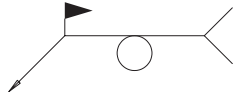


# DGN-32 & DGNF-32 3.4

## Arc Spot/Seam Welds 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"	$q_a$	$q_f$	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 -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	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	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	4.2 -0.1R	4.2 -0.1R	4.2 -0.1R	4.2 -0.1R	4.2 -0.1R	4.2 -0.1R	4.2 -0.1R	4.2 -0.1R	4.2 -0.1R	4.2 -0.1R	4.2 -0.1R	4.2 -0.1R	4.2 -0.1R	4.2 -0.1R	
		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		4.4 -0.4R	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	4.8 -0.2R	4.8 -0.2R	4.8 -0.2R	4.8 -0.2R	4.8 -0.2R	4.8 -0.2R	4.8 -0.2R	4.8 -0.2R	4.8 -0.2R	4.8 -0.2R	4.8 -0.2R	
	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	5.9 -0.4R	5.9 -0.4R	5.9 -0.4R	5.9 -0.4R	5.9 -0.4R	5.9 -0.4R	5.9 -0.4R	5.9 -0.4R	5.9 -0.4R	5.9 -0.4R	5.9 -0.4R	5.9 -0.4R	5.9 -0.4R	5.9 -0.4R		
	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	7.4 -0.8R	7.4 -0.8R	7.4 -0.8R	7.4 -0.8R	7.4 -0.8R	7.4 -0.8R	7.4 -0.8R	7.4 -0.8R	7.4 -0.8R	7.4 -0.8R	7.4 -0.8R	7.4 -0.8R	7.4 -0.8R	7.4 -0.8R		
	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 -1.1R	9.3 -1.1R	9.4 -0.9R	9.4 -0.9R	9.4 -0.9R	9.4 -0.9R	9.4 -0.9R	9.4 -0.9R	9.4 -0.9R	9.4 -0.9R	9.4 -0.9R	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	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	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		5.3 -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	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		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	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	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	8.7 -0.6R	8.7 -0.6R	8.7 -0.6R	8.7 -0.6R	8.7 -0.6R	8.7 -0.6R	8.7 -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	11.1 -1.1R	11.1 -1.1R	11.1 -1.1R	11.1 -1.1R	11.1 -1.1R	11.1 -1.1R	11.1 -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	13.3 -1.7R	13.3 -1.7R	13.3 -1.7R	13.3 -1.7R	13.3 -1.7R	13.3 -1.7R	13.3 -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 -0.3R	7.4 -0.3R	7.4 -0.3R	7.4 -0.3R	7.4 -0.3R	7.4 -0.3R	7.4 -0.3R	7.4 -0.3R	7.4 -0.3R	7.4 -0.3R	7.4 -0.3R	7.4 -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		7.7 -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	9.1 -0.4R	9.1 -0.4R	9.1 -0.4R	9.1 -0.4R	9.1 -0.4R	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	10.7 -0.7R	10.7 -0.7R	10.7 -0.7R	10.7 -0.7R	10.7 -0.7R	10.7 -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	13.6 -1.3R	13.6 -1.3R	13.6 -1.3R	13.6 -1.3R	13.6 -1.3R	13.6 -1.3R	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	17.3 -2.4R	17.3 -2.4R	17.3 -2.4R	17.3 -2.4R	17.3 -2.4R	17.3 -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	20.5 -3.5R	20.5 -3.5R	20.5 -3.5R	20.5 -3.5R	20.5 -3.5R	20.5 -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	9.7 -0.4R	9.7 -0.4R	9.7 -0.4R	9.7 -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	11.9 -0.8R	11.9 -0.8R	11.9 -0.8R	11.9 -0.8R	11.9 -0.8R	11.9 -0.8R	11.9 -0.8R	11.9 -0.8R	11.9 -0.8R				
	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	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				
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	17.9 -2.1R	17.9 -2.1R	17.9 -2.1R	17.9 -2.1R	17.9 -2.1R	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	22.7 -3.7R	22.7 -3.7R	22.7 -3.7R	22.7 -3.7R	22.7 -3.7R	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	26.6 -5.3R	26.6 -5.3R	26.6 -5.3R	26.6 -5.3R	26.6 -5.3R	26.6 -5.3R	26.6 -5.3R					

N-32 32/5 Support Attachment: 0.5" Effective Dia. Arc Spot Weld Side Seam Attachment: DeltaGrip

N PANELS

# 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	11.5 +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	11.5 +0R	11.5 +0R	11.5 +0R	11.5 +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					

N-32 32/

# 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		
	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	1182	1903	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		
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			
	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			
	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	11.5 +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			
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				
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				
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				
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				
	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				
	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				
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					
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					
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	37.9 -0.3R	37.9 -0.3R	37.9 -0.3R	37.9 -0.3R	37.9 -0.3R	37.9 -0.3R	37.9 -0.3R	37.9 -0.3R	37.9 -0.3R	37.9 -0.3R	37.9 -0.3R	37.9 -0.3R	37.9 -0.3R	37.9 -0.3R					

N PANELS

# 3.6 DGN-32 & DGNF-32

## 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 <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>	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	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 +0R		3.6 +0R		3.6 +0R		3.6 +0R			
		6"	q <sub>a</sub> q <sub>r</sub>	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1856	2969	1503	2405
			F	4 -0.2R		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		4.3 -0.1R	
		8"	q <sub>a</sub> q <sub>r</sub>	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1907	3070	1856	2969	1503	2405
			F	4.5 -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 -0.2R		4.9 -0.1R		4.9 -0.1R	
	12"	q <sub>a</sub> q <sub>r</sub>	1907	3070	1901	3061	1883	3031	1871	3012	1863	2999	1857	2990	1853	2983	1849	2969	1503	2405			
		F	5.2 -0.6R		5.6 -0.6R		5.8 -0.5R		5.9 -0.4R		6 -0.4R		6 -0.3R		6.1 -0.3R		6.1 -0.3R		6.2 -0.3R		6.2 -0.3R		
	18"	q <sub>a</sub> q <sub>r</sub>	1762	3070	1622	2611	1679	2703	1606	2586	1553	2500	1599	2575	1560	2512	1528	2460	1503	2405			
		F	6.1 -1R		6.7 -0.9R		7.1 -0.9R		7.3 -0.8R		7.5 -0.7R		7.6 -0.7R		7.7 -0.6R		7.8 -0.6R		7.9 -0.5R		7.9 -0.5R		
	24"	q <sub>a</sub> q <sub>r</sub>	1491	2400	1407	2266	1362	2193	1334	2148	1315	2117	1301	2095	1291	2078	1282	2064	1276	2054			
		F	6.8 -1.3R		7.6 -1.3R		8.2 -1.3R		8.6 -1.2R		8.8 -1.1R		9.1 -1R		9.2 -1R		9.4 -0.9R		9.5 -0.9R		9.5 -0.9R		
	18 ga	4"	q <sub>a</sub> q <sub>r</sub>	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1339	2142	1084	1735		
			F	4.7 -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		5 -0.1R		5 -0.1R		5 -0.1R	
		6"	q <sub>a</sub> q <sub>r</sub>	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1339	2142	1084	1735		
			F	5.4 -0.4R		5.6 -0.4R		5.7 -0.3R		5.8 -0.3R		5.9 -0.2R		5.9 -0.2R		5.9 -0.2R		5.9 -0.2R		6 -0.2R		6 -0.2R	
		8"	q <sub>a</sub> q <sub>r</sub>	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1544	2485	1339	2142	1084	1735		
			F	6 -0.6R		6.3 -0.6R		6.5 -0.5R		6.6 -0.4R		6.7 -0.4R		6.8 -0.3R		6.9 -0.3R		6.9 -0.3R		6.9 -0.3R		6.9 -0.3R	
	12"	q <sub>a</sub> q <sub>r</sub>	1453	2339	1412	2273	1390	2238	1376	2216	1367	2201	1360	2190	1355	2181	1339	2142	1084	1735			
		F	7 -1R		7.6 -1R		7.9 -0.9R		8.2 -0.8R		8.4 -0.7R		8.5 -0.7R		8.6 -0.6R		8.7 -0.6R		8.7 -0.5R		8.7 -0.5R		
	18"	q <sub>a</sub> q <sub>r</sub>	1299	2339	1170	1884	1210	1949	1145	1844	1099	1769	1135	1827	1101	1772	1073	1728	1084	1735			
		F	8 -1.5R		9 -1.6R		9.7 -1.5R		10.1 -1.4R		10.5 -1.3R		10.7 -1.2R		10.9 -1.2R		11.1 -1.1R		11.2 -1R		11.2 -1R		
	24"	q <sub>a</sub> q <sub>r</sub>	1082	1742	1001	1612	958	1542	931	1499	913	1470	899	1448	889	1432	881	1419	875	1409			
		F	8.8 -1.9R		10.2 -2.1R		11.1 -2.1R		11.8 -2R		12.3 -1.9R		12.7 -1.9R		13 -1.8R		13.3 -1.7R		13.5 -1.6R		13.5 -1.6R		
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	6.8 -0.5R		7 -0.4R		7.2 -0.4R		7.3 -0.3R		7.3 -0.3R		7.4 -0.2R		7.4 -0.2R		7.4 -0.2R		7.5 -0.2R		7.5 -0.2R		
	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	7.8 -0.9R		8.3 -0.8R		8.6 -0.7R		8.7 -0.6R		8.9 -0.6R		9 -0.5R		9 -0.5R		9.1 -0.4R		9.2 -0.4R		9.2 -0.4R		
	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	8.6 -1.2R		9.3 -1.2R		9.8 -1.1R		10.1 -1R		10.3 -0.9R		10.4 -0.8R		10.6 -0.7R		10.7 -0.7R		10.7 -0.6R		10.7 -0.6R		
12"	q <sub>a</sub> q <sub>r</sub>	983	1583	939	1512	915	1473	900	1449	890	1433	882	1421	877	1411	872	1404	712	1139				
	F	9.9 -1.8R		11 -1.9R		11.8 -1.8R		12.4 -1.7R		12.8 -1.6R		13.1 -1.5R		13.3 -1.4R		13.5 -1.3R		13.7 -1.2R		13.7 -1.2R			
18"	q <sub>a</sub> q <sub>r</sub>	865	1583	757	1218	777	1251	726	1168	689	1109	712	1146	686	1104	665	1071	684	1101				
	F	11.1 -2.5R		12.9 -2.7R		14.2 -2.8R		15.1 -2.8R		15.8 -2.7R		16.4 -2.6R		16.9 -2.5R		17.2 -2.4R		17.6 -2.3R		17.6 -2.3R			
24"	q <sub>a</sub> q <sub>r</sub>	714	1149	642	1033	604	972	580	934	564	908	552	889	544	875	537	864	531	855				
	F	11.9 -3R		14.2 -3.4R		15.9 -3.6R		17.2 -3.7R		18.3 -3.7R		19.1 -3.6R		19.8 -3.6R		20.4 -3.5R		20.9 -3.4R		20.9 -3.4R			
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	8.6 -0.8R		9 -0.7R		9.2 -0.6R		9.4 -0.6R		9.5 -0.5R		9.6 -0.4R		9.7 -0.4R		9.7 -0.4R		9.8 -0.3R		9.8 -0.3R		
	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	9.8 -1.3R		10.6 -1.2R		11 -1.1R		11.4 -1R		11.6 -0.9R		11.8 -0.9R		11.9 -0.8R		12 -0.7R		12.1 -0.7R		12.1 -0.7R		
	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	10.8 -1.8R		11.9 -1.8R		12.6 -1.7R		13.1 -1.6R		13.4 -1.4R		13.7 -1.3R		13.9 -1.3R		14.1 -1.2R		14.2 -1.1R		14.2 -1.1R		
12"	q <sub>a</sub> q <sub>r</sub>	758	1221	714	1150	690	1111	675	1087	665	1071	658	1059	652	1050	648	1043	545	872				
	F	12.1 -2.5R		13.9 -2.7R		15.1 -2.7R		15.9 -2.6R		16.6 -2.5R		17.1 -2.4R		17.5 -2.3R		17.9 -2.2R		18.2 -2.1R		18.2 -2.1R			
18"	q <sub>a</sub> q <sub>r</sub>	663	1221	569	917	580	934	537	864	507	816	523	841	501	807	485	780	498	802				
	F	13.4 -3.2R		15.9 -3.7R		17.8 -3.9R		19.2 -4R		20.3 -4R		21.2 -3.9R		22 -3.8R		22.6 -3.7R		23.1 -3.6R		23.1 -3.6R			
24"	q <sub>a</sub> q <sub>r</sub>	547	881	483	777	449	722	427	688	413	665	403	648	395	636	389	626	384	618				
	F	14.3 -3.7R		17.3 -4.5R		19.7 -5R		21.6 -5.2R		23.2 -5.3R		24.4 -5.4R		25.5 -5.3R		26.5 -5.3R		27.3 -5.2R		27.3 -5.2R			

N-32 32/5

Support Attachment: Hilti X-HSN 24 PAF

Side Seam Attachment: DeltaGrip



# 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					

N-32 32/5

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		3.6 -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		4.7 -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		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		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		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		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)



**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"	$q_a$	$q_f$	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 -0.2R	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		
	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	10.1 -0.5R	10.1 -0.5R	10.1 -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		
		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	7.1 -0.2R	7.1 -0.2R	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	9.1 -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			
	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			
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			
	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			
	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			
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				
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	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R				
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				
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				
	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				
	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	15.1 -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	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R	19.5 -1.4R				
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	26.5 -2.4R	26.5 -2.4R	26.5 -2.4R	26.5 -2.4R	26.5 -2.4R	26.5 -2.4R	26.5 -2.4R	26.5 -2.4R				
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					

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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	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"	$q_a$	$q_f$	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 -0.4R	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	8 -0.5R	8 -0.5R	8 -0.5R	8 -0.5R	8 -0.5R	8 -0.5R	8 -0.5R	8 -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	9.6 -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	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 -0.1R	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"	$q_a$	$q_f$	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 -0.2R	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"	$q_a$	$q_f$	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 -0.9R	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	11.4 -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"	$q_a$	$q_f$	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	13.8 -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	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -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		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	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	13.9 -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	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	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"	$q_a$	$q_f$	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	21.6 -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	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	18.5 -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	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	23.8 -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"	$q_a$	$q_f$	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	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 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"				
32/5	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	
		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 +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 -0.1R		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		6.1 -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		6.3 -0.1R	
		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		7.9 -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		8.3 -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		9.4 -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		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 +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		6.1 -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		7.1 -0.2R		7.1 -0.1R		7.1 -0.1R		7.1 -0.1R	
		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		8.9 -0.4R		9 -0.4R		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		11.7 -0.8R		11.8 -0.7R		11.9 -0.7R		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		14.2 -1.3R		14.4 -1.2R		14.6 -1.1R		14.7 -1R		14.7 -1R		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 -0.1R		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		9.3 -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
	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		11 -0.5R		11.1 -0.4R		11.1 -0.4R		11.2 -0.4R		11.2 -0.4R		11.2 -0.3R		11.2 -0.3R
	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		14.2 -1R		14.3 -0.9R		14.5 -0.8R		14.6 -0.7R		14.6 -0.7R		14.6 -0.7R		14.6 -0.7R
	18"	$q_a$	$q_f$	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		18.5 -1.9R		18.9 -1.7R		19.1 -1.6R		19.4 -1.5R		19.4 -1.5R		19.5 -1.4R		19.5 -1.4R
	24"	$q_a$	$q_f$	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		22.5 -2.9R		23 -2.7R		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	673	1076	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		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		12.3 -0.5R		12.4 -0.5R		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		14.7 -0.9R		14.8 -0.8R		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	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		19 -1.7R		19.3 -1.5R		19.5 -1.4R		19.7 -1.3R		19.7 -1.3R		19.9 -1.2R		19.9 -1.2R
	18"	$q_a$	$q_f$	710	1233	602	969	609	981	560	902	527	848	542	873	519	835	500	805	500	805	514	827	
		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		26.5 -2.4R		26.5 -2.4R
	24"	$q_a$	$q_f$	588	946	511	823	471	758	446	718	429	691	417	671	408	656	401	645	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		32.1 -4R		32.6 -3.8R		32.6 -3.8R

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Support Attachment: Pneutek SDK63 PAF

Side Seam Attachment: DeltaGrip

# 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		
	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		
	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		
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			
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	18.3 -2R	18.3 -2R	18.5 -1.9R	18.5 -1.9R		
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			
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			
	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			
	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			
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"	$q_a$	$q_f$	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				
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				

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			



**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 <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"		
32/5	16 ga	4"	q <sub>a</sub>	q <sub>f</sub>	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	
		6"	q <sub>a</sub>	q <sub>f</sub>	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 +0R		4.3 +0R		4.3 +0R		4.3 +0R	
		8"	q <sub>a</sub>	q <sub>f</sub>	2658	4280	2658	4280	2658	4280	2658	4280	2658	4280	2658	4279	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>f</sub>	2416	3889	2336	3761	2293	3692	2266	3649	2248	3619	2234	3598	2224	3581	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 -0.2R		6.3 -0.1R		6.3 -0.1R
	18"	q <sub>a</sub>	q <sub>f</sub>	2147	3889	1916	3085	1979	3186	1865	3002	1783	2870	1842	2966	1783	2871	1735	2794	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		8.3 -0.3R
	24"	q <sub>a</sub>	q <sub>f</sub>	1780	2866	1633	2630	1555	2503	1506	2424	1473	2371	1448	2332	1430	2303	1416	2279	1404	2261	
		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		10.1 -0.5R
	18 ga	4"	q <sub>a</sub>	q <sub>f</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>f</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>f</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>f</sub>	1724	2776	1649	2654	1608	2589	1582	2547	1565	2519	1552	2499	1542	2483	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		9.1 -0.3R
	18"	q <sub>a</sub>	q <sub>f</sub>	1518	2776	1330	2142	1368	2202	1278	2057	1214	1954	1254	2020	1209	1947	1173	1888	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		12 -0.6R
	24"	q <sub>a</sub>	q <sub>f</sub>	1253	2017	1129	1817	1063	1711	1022	1646	994	1601	974	1569	959	1544	947	1525	938	1510	
		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
20 ga	4"	q <sub>a</sub>	q <sub>f</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		7.6 -0.1R
	6"	q <sub>a</sub>	q <sub>f</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		9.4 -0.2R
	8"	q <sub>a</sub>	q <sub>f</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 -0.4R		11.2 -0.3R
12"	q <sub>a</sub>	q <sub>f</sub>	1080	1728	1048	1687	1011	1628	988	1591	972	1566	961	1547	952	1533	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		14.6 -0.7R	
18"	q <sub>a</sub>	q <sub>f</sub>	975	1728	834	1343	848	1366	784	1262	739	1189	762	1226	730	1176	705	1135	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		19.5 -1.4R	
24"	q <sub>a</sub>	q <sub>f</sub>	805	1296	707	1139	656	1056	624	1004	602	969	586	944	575	925	565	910	558	898		
	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	
22 ga	4"	q <sub>a</sub>	q <sub>f</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		10 -0.2R
	6"	q <sub>a</sub>	q <sub>f</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		12.6 -0.3R
	8"	q <sub>a</sub>	q <sub>f</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		15.1 -0.6R
12"	q <sub>a</sub>	q <sub>f</sub>	771	1233	771	1233	748	1204	727	1171	713	1148	703	1131	695	1119	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		19.9 -1.2R	
18"	q <sub>a</sub>	q <sub>f</sub>	736	1233	620	998	624	1005	573	922	537	865	552	889	528	849	508	818	522	840		
	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		26.5 -2.4R	
24"	q <sub>a</sub>	q <sub>f</sub>	610	983	527	848	483	778	456	734	438	705	425	684	415	667	407	655	400	645		
	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	

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Support Attachment: Pneutek K66 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"	$q_a$	$q_f$	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	3.6 +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"	$q_a$	$q_f$	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	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"	$q_a$	$q_f$	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 -0.2R	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"	$q_a$	$q_f$	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 -0.4R	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"	$q_a$	$q_f$	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 -0.5R	8 -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													
	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 -0.1R	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	
		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 -0.2R	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 -0.1R	6 -0.1R	6 -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 -0.2R	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 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R	7 -0.2R
	12"	$q_a$	$q_f$	1824	2918	1824	2918	1824	2918	1824	2918	1795	2890	1694	2711	1339	2142	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													
	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 -1.4R	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 -0.4R	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 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -0.2R	7.5 -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	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			
		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													
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 -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 -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 -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 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	9.7 -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		
	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 -0.8R	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 -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 -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 -4.4R	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														