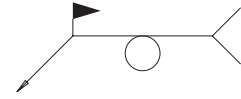


3.9 NN-32 3.9

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

Diaphragm Shear in pounds per linear foot (plf)



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

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Support Attachment: 0.5" Effective Dia. Arc Spot Weld

Side Seam Attachment: #12 SD HWH Screw

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



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

3.10 NN-32

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

Diaphragm Shear in pounds per linear foot (plf)



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

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Support Attachment: #12 SD HWH Screw

Side Seam Attachment: #10 SD HWH Screw

NN-32 3.10

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



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

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Support Attachment: #12 SD HWH Screw

Side Seam Attachment: #10 SD HWH Screw

N PANELS

3.11 NN-32

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

Diaphragm Shear in pounds per linear foot (plf)



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

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Support Attachment: Hilti X-HSN 24 PAF

Side Seam Attachment: #12 SD HWH Screw

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



HILTI



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

3.12 NN-32

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

Diaphragm Shear in pounds per linear foot (plf)



PNEUTEK



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

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



PNEUTEK



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear (q_a) (plf), Factored Shear (q_f) (plf), and Flexibility Factor (F) (10^{-6} in/lbs)																		
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"	
			q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f
32/5	16 ga	4"	q_a q_f	1800	2897	1758	2831	1736	2794	1722	2772	1712	2756	1705	2745	1700	2736	1695	2729	1503	2405
			F	3.7 -0.1R		3.8 -0.1R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R	
		6"	q_a q_f	1553	2501	1483	2388	1445	2326	1421	2288	1405	2262	1393	2242	1384	2228	1377	2216	1371	2207
			F	4.4 -0.2R		4.4 -0.1R		4.5 -0.1R		4.5 -0.1R		4.5 -0.1R		4.5 -0.1R		4.5 -0.1R		4.5 +0R		4.5 +0R	
		8"	q_a q_f	1372	2209	1281	2063	1232	1983	1201	1934	1180	1900	1165	1876	1153	1857	1144	1842	1137	1831
			F	5 -0.3R		5.1 -0.2R		5.2 -0.2R		5.2 -0.1R		5.2 -0.1R		5.2 -0.1R		5.3 -0.1R		5.3 -0.1R		5.3 -0.1R	
	12"	q_a q_f	1139	1833	1023	1647	962	1548	923	1486	897	1444	878	1414	864	1391	853	1373	844	1358	
		F	6.1 -0.5R		6.4 -0.4R		6.5 -0.3R		6.6 -0.3R		6.6 -0.2R		6.6 -0.2R		6.7 -0.2R		6.7 -0.2R		6.7 -0.2R		
	18"	q_a q_f	1000	1833	818	1316	804	1294	727	1171	675	1087	688	1107	653	1051	626	1007	639	1029	
		F	7.6 -0.9R		8.1 -0.8R		8.3 -0.6R		8.5 -0.6R		8.6 -0.5R		8.7 -0.4R		8.7 -0.4R		8.8 -0.4R		8.8 -0.3R		
	24"	q_a q_f	846	1361	701	1128	626	1009	582	937	552	889	531	855	515	829	503	809	493	793	
		F	8.9 -1.4R		9.6 -1.2R		10 -1R		10.3 -0.9R		10.4 -0.8R		10.6 -0.7R		10.7 -0.7R		10.8 -0.6R		10.8 -0.6R		
	18 ga	4"	q_a q_f	1454	2340	1407	2265	1382	2225	1366	2199	1355	2182	1347	2169	1341	2159	1337	2142	1084	1735
			F	4.5 -0.1R		4.5 -0.1R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R	
		6"	q_a q_f	1235	1988	1163	1872	1124	1809	1099	1770	1083	1743	1070	1723	1061	1709	1054	1697	1048	1688
			F	5.2 -0.2R		5.3 -0.1R		5.3 -0.1R		5.3 -0.1R		5.3 -0.1R		5.4 -0.1R		5.4 -0.1R		5.4 -0.1R		5.4 +0R	
		8"	q_a q_f	1084	1745	995	1603	948	1526	918	1478	898	1446	883	1422	872	1404	863	1390	856	1379
			F	5.9 -0.3R		6 -0.2R		6.1 -0.2R		6.1 -0.1R		6.1 -0.1R		6.2 -0.1R		6.2 -0.1R		6.2 -0.1R		6.2 -0.1R	
	12"	q_a q_f	900	1448	793	1277	736	1185	701	1129	677	1091	660	1063	647	1042	637	1025	629	1012	
		F	7.2 -0.6R		7.4 -0.4R		7.6 -0.4R		7.6 -0.3R		7.7 -0.3R		7.7 -0.2R		7.8 -0.2R		7.8 -0.2R		7.8 -0.2R		
	18"	q_a q_f	794	1448	638	1027	617	994	554	892	511	823	517	833	489	788	467	752	476	766	
		F	8.8 -1R		9.3 -0.9R		9.6 -0.7R		9.8 -0.6R		9.9 -0.5R		10 -0.5R		10.1 -0.4R		10.1 -0.4R		10.2 -0.4R		
	24"	q_a q_f	679	1094	544	876	480	773	442	711	416	670	398	641	384	618	373	601	365	588	
		F	10.2 -1.5R		11 -1.3R		11.5 -1.1R		11.8 -1R		12 -0.9R		12.1 -0.8R		12.2 -0.7R		12.3 -0.7R		12.4 -0.6R		
20 ga	4"	q_a q_f	1080	1728	1039	1673	1012	1629	995	1602	983	1583	975	1570	968	1559	979	1406	712	1139	
		F	5.7 -0.1R		5.7 -0.1R		5.7 -0.1R		5.7 +0R		5.7 +0R		5.7 +0R		5.8 +0R		5.8 +0R		5.8 +0R		
	6"	q_a q_f	911	1467	841	1354	804	1294	780	1256	764	1230	753	1212	744	1198	737	1186	712	1139	
		F	6.5 -0.2R		6.6 -0.2R		6.6 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 -0.1R		
	8"	q_a q_f	798	1284	716	1153	673	1083	646	1040	627	1010	614	989	604	972	596	960	590	949	
		F	7.3 -0.3R		7.5 -0.3R		7.5 -0.2R		7.6 -0.2R		7.6 -0.1R		7.6 -0.1R		7.6 -0.1R		7.7 -0.1R		7.7 -0.1R		
12"	q_a q_f	666	1072	573	922	523	842	493	793	472	760	457	736	446	718	437	704	430	693		
	F	8.8 -0.7R		9.1 -0.5R		9.2 -0.4R		9.3 -0.4R		9.4 -0.3R		9.4 -0.3R		9.5 -0.2R		9.5 -0.2R		9.5 -0.2R			
18"	q_a q_f	593	1072	459	739	438	706	388	625	355	571	358	576	336	542	320	515	325	524		
	F	10.7 -1.2R		11.3 -1R		11.6 -0.8R		11.8 -0.7R		11.9 -0.6R		12 -0.6R		12.1 -0.5R		12.2 -0.5R		12.2 -0.4R			
24"	q_a q_f	506	815	397	639	344	555	313	504	292	470	277	446	266	428	257	414	250	403		
	F	12.3 -1.8R		13.2 -1.5R		13.8 -1.3R		14.1 -1.2R		14.3 -1R		14.5 -0.9R		14.6 -0.8R		14.7 -0.8R		14.8 -0.7R			
22 ga	4"	q_a q_f	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F	6.6 -0.1R		6.6 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		
	6"	q_a q_f	747	1202	680	1096	645	1038	623	1003	608	978	597	961	588	947	582	937	545	872	
		F	7.5 -0.2R		7.6 -0.2R		7.7 -0.1R		7.7 -0.1R		7.7 -0.1R		7.7 -0.1R		7.7 -0.1R		7.8 -0.1R		7.8 -0.1R		
	8"	q_a q_f	654	1053	579	932	539	868	514	828	497	800	485	781	476	766	469	754	463	745	
		F	8.4 -0.4R		8.6 -0.3R		8.6 -0.2R		8.7 -0.2R		8.7 -0.2R		8.8 -0.1R		8.8 -0.1R		8.8 -0.1R		8.8 -0.1R		
12"	q_a q_f	549	884	465	749	421	677	393	633	375	604	362	582	352	566	344	553	337	543		
	F	10 -0.7R		10.3 -0.6R		10.5 -0.5R		10.6 -0.4R		10.7 -0.3R		10.7 -0.3R		10.8 -0.3R		10.8 -0.2R		10.8 -0.2R			
18"	q_a q_f	490	884	373	600	351	565	309	498	282	453	282	454	265	426	251	404	254	410		
	F	12.1 -1.3R		12.7 -1.1R		13.1 -0.9R		13.3 -0.8R		13.5 -0.7R		13.6 -0.6R		13.7 -0.6R		13.7 -0.5R		13.8 -0.5R			
24"	q_a q_f	418	673	325	524	280	450	252	406	234	377	221	356	211	340	204	328	197	318		
	F	13.9 -1.9R		14.9 -1.7R		15.5 -1.5R		15.8 -1.3R		16.1 -1.1R		16.3 -1R		16.4 -0.9R		16.6 -0.8R		16.7 -0.8R			

3.12 NN-32

Pneutek K64 Fasteners to Supports with No. 12 Self-Drilling Side Lap Screws

Diaphragm Shear in pounds per linear foot (plf)



PNEUTEK



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear (q_a) (plf), Factored Shear (q_f) (plf), and Flexibility Factor (F) (10^6 in/lbs)																					
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"				
32/5	16 ga	4"	q_a	q_f	2147	3457	2068	3330	2025	3261	1998	3217	1980	3188	1966	3166	1956	3150	1856	2969	1503	2405		
			F	3.7 -0.1R	3.8 -0.1R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	3.8 +0R	
		6"	q_a	q_f	1812	2918	1695	2728	1631	2626	1591	2562	1564	2518	1544	2486	1529	2462	1518	2443	1503	2405	1503	2405
			F	4.4 -0.2R	4.4 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 -0.1R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R
		8"	q_a	q_f	1588	2557	1447	2329	1371	2207	1324	2131	1291	2079	1268	2041	1250	2013	1236	1990	1225	1990	1225	1972
			F	5 -0.3R	5.1 -0.2R	5.2 -0.2R	5.2 -0.2R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.2 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R
		12"	q_a	q_f	1320	2126	1153	1857	1064	1714	1010	1625	972	1566	945	1522	925	1489	909	1464	896	1443	896	1443
			F	6.1 -0.5R	6.4 -0.4R	6.5 -0.3R	6.5 -0.3R	6.6 -0.3R	6.6 -0.2R	6.6 -0.2R	6.6 -0.2R	6.6 -0.2R	6.6 -0.2R	6.6 -0.2R	6.6 -0.2R	6.6 -0.2R	6.7 -0.2R	6.7 -0.2R	6.7 -0.2R	6.7 -0.2R	6.7 -0.2R	6.7 -0.2R	6.7 -0.2R	6.7 -0.2R
		18"	q_a	q_f	1169	2126	928	1494	894	1440	799	1286	733	1180	742	1195	701	1128	668	1075	679	1094	679	1094
			F	7.6 -0.9R	8.1 -0.8R	8.3 -0.6R	8.3 -0.6R	8.5 -0.6R	8.5 -0.6R	8.6 -0.5R	8.6 -0.5R	8.6 -0.5R	8.6 -0.5R	8.6 -0.5R	8.6 -0.5R	8.6 -0.5R	8.7 -0.4R	8.7 -0.4R	8.7 -0.4R	8.7 -0.4R	8.7 -0.4R	8.7 -0.4R	8.7 -0.4R	8.8 -0.3R
		24"	q_a	q_f	1006	1619	793	1277	696	1120	637	1026	598	963	570	918	550	885	533	859	520	838	520	838
			F	8.9 -1.4R	9.6 -1.2R	10 -1R	10 -1R	10.3 -0.9R	10.3 -0.9R	10.4 -0.8R	10.4 -0.8R	10.4 -0.8R	10.4 -0.8R	10.4 -0.8R	10.4 -0.8R	10.4 -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	10.8 -0.6R
	18 ga	4"	q_a	q_f	1663	2678	1588	2557	1547	2491	1522	2450	1504	2422	1492	2402	1482	2386	1339	2142	1084	1735	1084	1735
			F	4.5 -0.1R	4.5 -0.1R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	4.5 +0R	
		6"	q_a	q_f	1393	2242	1287	2072	1230	1981	1195	1924	1171	1885	1153	1856	1140	1835	1129	1818	1084	1735	1084	1735
			F	5.2 -0.2R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R	5.3 -0.1R
		8"	q_a	q_f	1219	1963	1096	1764	1030	1658	989	1592	961	1547	941	1515	926	1490	914	1471	904	1456	904	1456
			F	5.9 -0.3R	6 -0.2R	6 -0.2R	6.1 -0.2R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.1 -0.1R	6.2 -0.1R	6.2 -0.1R	6.2 -0.1R	6.2 -0.1R	6.2 -0.1R	6.2 -0.1R	6.2 -0.1R	6.2 -0.1R
		12"	q_a	q_f	1017	1638	876	1410	801	1289	755	1215	723	1165	701	1128	684	1101	670	1079	660	1062	660	1062
			F	7.2 -0.6R	7.4 -0.4R	7.6 -0.4R	7.6 -0.4R	7.6 -0.3R	7.6 -0.3R	7.7 -0.3R	7.7 -0.3R	7.7 -0.3R	7.7 -0.3R	7.7 -0.3R	7.7 -0.3R	7.7 -0.3R	7.8 -0.2R	7.8 -0.2R	7.8 -0.2R	7.8 -0.2R	7.8 -0.2R	7.8 -0.2R	7.8 -0.2R	7.8 -0.2R
		18"	q_a	q_f	905	1638	703	1131	671	1080	595	957	543	875	548	883	516	830	490	790	499	803	499	803
			F	8.8 -1R	9.3 -0.9R	9.6 -0.7R	9.6 -0.7R	9.8 -0.6R	9.8 -0.6R	9.9 -0.5R	9.9 -0.5R	9.9 -0.5R	9.9 -0.5R	9.9 -0.5R	9.9 -0.5R	10 -0.5R	10.1 -0.4R	10.1 -0.4R	10.1 -0.4R	10.1 -0.4R	10.1 -0.4R	10.1 -0.4R	10.1 -0.4R	10.2 -0.4R
		24"	q_a	q_f	781	1258	607	977	527	848	479	772	447	720	425	684	408	656	394	635	384	618	384	618
			F	10.2 -1.5R	11 -1.3R	11.5 -1.1R	11.5 -1.1R	11.8 -1R	11.8 -1R	12 -0.9R	12 -0.9R	12 -0.9R	12 -0.9R	12 -0.9R	12 -0.9R	12.1 -0.8R	12.2 -0.7R	12.2 -0.7R	12.3 -0.7R	12.3 -0.7R	12.3 -0.7R	12.3 -0.7R	12.3 -0.7R	12.4 -0.6R
20 ga	4"	q_a	q_f	1080	1728	1080	1728	1067	1718	1046	1684	1031	1660	1021	1643	1013	1630	879	1406	712	1139	712	1139	
		F	5.7 -0.1R	5.7 -0.1R	5.7 -0.1R	5.7 -0.1R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R	5.7 +0R		
	6"	q_a	q_f	969	1560	885	1425	840	1353	812	1308	793	1277	779	1255	769	1238	760	1224	712	1139	712	1139	
		F	6.5 -0.2R	6.6 -0.2R	6.6 -0.1R	6.6 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	
	8"	q_a	q_f	849	1366	753	1212	702	1130	671	1080	649	1045	634	1020	622	1001	613	986	605	974	605	974	
		F	7.3 -0.3R	7.5 -0.3R	7.5 -0.2R	7.5 -0.2R	7.6 -0.2R	7.6 -0.2R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.6 -0.1R	7.7 -0.1R	
	12"	q_a	q_f	712	1146	604	973	548	882	513	826	489	788	472	760	459	740	449	723	441	710	441	710	
		F	8.8 -0.7R	9.1 -0.5R	9.2 -0.4R	9.2 -0.4R	9.3 -0.4R	9.3 -0.4R	9.4 -0.3R	9.4 -0.3R	9.4 -0.3R	9.4 -0.3R	9.4 -0.3R	9.4 -0.3R	9.5 -0.2R	9.5 -0.2R	9.5 -0.2R	9.5 -0.2R	9.5 -0.2R	9.5 -0.2R	9.5 -0.2R	9.5 -0.2R	9.5 -0.2R	
	18"	q_a	q_f	637	1146	485	780	457	736	403	649	367	591	368	593	346	557	328	529	333	536	333	536	
		F	10.7 -1.2R	11.3 -1R	11.6 -0.8R	11.6 -0.8R	11.8 -0.7R	11.8 -0.7R	11.9 -0.6R	11.9 -0.6R	11.9 -0.6R	11.9 -0.6R	11.9 -0.6R	11.9 -0.6R	12 -0.6R	12.1 -0.5R	12.1 -0.5R	12.2 -0.5R	12.2 -0.5R	12.2 -0.5R	12.2 -0.5R	12.2 -0.5R	12.2 -0.4R	
	24"	q_a	q_f	545	877	422	679	363	585	328	529	305	491	288	464	276	444	266	428	258	415	258	415	
		F	12.3 -1.8R	13.2 -1.5R	13.8 -1.3R	13.8 -1.3R	14.1 -1.2R	14.1 -1.2R	14.3 -1R	14.3 -1R	14.3 -1R	14.3 -1R	14.3 -1R	14.3 -1R	14.4 -0.9R	14.6 -0.8R	14.6 -0.8R	14.7 -0.8R	14.7 -0.8R	14.7 -0.8R	14.7 -0.8R	14.7 -0.8R	14.8 -0.7R	
22 ga	4"	q_a	q_f	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F	6.6 -0.1R	6.6 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 -0.1R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R	6.7 +0R		
	6"	q_a	q_f	748	1204	682	1097	646	1040	624	1004	608	979	597	962	589	948	583	938	545	872	545	872	
		F	7.5 -0.2R	7.6 -0.2R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.7 -0.1R	7.8 -0.1R	
	8"	q_a	q_f	655	1055	580	933	540	869	515	829	498	801	485	782	476	767	469	755	463	746	463	746	
		F	8.4 -0.4R	8.6 -0.3R	8.6 -0.2R	8.6 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.7 -0.2R	8.8 -0.1R	
	12"	q_a	q_f	550	886	466	750	421	678	394	634	375	604	362	583	352	566	344	554	338	544	338	544	
		F	10 -0.7R	10.3 -0.6R	10.5 -0.5R	10.5 -0.5R	10.6 -0.4R	10.6 -0.4R	10.7 -0.3R	10.7 -0.3R	10.7 -0.3R	10.7 -0.3R	10.7 -0.3R	10.7 -0.3R	10.7 -0.3R	10.8 -0.3R	10.8 -0.3R	10.8 -0.3R	10.8 -0.3R	10.8 -0.3R	10.8 -0.3R	10.8 -0.3R	10.8 -0.2R	
	18"	q_a	q_f	490	886	374	602	352	566	310	499	282	454	282	455	265	426	251	405	255	410	255	410	
		F	12.1 -1.3R	12.7 -1.1R	13.																			

Pneutek K66 Fasteners to Supports with No. 12 Self-Drilling Side Lap Screws Diaphragm Shear in pounds per linear foot (plf)



PNEUTEK



Support Fastener Pattern	Gage	Seam Attach. Spacing	Allowable Shear (q_a) (plf), Factored Shear (q_f) (plf), and Flexibility Factor (F) (10^{-6} in/lbs)																		
			Span →	4' - 0"		6' - 0"		8' - 0"		10' - 0"		12' - 0"		14' - 0"		16' - 0"		18' - 0"		20' - 0"	
			q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f	q_a q_f
32/5	16 ga	4"	q_a q_f	2289	3686	2190	3526	2136	3439	2103	3385	2079	3348	2063	3321	2050	3300	1856	2969	1503	2405
			F	3.7 -0.1R		3.8 -0.1R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R		3.8 +0R	
		6"	q_a q_f	1920	3091	1779	2863	1703	2741	1655	2665	1623	2613	1599	2575	1581	2546	1567	2523	1503	2405
			F	4.4 -0.2R		4.4 -0.1R		4.5 -0.1R		4.5 -0.1R		4.5 -0.1R		4.5 -0.1R		4.5 -0.1R		4.5 +0R		4.5 +0R	
		8"	q_a q_f	1681	2706	1515	2439	1426	2296	1371	2208	1334	2147	1307	2104	1286	2070	1270	2044	1257	2024
			F	5 -0.3R		5.1 -0.2R		5.2 -0.2R		5.2 -0.1R		5.2 -0.1R		5.2 -0.1R		5.3 -0.1R		5.3 -0.1R		5.3 -0.1R	
	12"	q_a q_f	1401	2256	1210	1948	1109	1785	1046	1684	1004	1616	973	1567	950	1529	932	1500	917	1477	
		F	6.1 -0.5R		6.4 -0.4R		6.5 -0.3R		6.6 -0.3R		6.6 -0.2R		6.6 -0.2R		6.7 -0.2R		6.7 -0.2R		6.7 -0.2R		
	18"	q_a q_f	1245	2256	971	1563	930	1497	825	1328	754	1215	762	1227	717	1154	682	1098	695	1118	
		F	7.6 -0.9R		8.1 -0.8R		8.3 -0.6R		8.5 -0.6R		8.6 -0.5R		8.7 -0.4R		8.7 -0.4R		8.8 -0.4R		8.8 -0.3R		
	24"	q_a q_f	1080	1738	837	1347	728	1172	663	1068	620	998	589	948	566	911	548	882	533	859	
		F	8.9 -1.4R		9.6 -1.2R		10 -1R		10.3 -0.9R		10.4 -0.8R		10.6 -0.7R		10.7 -0.7R		10.8 -0.6R		10.8 -0.6R		
	18 ga	4"	q_a q_f	1708	2749	1625	2617	1581	2545	1553	2500	1534	2469	1520	2447	1509	2430	1339	2142	1084	1735
			F	4.5 -0.1R		4.5 -0.1R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R		4.5 +0R	
		6"	q_a q_f	1427	2297	1313	2114	1252	2016	1214	1954	1188	1913	1169	1882	1155	1859	1144	1841	1084	1735
			F	5.2 -0.2R		5.3 -0.1R		5.3 -0.1R		5.3 -0.1R		5.3 -0.1R		5.4 -0.1R		5.4 -0.1R		5.4 -0.1R		5.4 +0R	
		8"	q_a q_f	1249	2011	1118	1799	1047	1686	1004	1616	974	1568	953	1534	936	1508	924	1487	913	1471
			F	5.9 -0.3R		6 -0.2R		6.1 -0.2R		6.1 -0.1R		6.1 -0.1R		6.2 -0.1R		6.2 -0.1R		6.2 -0.1R		6.2 -0.1R	
	12"	q_a q_f	1044	1681	894	1440	815	1312	766	1234	733	1181	710	1142	691	1113	677	1091	666	1072	
		F	7.2 -0.6R		7.4 -0.4R		7.6 -0.4R		7.6 -0.3R		7.7 -0.3R		7.7 -0.2R		7.8 -0.2R		7.8 -0.2R		7.8 -0.2R		
	18"	q_a q_f	931	1681	717	1155	682	1098	603	971	551	887	554	893	521	839	495	797	503	810	
		F	8.8 -1R		9.3 -0.9R		9.6 -0.7R		9.8 -0.6R		9.9 -0.5R		10 -0.5R		10.1 -0.4R		10.1 -0.4R		10.2 -0.4R		
	24"	q_a q_f	804	1294	621	1000	538	866	488	786	455	732	431	694	413	665	399	643	388	625	
		F	10.2 -1.5R		11 -1.3R		11.5 -1.1R		11.8 -1R		12 -0.9R		12.1 -0.8R		12.2 -0.7R		12.3 -0.7R		12.4 -0.6R		
20 ga	4"	q_a q_f	1080	1728	1080	1728	1078	1728	1056	1700	1041	1676	1030	1658	1022	1645	879	1406	712	1139	
		F	5.7 -0.1R		5.7 -0.1R		5.7 -0.1R		5.7 +0R		5.7 +0R		5.7 +0R		5.8 +0R		5.8 +0R		5.8 +0R		
	6"	q_a q_f	981	1580	894	1440	848	1365	819	1318	799	1286	785	1263	774	1246	765	1232	712	1139	
		F	6.5 -0.2R		6.6 -0.2R		6.6 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 -0.1R		
	8"	q_a q_f	859	1384	761	1225	708	1140	676	1088	654	1052	638	1027	626	1007	616	992	608	980	
		F	7.3 -0.3R		7.5 -0.3R		7.5 -0.2R		7.6 -0.2R		7.6 -0.1R		7.6 -0.1R		7.6 -0.1R		7.7 -0.1R		7.7 -0.1R		
12"	q_a q_f	722	1162	611	984	553	890	517	833	493	794	475	765	462	744	452	728	444	714		
	F	8.8 -0.7R		9.1 -0.5R		9.2 -0.4R		9.3 -0.4R		9.4 -0.3R		9.4 -0.3R		9.5 -0.2R		9.5 -0.2R		9.5 -0.2R			
18"	q_a q_f	647	1162	490	789	461	743	407	655	370	596	371	597	348	560	330	532	335	539		
	F	10.7 -1.2R		11.3 -1R		11.6 -0.8R		11.8 -0.7R		11.9 -0.6R		12 -0.6R		12.1 -0.5R		12.2 -0.5R		12.2 -0.4R			
24"	q_a q_f	554	891	428	688	368	592	332	534	308	495	290	468	278	447	268	431	260	418		
	F	12.3 -1.8R		13.2 -1.5R		13.8 -1.3R		14.1 -1.2R		14.3 -1R		14.5 -0.9R		14.6 -0.8R		14.7 -0.8R		14.8 -0.7R			
22 ga	4"	q_a q_f	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	771	1233	673	1076	545	872	
		F	6.6 -0.1R		6.6 -0.1R		6.7 -0.1R		6.7 -0.1R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		6.7 +0R		
	6"	q_a q_f	771	1233	701	1129	662	1065	637	1026	621	999	609	980	599	965	592	954	545	872	
		F	7.5 -0.2R		7.6 -0.2R		7.7 -0.1R		7.7 -0.1R		7.7 -0.1R		7.7 -0.1R		7.7 -0.1R		7.8 -0.1R		7.8 -0.1R		
	8"	q_a q_f	679	1093	597	961	553	890	526	846	507	817	494	795	484	779	476	766	470	756	
		F	8.4 -0.4R		8.6 -0.3R		8.6 -0.2R		8.7 -0.2R		8.7 -0.2R		8.8 -0.1R		8.8 -0.1R		8.8 -0.1R		8.8 -0.1R		
12"	q_a q_f	572	921	481	774	432	695	403	648	383	617	369	594	358	576	349	563	343	552		
	F	10 -0.7R		10.3 -0.6R		10.5 -0.5R		10.6 -0.4R		10.7 -0.3R		10.7 -0.3R		10.8 -0.3R		10.8 -0.2R		10.8 -0.2R			
18"	q_a q_f	509	921	386	621	361	581	317	510	288	464	288	463	269	434	255	411	258	416		
	F	12.1 -1.3R		12.7 -1.1R		13.1 -0.9R		13.3 -0.8R		13.5 -0.7R		13.6 -0.6R		13.7 -0.6R		13.7 -0.5R		13.8 -0.5R			
24"	q_a q_f	438	704	338	545	289	466	260	419	240	387	226	365	216	348	208	335	201	324		
	F	13.9 -1.9R		14.9 -1.7R		15.5 -1.5R		15.8 -1.3R		16.1 -1.1R		16.3 -1R		16.4 -0.9R		16.6 -0.8R		16.7 -0.8R			