6 -0.8R	9.6 -0.8R	9.6 -0.8R	9.7 -0.7R	9.7 -0.7R	9.8 -0.7R	9.8 -0.7R	
	18 ga	4"	$q_a$	$q_f$	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1339	2142	1084	1735
			F		4.8 -0.2R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R
		6"	$q_a$	$q_f$	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1339	2142	1084	1735
			F		5.6 -0.4R	5.8 -0.3R	5.8 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	6 -0.2R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R
		8"	$q_a$	$q_f$	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1339	2142	1084	1735
			F		6.3 -0.6R	6.6 -0.5R	6.7 -0.4R	6.8 -0.3R	6.8 -0.3R	6.8 -0.3R	6.8 -0.3R	6.8 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R
	12"	$q_a$	$q_f$	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1569	2526	1339	2142	1084	1735	
		F		7.5 -1R	8 -0.9R	8.3 -0.7R	8.5 -0.7R	8.5 -0.7R	8.5 -0.7R	8.5 -0.7R	8.5 -0.7R	8.7 -0.6R	8.8 -0.5R	8.8 -0.5R	8.8 -0.5R	8.8 -0.5R	8.8 -0.5R	8.8 -0.5R	8.8 -0.5R	8.8 -0.5R	8.8 -0.5R	
	18"	$q_a$	$q_f$	1569	2526	1441	2320	1458	2347	1354	2180	1280	2061	1315	2117	1263	2034	1222	1968	1084	1735	
		F		8.9 -1.6R	9.9 -1.5R	10.4 -1.3R	10.8 -1.2R	10.8 -1.2R	10.8 -1.2R	10.8 -1.2R	10.8 -1.2R	11.1 -1.1R	11.3 -1R	11.4 -0.9R	11.4 -0.9R	11.4 -0.9R	11.4 -0.9R	11.4 -0.9R	11.4 -0.9R	11.4 -0.9R	11.4 -0.9R	
	24"	$q_a$	$q_f$	1407	2265	1242	1999	1152	1855	1096	1765	1058	1703	1030	1659	1009	1625	993	1598	979	1577	
		F		10 -2.1R	11.3 -2.1R	12.2 -2R	12.8 -1.8R	12.8 -1.8R	12.8 -1.8R	12.8 -1.8R	12.8 -1.8R	13.2 -1.7R	13.5 -1.6R	13.8 -1.5R	13.8 -1.5R	13.8 -1.5R	13.8 -1.5R	13.8 -1.5R	13.8 -1.5R	13.8 -1.5R	13.8 -1.5R	
20 ga	4"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		7 -0.4R	7.2 -0.4R	7.3 -0.3R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	
	6"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		8.2 -0.8R	8.6 -0.7R	8.8 -0.6R	9 -0.5R	9 -0.5R	9 -0.5R	9 -0.5R	9 -0.5R	9.1 -0.4R	9.2 -0.4R	9.2 -0.4R	9.2 -0.4R	9.2 -0.4R	9.2 -0.4R	9.2 -0.4R	9.2 -0.4R	9.2 -0.4R	9.2 -0.4R	
	8"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		9.3 -1.2R	9.9 -1R	10.2 -0.9R	10.5 -0.8R	10.5 -0.8R	10.5 -0.8R	10.5 -0.8R	10.5 -0.8R	10.6 -0.7R	10.8 -0.6R	10.8 -0.6R	10.8 -0.6R	10.8 -0.6R	10.8 -0.6R	10.8 -0.6R	10.8 -0.6R	10.8 -0.6R	10.8 -0.6R	
12"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1070	1723	1050	1691	1036	1667	879	1406	712	1139		
	F		10.9 -1.9R	12 -1.8R	12.7 -1.6R	13.1 -1.5R	13.1 -1.5R	13.1 -1.5R	13.1 -1.5R	13.1 -1.5R	13.5 -1.3R	13.7 -1.2R	13.9 -1.1R	13.9 -1.1R	13.9 -1.1R	13.9 -1.1R	13.9 -1.1R	13.9 -1.1R	13.9 -1.1R	13.9 -1.1R		
18"	$q_a$	$q_f$	1080	1728	973	1567	961	1548	877	1412	818	1317	834	1343	794	1279	763	1229	712	1139		
	F		12.7 -2.7R	14.5 -2.8R	15.7 -2.7R	16.5 -2.6R	16.5 -2.6R	16.5 -2.6R	16.5 -2.6R	16.5 -2.6R	17.1 -2.4R	17.6 -2.3R	18 -2.1R	18 -2.1R	18 -2.1R	18 -2.1R	18 -2.1R	18 -2.1R	18 -2.1R	18 -2.1R		
24"	$q_a$	$q_f$	996	1604	844	1358	762	1226	711	1144	676	1089	651	1048	632	1018	617	994	605	975		
	F		14 -3.4R	16.4 -3.7R	18.1 -3.7R	19.3 -3.6R	19.3 -3.6R	19.3 -3.6R	19.3 -3.6R	19.3 -3.6R	20.2 -3.5R	21 -3.4R	21.6 -3.2R	21.6 -3.2R	21.6 -3.2R	21.6 -3.2R	21.6 -3.2R	21.6 -3.2R	21.6 -3.2R	21.6 -3.2R		
22 ga	4"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		9 -0.7R	9.3 -0.6R	9.5 -0.5R	9.6 -0.4R	9.6 -0.4R	9.6 -0.4R	9.6 -0.4R	9.6 -0.4R	9.7 -0.4R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	
	6"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		10.5 -1.3R	11.2 -1.1R	11.5 -1R	11.8 -0.8R	11.8 -0.8R	11.8 -0.8R	11.8 -0.8R	11.8 -0.8R	12 -0.8R	12.1 -0.7R	12.2 -0.6R	12.2 -0.6R	12.2 -0.6R	12.2 -0.6R	12.2 -0.6R	12.2 -0.6R	12.2 -0.6R	12.2 -0.6R	
	8"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		11.8 -1.8R	12.8 -1.6R	13.4 -1.5R	13.8 -1.3R	13.8 -1.3R	13.8 -1.3R	13.8 -1.3R	13.8 -1.3R	14 -1.2R	14.3 -1.1R	14.4 -1R	14.4 -1R	14.4 -1R	14.4 -1R	14.4 -1R	14.4 -1R	14.4 -1R	14.4 -1R	
12"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	770	1233	673	1076	545	872		
	F		13.7 -2.7R	15.4 -2.6R	16.5 -2.5R	17.2 -2.4R	17.2 -2.4R	17.2 -2.4R	17.2 -2.4R	17.2 -2.4R	17.8 -2.2R	18.2 -2.1R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R		
18"	$q_a$	$q_f$	771	1233	758	1220	735	1183	663	1067	613	988	621	999	588	947	563	906	545	872		
	F		15.7 -3.7R	18.3 -4R	20.1 -4R	21.4 -3.9R	21.4 -3.9R	21.4 -3.9R	21.4 -3.9R	21.4 -3.9R	22.4 -3.8R	23.2 -3.6R	23.8 -3.5R	23.8 -3.5R	23.8 -3.5R	23.8 -3.5R	23.8 -3.5R	23.8 -3.5R	23.8 -3.5R	23.8 -3.5R		
24"	$q_a$	$q_f$	771	1233	654	1053	579	932	533	859	503	810	482	776	466	750	453	729	443	713		
	F		17 -4.4R	20.4 -5.1R	22.8 -5.3R	24.7 -5.4R	24.7 -5.4R	24.7 -5.4R	24.7 -5.4R	24.7 -5.4R	26.2 -5.3R	27.4 -5.2R	28.3 -5R	28.3 -5R	28.3 -5R	28.3 -5R	28.3 -5R	28.3 -5R	28.3 -5R	28.3 -5R		

N PANELS

# 3.7 DGN-32 & DGNF-32

## Pneutek K64 Fasteners to Supports with DeltaGrip® Side Seam Attachment

Diaphragm Shear in pounds per linear foot (plf)



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear (q <sub>a</sub> ) (plf), Factored Shear (q <sub>r</sub> ) (plf), and Flexibility Factor (F) (10 <sup>-6</sup> in/lbs)																		
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"	
32/5	16 ga	4"	q <sub>a</sub> q <sub>r</sub>	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2349	3758	1856	2969	1503	2405
			F	3.6 -0.1R		3.6 +0R		3.6 +0R		3.6 +0R		3.7 +0R		3.7 +0R		3.7 +0R		3.7 +0R		3.7 +0R	
		6"	q <sub>a</sub> q <sub>r</sub>	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2349	3758	1856	2969	1503	2405
			F	4.2 -0.1R		4.3 -0.1R		4.3 -0.1R		4.3 -0.1R		4.3 -0.1R		4.3 +0R		4.3 +0R		4.3 +0R		4.3 +0R	
		8"	q <sub>a</sub> q <sub>r</sub>	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2349	3758	1856	2969	1503	2405
			F	4.8 -0.2R		4.9 -0.2R		4.9 -0.1R		5 -0.1R		5 -0.1R		5 -0.1R		5 -0.1R		5 -0.1R		5 -0.1R	
	12"	q <sub>a</sub> q <sub>r</sub>	2259	3638	2197	3538	2164	3484	2143	3450	2128	3427	2118	3410	2110	3397	1856	2969	1503	2405	
		F	5.9 -0.4R		6 -0.3R		6.1 -0.3R		6.2 -0.2R		6.3 -0.2R		6.3 -0.2R		6.3 -0.2R		6.3 -0.1R		6.3 -0.1R		
	18"	q <sub>a</sub> q <sub>r</sub>	2022	3638	1823	2935	1886	3036	1785	2874	1713	2758	1769	2848	1716	2763	1674	2695	1503	2405	
		F	7.3 -0.8R		7.7 -0.7R		7.9 -0.5R		8 -0.5R		8.1 -0.4R		8.1 -0.4R		8.2 -0.3R		8.2 -0.3R		8.3 -0.3R		
	24"	q <sub>a</sub> q <sub>r</sub>	1684	2712	1560	2512	1494	2405	1452	2338	1424	2293	1404	2260	1388	2235	1376	2215	1366	2199	
		F	8.5 -1.2R		9.1 -1R		9.4 -0.9R		9.7 -0.8R		9.8 -0.7R		9.9 -0.6R		10 -0.5R		10.1 -0.5R		10.1 -0.5R		
	18 ga	4"	q <sub>a</sub> q <sub>r</sub>	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735
			F	4.9 -0.1R		4.9 -0.1R		5 -0.1R		5 -0.1R		5 -0.1R		5 +0R		5 +0R		5 +0R		5 +0R	
		6"	q <sub>a</sub> q <sub>r</sub>	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735
			F	5.8 -0.3R		5.9 -0.2R		6 -0.2R		6 -0.1R		6 -0.1R		6 -0.1R		6 -0.1R		6.1 -0.1R		6.1 -0.1R	
		8"	q <sub>a</sub> q <sub>r</sub>	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735
			F	6.6 -0.4R		6.8 -0.3R		6.9 -0.3R		7 -0.2R		7 -0.2R		7 -0.2R		7.1 -0.2R		7.1 -0.1R		7.1 -0.1R	
	12"	q <sub>a</sub> q <sub>r</sub>	1680	2704	1611	2593	1574	2533	1550	2496	1534	2470	1523	2452	1514	2437	1339	2142	1084	1735	
		F	8.1 -0.8R		8.5 -0.7R		8.7 -0.5R		8.8 -0.5R		8.9 -0.4R		9 -0.4R		9.1 -0.3R		9.1 -0.3R		9.1 -0.3R		
	18"	q <sub>a</sub> q <sub>r</sub>	1482	2704	1304	2100	1343	2162	1257	2024	1196	1926	1236	1990	1193	1920	1158	1864	1084	1735	
		F	10.1 -1.4R		10.8 -1.2R		11.2 -1.1R		11.5 -0.9R		11.7 -0.8R		11.8 -0.7R		11.9 -0.7R		12 -0.6R		12 -0.6R		
	24"	q <sub>a</sub> q <sub>r</sub>	1224	1970	1108	1783	1046	1684	1007	1622	981	1580	963	1550	948	1527	937	1509	928	1494	
		F	11.7 -2R		12.8 -1.8R		13.4 -1.6R		13.9 -1.5R		14.2 -1.3R		14.4 -1.2R		14.6 -1.1R		14.7 -1R		14.8 -0.9R		
20 ga	4"	q <sub>a</sub> q <sub>r</sub>	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F	7.3 -0.3R		7.4 -0.2R		7.5 -0.2R		7.5 -0.2R		7.5 -0.1R		7.6 -0.1R		7.6 -0.1R		7.6 -0.1R		7.6 -0.1R		
	6"	q <sub>a</sub> q <sub>r</sub>	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F	8.7 -0.6R		9 -0.5R		9.1 -0.4R		9.2 -0.3R		9.3 -0.3R		9.3 -0.3R		9.4 -0.2R		9.4 -0.2R		9.4 -0.2R		
	8"	q <sub>a</sub> q <sub>r</sub>	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F	10 -1R		10.5 -0.8R		10.7 -0.7R		10.9 -0.6R		11 -0.5R		11.1 -0.4R		11.1 -0.4R		11.2 -0.4R		11.2 -0.3R		
12"	q <sub>a</sub> q <sub>r</sub>	1080	1728	1036	1669	1001	1612	979	1576	964	1552	953	1535	945	1521	879	1406	712	1139		
	F	12.3 -1.7R		13.1 -1.5R		13.6 -1.3R		13.9 -1.1R		14.2 -1R		14.3 -0.9R		14.5 -0.8R		14.6 -0.7R		14.6 -0.7R			
18"	q <sub>a</sub> q <sub>r</sub>	963	1728	826	1329	841	1354	778	1252	734	1181	756	1218	726	1168	701	1129	712	1139		
	F	14.9 -2.8R		16.5 -2.6R		17.4 -2.3R		18.1 -2.1R		18.5 -1.9R		18.9 -1.7R		19.1 -1.6R		19.4 -1.5R		19.5 -1.4R			
24"	q <sub>a</sub> q <sub>r</sub>	795	1280	700	1127	650	1046	619	997	598	963	583	938	571	920	562	905	555	894		
	F	17 -3.7R		19.3 -3.6R		20.7 -3.4R		21.7 -3.2R		22.5 -2.9R		23 -2.7R		23.4 -2.5R		23.8 -2.4R		24.1 -2.2R			
22 ga	4"	q <sub>a</sub> q <sub>r</sub>	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F	9.4 -0.6R		9.6 -0.4R		9.7 -0.3R		9.8 -0.3R		9.9 -0.3R		9.9 -0.2R		9.9 -0.2R		10 -0.2R		10 -0.2R		
	6"	q <sub>a</sub> q <sub>r</sub>	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F	11.3 -1.1R		11.8 -0.8R		12.1 -0.7R		12.2 -0.6R		12.3 -0.5R		12.4 -0.5R		12.5 -0.4R		12.5 -0.4R		12.6 -0.3R		
	8"	q <sub>a</sub> q <sub>r</sub>	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F	13 -1.6R		13.8 -1.3R		14.2 -1.1R		14.5 -1R		14.7 -0.9R		14.8 -0.8R		14.9 -0.7R		15 -0.6R		15.1 -0.6R		
12"	q <sub>a</sub> q <sub>r</sub>	771	1233	760	1223	729	1174	711	1144	698	1123	689	1109	681	1097	673	1076	545	872		
	F	15.8 -2.6R		17.2 -2.4R		18 -2.1R		18.6 -1.9R		19 -1.7R		19.3 -1.5R		19.5 -1.4R		19.7 -1.3R		19.9 -1.2R			
18"	q <sub>a</sub> q <sub>r</sub>	711	1233	603	971	610	982	561	903	527	849	543	874	519	836	501	806	514	828		
	F	18.9 -4R		21.4 -3.9R		22.9 -3.7R		24 -3.4R		24.8 -3.2R		25.4 -2.9R		25.8 -2.7R		26.2 -2.5R		26.5 -2.4R			
24"	q <sub>a</sub> q <sub>r</sub>	589	948	512	824	471	759	446	719	430	692	417	672	408	657	401	645	395	636		
	F	21.2 -5.2R		24.7 -5.4R		27 -5.2R		28.6 -5R		29.8 -4.7R		30.8 -4.5R		31.5 -4.2R		32.1 -4R		32.6 -3.8R			

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Support Attachment: Pneutek K64 PAF

Side Seam Attachment: DeltaGrip



**PNEUTEK**



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																					
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"				
32/7	16 ga	4"	$q_a$	$q_f$	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2349	3758	1856	2969	1503	2405		
			F	3.6 -0.1R	3.6 -0.1R	3.6 -0.1R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	3.6 +0R	
		6"	$q_a$	$q_f$	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2349	3758	1856	2969	1503	2405
			F	4.1 -0.2R	4.2 -0.1R	4.2 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R
		8"	$q_a$	$q_f$	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2349	3758	1856	2969	1503	2405
			F	4.6 -0.3R	4.8 -0.2R	4.8 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R
	12"	$q_a$	$q_f$	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2393	3852	2349	3758	1856	2969	1503	2405	
		F	5.5 -0.6R	5.8 -0.5R	6 -0.4R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	6.1 -0.3R	
	18"	$q_a$	$q_f$	2393	3852	2227	3585	2255	3631	2098	3377	1985	3196	2040	3284	1961	3157	1856	2969	1503	2405	1503	2405	
		F	6.7 -1R	7.2 -0.8R	7.5 -0.7R	7.7 -0.7R	7.8 -0.6R	7.9 -0.5R	8 -0.5R	8 -0.4R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	
	24"	$q_a$	$q_f$	2168	3491	1919	3090	1784	2872	1700	2736	1642	2643	1600	2576	1568	2524	1543	2484	1503	2405	1503	2405	
		F	7.6 -1.3R	8.3 -1.2R	8.8 -1.1R	9.1 -1R	9.3 -0.9R	9.5 -0.8R	9.6 -0.8R	9.7 -0.7R	9.8 -0.7R	9.8 -0.7R	9.8 -0.7R	9.8 -0.7R	9.8 -0.7R	9.8 -0.7R	9.8 -0.7R	9.8 -0.7R	9.8 -0.7R	9.8 -0.7R	9.8 -0.7R	9.8 -0.7R	9.8 -0.7R	
	18 ga	4"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735
			F	4.8 -0.2R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R	4.9 -0.1R
		6"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735
			F	5.6 -0.4R	5.8 -0.3R	5.8 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R	5.9 -0.2R
		8"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735
			F	6.3 -0.6R	6.6 -0.5R	6.7 -0.4R	6.8 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R	6.9 -0.3R
	12"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1794	2888	1767	2844	1694	2711	1339	2142	1084	1735	1084	1735	
		F	7.5 -1R	8 -0.9R	8.3 -0.7R	8.5 -0.7R	8.7 -0.6R	8.8 -0.5R	8.8 -0.5R	8.9 -0.4R	8.9 -0.4R	8.9 -0.4R	8.9 -0.4R	8.9 -0.4R	8.9 -0.4R	8.9 -0.4R	8.9 -0.4R	8.9 -0.4R	8.9 -0.4R	8.9 -0.4R	8.9 -0.4R	8.9 -0.4R	8.9 -0.4R	
	18"	$q_a$	$q_f$	1824	2918	1602	2579	1600	2575	1470	2367	1379	2220	1411	2272	1349	2172	1300	2092	1084	1735	1084	1735	
		F	8.9 -1.6R	9.9 -1.5R	10.4 -1.3R	10.8 -1.2R	11.1 -1.1R	11.3 -1R	11.4 -0.9R	11.6 -0.9R	11.7 -0.8R	11.7 -0.8R	11.7 -0.8R	11.7 -0.8R	11.7 -0.8R	11.7 -0.8R	11.7 -0.8R	11.7 -0.8R	11.7 -0.8R	11.7 -0.8R	11.7 -0.8R	11.7 -0.8R	11.7 -0.8R	
	24"	$q_a$	$q_f$	1606	2585	1383	2227	1263	2034	1189	1914	1138	1832	1101	1773	1073	1728	1051	1692	1034	1664	1034	1664	
		F	10 -2.1R	11.3 -2.1R	12.2 -2R	12.8 -1.8R	13.2 -1.7R	13.5 -1.6R	13.8 -1.5R	14 -1.4R	14.2 -1.3R	14.2 -1.3R	14.2 -1.3R	14.2 -1.3R	14.2 -1.3R	14.2 -1.3R	14.2 -1.3R	14.2 -1.3R	14.2 -1.3R	14.2 -1.3R	14.2 -1.3R	14.2 -1.3R	14.2 -1.3R	
20 ga	4"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	712	1139	
		F	7 -0.4R	7.2 -0.4R	7.3 -0.3R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	7.4 -0.2R	
	6"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	712	1139	
		F	8.2 -0.8R	8.6 -0.7R	8.8 -0.6R	9 -0.5R	9.1 -0.4R	9.2 -0.4R	9.2 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	
	8"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	712	1139	
		F	9.3 -1.2R	9.9 -1R	10.2 -0.9R	10.5 -0.8R	10.6 -0.7R	10.8 -0.6R	10.8 -0.6R	10.9 -0.5R	11 -0.5R	11 -0.5R	11 -0.5R	11 -0.5R	11 -0.5R	11 -0.5R	11 -0.5R	11 -0.5R	11 -0.5R	11 -0.5R	11 -0.5R	11 -0.5R	11 -0.5R	
12"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1072	1726	879	1406	712	1139	712	1139		
	F	10.9 -1.9R	12 -1.8R	12.7 -1.6R	13.1 -1.5R	13.5 -1.3R	13.7 -1.2R	13.9 -1.1R	14.1 -1.1R	14.2 -1R	14.2 -1R	14.2 -1R	14.2 -1R	14.2 -1R	14.2 -1R	14.2 -1R	14.2 -1R	14.2 -1R	14.2 -1R	14.2 -1R	14.2 -1R	14.2 -1R		
18"	$q_a$	$q_f$	1080	1728	1030	1658	1008	1623	915	1473	850	1368	863	1390	820	1321	786	1266	712	1139	712	1139		
	F	12.7 -2.7R	14.5 -2.8R	15.7 -2.7R	16.5 -2.6R	17.1 -2.4R	17.6 -2.3R	18 -2.1R	18.3 -2R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R	18.5 -1.9R		
24"	$q_a$	$q_f$	1072	1725	895	1441	798	1285	740	1192	701	1129	674	1085	653	1052	637	1025	623	1003	623	1003		
	F	14 -3.4R	16.4 -3.7R	18.1 -3.7R	19.3 -3.6R	20.2 -3.5R	21 -3.4R	21.6 -3.2R	22.1 -3.1R	22.5 -2.9R	22.5 -2.9R	22.5 -2.9R	22.5 -2.9R	22.5 -2.9R	22.5 -2.9R	22.5 -2.9R	22.5 -2.9R	22.5 -2.9R	22.5 -2.9R	22.5 -2.9R	22.5 -2.9R	22.5 -2.9R		
22 ga	4"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	545	872	
		F	9 -0.7R	9.3 -0.6R	9.5 -0.5R	9.6 -0.4R	9.7 -0.4R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	9.8 -0.3R	
	6"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	545	872	
		F	10.5 -1.3R	11.2 -1.1R	11.5 -1R	11.8 -0.8R	12 -0.8R	12.1 -0.7R	12.2 -0.6R	12.3 -0.6R	12.3 -0.5R	12.3 -0.5R	12.3 -0.5R	12.3 -0.5R	12.3 -0.5R	12.3 -0.5R	12.3 -0.5R	12.3 -0.5R	12.3 -0.5R	12.3 -0.5R	12.3 -0.5R	12.3 -0.5R	12.3 -0.5R	
	8"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	545	872	
		F	11.8 -1.8R	12.8 -1.6R	13.4 -1.5R	13.8 -1.3R	14 -1.2R	14.3 -1.1R	14.4 -1R	14.6 -0.9R	14.7 -0.9R	14.7 -0.9R	14.7 -0.9R	14.7 -0.9R	14.7 -0.9R	14.7 -0.9R	14.7 -0.9R	14.7 -0.9R	14.7 -0.9R	14.7 -0.9R	14.7 -0.9R	14.7 -0.9R	14.7 -0.9R	
12"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	545	872		
	F	13.7 -2.7R	15.4 -2.6R	16.5 -2.5R	17.2 -2.4R	17.8 -2.2R	18.2 -2.1R	18.5 -1.9R	18.8 -1.8R	19 -1.7R	19 -1.7R	19 -1.7R	19 -1.7R	19 -1.7R	19 -1.7R	19 -1.7R	19 -1.7R	19 -1.7R	19 -1.7R	19 -1.7R	19 -1.7R	19 -1.7R		
18"	$q_a$	$q_f$	771	1233	759	1222	736	1185	664	1069	614	989	621	1000	589	948	563	906	545	872	545	872		
	F	15.7 -3.7R	18.3 -4R	20.1 -4R	21.4 -3.9R	22.4 -3.8R	23.2 -3.6R	23.8 -3.5R	24.4 -3.3R	24.8 -3.1R	24.8 -3.1R	24.8 -3.1R	24.8 -3.1R	24.8 -3.1R	24.8 -3.1R	24.8 -3.1R	24.8 -3.1R	24.8 -3.1R	24.8 -3.1R	24.8 -3.1R	24.8 -3.1R	24.8 -3.1R		
24"	$q_a$	$q_f$	771	1233	655	1055	580</																	



# 3.7 DGN-32 & DGNF-32

## Pneutek K66 Fasteners to Supports with DeltaGrip® Side Seam Attachment



Diaphragm Shear in pounds per linear foot (plf)



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																					
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"				
32/5	16 ga	4"	$q_a$	$q_f$	2658	4280	2658	4280	2658	4280	2658	4280	2658	4280	2658	4280	2349	3758	1856	2969	1503	2405		
			F		3.6 -0.1R	3.6 +0R	3.6 +0R	3.6 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	3.7 +0R	
		6"	$q_a$	$q_f$	2658	4280	2658	4280	2658	4280	2658	4280	2658	4280	2658	4280	2658	4280	2349	3758	1856	2969	1503	2405
			F		4.2 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 -0.1R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R	4.3 +0R
		8"	$q_a$	$q_f$	2658	4280	2658	4280	2658	4280	2658	4280	2658	4280	2658	4279	2658	4279	2349	3758	1856	2969	1503	2405
			F		4.8 -0.2R	4.9 -0.2R	4.9 -0.2R	4.9 -0.2R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R
	12"	$q_a$	$q_f$	2416	3889	2336	3761	2293	3692	2266	3649	2248	3619	2234	3598	2224	3581	2224	3581	1856	2969	1503	2405	
		F		5.9 -0.4R	6 -0.3R	6 -0.3R	6.1 -0.3R	6.2 -0.2R	6.2 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R	6.3 -0.2R
	18"	$q_a$	$q_f$	2147	3889	1916	3085	1979	3186	1865	3002	1783	2870	1842	2966	1783	2871	1783	2871	1735	2794	1503	2405	
		F		7.3 -0.8R	7.7 -0.7R	7.7 -0.7R	7.9 -0.5R	8 -0.5R	8 -0.5R	8 -0.5R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	8.1 -0.4R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.2 -0.3R	8.3 -0.3R	8.3 -0.3R	8.3 -0.3R
	24"	$q_a$	$q_f$	1780	2866	1633	2630	1555	2503	1506	2424	1473	2371	1448	2332	1430	2303	1430	2303	1416	2279	1404	2261	
		F		8.5 -1.2R	9.1 -1R	9.1 -1R	9.4 -0.9R	9.7 -0.8R	9.7 -0.8R	9.7 -0.8R	9.8 -0.7R	9.8 -0.7R	9.8 -0.7R	9.9 -0.6R	9.9 -0.6R	10 -0.5R	10 -0.5R	10 -0.5R	10 -0.5R	10.1 -0.5R	10.1 -0.5R	10.1 -0.5R	10.1 -0.5R	
	18 ga	4"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735
			F		4.9 -0.1R	4.9 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 -0.1R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R	5 +0R
		6"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735
			F		5.8 -0.3R	5.9 -0.2R	6 -0.2R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R
		8"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735
			F		6.6 -0.4R	6.8 -0.3R	6.8 -0.3R	6.9 -0.3R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7.1 -0.2R	7.1 -0.2R	7.1 -0.2R	7.1 -0.2R	7.1 -0.2R	7.1 -0.2R	7.1 -0.2R	7.1 -0.2R
	12"	$q_a$	$q_f$	1724	2776	1649	2654	1608	2589	1582	2547	1565	2519	1552	2499	1542	2483	1542	2483	1339	2142	1084	1735	
		F		8.1 -0.8R	8.5 -0.7R	8.5 -0.7R	8.7 -0.5R	8.8 -0.5R	8.8 -0.5R	8.9 -0.4R	8.9 -0.4R	9 -0.4R	9 -0.4R	9 -0.4R	9 -0.4R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	9.1 -0.3R	
	18"	$q_a$	$q_f$	1518	2776	1330	2142	1368	2202	1278	2057	1214	1954	1254	2020	1209	1947	1209	1947	1173	1888	1084	1735	
		F		10.1 -1.4R	10.8 -1.2R	10.8 -1.2R	11.2 -1.1R	11.5 -0.9R	11.5 -0.9R	11.7 -0.8R	11.7 -0.8R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.9 -0.7R	11.9 -0.7R	11.9 -0.7R	11.9 -0.7R	12 -0.6R	12 -0.6R	12 -0.6R	12 -0.6R	
	24"	$q_a$	$q_f$	1253	2017	1129	1817	1063	1711	1022	1646	994	1601	974	1569	959	1544	959	1544	947	1525	938	1510	
		F		11.7 -2R	12.8 -1.8R	12.8 -1.8R	13.4 -1.6R	13.9 -1.5R	13.9 -1.5R	14.2 -1.3R	14.2 -1.3R	14.4 -1.2R	14.4 -1.2R	14.4 -1.2R	14.4 -1.2R	14.6 -1.1R	14.6 -1.1R	14.6 -1.1R	14.6 -1.1R	14.7 -1R	14.7 -1R	14.8 -0.9R	14.8 -0.9R	
20 ga	4"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		7.3 -0.3R	7.4 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	
	6"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		8.7 -0.6R	9 -0.5R	9.1 -0.4R	9.2 -0.3R	9.2 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.3 -0.3R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	9.4 -0.2R	
	8"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F		10 -1R	10.5 -0.8R	10.7 -0.7R	10.9 -0.6R	10.9 -0.6R	11 -0.5R	11 -0.5R	11.1 -0.4R	11.1 -0.4R	11.1 -0.4R	11.1 -0.4R	11.1 -0.4R	11.1 -0.4R	11.1 -0.4R	11.1 -0.4R	11.1 -0.4R	11.2 -0.4R	11.2 -0.4R	11.2 -0.4R	11.2 -0.4R	
12"	$q_a$	$q_f$	1080	1728	1048	1687	1011	1628	988	1591	972	1566	961	1547	952	1533	952	1533	879	1406	712	1139		
	F		12.3 -1.7R	13.1 -1.5R	13.6 -1.3R	13.9 -1.1R	13.9 -1.1R	14.2 -1R	14.2 -1R	14.3 -0.9R	14.3 -0.9R	14.3 -0.9R	14.3 -0.9R	14.3 -0.9R	14.5 -0.8R	14.5 -0.8R	14.5 -0.8R	14.5 -0.8R	14.6 -0.7R	14.6 -0.7R	14.6 -0.7R	14.6 -0.7R		
18"	$q_a$	$q_f$	975	1728	834	1343	848	1366	784	1262	739	1189	762	1226	730	1176	730	1176	705	1135	712	1139		
	F		14.9 -2.8R	16.5 -2.6R	17.4 -2.3R	18.1 -2.1R	18.1 -2.1R	18.5 -1.9R	18.5 -1.9R	18.9 -1.7R	18.9 -1.7R	18.9 -1.7R	18.9 -1.7R	19.1 -1.6R	19.1 -1.6R	19.1 -1.6R	19.1 -1.6R	19.1 -1.6R	19.4 -1.5R	19.4 -1.5R	19.5 -1.4R	19.5 -1.4R		
24"	$q_a$	$q_f$	805	1296	707	1139	656	1056	624	1004	602	969	586	944	575	925	575	925	565	910	558	898		
	F		17 -3.7R	19.3 -3.6R	20.7 -3.4R	21.7 -3.2R	21.7 -3.2R	22.5 -2.9R	22.5 -2.9R	23 -2.7R	23 -2.7R	23 -2.7R	23 -2.7R	23.4 -2.5R	23.4 -2.5R	23.4 -2.5R	23.4 -2.5R	23.4 -2.5R	23.8 -2.4R	23.8 -2.4R	24.1 -2.2R	24.1 -2.2R		
22 ga	4"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		9.4 -0.6R	9.6 -0.4R	9.7 -0.3R	9.8 -0.3R	9.8 -0.3R	9.9 -0.3R	9.9 -0.3R	9.9 -0.2R	9.9 -0.2R	9.9 -0.2R	9.9 -0.2R	9.9 -0.2R	9.9 -0.2R	9.9 -0.2R	9.9 -0.2R	10 -0.2R	10 -0.2R	10 -0.2R	10 -0.2R		
	6"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		11.3 -1.1R	11.8 -0.8R	12.1 -0.7R	12.2 -0.6R	12.2 -0.6R	12.3 -0.5R	12.3 -0.5R	12.4 -0.5R	12.4 -0.5R	12.4 -0.5R	12.4 -0.5R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.5 -0.4R	12.6 -0.3R	12.6 -0.3R		
	8"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		13 -1.6R	13.8 -1.3R	14.2 -1.1R	14.5 -1R	14.5 -1R	14.7 -0.9R	14.7 -0.9R	14.8 -0.8R	14.8 -0.8R	14.8 -0.8R	14.8 -0.8R	14.9 -0.7R	14.9 -0.7R	14.9 -0.7R	14.9 -0.7R	14.9 -0.7R	15 -0.6R	15 -0.6R	15.1 -0.6R	15.1 -0.6R	
12"	$q_a$	$q_f$	771	1233	771	1233	748	1204	727	1171	713	1148	703	1131	695	1119	695	1119	673	1076	545	872		
	F		15.8 -2.6R	17.2 -2.4R	18 -2.1R	18.6 -1.9R	18.6 -1.9R	19 -1.7R	19 -1.7R	19.3 -1.5R	19.3 -1.5R	19.3 -1.5R	19.3 -1.5R	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R	19.7 -1.3R	19.7 -1.3R	19.9 -1.2R	19.9 -1.2R		
18"	$q_a$	$q_f$	736	1233	620	998	624	1005	573															



# DGN-32 & DGNF-32 3.7

## Pneutek K66 Fasteners to Supports with DeltaGrip® Side Seam Attachment

Diaphragm Shear in pounds per linear foot (plf)



**PNEUTEK**



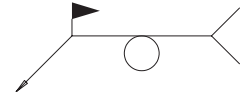
Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																					
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"				
				$q_a$	$q_f$	$q_a$	$q_f$	$q_a$	$q_f$	$q_a$	$q_f$	$q_a$	$q_f$	$q_a$	$q_f$	$q_a$	$q_f$	$q_a$	$q_f$	$q_a$	$q_f$	$q_a$	$q_f$	
32/7	16 ga	4"	$q_a$	$q_f$	2658	4280	2658	4280	2658	4280	2658	4280	2658	4280	2658	4280	2349	3758	1856	2969	1503	2405		
			F	3.6 -0.1R		3.6 -0.1R		3.6 -0.1R		3.6 +0R		3.6 +0R		3.6 +0R		3.6 +0R		3.7 +0R		3.7 +0R				
		6"	$q_a$	$q_f$	2658	4280	2658	4280	2658	4280	2658	4280	2658	4280	2658	4280	2658	4280	2349	3758	1856	2969	1503	2405
			F	4.1 -0.2R		4.2 -0.1R		4.2 -0.1R		4.3 -0.1R		4.3 -0.1R		4.3 -0.1R		4.3 -0.1R		4.3 -0.1R		4.3 -0.1R		4.3 -0.1R		
		8"	$q_a$	$q_f$	2658	4280	2658	4280	2658	4280	2658	4280	2658	4280	2658	4280	2658	4280	2349	3758	1856	2969	1503	2405
			F	4.6 -0.3R		4.8 -0.2R		4.8 -0.2R		4.9 -0.2R		4.9 -0.1R		4.9 -0.1R		4.9 -0.1R		5.0 -0.1R		5.0 -0.1R		5.0 -0.1R		
	12"	$q_a$	$q_f$	2658	4280	2658	4280	2658	4280	2658	4280	2656	4277	2623	4223	2349	3758	1856	2969	1503	2405			
		F	5.5 -0.6R		5.8 -0.5R		6.0 -0.4R		6.1 -0.3R		6.1 -0.3R		6.2 -0.3R		6.2 -0.2R		6.2 -0.2R		6.3 -0.2R		6.3 -0.2R			
	18"	$q_a$	$q_f$	2658	4280	2343	3773	2360	3800	2184	3516	2059	3315	2112	3401	2026	3262	1856	2969	1503	2405			
		F	6.7 -1R		7.2 -0.8R		7.5 -0.7R		7.7 -0.7R		7.8 -0.6R		7.9 -0.5R		8.0 -0.5R		8.0 -0.4R		8.1 -0.4R		8.1 -0.4R			
	24"	$q_a$	$q_f$	2309	3717	2020	3252	1864	3001	1767	2844	1700	2737	1652	2659	1615	2600	1586	2554	1503	2405			
		F	7.6 -1.3R		8.3 -1.2R		8.8 -1.1R		9.1 -1R		9.3 -0.9R		9.5 -0.8R		9.6 -0.8R		9.7 -0.7R		9.8 -0.7R		9.8 -0.7R			
	18 ga	4"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735		
			F	4.8 -0.2R		4.9 -0.1R		4.9 -0.1R		4.9 -0.1R		5.0 -0.1R		5.0 -0.1R		5.0 -0.1R		5.0 -0.1R		5.0 -0.1R				
		6"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735		
			F	5.6 -0.4R		5.8 -0.3R		5.8 -0.2R		5.9 -0.2R		5.9 -0.2R		6.0 -0.2R		6.0 -0.1R		6.0 -0.1R		6.0 -0.1R				
		8"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735		
			F	6.3 -0.6R		6.6 -0.5R		6.7 -0.4R		6.8 -0.3R		6.9 -0.3R		6.9 -0.3R		7.0 -0.2R		7.0 -0.2R		7.0 -0.2R				
	12"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1795	2890	1694	2711	1339	2142	1084	1735			
		F	7.5 -1R		8.0 -0.9R		8.3 -0.7R		8.5 -0.7R		8.7 -0.6R		8.8 -0.5R		8.8 -0.5R		8.9 -0.4R		8.9 -0.4R					
	18"	$q_a$	$q_f$	1824	2918	1637	2635	1630	2624	1494	2406	1400	2253	1431	2303	1366	2200	1315	2117	1084	1735			
		F	8.9 -1.6R		9.9 -1.5R		10.4 -1.3R		10.8 -1.2R		11.1 -1.1R		11.3 -1R		11.4 -0.9R		11.6 -0.9R		11.7 -0.8R					
	24"	$q_a$	$q_f$	1650	2657	1415	2278	1288	2074	1209	1947	1155	1860	1116	1797	1087	1750	1064	1712	1045	1682			
		F	10 -2.1R		11.3 -2.1R		12.2 -2R		12.8 -1.8R		13.2 -1.7R		13.5 -1.6R		13.8 -1.5R		14.1 -1.4R		14.2 -1.3R					
20 ga	4"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139			
		F	7.0 -0.4R		7.2 -0.4R		7.3 -0.3R		7.4 -0.2R		7.4 -0.2R		7.5 -0.2R		7.5 -0.2R		7.5 -0.1R		7.5 -0.1R					
	6"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139			
		F	8.2 -0.8R		8.6 -0.7R		8.8 -0.6R		9.0 -0.5R		9.1 -0.4R		9.2 -0.4R		9.2 -0.3R		9.3 -0.3R		9.3 -0.3R					
	8"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139			
		F	9.3 -1.2R		9.9 -1R		10.2 -0.9R		10.5 -0.8R		10.6 -0.7R		10.8 -0.6R		10.8 -0.6R		10.9 -0.5R		11.0 -0.5R					
12"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139				
	F	10.9 -1.9R		12.0 -1.8R		12.7 -1.6R		13.1 -1.5R		13.5 -1.3R		13.7 -1.2R		13.9 -1.1R		14.1 -1.1R		14.2 -1R						
18"	$q_a$	$q_f$	1080	1728	1042	1677	1018	1639	923	1486	857	1379	869	1400	826	1329	791	1274	712	1139				
	F	12.7 -2.7R		14.5 -2.8R		15.7 -2.7R		16.5 -2.6R		17.1 -2.4R		17.6 -2.3R		18.0 -2.1R		18.3 -2R		18.5 -1.9R						
24"	$q_a$	$q_f$	1080	1728	904	1456	805	1296	746	1201	706	1137	678	1091	657	1057	640	1031	627	1009				
	F	14.0 -3.4R		16.4 -3.7R		18.1 -3.7R		19.3 -3.6R		20.2 -3.5R		21.0 -3.4R		21.6 -3.2R		22.1 -3.1R		22.5 -2.9R						
22 ga	4"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872			
		F	9.0 -0.7R		9.3 -0.6R		9.5 -0.5R		9.6 -0.4R		9.7 -0.4R		9.8 -0.3R		9.8 -0.3R		9.8 -0.3R		9.9 -0.2R					
	6"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872			
		F	10.5 -1.3R		11.2 -1.1R		11.5 -1R		11.8 -0.8R		12.0 -0.8R		12.1 -0.7R		12.2 -0.6R		12.3 -0.6R		12.3 -0.5R					
	8"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872			
		F	11.8 -1.8R		12.8 -1.6R		13.4 -1.5R		13.8 -1.3R		14.0 -1.2R		14.3 -1.1R		14.4 -1R		14.6 -0.9R		14.7 -0.9R					
12"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872				
	F	13.7 -2.7R		15.4 -2.6R		16.5 -2.5R		17.2 -2.4R		17.8 -2.2R		18.2 -2.1R		18.5 -1.9R		18.8 -1.8R		19.0 -1.7R						
18"	$q_a$	$q_f$	771	1233	771	1233	757	1218	680	1096	628	1011	634	1020	600	966	573	922	545	872				
	F	15.7 -3.7R		18.3 -4R		20.1 -4R		21.4 -3.9R		22.4 -3.8R		23.2 -3.6R		23.8 -3.5R		24.4 -3.3R		24.8 -3.1R						
24"	$q_a$	$q_f$	771	1233	675	1087	595	957	546	879	514	827	491	790	474	762	460	741	449	723				
	F	17.4 -4.4R		20.4 -5.1R		22.8 -5.3R		24.7 -5.4R		26.2 -5.3R		27.4 -5.2R		28.3 -5R		29.2 -4.9R		29.9 -4.7R						

N PANELS

# 3.8 N-32

## Arc Spot/Seam Welds to Supports with Top Seam Welded Side Seam Attachment

Diaphragm Shear in pounds per linear foot (plf)



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																					
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"				
32/5	16 ga	4"	$q_a$	$q_f$	2742	4387	2742	4387	2742	4387	2742	4387	2742	4387	2742	4387	2349	3758	1856	2969	1503	2405		
			F	2.8 +0R		2.8 +0R		2.8 +0R		2.8 +0R		2.8 +0R		2.8 +0R		2.8 +0R		2.8 +0R		2.8 +0R		2.8 +0R		
		6"	$q_a$	$q_f$	2742	4387	2742	4387	2742	4387	2742	4387	2742	4387	2742	4387	2742	4387	2349	3758	1856	2969	1503	2405
			F	3.1 -0.1R		3.1 +0R		3.1 +0R		3.1 +0R		3.1 +0R		3.1 +0R		3.1 +0R		3.1 +0R		3.1 +0R		3.1 +0R		3.1 +0R
		8"	$q_a$	$q_f$	2742	4387	2742	4387	2742	4387	2742	4387	2742	4387	2742	4387	2742	4387	2349	3758	1856	2969	1503	2405
			F	3.3 -0.1R		3.3 -0.1R		3.4 -0.1R		3.4 +0R		3.4 +0R		3.4 +0R		3.4 +0R		3.4 +0R		3.4 +0R		3.4 +0R		3.4 +0R
	12"	$q_a$	$q_f$	2733	4387	2563	4229	2472	4078	2414	3984	2375	3920	2347	3873	2326	3758	1856	2969	1503	2405	1503	2405	
		F	3.7 -0.2R		3.8 -0.1R		3.9 -0.1R		3.9 -0.1R		3.9 -0.1R		3.9 -0.1R		3.9 -0.1R		3.9 -0.1R		3.9 -0.1R		3.9 -0.1R		3.9 -0.1R	
	18"	$q_a$	$q_f$	2387	4387	2039	3365	2072	3419	1914	3158	1803	2975	1858	3066	1781	2939	1720	2838	1503	2405	1503	2405	
		F	4.3 -0.3R		4.5 -0.3R		4.5 -0.2R		4.6 -0.2R		4.6 -0.2R		4.6 -0.2R		4.7 -0.2R		4.7 -0.1R		4.7 -0.1R		4.7 -0.1R		4.7 -0.1R	
	24"	$q_a$	$q_f$	1972	3253	1730	2854	1602	2643	1523	2513	1469	2424	1431	2361	1401	2312	1379	2275	1360	2244	1360	2244	
		F	4.8 -0.5R		5 -0.4R		5.2 -0.4R		5.3 -0.3R		5.3 -0.3R		5.4 -0.3R		5.4 -0.3R		5.4 -0.2R		5.5 -0.2R		5.5 -0.2R		5.5 -0.2R	
	18 ga	4"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735
			F	3.5 +0R		3.5 +0R		3.5 +0R		3.5 +0R		3.5 +0R		3.5 +0R		3.5 +0R		3.5 +0R		3.5 +0R		3.5 +0R		3.5 +0R
		6"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735
			F	3.7 -0.1R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R
		8"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1824	2918	1694	2711	1339	2142	1084	1735
			F	4 -0.1R		4 -0.1R		4.1 -0.1R		4.1 -0.1R		4.1 +0R		4.1 +0R		4.1 +0R		4.1 +0R		4.1 +0R		4.1 +0R		4.1 +0R
	12"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1798	2918	1775	2918	1694	2711	1339	2142	1084	1735	1084	1735	
		F	4.5 -0.2R		4.6 -0.2R		4.6 -0.1R		4.6 -0.1R		4.7 -0.1R		4.7 -0.1R		4.7 -0.1R		4.7 -0.1R		4.7 -0.1R		4.7 -0.1R		4.7 -0.1R	
	18"	$q_a$	$q_f$	1824	2918	1550	2558	1571	2591	1447	2387	1360	2245	1401	2312	1341	2213	1294	2135	1084	1735	1084	1735	
		F	5.1 -0.4R		5.3 -0.3R		5.4 -0.3R		5.5 -0.2R		5.5 -0.2R		5.5 -0.2R		5.5 -0.2R		5.6 -0.2R		5.6 -0.1R		5.6 -0.1R		5.6 -0.1R	
	24"	$q_a$	$q_f$	1509	2490	1316	2171	1214	2003	1151	1899	1109	1829	1078	1778	1055	1740	1036	1710	1022	1686	1022	1686	
		F	5.7 -0.6R		5.9 -0.5R		6.1 -0.4R		6.2 -0.4R		6.3 -0.3R		6.3 -0.3R		6.4 -0.3R		6.4 -0.3R		6.4 -0.2R		6.4 -0.2R		6.4 -0.2R	
20 ga	4"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F	4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R	
	6"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F	4.8 -0.1R		4.8 -0.1R		4.9 +0R		4.9 +0R		4.9 +0R		4.9 +0R		4.9 +0R		4.9 +0R		4.9 +0R		4.9 +0R		4.9 +0R	
	8"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139	
		F	5.1 -0.1R		5.2 -0.1R		5.2 -0.1R		5.2 -0.1R		5.2 -0.1R		5.2 +0R		5.2 +0R		5.2 +0R		5.2 +0R		5.2 +0R		5.2 +0R	
12"	$q_a$	$q_f$	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	1080	1728	879	1406	712	1139		
	F	5.7 -0.2R		5.8 -0.2R		5.8 -0.2R		5.9 -0.1R		5.9 -0.1R		5.9 -0.1R		5.9 -0.1R		5.9 -0.1R		5.9 -0.1R		5.9 -0.1R		5.9 -0.1R		
18"	$q_a$	$q_f$	1080	1728	995	1642	1016	1677	942	1554	890	1469	919	1516	882	1456	853	1406	712	1139	712	1139		
	F	6.4 -0.4R		6.6 -0.4R		6.7 -0.3R		6.8 -0.3R		6.8 -0.2R		6.9 -0.2R		6.9 -0.2R		6.9 -0.2R		6.9 -0.2R		7 -0.2R		7 -0.2R		
24"	$q_a$	$q_f$	952	1572	844	1392	786	1297	750	1238	726	1198	709	1169	695	1147	685	1130	677	1117	677	1117		
	F	7 -0.6R		7.4 -0.6R		7.5 -0.5R		7.7 -0.4R		7.8 -0.4R		7.8 -0.4R		7.8 -0.3R		7.9 -0.3R		7.9 -0.3R		7.9 -0.3R		7.9 -0.3R		
22 ga	4"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F	5.3 +0R		5.3 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R	
	6"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F	5.7 -0.1R		5.7 -0.1R		5.7 +0R		5.7 +0R		5.7 +0R		5.7 +0R		5.7 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R	
	8"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F	6 -0.1R		6.1 -0.1R		6.1 -0.1R		6.1 -0.1R		6.1 -0.1R		6.1 -0.1R		6.1 +0R		6.1 +0R		6.1 +0R		6.1 +0R		6.1 +0R	
12"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872		
	F	6.6 -0.3R		6.7 -0.2R		6.8 -0.2R		6.8 -0.1R		6.9 -0.1R		6.9 -0.1R		6.9 -0.1R		6.9 -0.1R		6.9 -0.1R		6.9 -0.1R		6.9 -0.1R		
18"	$q_a$	$q_f$	771	1233	752	1233	770	1233	717	1183	679	1121	702	1158	675	1114	654	1076	545	872	545	872		
	F	7.4 -0.5R		7.6 -0.4R		7.8 -0.3R		7.8 -0.3R		7.9 -0.2R		7.9 -0.2R		7.9 -0.2R		8 -0.2R		8 -0.2R		8 -0.2R		8 -0.2R		
24"	$q_a$	$q_f$	713	1176	637	1051	597	985	572	944	555	916	543	896	534	881	526	869	521	859	521	859		
	F	8.1 -0.7R		8.5 -0.6R		8.7 -0.5R		8.8 -0.5R		8.9 -0.4R		9 -0.4R		9 -0.4R		9 -0.3R		9.1 -0.3R		9.1 -0.3R		9.1 -0.3R		

N-32 32/5

Support Attachment: 0.5" Effective Dia. Arc Spot Weld

Side Seam Attachment: Top Seam Side-Lap Weld

## Arc Spot/Seam Welds to Supports with Button Punch Side Seam Attachments

Diaphragm Shear in pounds per linear foot (plf)



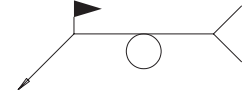
Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^6$ in/lbs)																			
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"		
32/5	16 ga	4"	$q_a$	$q_f$	972	1603	655	1082	517	852	433	715	378	623	338	558	308	509	285	471	267	440
			F		7.9	-2R	9.4	-2.3R	10.6	-2.4R	11.4	-2.4R	12.1	-2.4R	12.6	-2.4R	13.1	-2.3R	13.5	-2.2R	13.8	-2.2R
		6"	$q_a$	$q_f$	938	1548	622	1027	483	797	400	660	344	568	305	503	275	454	252	416	233	385
			F		8.7	-2.5R	10.7	-3R	12.3	-3.4R	13.6	-3.5R	14.7	-3.6R	15.6	-3.7R	16.4	-3.7R	17	-3.6R	17.6	-3.6R
		8"	$q_a$	$q_f$	922	1521	605	999	467	770	383	632	328	541	288	475	258	426	235	388	217	357
			F		9.1	-2.8R	11.6	-3.5R	13.5	-4R	15.2	-4.4R	16.6	-4.6R	17.8	-4.8R	18.9	-4.8R	19.8	-4.9R	20.6	-4.9R
	12"	$q_a$	$q_f$	905	1493	589	972	450	742	367	605	311	513	271	448	242	399	218	361	200	330	
		F		9.7	-3.1R	12.6	-4.2R	15.1	-5R	17.3	-5.6R	19.2	-6.1R	20.9	-6.4R	22.4	-6.7R	23.8	-6.9R	25	-7.1R	
	18"	$q_a$	$q_f$	897	1493	578	953	442	729	357	588	300	495	262	432	231	382	207	342	190	313	
		F		10.1	-3.4R	13.4	-4.7R	16.3	-5.8R	19	-6.7R	21.5	-7.4R	23.7	-8.1R	25.7	-8.6R	27.6	-9.1R	29.4	-9.5R	
	24"	$q_a$	$q_f$	888	1466	572	944	433	715	350	577	294	486	255	420	225	371	202	333	183	302	
		F		10.3	-3.5R	13.8	-5R	17	-6.2R	20.1	-7.3R	22.8	-8.3R	25.4	-9.2R	27.9	-9.9R	30.1	-10.6R	32.2	-11.2R	
	18 ga	4"	$q_a$	$q_f$	777	1282	536	885	427	705	362	597	318	525	287	473	264	435	245	405	231	381
			F		9.2	-2.3R	10.9	-2.6R	12.1	-2.7R	13.1	-2.7R	13.8	-2.7R	14.5	-2.7R	15	-2.6R	15.4	-2.5R	15.7	-2.4R
		6"	$q_a$	$q_f$	743	1227	503	830	394	650	328	542	285	470	254	418	230	380	212	350	197	326
			F		10	-2.8R	12.3	-3.4R	14.1	-3.8R	15.6	-4R	16.8	-4.1R	17.8	-4.1R	18.6	-4.1R	19.3	-4.1R	20	-4R
		8"	$q_a$	$q_f$	727	1199	486	802	377	622	312	514	268	442	237	391	214	352	195	322	181	298
			F		10.5	-3.1R	13.2	-3.9R	15.5	-4.5R	17.3	-4.9R	18.9	-5.2R	20.2	-5.3R	21.4	-5.4R	22.4	-5.5R	23.3	-5.5R
	12"	$q_a$	$q_f$	710	1172	469	775	360	595	295	487	251	415	220	363	197	325	179	295	164	271	
		F		11.1	-3.5R	14.4	-4.7R	17.2	-5.5R	19.6	-6.2R	21.8	-6.8R	23.7	-7.2R	25.4	-7.5R	26.9	-7.7R	28.3	-7.9R	
	18"	$q_a$	$q_f$	702	1172	458	756	352	581	285	470	240	396	211	348	186	308	168	277	154	254	
		F		11.6	-3.8R	15.2	-5.2R	18.6	-6.4R	21.6	-7.5R	24.3	-8.3R	26.8	-9R	29.1	-9.7R	31.2	-10.2R	33.2	-10.6R	
	24"	$q_a$	$q_f$	693	1144	453	747	344	567	278	459	235	387	204	336	180	297	162	267	147	243	
		F		11.8	-4R	15.7	-5.6R	19.4	-7R	22.7	-8.2R	25.8	-9.3R	28.8	-10.3R	31.5	-11.1R	34	-11.8R	36.4	-12.5R	
20 ga	4"	$q_a$	$q_f$	493	813	357	590	293	483	254	420	229	377	210	347	196	324	186	307	177	292	
		F		11.1	-2.6R	13.1	-3R	14.5	-3.1R	15.6	-3.2R	16.5	-3.1R	17.2	-3.1R	17.8	-3R	18.2	-2.9R	18.7	-2.8R	
	6"	$q_a$	$q_f$	459	758	324	535	260	428	221	365	195	322	177	292	163	269	152	252	144	237	
		F		12.1	-3.2R	14.7	-3.9R	16.8	-4.3R	18.5	-4.6R	19.9	-4.7R	21	-4.7R	22	-4.7R	22.8	-4.7R	23.5	-4.6R	
	8"	$q_a$	$q_f$	443	730	307	507	243	401	204	337	179	295	160	264	146	242	136	224	127	210	
		F		12.6	-3.6R	15.8	-4.6R	18.3	-5.2R	20.5	-5.7R	22.3	-6R	23.9	-6.1R	25.2	-6.3R	26.4	-6.3R	27.4	-6.3R	
12"	$q_a$	$q_f$	426	703	291	480	226	373	188	310	162	267	144	237	130	214	119	197	111	182		
	F		13.3	-4R	17.1	-5.4R	20.3	-6.4R	23.1	-7.2R	25.6	-7.8R	27.8	-8.3R	29.8	-8.7R	31.6	-8.9R	33.1	-9.1R		
18"	$q_a$	$q_f$	418	703	280	461	218	360	178	293	151	249	134	221	119	197	108	178	101	166		
	F		13.8	-4.4R	18.1	-6R	21.9	-7.4R	25.4	-8.6R	28.6	-9.6R	31.4	-10.4R	34.1	-11.1R	36.5	-11.7R	38.8	-12.2R		
24"	$q_a$	$q_f$	409	675	274	452	210	346	171	282	145	240	127	209	113	187	102	169	94	155		
	F		14.1	-4.6R	18.7	-6.4R	22.9	-8.1R	26.7	-9.5R	30.3	-10.7R	33.7	-11.8R	36.8	-12.8R	39.7	-13.7R	42.5	-14.4R		
22 ga	4"	$q_a$	$q_f$	379	625	285	470	239	394	211	348	192	317	179	296	169	279	162	267	155	256	
		F		12.5	-2.9R	14.7	-3.3R	16.3	-3.4R	17.5	-3.5R	18.5	-3.4R	19.2	-3.4R	19.9	-3.3R	20.4	-3.2R	20.8	-3.1R	
	6"	$q_a$	$q_f$	345	570	251	415	205	339	178	293	159	262	146	241	136	224	128	212	122	201	
		F		13.6	-3.5R	16.5	-4.3R	18.8	-4.7R	20.6	-5R	22.2	-5.1R	23.4	-5.2R	24.5	-5.2R	25.4	-5.1R	26.2	-5.1R	
	8"	$q_a$	$q_f$	329	542	235	387	189	311	161	265	142	235	129	213	119	197	112	184	105	174	
		F		14.3	-3.9R	17.7	-5R	20.5	-5.7R	22.8	-6.2R	24.8	-6.5R	26.5	-6.7R	28	-6.9R	29.3	-6.9R	30.4	-6.9R	
12"	$q_a$	$q_f$	312	515	218	360	172	284	144	238	126	207	113	186	103	169	95	157	89	146		
	F		15	-4.4R	19.1	-5.9R	22.6	-7R	25.7	-7.9R	28.5	-8.6R	30.9	-9.1R	33	-9.5R	35	-9.8R	36.7	-10R		
18"	$q_a$	$q_f$	304	515	207	342	164	270	134	221	115	189	103	170	92	152	84	138	79	130		
	F		15.6	-4.8R	20.2	-6.6R	24.4	-8.1R	28.2	-9.4R	31.7	-10.5R	34.8	-11.4R	37.7	-12.2R	40.4	-12.8R	42.9	-13.4R		
24"	$q_a$	$q_f$	295	487	201	332	155	256	128	210	109	180	96	158	86	142	78	129	72	119		
	F		15.9	-5R	20.9	-7R	25.4	-8.8R	29.7	-10.4R	33.6	-11.8R	37.3	-13R	40.7	-14R	43.9	-15R	46.9	-15.8R		

N PANELS

# 3.8 N-32

## Arc Spot/Seam Welds to Supports with No. 12 Self-Drilling Side Lap Screws

Diaphragm Shear in pounds per linear foot (plf)



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear (q <sub>a</sub> ) (plf), Factored Shear (q <sub>r</sub> ) (plf), and Flexibility Factor (F) (10 <sup>-6</sup> in/lbs)																			
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"		
	32/5	4"	q <sub>a</sub>	q <sub>r</sub>	2389	3942	2184	3604	2075	3423	2007	3311	1960	3235	1927	3179	1901	3137	1856	2969	1503	2405
			F		3.6	-0.2R	3.7	-0.1R	3.7	-0.1R	3.7	-0.1R	3.7	-0.1R	3.7	-0.1R	3.7	-0.1R	3.8	-0.1R	3.8	+0R
6"		q <sub>a</sub>	q <sub>r</sub>	1973	3256	1731	2857	1604	2646	1525	2516	1471	2427	1432	2364	1403	2315	1380	2278	1362	2247	
		F		4.1	-0.3R	4.3	-0.2R	4.3	-0.2R	4.4	-0.2R	4.4	-0.1R	4.4	-0.1R	4.5	-0.1R	4.5	-0.1R	4.5	-0.1R	4.5
8"		q <sub>a</sub>	q <sub>r</sub>	1738	2868	1479	2440	1342	2214	1258	2076	1201	1982	1160	1915	1130	1864	1105	1824	1086	1792	
		F		4.6	-0.4R	4.8	-0.4R	4.9	-0.3R	5	-0.3R	5	-0.2R	5.1	-0.2R	5.1	-0.2R	5.1	-0.2R	5.1	-0.2R	5.2
12"		q <sub>a</sub>	q <sub>r</sub>	1486	2452	1174	1937	1035	1708	952	1570	896	1479	857	1413	827	1364	804	1326	785	1295	
		F		5.3	-0.7R	5.7	-0.6R	6	-0.6R	6.1	-0.5R	6.2	-0.5R	6.3	-0.4R	6.4	-0.4R	6.4	-0.4R	6.4	-0.4R	6.5
18"		q <sub>a</sub>	q <sub>r</sub>	1336	2452	968	1597	880	1453	766	1264	690	1139	680	1122	634	1045	597	986	600	989	
		F		6.2	-1.1R	6.9	-1.1R	7.3	-1R	7.6	-0.9R	7.8	-0.9R	8	-0.8R	8.1	-0.8R	8.2	-0.7R	8.3	-0.7R	8.3
24"		q <sub>a</sub>	q <sub>r</sub>	1181	1949	865	1427	726	1198	643	1060	587	969	547	903	518	854	494	816	476	785	
		F		6.8	-1.4R	7.8	-1.5R	8.4	-1.4R	8.9	-1.4R	9.2	-1.3R	9.4	-1.2R	9.7	-1.2R	9.8	-1.1R	10	-1R	10
	32/5	4"	q <sub>a</sub>	q <sub>r</sub>	1793	2918	1625	2681	1535	2532	1479	2440	1441	2378	1414	2332	1393	2298	1339	2142	1084	1735
			F		4.3	-0.2R	4.4	-0.1R	4.4	-0.1R	4.5	-0.1R	4.5	-0.1R	4.5	-0.1R	4.5	-0.1R	4.5	-0.1R	4.5	-0.1R
6"		q <sub>a</sub>	q <sub>r</sub>	1485	2450	1290	2128	1187	1958	1123	1853	1080	1783	1049	1731	1026	1693	1008	1663	993	1638	
		F		4.9	-0.3R	5.1	-0.3R	5.1	-0.2R	5.2	-0.2R	5.2	-0.2R	5.3	-0.1R	5.3	-0.1R	5.3	-0.1R	5.3	-0.1R	5.3
8"		q <sub>a</sub>	q <sub>r</sub>	1313	2166	1099	1813	990	1634	925	1526	881	1454	850	1402	827	1364	808	1333	792	1308	
		F		5.4	-0.5R	5.7	-0.4R	5.8	-0.3R	5.9	-0.3R	6	-0.3R	6	-0.2R	6	-0.2R	6.1	-0.2R	6.1	-0.2R	6.1
12"		q <sub>a</sub>	q <sub>r</sub>	1119	1846	878	1449	769	1269	704	1161	660	1089	629	1038	606	999	587	969	573	945	
		F		6.3	-0.8R	6.7	-0.7R	7	-0.6R	7.2	-0.6R	7.3	-0.5R	7.4	-0.5R	7.4	-0.4R	7.5	-0.4R	7.5	-0.4R	7.5
18"		q <sub>a</sub>	q <sub>r</sub>	1008	1846	731	1206	659	1087	571	942	513	846	503	829	467	771	440	726	440	726	
		F		7.2	-1.2R	8	-1.2R	8.5	-1.1R	8.8	-1R	9	-1R	9.2	-0.9R	9.4	-0.8R	9.5	-0.8R	9.6	-0.7R	9.6
24"		q <sub>a</sub>	q <sub>r</sub>	898	1481	657	1084	548	904	483	796	439	724	408	673	385	634	366	604	352	580	
		F		7.9	-1.6R	9	-1.6R	9.7	-1.6R	10.2	-1.5R	10.6	-1.5R	10.9	-1.4R	11.1	-1.3R	11.3	-1.2R	11.5	-1.2R	11.5
	32/5	4"	q <sub>a</sub>	q <sub>r</sub>	1080	1728	1014	1673	964	1590	932	1538	911	1503	895	1477	883	1458	874	1406	712	1139
			F		5.5	-0.2R	5.6	-0.2R	5.6	-0.1R	5.7	-0.1R	5.7	-0.1R	5.7	-0.1R	5.7	-0.1R	5.7	-0.1R	5.7	-0.1R
6"		q <sub>a</sub>	q <sub>r</sub>	916	1511	804	1326	745	1229	708	1169	683	1128	666	1098	652	1076	641	1058	633	1044	
		F		6.2	-0.4R	6.4	-0.3R	6.4	-0.3R	6.5	-0.2R	6.5	-0.2R	6.6	-0.2R	6.6	-0.1R	6.6	-0.1R	6.6	-0.1R	6.6
8"		q <sub>a</sub>	q <sub>r</sub>	807	1331	686	1133	623	1028	584	964	558	921	539	890	525	866	514	848	505	833	
		F		6.8	-0.6R	7	-0.5R	7.2	-0.4R	7.3	-0.3R	7.4	-0.3R	7.4	-0.3R	7.5	-0.2R	7.5	-0.2R	7.5	-0.2R	7.5
12"		q <sub>a</sub>	q <sub>r</sub>	680	1123	545	899	481	793	442	729	416	687	398	657	384	634	373	616	365	602	
		F		7.8	-0.9R	8.3	-0.8R	8.6	-0.7R	8.8	-0.7R	8.9	-0.6R	9	-0.5R	9.1	-0.5R	9.2	-0.5R	9.2	-0.4R	9.2
18"		q <sub>a</sub>	q <sub>r</sub>	608	1123	449	741	409	674	356	587	320	529	316	521	294	486	278	458	279	460	
		F		8.9	-1.4R	9.7	-1.4R	10.3	-1.3R	10.7	-1.2R	10.9	-1.1R	11.2	-1R	11.3	-1R	11.5	-0.9R	11.6	-0.8R	11.6
24"		q <sub>a</sub>	q <sub>r</sub>	537	885	401	662	337	556	298	492	272	450	254	419	240	397	230	379	221	365	
		F		9.7	-1.8R	10.9	-1.9R	11.7	-1.9R	12.3	-1.8R	12.7	-1.7R	13.1	-1.6R	13.3	-1.5R	13.5	-1.4R	13.7	-1.3R	13.7
	32/5	4"	q <sub>a</sub>	q <sub>r</sub>	771	1233	752	1233	717	1183	695	1147	680	1122	669	1104	661	1091	655	1076	545	872
			F		6.4	-0.2R	6.5	-0.2R	6.6	-0.1R	6.6	-0.1R	6.6	-0.1R	6.6	-0.1R	6.6	-0.1R	6.7	-0.1R	6.7	-0.1R
6"		q <sub>a</sub>	q <sub>r</sub>	675	1114	596	984	554	915	529	872	511	843	498	822	489	807	481	794	475	784	
		F		7.2	-0.4R	7.4	-0.3R	7.5	-0.3R	7.5	-0.2R	7.6	-0.2R	7.6	-0.2R	7.6	-0.2R	7.7	-0.1R	7.7	-0.1R	7.7
8"		q <sub>a</sub>	q <sub>r</sub>	594	979	508	838	463	764	436	719	417	688	403	666	393	649	385	636	379	625	
		F		7.8	-0.6R	8.1	-0.5R	8.3	-0.4R	8.4	-0.4R	8.5	-0.3R	8.5	-0.3R	8.6	-0.3R	8.6	-0.2R	8.6	-0.2R	8.6
12"		q <sub>a</sub>	q <sub>r</sub>	497	821	403	666	357	589	330	544	311	513	298	491	288	475	280	462	274	452	
		F		8.9	-1R	9.4	-0.9R	9.8	-0.8R	10	-0.7R	10.2	-0.7R	10.3	-0.6R	10.4	-0.5R	10.4	-0.5R	10.5	-0.5R	10.5
18"		q <sub>a</sub>	q <sub>r</sub>	443	821	331	545	303	499	264	436	238	393	235	388	220	362	207	342	209	344	
		F		10.1	-1.6R	11.1	-1.5R	11.7	-1.4R	12.1	-1.3R	12.4	-1.2R	12.6	-1.1R	12.8	-1.1R	13	-1R	13.1	-0.9R	13.1
24"		q <sub>a</sub>	q <sub>r</sub>	388	640	294	485	248	409	220	363	202	333	189	311	179	295	171	282	165	272	
		F		11	-2R	12.3	-2.1R	13.2	-2R	13.9	-1.9R	14.3	-1.8R	14.7	-1.7R	15	-1.6R	15.2	-1.5R	15.4	-1.5R	15.4

N-32 32/5

Support Attachment: 0.5" Effective Dia. Arc Spot Weld

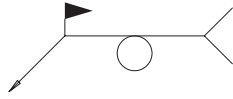
Side Seam Attachment: #12 SD HWH Screw

# 3.9 NN-32 3.9



## Arc Spot/Seam Welds to Supports with No. 12 Self-Drilling Side Lap Screws

Diaphragm Shear in pounds per linear foot (plf)



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear (q <sub>a</sub> ) (plf), Factored Shear (q <sub>f</sub> ) (plf), and Flexibility Factor (F) (10 <sup>6</sup> in/lbs)																					
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"				
			q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>	q <sub>a</sub>   q <sub>f</sub>			
32/5	16 ga	4"	q <sub>a</sub>   q <sub>f</sub>	2422   3997	2208   3644	2094   3455	2022   3337	1974   3256	1938   3198	1912   3154	1856   2969	1503   2405												
			F	3.6 -0.2R	3.7 -0.1R	3.7 -0.1R	3.7 -0.1R	3.7 -0.1R	3.7 -0.1R	3.7 -0.1R	3.8 -0.1R	3.8 +0R	3.8 +0R											
		6"	q <sub>a</sub>   q <sub>f</sub>	2013   3321	1760   2904	1626   2683	1543   2546	1486   2453	1446   2385	1415   2335	1391   2295	1371   2263												
			F	4.1 -0.3R	4.3 -0.2R	4.3 -0.2R	4.4 -0.2R	4.4 -0.1R	4.4 -0.1R	4.4 -0.1R	4.4 -0.1R	4.5 -0.1R	4.5 -0.1R											
		8"	q <sub>a</sub>   q <sub>f</sub>	1781   2939	1509   2490	1366   2253	1277   2108	1218   2009	1174   1938	1142   1884	1116   1842	1096   1808												
			F	4.6 -0.4R	4.8 -0.4R	4.9 -0.3R	5 -0.3R	5 -0.2R	5.1 -0.2R	5.1 -0.2R	5.1 -0.2R	5.1 -0.2R	5.2 -0.2R											
	12"	q <sub>a</sub>   q <sub>f</sub>	1532   2527	1210   1997	1062   1753	974   1606	914   1509	872   1439	840   1387	816   1346	796   1313													
		F	5.3 -0.7R	5.7 -0.7R	6 -0.6R	6.1 -0.5R	6.2 -0.5R	6.3 -0.4R	6.4 -0.4R	6.4 -0.4R	6.4 -0.4R	6.5 -0.3R												
	18"	q <sub>a</sub>   q <sub>f</sub>	1390   2527	1004   1657	908   1498	788   1300	708   1169	695   1147	647   1068	610   1006	610   1007													
		F	6.2 -1.1R	6.8 -1.1R	7.3 -1R	7.6 -0.9R	7.8 -0.9R	8 -0.8R	8.1 -0.8R	8.2 -0.7R	8.3 -0.7R													
	24"	q <sub>a</sub>   q <sub>f</sub>	1235   2038	901   1487	753   1243	664   1096	605   998	563   929	531   876	506   836	487   803													
		F	6.8 -1.4R	7.7 -1.5R	8.4 -1.4R	8.8 -1.4R	9.1 -1.3R	9.4 -1.2R	9.6 -1.2R	9.8 -1.1R	9.9 -1.1R													
	18 ga	4"	q <sub>a</sub>   q <sub>f</sub>	1821   2918	1645   2714	1550   2558	1492   2462	1452   2396	1423   2348	1401   2312	1339   2142	1084   1735												
			F	4.3 -0.2R	4.4 -0.1R	4.4 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R												
		6"	q <sub>a</sub>   q <sub>f</sub>	1517   2502	1313   2166	1205   1988	1138   1877	1093   1803	1060   1749	1035   1708	1016   1676	1000   1651												
			F	4.9 -0.3R	5.1 -0.3R	5.1 -0.2R	5.2 -0.2R	5.2 -0.2R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R												
		8"	q <sub>a</sub>   q <sub>f</sub>	1347   2222	1128   1860	1011   1669	942   1554	895   1477	862   1422	837   1381	817   1347	800   1321												
			F	5.4 -0.5R	5.7 -0.4R	5.8 -0.4R	5.9 -0.3R	5.9 -0.3R	6 -0.2R	6 -0.2R	6.1 -0.2R	6.1 -0.2R												
	12"	q <sub>a</sub>   q <sub>f</sub>	1161   1916	907   1496	790   1304	721   1189	674   1113	641   1058	616   1017	597   985	581   959													
		F	6.2 -0.8R	6.7 -0.7R	7 -0.7R	7.1 -0.6R	7.3 -0.5R	7.4 -0.5R	7.4 -0.4R	7.5 -0.4R	7.5 -0.4R													
	18"	q <sub>a</sub>   q <sub>f</sub>	1051   1916	759   1253	680   1122	588   970	527   869	515   849	478   789	450   742	449   740													
		F	7.2 -1.2R	7.9 -1.2R	8.4 -1.1R	8.8 -1.1R	9 -1R	9.2 -0.9R	9.3 -0.9R	9.5 -0.8R	9.6 -0.7R													
	24"	q <sub>a</sub>   q <sub>f</sub>	940   1552	686   1131	569   940	500   825	453   748	420   693	395   652	376   620	360   595													
		F	7.9 -1.6R	8.9 -1.6R	9.6 -1.6R	10.2 -1.5R	10.5 -1.5R	10.8 -1.4R	11.1 -1.3R	11.3 -1.2R	11.4 -1.2R													
20 ga	4"	q <sub>a</sub>   q <sub>f</sub>	1080   1728	1025   1692	972   1604	939   1550	917   1513	900   1486	888   1465	878   1406	712   1139													
		F	5.5 -0.2R	5.6 -0.2R	5.6 -0.1R	5.7 -0.1R	5.7 -0.1R	5.7 -0.1R	5.7 -0.1R	5.7 -0.1R	5.7 -0.1R													
	6"	q <sub>a</sub>   q <sub>f</sub>	934   1541	817   1348	755   1246	717   1182	691   1139	672   1108	657   1085	646   1066	637   1052													
		F	6.2 -0.4R	6.3 -0.3R	6.4 -0.3R	6.5 -0.2R	6.5 -0.2R	6.6 -0.2R	6.6 -0.2R	6.6 -0.1R	6.6 -0.1R													
	8"	q <sub>a</sub>   q <sub>f</sub>	826   1364	701   1156	634   1046	593   979	566   933	546   900	531   875	519   856	509   840													
		F	6.8 -0.6R	7 -0.5R	7.2 -0.4R	7.3 -0.4R	7.4 -0.3R	7.4 -0.3R	7.5 -0.3R	7.5 -0.3R	7.5 -0.2R													
12"	q <sub>a</sub>   q <sub>f</sub>	706   1164	562   927	493   814	452   746	425   701	405   668	390   644	379   625	370   610														
	F	7.7 -0.9R	8.2 -0.8R	8.5 -0.8R	8.7 -0.7R	8.9 -0.6R	9 -0.6R	9.1 -0.5R	9.1 -0.5R	9.2 -0.4R														
18"	q <sub>a</sub>   q <sub>f</sub>	634   1164	466   769	421   695	366   604	329   543	323   533	301   496	283   467	284   468														
	F	8.8 -1.4R	9.7 -1.4R	10.2 -1.3R	10.6 -1.2R	10.9 -1.1R	11.1 -1.1R	11.3 -1R	11.4 -0.9R	11.5 -0.9R														
24"	q <sub>a</sub>   q <sub>f</sub>	562   927	418   690	349   577	308   509	281   463	261   431	247   407	235   388	226   373														
	F	9.6 -1.8R	10.8 -1.9R	11.6 -1.9R	12.2 -1.8R	12.7 -1.7R	13 -1.6R	13.3 -1.5R	13.5 -1.4R	13.7 -1.4R														
22 ga	4"	q <sub>a</sub>   q <sub>f</sub>	771   1233	760   1233	723   1193	700   1155	684   1129	673   1111	664   1096	658   1076	545   872													
		F	6.4 -0.2R	6.5 -0.2R	6.6 -0.1R	6.6 -0.1R	6.6 -0.1R	6.6 -0.1R	6.6 -0.1R	6.6 -0.1R	6.7 -0.1R													
	6"	q <sub>a</sub>   q <sub>f</sub>	688   1135	606   999	562   927	535   882	516   852	503   830	493   813	485   800	478   789													
		F	7.2 -0.4R	7.4 -0.3R	7.5 -0.3R	7.5 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.1R	7.7 -0.1R													
	8"	q <sub>a</sub>   q <sub>f</sub>	607   1002	518   855	471   777	442   729	422   697	408   673	397   656	389   642	382   631													
		F	7.8 -0.6R	8.1 -0.5R	8.3 -0.4R	8.4 -0.4R	8.5 -0.3R	8.5 -0.3R	8.6 -0.3R	8.6 -0.3R	8.6 -0.2R													
12"	q <sub>a</sub>   q <sub>f</sub>	515   850	416   686	366   604	337   556	317   523	303   500	292   483	284   469	278   458														
	F	8.9 -1R	9.4 -0.9R	9.8 -0.8R	10 -0.7R	10.1 -0.7R	10.3 -0.6R	10.3 -0.6R	10.4 -0.5R	10.5 -0.5R														
18"	q <sub>a</sub>   q <sub>f</sub>	461   850	343   565	312   514	271   447	244   403	241   397	224   370	211   349	212   350														
	F	10 -1.6R	11 -1.5R	11.6 -1.4R	12 -1.3R	12.3 -1.2R	12.6 -1.2R	12.8 -1.1R	12.9 -1R	13 -0.9R														
24"	q <sub>a</sub>   q <sub>f</sub>	406   670	306   505	257   424	227   375	208   343	194   320	183   302	175   289	168   278														
	F	10.9 -2R	12.3 -2.1R	13.1 -2R	13.8 -2R	14.3 -1.9R	14.6 -1.8R	14.9 -1.7R	15.2 -1.6R	15.4 -1.5R														

## No. 12 to Supports with No. 12 Self-Drilling Side Lap Screws Diaphragm Shear in pounds per linear foot (plf)



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																				
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"			
			$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$		
32/5	16 ga	4"	$q_a$ $q_f$	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380		
			F	3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R			
		6"	$q_a$ $q_f$	1365	2197	1320	2126	1296	2087	1281	2063	1271	2046	1263	2034	1258	2025	1253	2017	1249	2011	1249	2011
			F	4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R	
		8"	$q_a$ $q_f$	1219	1962	1157	1863	1124	1809	1103	1776	1088	1752	1078	1736	1070	1723	1064	1713	1059	1705	1059	1705
			F	5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R	
	12"	$q_a$ $q_f$	1017	1637	933	1502	888	1429	860	1384	840	1353	826	1331	816	1314	808	1300	801	1290	801	1290	
		F	6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		
	18"	$q_a$ $q_f$	890	1637	743	1196	742	1195	678	1092	634	1020	649	1045	619	997	596	959	611	983	611	983	
		F	9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		
	24"	$q_a$ $q_f$	745	1199	636	1024	578	931	543	874	519	835	501	807	488	786	478	769	470	756	470	756	
		F	11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		
	18 ga	4"	$q_a$ $q_f$	1182	1903	1177	1895	1165	1875	1157	1863	1152	1854	1148	1848	1145	1843	1143	1839	1084	1735	1084	1735
			F	4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R	
		6"	$q_a$ $q_f$	1046	1684	1005	1618	983	1583	969	1560	960	1545	953	1534	948	1526	943	1519	940	1513	940	1513
			F	5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R	
		8"	$q_a$ $q_f$	928	1494	874	1407	844	1359	826	1330	813	1309	804	1295	797	1283	792	1275	787	1267	787	1267
			F	6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R	
	12"	$q_a$ $q_f$	772	1242	700	1127	662	1066	638	1028	622	1002	610	983	601	968	595	957	589	948	589	948	
		F	8 +0R		8 +0R		8 +0R		8 +0R		8 +0R		8 +0R		8 +0R		8 +0R		8 +0R		8 +0R		
	18"	$q_a$ $q_f$	676	1242	558	899	553	891	503	810	468	754	478	770	455	733	437	703	447	720	447	720	
		F	10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		
	24"	$q_a$ $q_f$	569	916	480	772	433	696	404	650	384	618	370	595	359	578	351	565	344	554	344	554	
		F	13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		
20 ga	4"	$q_a$ $q_f$	863	1389	841	1354	829	1335	822	1324	817	1315	813	1310	811	1305	808	1302	712	1139	712	1139	
		F	5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		
	6"	$q_a$ $q_f$	742	1194	706	1136	686	1105	674	1086	666	1072	660	1062	655	1055	652	1049	649	1045	649	1045	
		F	6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		
	8"	$q_a$ $q_f$	654	1053	608	979	584	940	568	915	558	898	550	885	544	876	540	869	536	863	536	863	
		F	7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		
12"	$q_a$ $q_f$	542	873	485	781	455	732	436	702	423	681	414	666	406	654	401	646	397	638	397	638		
	F	9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R			
18"	$q_a$ $q_f$	477	873	388	625	380	612	344	553	318	513	324	521	307	494	294	473	300	484	300	484		
	F	12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R			
24"	$q_a$ $q_f$	404	651	332	535	296	477	274	442	260	418	250	402	242	389	236	380	231	372	231	372		
	F	15.6 -0.1R		15.6 +0R		15.7 +0R		15.7 +0R		15.7 +0R		15.7 +0R		15.7 +0R		15.7 +0R		15.7 +0R		15.7 +0R			
22 ga	4"	$q_a$ $q_f$	697	1122	676	1089	665	1071	658	1060	653	1052	650	1046	647	1042	645	1039	545	872	545	872	
		F	6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		
	6"	$q_a$ $q_f$	594	957	562	904	544	876	533	858	525	846	520	837	516	831	513	825	510	821	510	821	
		F	7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		
	8"	$q_a$ $q_f$	522	841	482	776	460	741	446	719	437	704	430	693	425	685	421	678	418	673	418	673	
		F	8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		
12"	$q_a$ $q_f$	433	698	384	618	358	576	341	550	330	532	322	519	316	509	311	501	308	495	308	495		
	F	11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R			
18"	$q_a$ $q_f$	382	698	308	496	299	482	270	434	249	401	252	406	239	385	228	368	233	375	233	375		
	F	14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R			
24"	$q_a$ $q_f$	324	522	263	424	233	375	215	346	203	327	194	313	188	302	183	294	179	288	179	288		
	F	17.5 -0.1R		17.5 +0R		17.5 +0R		17.5 +0R		17.5 +0R		17.6 +0R		17.6 +0R		17.6 +0R		17.6 +0R		17.6 +0R			



# 3.10 NN-32

## No. 12 Self-Drilling HWH to Supports with No. 10 Self-Drilling Side Lap Screws

Diaphragm Shear in pounds per linear foot (plf)



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^6$ in/lbs)																			
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"		
32/5	16 ga	4"	$q_a$	$q_f$	1478	2380	1478	2380	1478	2380	1472	2370	1466	2360	1461	2353	1458	2347	1455	2343	1453	2339
			F	3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		
		6"	$q_a$	$q_f$	1333	2146	1285	2068	1258	2026	1242	2000	1231	1982	1223	1968	1216	1958	1212	1951	1208	1944
			F	4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		
		8"	$q_a$	$q_f$	1186	1909	1120	1804	1085	1747	1063	1711	1048	1687	1037	1669	1028	1656	1022	1645	1016	1636
			F	5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		
	12"	$q_a$	$q_f$	987	1589	900	1449	853	1374	824	1327	804	1295	790	1272	779	1254	771	1241	764	1230	
		F	6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R			
	18"	$q_a$	$q_f$	864	1589	717	1155	713	1148	650	1046	606	975	620	998	590	950	567	913	581	935	
		F	9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R			
	24"	$q_a$	$q_f$	726	1168	615	990	557	896	521	838	496	799	479	771	465	749	455	733	447	719	
		F	11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R			
32/5	18 ga	4"	$q_a$	$q_f$	1178	1896	1152	1855	1138	1833	1130	1819	1124	1809	1119	1802	1116	1797	1114	1793	1084	1735
			F	4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		
		6"	$q_a$	$q_f$	1020	1642	976	1571	952	1533	937	1509	927	1493	920	1481	914	1472	910	1464	906	1459
			F	5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		
		8"	$q_a$	$q_f$	902	1452	845	1360	814	1310	794	1279	781	1258	772	1242	764	1230	759	1221	754	1214
			F	6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		
	12"	$q_a$	$q_f$	749	1206	675	1088	636	1024	612	985	595	958	583	939	574	924	567	912	561	903	
		F	8 +0R		8 +0R		8 +0R		8 +0R		8 +0R		8 +0R		8 +0R		8 +0R		8 +0R			
	18"	$q_a$	$q_f$	657	1206	539	868	532	856	482	776	448	721	457	735	434	698	416	670	425	685	
		F	10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R			
	24"	$q_a$	$q_f$	555	893	463	745	415	668	386	621	367	590	353	568	343	552	334	538	328	527	
		F	13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R			
32/5	20 ga	4"	$q_a$	$q_f$	845	1360	821	1322	808	1301	800	1288	794	1279	790	1272	787	1268	785	1264	712	1139
			F	5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		
		6"	$q_a$	$q_f$	722	1162	684	1101	663	1068	650	1047	641	1033	635	1022	630	1014	626	1008	623	1003
			F	6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		
		8"	$q_a$	$q_f$	635	1022	587	946	562	904	546	878	535	861	527	848	521	838	516	831	512	824
			F	7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		
	12"	$q_a$	$q_f$	527	848	468	754	437	703	417	672	404	651	395	636	388	624	382	615	377	607	
		F	9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R			
	18"	$q_a$	$q_f$	464	848	375	604	366	589	329	530	305	490	309	498	293	471	280	451	286	460	
		F	12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R			
	24"	$q_a$	$q_f$	395	636	321	516	284	458	263	423	248	400	238	383	230	371	224	361	219	353	
		F	15.6 -0.1R		15.6 +0R		15.7 +0R		15.7 +0R		15.7 +0R		15.7 +0R		15.7 +0R		15.7 +0R		15.7 +0R			
32/5	22 ga	4"	$q_a$	$q_f$	681	1097	659	1061	647	1041	639	1029	634	1020	630	1014	627	1010	625	1006	545	872
			F	6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		
		6"	$q_a$	$q_f$	578	930	543	875	525	845	513	826	505	813	499	804	495	797	492	792	489	787
			F	7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		
		8"	$q_a$	$q_f$	507	816	465	749	442	712	428	690	419	674	412	663	406	654	402	648	399	642
			F	8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		
	12"	$q_a$	$q_f$	421	678	370	596	344	553	327	526	316	508	308	495	301	485	297	477	293	471	
		F	11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R			
	18"	$q_a$	$q_f$	372	678	298	480	288	464	259	416	238	384	241	388	228	367	218	350	222	357	
		F	14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R			
	24"	$q_a$	$q_f$	315	508	254	409	224	361	206	332	194	312	185	298	179	288	174	280	170	274	
		F	17.5 -0.1R		17.5 +0R		17.5 +0R		17.5 +0R		17.5 +0R		17.6 +0R		17.6 +0R		17.6 +0R		17.6 +0R			

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Support Attachment: #12 SD HWH Screw

Side Seam Attachment: #10 SD HWH Screw



# NN-32 3.10

## No. 12 Self-Drilling HWH to Supports with No. 10 Self-Drilling Side Lap Screws Diaphragm Shear in pounds per linear foot (plf)



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																			
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"		
32/7	16 ga	4"	$q_a$	$q_f$	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380	1478	2380
			F		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R	
		6"	$q_a$	$q_f$	1478	2380	1478	2380	1478	2380	1478	2380	1455	2343	1435	2310	1420	2286	1408	2266	1398	2250
			F		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R	
		8"	$q_a$	$q_f$	1478	2380	1378	2218	1301	2094	1252	2016	1219	1962	1194	1923	1176	1893	1161	1869	1149	1850
			F		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R		5.3 +0R	
		12"	$q_a$	$q_f$	1295	2085	1125	1811	1033	1663	975	1569	935	1506	906	1459	885	1424	868	1397	854	1375
			F		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R		6.9 +0R	
		18"	$q_a$	$q_f$	1166	2085	930	1498	881	1418	786	1266	721	1161	722	1162	680	1095	647	1042	655	1055
			F		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R		9.2 +0R	
		24"	$q_a$	$q_f$	1026	1652	826	1329	718	1157	652	1050	607	978	575	925	550	886	531	855	516	830
			F		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R		11.5 +0R	
	18 ga	4"	$q_a$	$q_f$	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1182	1903	1084	1735
			F		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R		4.6 +0R	
		6"	$q_a$	$q_f$	1182	1903	1182	1903	1146	1845	1111	1789	1087	1751	1070	1723	1057	1701	1046	1684	1038	1671
			F		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R		5.4 +0R	
		8"	$q_a$	$q_f$	1160	1868	1041	1676	976	1571	934	1504	906	1459	885	1426	870	1400	858	1381	848	1365
			F		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R		6.3 +0R	
		12"	$q_a$	$q_f$	993	1598	852	1371	775	1248	727	1171	695	1119	671	1080	653	1052	639	1029	628	1011
			F		8 +0R		8 +0R		8 +0R		8 +0R		8 +0R		8 +0R		8 +0R		8 +0R		8 +0R	
		18"	$q_a$	$q_f$	898	1598	709	1141	664	1069	589	949	538	867	536	863	504	811	478	770	483	778
			F		10.5 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R		10.6 +0R	
		24"	$q_a$	$q_f$	795	1280	632	1018	546	879	491	790	454	731	428	689	408	657	393	633	381	613
			F		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R		13.1 +0R	
20 ga	4"	$q_a$	$q_f$	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	888	1429	879	1406	712	1139	
		F		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R		5.8 +0R
	6"	$q_a$	$q_f$	888	1429	841	1353	795	1280	767	1234	747	1202	732	1179	722	1162	713	1148	706	1137	
		F		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R		6.8 +0R
	8"	$q_a$	$q_f$	824	1326	728	1172	675	1087	642	1034	620	998	603	971	591	951	581	935	573	923	
		F		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R
	12"	$q_a$	$q_f$	708	1140	598	963	538	867	501	807	476	766	457	737	444	714	433	697	424	683	
		F		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R		9.7 +0R
	18"	$q_a$	$q_f$	644	1140	502	808	464	747	409	658	371	598	367	592	344	554	326	525	328	527	
		F		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R		12.7 +0R
	24"	$q_a$	$q_f$	576	927	451	727	383	617	342	550	314	506	294	474	280	450	268	431	259	417	
		F		15.6 -0.1R		15.6 -0.1R		15.6 +0R		15.6 +0R		15.6 +0R		15.7 +0R		15.7 +0R		15.7 +0R		15.7 +0R		15.7 +0R
22 ga	4"	$q_a$	$q_f$	739	1190	739	1190	739	1190	739	1190	739	1190	739	1190	736	1185	673	1076	545	872	
		F		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R
	6"	$q_a$	$q_f$	739	1190	669	1077	629	1013	604	972	587	944	574	924	565	909	557	897	545	872	
		F		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R		7.8 +0R
	8"	$q_a$	$q_f$	662	1066	579	932	534	859	505	814	486	782	472	760	461	743	453	729	446	718	
		F		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R		8.9 +0R
	12"	$q_a$	$q_f$	572	920	478	769	427	687	395	637	374	602	358	577	347	558	338	543	330	531	
		F		11 +0R		11 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R		11.1 +0R
	18"	$q_a$	$q_f$	522	920	404	650	369	595	324	522	293	472	289	466	270	435	255	411	256	412	
		F		14.3 -0.1R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R		14.3 +0R
	24"	$q_a$	$q_f$	469	755	364	586	306	493	272	437	249	400	232	374	220	354	210	339	203	326	
		F		17.5 -0.1R		17.5 -0.1R		17.5 -0.1R		17.5 +0R		17.5 +0R		17.5 +0R		17.5 +0R		17.5 +0R		17.5 +0R		17.6 +0R

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Support Attachment: #12 SD HWH Screw

Side Seam Attachment: #10 SD HWH Screw

N PANELS

# 3.11 NN-32

## Hilti X-HSN-24 Fasteners to Supports with No. 12 Self-Drilling Side Lap Screws

Diaphragm Shear in pounds per linear foot (plf)



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^6$ in/lbs)																			
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"		
32/5	16 ga	4"	$q_a$	$q_f$	1854	2985	1808	2910	1782	2870	1767	2844	1756	2827	1748	2814	1742	2805	1737	2797	1503	2405
			F		3.6 -0.2R	3.7 -0.1R	3.7 -0.1R	3.7 -0.1R	3.7 -0.1R	3.7 -0.1R	3.8 -0.1R	3.8 -0.1R	3.8 -0.1R	3.8 +0R	3.8 +0R							
		6"	$q_a$	$q_f$	1594	2566	1517	2442	1475	2375	1449	2333	1431	2304	1418	2283	1408	2268	1401	2255	1394	2245
			F		4.1 -0.3R	4.3 -0.2R	4.3 -0.2R	4.4 -0.2R	4.4 -0.1R	4.4 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R							
		8"	$q_a$	$q_f$	1405	2262	1307	2104	1254	2019	1221	1966	1199	1930	1182	1903	1170	1883	1160	1867	1152	1855
			F		4.6 -0.4R	4.8 -0.4R	4.8 -0.4R	4.9 -0.3R	5 -0.3R	5.1 -0.2R	5.1 -0.2R	5.1 -0.2R	5.1 -0.2R	5.2 -0.2R	5.2 -0.2R							
	12"	$q_a$	$q_f$	1166	1877	1043	1679	977	1573	937	1508	909	1463	889	1431	874	1407	862	1388	852	1372	
		F		5.4 -0.7R	5.8 -0.6R	6 -0.6R	6.2 -0.5R	6.3 -0.5R	6.3 -0.4R	6.4 -0.4R	6.5 -0.3R	6.5 -0.3R										
	18"	$q_a$	$q_f$	1024	1877	835	1344	817	1316	738	1189	684	1102	696	1120	660	1063	632	1018	646	1039	
		F		6.3 -1.1R	7 -1.1R	7.4 -1R	7.7 -0.9R	7.9 -0.8R	8 -0.8R	8.2 -0.7R	8.3 -0.7R	8.3 -0.6R										
	24"	$q_a$	$q_f$	869	1399	714	1150	636	1025	590	950	559	900	537	864	520	837	507	816	497	799	
		F		7 -1.4R	7.9 -1.5R	8.5 -1.4R	9 -1.3R	9.3 -1.3R	9.5 -1.2R	9.7 -1.1R	9.9 -1.1R	10 -1R										
	18 ga	4"	$q_a$	$q_f$	1438	2316	1394	2244	1369	2205	1354	2180	1344	2163	1336	2151	1330	2142	1326	2135	1084	1735
			F		4.3 -0.2R	4.4 -0.1R	4.4 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 +0R									
		6"	$q_a$	$q_f$	1223	1969	1153	1857	1116	1796	1092	1758	1076	1732	1064	1713	1055	1699	1048	1687	1042	1678
			F		4.9 -0.3R	5.1 -0.3R	5.2 -0.2R	5.2 -0.2R	5.2 -0.2R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R									
		8"	$q_a$	$q_f$	1074	1730	988	1591	942	1516	913	1470	893	1438	879	1415	868	1398	860	1384	853	1373
			F		5.5 -0.5R	5.7 -0.4R	5.8 -0.3R	5.9 -0.3R	6 -0.3R	6 -0.2R	6 -0.2R	6.1 -0.2R	6.1 -0.2R									
	12"	$q_a$	$q_f$	892	1435	787	1268	732	1178	697	1123	674	1085	657	1058	644	1038	634	1021	626	1008	
		F		6.3 -0.8R	6.8 -0.7R	7 -0.6R	7.2 -0.6R	7.3 -0.5R	7.4 -0.5R	7.5 -0.4R	7.5 -0.4R	7.6 -0.4R										
	18"	$q_a$	$q_f$	786	1435	633	1019	613	987	551	887	509	819	515	829	487	784	465	749	474	764	
		F		7.3 -1.2R	8.1 -1.2R	8.6 -1.1R	8.9 -1R	9.1 -0.9R	9.3 -0.9R	9.4 -0.8R	9.5 -0.8R	9.6 -0.7R										
	24"	$q_a$	$q_f$	672	1082	540	869	477	768	439	707	414	667	396	638	383	616	372	599	364	586	
		F		8.1 -1.6R	9.1 -1.6R	9.8 -1.6R	10.3 -1.5R	10.7 -1.4R	11 -1.3R	11.2 -1.3R	11.4 -1.2R	11.5 -1.1R										
20 ga	4"	$q_a$	$q_f$	1032	1661	991	1595	968	1559	954	1536	945	1521	938	1509	932	1501	879	1406	712	1139	
		F		5.5 -0.2R	5.6 -0.1R	5.6 -0.1R	5.7 -0.1R	5.7 -0.1R	5.7 -0.1R	5.7 -0.1R	5.7 -0.1R	5.7 -0.1R										
	6"	$q_a$	$q_f$	868	1397	808	1301	775	1249	755	1216	741	1194	731	1177	724	1165	718	1156	712	1139	
		F		6.2 -0.4R	6.4 -0.3R	6.5 -0.2R	6.5 -0.2R	6.6 -0.2R	6.6 -0.2R	6.6 -0.1R	6.6 -0.1R	6.6 -0.1R										
	8"	$q_a$	$q_f$	760	1224	689	1109	651	1047	627	1009	611	983	599	964	590	950	583	939	577	930	
		F		6.8 -0.5R	7.1 -0.5R	7.2 -0.4R	7.3 -0.3R	7.4 -0.3R	7.4 -0.3R	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R										
12"	$q_a$	$q_f$	633	1019	549	885	505	814	478	770	460	740	446	718	436	702	428	689	422	679		
	F		7.8 -0.9R	8.3 -0.8R	8.6 -0.7R	8.8 -0.6R	8.9 -0.6R	9 -0.5R	9.1 -0.5R	9.2 -0.4R	9.2 -0.4R											
18"	$q_a$	$q_f$	561	1019	441	711	425	684	377	608	346	557	350	564	330	531	314	505	320	515		
	F		9 -1.4R	9.8 -1.4R	10.4 -1.3R	10.8 -1.2R	11 -1.1R	11.2 -1R	11.4 -0.9R	11.5 -0.9R	11.6 -0.8R											
24"	$q_a$	$q_f$	479	772	379	610	331	533	302	487	283	456	270	434	259	418	251	405	245	394		
	F		9.9 -1.8R	11.1 -1.9R	11.9 -1.8R	12.4 -1.7R	12.8 -1.6R	13.2 -1.5R	13.4 -1.5R	13.6 -1.4R	13.8 -1.3R											
22 ga	4"	$q_a$	$q_f$	771	1233	771	1233	771	1233	759	1222	750	1208	744	1197	739	1189	673	1076	545	872	
		F		6.4 -0.2R	6.5 -0.2R	6.6 -0.1R	6.6 -0.1R	6.6 -0.1R	6.6 -0.1R	6.6 -0.1R	6.7 -0.1R	6.7 -0.1R										
	6"	$q_a$	$q_f$	696	1120	642	1033	613	987	595	958	583	938	574	924	567	913	561	904	545	872	
		F		7.2 -0.4R	7.4 -0.3R	7.5 -0.3R	7.5 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.7 -0.1R	7.7 -0.1R										
	8"	$q_a$	$q_f$	609	981	546	880	513	826	492	792	478	770	468	753	460	741	454	731	449	723	
		F		7.9 -0.6R	8.2 -0.5R	8.3 -0.4R	8.4 -0.4R	8.5 -0.3R	8.6 -0.3R	8.6 -0.3R	8.6 -0.3R	8.7 -0.2R										
12"	$q_a$	$q_f$	508	819	437	703	399	642	376	605	360	579	348	561	340	547	333	536	328	527		
	F		9 -1R	9.5 -0.9R	9.8 -0.8R	10.1 -0.7R	10.2 -0.6R	10.3 -0.6R	10.4 -0.5R	10.5 -0.5R	10.5 -0.4R											
18"	$q_a$	$q_f$	453	819	350	564	334	538	296	476	270	435	272	439	256	412	244	392	248	399		
	F		10.2 -1.6R	11.2 -1.5R	11.8 -1.4R	12.2 -1.3R	12.5 -1.2R	12.7 -1.1R	12.9 -1R	13 -1R	13.1 -0.9R											
24"	$q_a$	$q_f$	384	619	303	488	263	423	239	384	223	359	211	340	203	326	196	316	191	307		
	F		11.2 -2R	12.5 -2.1R	13.4 -2R	14 -1.9R	14.5 -1.8R	14.8 -1.7R	15.1 -1.6R	15.3 -1.5R	15.5 -1.4R											

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Support Attachment: Hilti X-HSN 24 PAF

Side Seam Attachment: #12 SD HWH Screw

## Hilti X-ENP-19 Fasteners to Supports with No. 12 Self-Drilling Side Lap Screws Diaphragm Shear in pounds per linear foot (plf)



**HILTI**



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																		
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"	
			$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$	$q_a$ $q_f$
32/5	16 ga	4"	$q_a$ $q_f$	1948	3136	1892	3046	1862	2998	1843	2967	1830	2947	1821	2931	1814	2920	1808	2911	1503	2405
			F	3.5 -0.2R		3.6 -0.2R		3.6 -0.1R		3.7 -0.1R		3.7 -0.1R		3.7 -0.1R		3.7 -0.1R		3.7 -0.1R		3.7 -0.1R	
		6"	$q_a$ $q_f$	1663	2678	1575	2535	1526	2458	1496	2409	1476	2376	1461	2352	1449	2333	1440	2319	1433	2307
			F	3.9 -0.3R		4.1 -0.3R		4.2 -0.3R		4.3 -0.2R		4.3 -0.2R		4.4 -0.2R		4.4 -0.2R		4.4 -0.1R		4.4 -0.1R	
		8"	$q_a$ $q_f$	1463	2355	1352	2176	1292	2080	1255	2020	1229	1979	1211	1949	1197	1927	1186	1909	1177	1895
			F	4.3 -0.5R		4.6 -0.4R		4.7 -0.4R		4.8 -0.4R		4.9 -0.3R		5 -0.3R		5 -0.3R		5 -0.2R		5.1 -0.2R	
	12"	$q_a$ $q_f$	1213	1954	1077	1735	1005	1618	960	1545	929	1496	907	1460	890	1433	877	1412	867	1395	
		F	4.8 -0.7R		5.3 -0.7R		5.6 -0.7R		5.8 -0.6R		5.9 -0.6R		6 -0.6R		6.1 -0.5R		6.2 -0.5R		6.3 -0.5R		
	18"	$q_a$ $q_f$	1069	1954	864	1392	841	1354	758	1220	700	1128	710	1144	673	1083	643	1036	656	1057	
		F	5.4 -1R		6.1 -1.1R		6.6 -1.1R		7 -1.1R		7.2 -1R		7.4 -1R		7.6 -0.9R		7.8 -0.9R		7.9 -0.8R		
	24"	$q_a$ $q_f$	910	1466	738	1188	654	1053	604	973	571	919	547	880	529	851	515	829	504	811	
		F	5.8 -1.2R		6.7 -1.4R		7.4 -1.5R		7.9 -1.5R		8.3 -1.4R		8.6 -1.4R		8.9 -1.4R		9.1 -1.3R		9.3 -1.3R		
	18 ga	4"	$q_a$ $q_f$	1508	2428	1455	2342	1426	2296	1408	2267	1395	2247	1386	2232	1380	2221	1339	2142	1084	1735
			F	4.2 -0.2R		4.3 -0.2R		4.4 -0.1R		4.4 -0.1R		4.4 -0.1R		4.5 -0.1R		4.5 -0.1R		4.5 -0.1R		4.5 -0.1R	
		6"	$q_a$ $q_f$	1275	2053	1195	1924	1152	1854	1125	1811	1106	1781	1093	1760	1083	1743	1075	1730	1068	1720
			F	4.7 -0.4R		4.9 -0.3R		5 -0.3R		5.1 -0.3R		5.1 -0.2R		5.2 -0.2R		5.2 -0.2R		5.2 -0.2R		5.2 -0.2R	
		8"	$q_a$ $q_f$	1118	1800	1021	1644	969	1560	937	1508	915	1473	899	1447	887	1427	877	1412	869	1400
			F	5.1 -0.5R		5.4 -0.5R		5.6 -0.4R		5.7 -0.4R		5.8 -0.4R		5.8 -0.3R		5.9 -0.3R		5.9 -0.3R		6 -0.3R	
	12"	$q_a$ $q_f$	929	1495	814	1310	753	1212	715	1151	689	1109	671	1080	656	1057	646	1039	637	1025	
		F	5.7 -0.8R		6.2 -0.8R		6.5 -0.8R		6.8 -0.7R		6.9 -0.7R		7.1 -0.6R		7.2 -0.6R		7.2 -0.5R		7.3 -0.5R		
	18"	$q_a$ $q_f$	821	1495	655	1055	632	1017	566	911	520	837	526	847	497	800	474	763	482	777	
		F	6.3 -1.1R		7.1 -1.2R		7.7 -1.2R		8.1 -1.2R		8.4 -1.1R		8.6 -1.1R		8.8 -1R		9 -1R		9.1 -0.9R		
	24"	$q_a$ $q_f$	705	1136	559	900	491	791	451	726	424	682	404	651	390	628	379	609	370	595	
		F	6.8 -1.4R		7.8 -1.6R		8.6 -1.6R		9.1 -1.6R		9.6 -1.6R		10 -1.6R		10.2 -1.5R		10.5 -1.5R		10.7 -1.4R		
20 ga	4"	$q_a$ $q_f$	1079	1728	1031	1659	1004	1617	988	1591	977	1573	969	1560	962	1549	879	1406	712	1139	
		F	5.4 -0.3R		5.5 -0.2R		5.6 -0.2R		5.6 -0.1R		5.6 -0.1R		5.6 -0.1R		5.7 -0.1R		5.7 -0.1R		5.7 -0.1R		
	6"	$q_a$ $q_f$	904	1455	836	1345	799	1286	776	1249	760	1224	749	1206	740	1192	734	1181	712	1139	
		F	5.9 -0.4R		6.2 -0.4R		6.3 -0.3R		6.4 -0.3R		6.4 -0.3R		6.5 -0.2R		6.5 -0.2R		6.5 -0.2R		6.6 -0.2R		
	8"	$q_a$ $q_f$	791	1274	712	1146	669	1077	643	1034	625	1005	611	985	602	969	594	956	588	946	
		F	6.4 -0.6R		6.7 -0.6R		6.9 -0.5R		7.1 -0.5R		7.2 -0.4R		7.3 -0.4R		7.3 -0.3R		7.4 -0.3R		7.4 -0.3R		
12"	$q_a$ $q_f$	660	1063	569	915	520	837	490	789	470	757	455	733	444	715	436	701	429	690		
	F	7.1 -0.9R		7.7 -0.9R		8.1 -0.9R		8.3 -0.8R		8.5 -0.8R		8.7 -0.7R		8.8 -0.7R		8.9 -0.6R		8.9 -0.6R			
18"	$q_a$ $q_f$	587	1063	456	734	436	702	386	622	353	569	356	574	335	540	319	513	324	522		
	F	7.8 -1.3R		8.8 -1.4R		9.4 -1.4R		9.8 -1.4R		10.2 -1.3R		10.5 -1.3R		10.7 -1.2R		10.9 -1.1R		11 -1.1R			
24"	$q_a$ $q_f$	502	808	394	634	342	551	311	501	291	468	276	444	265	426	256	413	249	402		
	F	8.3 -1.6R		9.5 -1.8R		10.4 -1.9R		11.1 -1.9R		11.6 -1.9R		12 -1.8R		12.3 -1.8R		12.6 -1.7R		12.8 -1.6R			
22 ga	4"	$q_a$ $q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	766	1233	761	1225	673	1076	545	872	
		F	6.3 -0.3R		6.4 -0.2R		6.5 -0.2R		6.5 -0.2R		6.6 -0.1R		6.6 -0.1R		6.6 -0.1R		6.6 -0.1R		6.6 -0.1R		
	6"	$q_a$ $q_f$	724	1166	663	1068	631	1016	611	983	597	961	587	945	579	932	573	923	545	872	
		F	6.9 -0.5R		7.1 -0.4R		7.3 -0.4R		7.4 -0.3R		7.4 -0.3R		7.5 -0.3R		7.5 -0.2R		7.6 -0.2R		7.6 -0.2R		
	8"	$q_a$ $q_f$	634	1021	564	909	527	849	504	812	489	787	477	769	469	755	462	744	457	735	
		F	7.4 -0.7R		7.8 -0.6R		8 -0.6R		8.2 -0.5R		8.3 -0.5R		8.3 -0.4R		8.4 -0.4R		8.5 -0.3R		8.5 -0.3R		
12"	$q_a$ $q_f$	531	855	452	728	411	662	385	621	368	593	356	573	346	558	339	546	333	536		
	F	8.2 -1R		8.8 -1R		9.2 -1R		9.5 -0.9R		9.7 -0.8R		9.9 -0.8R		10 -0.7R		10.1 -0.7R		10.2 -0.6R			
18"	$q_a$ $q_f$	474	855	363	584	343	553	303	488	276	445	278	447	261	420	248	399	251	405		
	F	9 -1.4R		10 -1.5R		10.7 -1.5R		11.2 -1.5R		11.6 -1.4R		11.9 -1.4R		12.1 -1.3R		12.3 -1.3R		12.5 -1.2R			
24"	$q_a$ $q_f$	403	649	315	508	272	438	246	396	229	369	217	349	207	334	200	322	194	313		
	F	9.5 -1.8R		10.8 -2R		11.8 -2.1R		12.5 -2.1R		13.1 -2R		13.5 -2R		13.9 -1.9R		14.2 -1.9R		14.5 -1.8R			

# 3.12 NN-32

## Pneutek SDK61 Fasteners to Supports with No. 12 Self-Drilling Side Lap Screws

Diaphragm Shear in pounds per linear foot (plf)



**PNEUTEK**



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^6$ in/lbs)																					
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"				
32/5	16 ga	4"	$q_a$	$q_f$	1842	2965	1797	2893	1772	2853	1757	2828	1746	2811	1739	2799	1733	2790	1728	2782	1503	2405		
			F		3.7 -0.1R	3.8 -0.1R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	
		6"	$q_a$	$q_f$	1585	2551	1509	2430	1469	2364	1443	2323	1425	2295	1413	2274	1403	2259	1395	2247	1389	2237	1389	2237
			F		4.4 -0.2R	4.4 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R
		8"	$q_a$	$q_f$	1398	2250	1301	2095	1249	2011	1217	1959	1195	1923	1178	1897	1166	1877	1157	1862	1149	1862	1149	1849
			F		5.0-0.3R	5.1 -0.2R	5.2 -0.2R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R
	12"	$q_a$	$q_f$	1160	1867	1038	1672	974	1568	934	1503	906	1459	887	1427	872	1403	860	1384	850	1369	850	1369	
		F		6.1 -0.5R	6.4 -0.4R	6.5 -0.3R	6.6 -0.3R	6.6 -0.3R	6.6 -0.2R	6.6 -0.2R	6.6 -0.2R	6.6 -0.2R	6.6 -0.2R	6.6 -0.2R	6.6 -0.2R	6.6 -0.2R	6.6 -0.2R	6.7 -0.2R	6.7 -0.2R	6.7 -0.2R	6.7 -0.2R	6.7 -0.2R	6.7 -0.2R	
	18"	$q_a$	$q_f$	1019	1867	831	1337	814	1311	736	1185	682	1098	694	1117	659	1060	631	1015	644	1037	644	1037	
		F		7.6 -0.9R	8.1 -0.8R	8.3 -0.6R	8.5 -0.6R	8.5 -0.6R	8.5 -0.6R	8.5 -0.6R	8.5 -0.6R	8.5 -0.6R	8.5 -0.6R	8.5 -0.6R	8.5 -0.6R	8.5 -0.6R	8.5 -0.6R	8.5 -0.6R	8.5 -0.6R	8.5 -0.6R	8.5 -0.6R	8.5 -0.6R	8.5 -0.6R	
	24"	$q_a$	$q_f$	864	1390	711	1145	634	1021	588	947	557	897	535	862	519	835	506	815	496	798	496	798	
		F		8.9 -1.4R	9.6 -1.2R	10 -1R	10.3 -0.9R	10.3 -0.9R	10.3 -0.9R	10.3 -0.9R	10.3 -0.9R	10.3 -0.9R	10.3 -0.9R	10.3 -0.9R	10.3 -0.9R	10.3 -0.9R	10.3 -0.9R	10.3 -0.9R	10.3 -0.9R	10.3 -0.9R	10.3 -0.9R	10.3 -0.9R	10.3 -0.9R	
	18 ga	4"	$q_a$	$q_f$	1443	2323	1397	2250	1373	2210	1358	2186	1347	2169	1339	2156	1333	2147	1329	2139	1084	1735	1084	1735
			F		4.5 -0.1R	4.5 -0.1R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R
		6"	$q_a$	$q_f$	1226	1975	1156	1861	1118	1800	1094	1761	1078	1735	1066	1716	1057	1701	1050	1690	1044	1681	1044	1681
			F		5.2 -0.2R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R
		8"	$q_a$	$q_f$	1077	1734	990	1594	944	1519	914	1472	895	1440	880	1417	869	1399	861	1386	854	1374	854	1374
			F		5.9 -0.3R	6 -0.2R	6.1 -0.2R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R
	12"	$q_a$	$q_f$	894	1439	789	1270	733	1180	698	1125	675	1087	658	1059	645	1039	635	1023	627	1010	627	1010	
		F		7.2 -0.6R	7.4 -0.4R	7.6 -0.4R	7.6 -0.3R	7.6 -0.3R	7.6 -0.3R	7.6 -0.3R	7.6 -0.3R	7.6 -0.3R	7.6 -0.3R	7.6 -0.3R	7.6 -0.3R	7.6 -0.3R	7.6 -0.3R	7.6 -0.3R	7.6 -0.3R	7.6 -0.3R	7.6 -0.3R	7.6 -0.3R	7.6 -0.3R	
	18"	$q_a$	$q_f$	788	1439	634	1022	614	989	552	889	509	820	516	830	488	785	466	750	475	764	475	764	
		F		8.8 -1R	9.3 -0.9R	9.6 -0.7R	9.8 -0.6R	9.8 -0.6R	9.8 -0.6R	9.8 -0.6R	9.8 -0.6R	9.8 -0.6R	9.8 -0.6R	9.8 -0.6R	9.8 -0.6R	9.8 -0.6R	9.8 -0.6R	9.8 -0.6R	9.8 -0.6R	9.8 -0.6R	9.8 -0.6R	9.8 -0.6R	9.8 -0.6R	
	24"	$q_a$	$q_f$	674	1085	541	871	478	769	440	708	415	668	397	638	383	617	372	600	364	586	364	586	
		F		10.2 -1.5R	11 -1.3R	11.5 -1.1R	11.8 -1R	11.8 -1R	11.8 -1R	11.8 -1R	11.8 -1R	11.8 -1R	11.8 -1R	11.8 -1R	11.8 -1R	11.8 -1R	11.8 -1R	11.8 -1R	11.8 -1R	11.8 -1R	11.8 -1R	11.8 -1R	11.8 -1R	
20 ga	4"	$q_a$	$q_f$	1043	1680	1000	1611	977	1573	963	1550	953	1534	945	1522	940	1513	879	1406	712	1139	712	1139	
		F		5.7 -0.1R	5.7 -0.1R	5.7 -0.1R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	
	6"	$q_a$	$q_f$	877	1411	815	1312	781	1258	760	1224	746	1201	736	1185	728	1172	722	1162	712	1139	712	1139	
		F		6.5 -0.2R	6.6 -0.2R	6.6 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	
	8"	$q_a$	$q_f$	768	1236	694	1118	655	1055	631	1015	614	989	602	969	593	954	586	943	580	934	580	934	
		F		7.3 -0.3R	7.5 -0.3R	7.5 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.2R	
12"	$q_a$	$q_f$	639	1029	554	892	509	819	481	774	462	744	448	722	438	705	430	692	424	682	424	682		
	F		8.8 -0.7R	9.1 -0.5R	9.2 -0.4R	9.3 -0.4R	9.3 -0.4R	9.3 -0.4R	9.3 -0.4R	9.3 -0.4R	9.3 -0.4R	9.3 -0.4R	9.3 -0.4R	9.3 -0.4R	9.3 -0.4R	9.3 -0.4R	9.3 -0.4R	9.3 -0.4R	9.3 -0.4R	9.3 -0.4R	9.3 -0.4R	9.3 -0.4R		
18"	$q_a$	$q_f$	567	1029	445	716	428	688	380	611	348	560	352	566	331	533	315	507	321	517	321	517		
	F		10.7 -1.2R	11.3 -1R	11.6 -0.8R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R	11.8 -0.7R		
24"	$q_a$	$q_f$	485	780	382	616	334	537	304	490	285	459	271	436	261	420	253	407	246	396	246	396		
	F		12.3 -1.8R	13.2 -1.5R	13.8 -1.3R	14.1 -1.2R	14.1 -1.2R	14.1 -1.2R	14.1 -1.2R	14.1 -1.2R	14.1 -1.2R	14.1 -1.2R	14.1 -1.2R	14.1 -1.2R	14.1 -1.2R	14.1 -1.2R	14.1 -1.2R	14.1 -1.2R	14.1 -1.2R	14.1 -1.2R	14.1 -1.2R	14.1 -1.2R		
22 ga	4"	$q_a$	$q_f$	771	1233	771	1233	771	1233	768	1233	758	1221	751	1210	746	1201	673	1076	545	872	545	872	
		F		6.6 -0.1R	6.6 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	
	6"	$q_a$	$q_f$	705	1135	649	1045	619	996	600	966	587	946	578	931	571	919	565	910	545	872	545	872	
		F		7.5 -0.2R	7.6 -0.2R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	
	8"	$q_a$	$q_f$	617	994	552	889	518	834	496	799	482	775	471	758	463	745	457	735	452	727	452	727	
		F		8.4 -0.4R	8.6 -0.3R	8.6 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	
12"	$q_a$	$q_f$	516	830	442	712	403	649	379	610	363	584	351	565	342	550	335	539	329	530	329	530		
	F		10 -0.7R	10.3 -0.6R	10.5 -0.5R	10.6 -0.4R	10.6 -0.4R	10.6 -0.4R	10.6 -0.4R	10.6 -0.4R	10.6 -0.4R	10.6 -0.4R	10.6 -0.4R	10.6 -0.4R	10.6 -0.4R	10.6 -0.4R	10.6 -0.4R	10.6 -0.4R	10.6 -0.4R	10.6 -0.4R	10.6 -0.4R	10.6 -0.4R		
18"	$q_a$	$q_f$	460	830	354	571	337	543	298	480	272	438	274	441	258	415	245	394	249	401	249	401		
	F		12.1 -1.3R	12.7 -1.1R	13.1 -0.9R	13.3 -0.8R	13.3 -0.8R	13.3 -0.8R	13.3 -0.8R	13.3 -0.8R	13.3 -0.8R	13.3 -0.8R	13.3 -0.8R	13.3 -0.8R	13.3 -0.8R	13.3 -0.8R	13.3 -0.8R	13.3 -0.8R	13.3 -0.8R	13.3 -0.8R	13.3 -0.8R	13.3 -0.8R		
24"	$q_a$	$q_f$	390	628	307	494	266	428	241	388	225	362	213	343	204	329	197	318	192	309	192	309		
	F		13.9 -1.9R	14.9 -1.7R	15.5 -1.5R	15.8 -1.3R	15.8 -1.3R	15.8 -1.3R	15.8 -1.3R	15.8 -1.3R	15.8 -1.3R	15.8 -1.3R	15.8 -1.3R	15.8 -1.3R	15.8 -1.3R	15.8 -1.3R	15.8 -1.3R	15.8 -1.3R	15.8 -1.3R	15.8 -1.3R	15.8 -1.3R	15.8 -1.3R		

## Pneutek SDK63 Fasteners to Supports with No. 12 Self-Drilling Side Lap Screws Diaphragm Shear in pounds per linear foot (plf)



**PNEUTEK**



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear ( $q_a$ ) (plf), Factored Shear ( $q_f$ ) (plf), and Flexibility Factor (F) ( $10^{-6}$ in/lbs)																			
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"		
32/5	16 ga	4"	$q_a$	$q_f$	1800	2897	1758	2831	1736	2794	1722	2772	1712	2756	1705	2745	1700	2736	1695	2729	1503	2405
			F		3.7 -0.1R		3.8 -0.1R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R	
		6"	$q_a$	$q_f$	1553	2501	1483	2388	1445	2326	1421	2288	1405	2262	1393	2242	1384	2228	1377	2216	1371	2207
			F		4.4 -0.2R		4.4 -0.1R		4.5 -0.1R		4.5 -0.1R		4.5 -0.1R		4.5 -0.1R		4.5 -0.1R		4.5 -0.1R		4.5 +0R	
		8"	$q_a$	$q_f$	1372	2209	1281	2063	1232	1983	1201	1934	1180	1900	1165	1876	1153	1857	1144	1842	1137	1831
			F		5 -0.3R		5.1 -0.2R		5.2 -0.2R		5.2 -0.1R		5.2 -0.1R		5.2 -0.1R		5.3 -0.1R		5.3 -0.1R		5.3 -0.1R	
	12"	$q_a$	$q_f$	1139	1833	1023	1647	962	1548	923	1486	897	1444	878	1414	864	1391	853	1373	844	1358	
		F		6.1 -0.5R		6.4 -0.4R		6.5 -0.3R		6.6 -0.3R		6.6 -0.2R		6.6 -0.2R		6.7 -0.2R		6.7 -0.2R		6.7 -0.2R		6.7 -0.2R
	18"	$q_a$	$q_f$	1000	1833	818	1316	804	1294	727	1171	675	1087	688	1107	653	1051	626	1007	639	1029	
		F		7.6 -0.9R		8.1 -0.8R		8.3 -0.6R		8.5 -0.6R		8.6 -0.5R		8.7 -0.4R		8.7 -0.4R		8.8 -0.4R		8.8 -0.4R		8.8 -0.3R
	24"	$q_a$	$q_f$	846	1361	701	1128	626	1009	582	937	552	889	531	855	515	829	503	809	493	793	
		F		8.9 -1.4R		9.6 -1.2R		10 -1R		10.3 -0.9R		10.4 -0.8R		10.6 -0.7R		10.7 -0.7R		10.8 -0.6R		10.8 -0.6R		10.8 -0.6R
	18 ga	4"	$q_a$	$q_f$	1454	2340	1407	2265	1382	2225	1366	2199	1355	2182	1347	2169	1341	2159	1337	2142	1084	1735
			F		4.5 -0.1R		4.5 -0.1R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R	
		6"	$q_a$	$q_f$	1235	1988	1163	1872	1124	1809	1099	1770	1083	1743	1070	1723	1061	1709	1054	1697	1048	1688
			F		5.2 -0.2R		5.3 -0.1R		5.3 -0.1R		5.3 -0.1R		5.3 -0.1R		5.4 -0.1R		5.4 -0.1R		5.4 -0.1R		5.4 -0.1R	
		8"	$q_a$	$q_f$	1084	1745	995	1603	948	1526	918	1478	898	1446	883	1422	872	1404	863	1390	856	1379
			F		5.9 -0.3R		6 -0.2R		6.1 -0.2R		6.1 -0.1R		6.1 -0.1R		6.2 -0.1R		6.2 -0.1R		6.2 -0.1R		6.2 -0.1R	
	12"	$q_a$	$q_f$	900	1448	793	1277	736	1185	701	1129	677	1091	660	1063	647	1042	637	1025	629	1012	
		F		7.2 -0.6R		7.4 -0.4R		7.6 -0.4R		7.6 -0.3R		7.7 -0.3R		7.7 -0.2R		7.8 -0.2R		7.8 -0.2R		7.8 -0.2R		7.8 -0.2R
	18"	$q_a$	$q_f$	794	1448	638	1027	617	994	554	892	511	823	517	833	489	788	467	752	476	766	
		F		8.8 -1R		9.3 -0.9R		9.6 -0.7R		9.8 -0.6R		9.9 -0.5R		10 -0.5R		10.1 -0.4R		10.1 -0.4R		10.1 -0.4R		10.2 -0.4R
	24"	$q_a$	$q_f$	679	1094	544	876	480	773	442	711	416	670	398	641	384	618	373	601	365	588	
		F		10.2 -1.5R		11 -1.3R		11.5 -1.1R		11.8 -1R		12 -0.9R		12.1 -0.8R		12.2 -0.7R		12.3 -0.7R		12.3 -0.7R		12.4 -0.6R
20 ga	4"	$q_a$	$q_f$	1080	1728	1039	1673	1012	1629	995	1602	983	1583	975	1570	968	1559	879	1406	712	1139	
		F		5.7 -0.1R		5.7 -0.1R		5.7 -0.1R		5.7 +0R		5.7 +0R		5.7 +0R		5.7 +0R		5.8 +0R		5.8 +0R		5.8 +0R
	6"	$q_a$	$q_f$	911	1467	841	1354	804	1294	780	1256	764	1230	753	1212	744	1198	737	1186	712	1139	
		F		6.5 -0.2R		6.6 -0.2R		6.6 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 -0.1R
	8"	$q_a$	$q_f$	798	1284	716	1153	673	1083	646	1040	627	1010	614	989	604	972	596	960	590	949	
		F		7.3 -0.3R		7.5 -0.3R		7.5 -0.2R		7.6 -0.2R		7.6 -0.1R		7.6 -0.1R		7.6 -0.1R		7.6 -0.1R		7.7 -0.1R		7.7 -0.1R
12"	$q_a$	$q_f$	666	1072	573	922	523	842	493	793	472	760	457	736	446	718	437	704	430	693		
	F		8.8 -0.7R		9.1 -0.5R		9.2 -0.4R		9.3 -0.4R		9.4 -0.3R		9.4 -0.3R		9.4 -0.3R		9.5 -0.2R		9.5 -0.2R		9.5 -0.2R	
18"	$q_a$	$q_f$	593	1072	459	739	438	706	388	625	355	571	358	576	336	542	320	515	325	524		
	F		10.7 -1.2R		11.3 -1R		11.6 -0.8R		11.8 -0.7R		11.9 -0.6R		12 -0.6R		12.1 -0.5R		12.2 -0.5R		12.2 -0.5R		12.2 -0.4R	
24"	$q_a$	$q_f$	506	815	397	639	344	555	313	504	292	470	277	446	266	428	257	414	250	403		
	F		12.3 -1.8R		13.2 -1.5R		13.8 -1.3R		14.1 -1.2R		14.3 -1R		14.5 -0.9R		14.6 -0.8R		14.7 -0.8R		14.7 -0.8R		14.8 -0.7R	
22 ga	4"	$q_a$	$q_f$	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F		6.6 -0.1R		6.6 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R
	6"	$q_a$	$q_f$	747	1202	680	1096	645	1038	623	1003	608	978	597	961	588	947	582	937	545	872	
		F		7.5 -0.2R		7.6 -0.2R		7.7 -0.1R		7.7 -0.1R		7.7 -0.1R		7.7 -0.1R		7.7 -0.1R		7.7 -0.1R		7.8 -0.1R		7.8 -0.1R
	8"	$q_a$	$q_f$	654	1053	579	932	539	868	514	828	497	800	485	781	476	766	469	754	463	745	
		F		8.4 -0.4R		8.6 -0.3R		8.6 -0.2R		8.7 -0.2R		8.7 -0.2R		8.8 -0.1R		8.8 -0.1R		8.8 -0.1R		8.8 -0.1R		8.8 -0.1R
12"	$q_a$	$q_f$	549	884	465	749	421	677	393	633	375	604	362	582	352	566	344	553	337	543		
	F		10 -0.7R		10.3 -0.6R		10.5 -0.5R		10.6 -0.4R		10.7 -0.3R		10.7 -0.3R		10.8 -0.3R		10.8 -0.3R		10.8 -0.2R		10.8 -0.2R	
18"	$q_a$	$q_f$	490	884	373	600	351	565	309	498	282	453	282	454	265	426	251	404	254	410		
	F		12.1 -1.3R		12.7 -1.1R		13.1 -0.9R		13.3 -0.8R		13.5 -0.7R		13.6 -0.6R		13.7 -0.6R		13.7 -0.6R		13.7 -0.5R		13.8 -0.5R	
24"	$q_a$	$q_f$	418	673	325	524	280	450	252	406	234	377	221	356	211	340	204	328	197	318		
	F		13.9 -1.9R		14.9 -1.7R		15.5 -1.5R		15.8 -1.3R		16.1 -1.1R		16.3 -1R		16.4 -0.9R		16.6 -0.8R		16.6 -0.8R		16.7 -0.8R	