

Deep-Dek® 6



Allowable Diaphragm Shear

SUPPORT CONNECTION: 1/2" Effective Weld Diameter
SIDELAP CONNECTION: 1-1/2" Seam Welds
ATTACHMENT PATTERN: 12 / 2

S = Allowable Diaphragm Shear (lbs/foot)
G' = Stiffness Factor (kips/in.)

GAGE	SIDE LAP SPACING	FACTOR	DECK SPAN - C to C SUPPORT							
			14' - 0"	16' - 0"	18' - 0"	20' - 0"	22' - 0"	24' - 0"	26' - 0"	28' - 0"
20 0.0358"	6"	S	1134	1129	1124	1121	1118	1116	1114	1113
		G'	6.6	7.5	8.3	9.2	10.0	10.9	11.7	12.5
	12"	S	887	872	861	852	844	838	832	828
		G'	6.5	7.3	8.2	9.0	9.8	10.5	11.3	12.0
	18"	S	665	648	635	625	617	609	603	598
		G'	6.4	7.2	8.0	8.8	9.5	10.2	10.9	11.6
	24"	S	544	527	513	502	493	486	479	474
		G'	6.3	7.1	7.8	8.6	9.3	10.0	10.6	11.3
	30"	S	469	451	437	426	417	409	403	397
		G'	6.2	7.0	7.7	8.4	9.1	9.7	10.4	11.0
	36"	S	418	400	385	374	365	357	351	345
		G'	6.2	6.9	7.6	8.3	8.9	9.5	10.1	10.7
18 0.0474"	6"	S	1528	1520	1515	1510	1507	1504	1501	1499
		G'	12.9	14.5	16.1	17.7	19.2	20.8	22.2	23.7
	12"	S	1195	1175	1160	1147	1137	1129	1121	1115
		G'	12.5	14.0	15.5	17.0	18.4	19.7	21.0	22.3
	18"	S	896	873	856	842	830	821	813	806
		G'	12.2	13.6	15.0	16.3	17.6	18.8	20.0	21.2
	24"	S	733	709	691	677	664	654	646	638
		G'	11.9	13.2	14.5	15.8	17.0	18.1	19.1	20.2
	30"	S	631	607	589	574	561	551	542	535
		G'	11.6	12.9	14.2	15.3	16.4	17.4	18.4	19.3
	36"	S	563	538	519	504	491	481	472	465
		G'	11.4	12.7	13.8	14.9	15.9	16.8	17.7	18.6
16 0.0598"	6"	S	1963	1953	1946	1940	1936	1932	1928	1925
		G'	22.1	24.8	27.4	29.9	32.4	34.8	37.1	39.3
	12"	S	1535	1510	1490	1474	1461	1450	1441	1432
		G'	21.1	23.5	25.8	28.1	30.2	32.2	34.2	36.0
	18"	S	1151	1122	1100	1082	1067	1055	1044	1035
		G'	20.3	22.5	24.6	26.5	28.4	30.2	31.8	33.4
	24"	S	941	911	888	869	854	841	830	820
		G'	19.6	21.6	23.5	25.3	26.9	28.5	29.9	31.3
	30"	S	811	780	756	737	721	708	697	687
		G'	19.0	20.9	22.6	24.2	25.7	27.0	28.3	29.5
	36"	S	723	691	667	647	631	618	606	597
		G'	18.6	20.3	21.9	23.3	24.6	25.8	27.0	28.0
14 0.0747"	6"	S	2505	2493	2484	2476	2470	2465	2461	2457
		G'	36.4	40.6	44.7	48.5	52.2	55.7	59.1	62.3
	12"	S	1959	1927	1902	1881	1864	1850	1838	1828
		G'	34.1	37.7	41.1	44.2	47.2	50.0	52.7	55.2
	18"	S	1469	1432	1403	1380	1362	1346	1332	1321
		G'	32.2	35.4	38.2	40.9	43.4	45.7	47.8	49.8
	24"	S	1202	1163	1133	1109	1089	1073	1059	1047
		G'	30.7	33.5	36.0	38.3	40.4	42.3	44.0	45.7
	30"	S	1035	996	965	941	920	903	889	877
		G'	29.5	32.0	34.1	36.1	37.9	39.5	41.0	42.3
	36"	S	922	882	851	826	806	788	774	761
		G'	28.5	30.7	32.6	34.3	35.8	37.2	38.5	39.6

NOTES: Data is prepared in accordance with SDI's DIAPHRAGM DESIGN MANUAL, DDM03
 S values have been divided by a Safety Factor of 3 to obtain (ASD) Diaphragm Shear values for seismic loading (worst case).
 The following Safety Factors shown are from Table D5 of 2004 Supplement AISI Specifications.
Seismic: $\phi = .55$ for LRFD and $\Omega = 3.00$ for ASD for welds.
Wind: $\phi = .70$ for LRFD and $\Omega = 2.35$ for ASD for welds.
Other: $\phi = .60$ for LRFD and $\Omega = 2.65$ for ASD for welds.
 Calculations are based on a "SINGLE SPAN CONDITION". For "Other Span Conditions" contact the Metal Dek Group for additional information.
 $F_y = 40$ ksi and $F_u = 55$ ksi
 * Indicates Shear Buckling controls. A Safety Factor of 2.00 was used as referenced in SDI DDM03.

Deep-Dek® 6



Allowable Diaphragm Shear

SUPPORT CONNECTION: 1/2" Effective Weld Diameter
SIDELAP CONNECTION: S/L Screws #10
ATTACHMENT PATTERN: 12 / 2

S = Allowable Diaphragm Shear (lbs/foot)
G' = Stiffness Factor (kips/in.)

GAGE	SIDE LAP SPACING	FACTOR	DECK SPAN - C to C SUPPORT							
			14' - 0"	16' - 0"	18' - 0"	20' - 0"	22' - 0"	24' - 0"	26' - 0"	28' - 0"
20 0.0358"	6"	S	601	589	579	571	565	559	555	551
		G'	6.4	7.3	8.1	8.9	9.6	10.4	11.1	11.8
	12"	S	364	350	340	331	325	319	314	310
		G'	6.2	7.0	7.7	8.4	9.1	9.7	10.4	11.0
	18"	S	281	268	257	248	241	235	230	226
		G'	6.0	6.7	7.4	8.0	8.6	9.2	9.8	10.3
	24"	S	239	226	215	206	199	193	188	184
		G'	5.9	6.5	7.1	7.7	8.3	8.8	9.3	9.7
	30"	S	214	200	190	181	174	168	163	159
		G'	5.8	6.4	6.9	7.5	8.0	8.4	8.9	9.3
	36"	S	197	183	173	164	157	151	146	142
		G'	5.7	6.2	6.8	7.3	7.7	8.1	8.5	8.9
18 0.0474"	6"	S	799	782	769	758	749	742	736	731
		G'	12.3	13.8	15.2	16.6	18.0	19.3	20.5	21.7
	12"	S	484	466	452	440	431	423	417	411
		G'	11.6	12.9	14.1	15.2	16.3	17.4	18.3	19.3
	18"	S	374	356	342	330	321	313	306	300
		G'	11.0	12.2	13.2	14.2	15.1	15.9	16.7	17.5
	24"	S	319	301	286	274	265	257	250	245
		G'	10.6	11.6	12.5	13.4	14.1	14.9	15.5	16.1
	30"	S	286	267	253	241	231	224	217	211
		G'	10.3	11.2	12.0	12.7	13.4	14.0	14.5	15.0
	36"	S	263	245	230	219	209	201	194	189
		G'	10.0	10.8	11.5	12.2	12.8	13.3	13.8	14.2
16 0.0598"	6"	S	1011	990	973	959	948	939	931	924
		G'	20.6	23.0	25.2	27.3	29.3	31.2	33.0	34.8
	12"	S	613	590	572	558	546	536	527	520
		G'	18.9	20.7	22.5	24.1	25.5	26.9	28.2	29.4
	18"	S	475	452	433	418	406	396	388	380
		G'	17.6	19.1	20.5	21.8	22.9	24.0	24.9	25.8
	24"	S	405	382	363	348	336	326	317	310
		G'	16.7	18.0	19.1	20.1	21.0	21.8	22.6	23.2
	30"	S	363	339	321	306	294	284	275	268
		G'	15.9	17.0	18.0	18.8	19.6	20.2	20.8	21.3
	36"	S	335	311	293	278	265	255	247	239
		G'	15.3	16.3	17.1	17.8	18.4	18.9	19.4	19.7
14 0.0747"	6"	S	1269	1241	1220	1203	1188	1176	1166	1158
		G'	33.1	36.4	39.6	42.5	45.3	47.8	50.3	52.5
	12"	S	771	741	718	700	685	672	661	652
		G'	29.1	31.6	33.8	35.8	37.6	39.3	40.8	42.2
	18"	S	598	568	545	526	510	498	487	477
		G'	26.5	28.4	30.0	31.4	32.7	33.8	34.8	35.8
	24"	S	511	480	457	438	423	410	399	389
		G'	24.6	26.1	27.3	28.4	29.3	30.1	30.8	31.4
	30"	S	458	428	404	385	370	357	346	336
		G'	23.2	24.4	25.3	26.1	26.8	27.4	27.8	28.3
	36"	S	423	392	369	350	334	321	310	301
		G'	22.1	23.1	23.8	24.4	24.9	25.3	25.6	25.9

NOTES: Data is prepared in accordance with SDI's DIAPHRAGM DESIGN MANUAL, DDM03
 S values have been divided by a Safety Factor of 3 to obtain (ASD) Diaphragm Shear values for seismic loading (worst case).
 The following Safety Factors shown are from Table D5 of 2004 Supplement AISI Specifications.
Seismic: $\phi = .55$ for LRFD and $\Omega = 3.00$ for ASD for welds.
Wind: $\phi = .70$ for LRFD and $\Omega = 2.35$ for ASD for welds.
Other: $\phi = .60$ for LRFD and $\Omega = 2.65$ for ASD for welds.
 Calculations are based on a "SINGLE SPAN CONDITION". For "Other Span Conditions" contact the Metal Dek Group for additional information.
 Fy = 40 ksi and Fu = 55 ksi

* Indicates Shear Buckling controls. A Safety Factor of 2.00 was used as referenced in SDI DDM03.

Deep-Dek® 6



Allowable Diaphragm Shear

SUPPORT CONNECTION: 1/2" Effective Weld Diameter
SIDELAP CONNECTION: 1-1/2" Seam Welds
ATTACHMENT PATTERN: 12 / 4

S = Allowable Diaphragm Shear (lbs/foot)
G' = Stiffness Factor (kips/in.)

GAGE	SIDE LAP SPACING	FACTOR	DECK SPAN - C to C SUPPORT							
			14' - 0"	16' - 0"	18' - 0"	20' - 0"	22' - 0"	24' - 0"	26' - 0"	28' - 0"
20 0.0358"	6"	S	1255	1235	1219	1206	1195	1187	1179	1140*
		G'	6.6	7.5	8.3	9.2	10.0	10.9	11.7	12.5
	12"	S	1034	1006	984	966	952	940	929	920
		G'	6.5	7.3	8.2	9.0	9.8	10.6	11.3	12.1
	18"	S	779	750	727	709	694	681	670	661
		G'	6.4	7.2	8.0	8.8	9.5	10.3	11.0	11.7
	24"	S	649	619	595	577	561	549	538	529
		G'	6.3	7.1	7.9	8.6	9.3	10.0	10.7	11.4
	30"	S	569	539	516	497	481	469	458	448
		G'	6.3	7.0	7.8	8.5	9.2	9.8	10.5	11.1
	36"	S	516	486	462	443	428	415	404	395
		G'	6.2	7.0	7.7	8.4	9.0	9.7	10.3	10.8
18 0.0474"	6"	S	1691	1663	1642	1624	1610	1599	1589	1580
		G'	12.9	14.5	16.1	17.7	19.3	20.8	22.3	23.7
	12"	S	1393	1355	1325	1302	1282	1266	1252	1240
		G'	12.5	14.1	15.6	17.0	18.4	19.8	21.1	22.4
	18"	S	1050	1010	979	955	934	917	903	891
		G'	12.2	13.7	15.1	16.4	17.7	19.0	20.1	21.3
	24"	S	874	833	802	777	756	739	725	712
		G'	12.0	13.4	14.7	15.9	17.1	18.3	19.3	20.4
	30"	S	767	726	694	669	648	631	617	604
		G'	11.8	13.1	14.4	15.5	16.6	17.7	18.7	19.6
	36"	S	695	654	622	597	576	559	544	532
		G'	11.6	12.9	14.1	15.2	16.2	17.2	18.1	18.9
16 0.0598"	6"	S	2172	2137	2109	2087	2069	2054	2041	2030
		G'	22.1	24.8	27.4	30.0	32.5	34.8	37.1	39.4
	12"	S	1790	1741	1703	1672	1647	1626	1608	1593
		G'	21.2	23.6	26.0	28.2	30.3	32.4	34.3	36.2
	18"	S	1349	1298	1258	1226	1200	1178	1160	1144
		G'	20.5	22.7	24.8	26.8	28.7	30.5	32.1	33.7
	24"	S	1122	1071	1030	998	972	950	931	915
		G'	19.9	21.9	23.9	25.6	27.3	28.9	30.4	31.7
	30"	S	985	933	892	860	833	811	792	776
		G'	19.4	21.3	23.1	24.7	26.2	27.6	28.9	30.1
	36"	S	893	840	800	767	740	718	699	683
		G'	19.0	20.8	22.4	23.9	25.3	26.5	27.7	28.7
14 0.0747"	6"	S	2772	2727	2692	2664	2640	2621	2605	2591
		G'	36.5	40.7	44.8	48.6	52.3	55.8	59.2	62.5
	12"	S	2285	2222	2173	2134	2102	2075	2052	2033
		G'	34.3	38.0	41.4	44.5	47.5	50.4	53.0	55.6
	18"	S	1721	1656	1606	1565	1532	1504	1480	1460
		G'	32.7	35.8	38.8	41.5	44.0	46.3	48.4	50.5
	24"	S	1432	1366	1315	1274	1240	1212	1188	1167
		G'	31.3	34.2	36.7	39.0	41.2	43.1	44.9	46.5
	30"	S	1257	1190	1139	1097	1063	1035	1011	990
		G'	30.3	32.8	35.1	37.1	38.9	40.6	42.0	43.4
	36"	S	1139	1072	1020	979	945	916	892	871
		G'	29.4	31.7	33.7	35.5	37.1	38.5	39.7	40.9

NOTES: Data is prepared in accordance with SDI's DIAPHRAGM DESIGN MANUAL, DDM03
 S values have been divided by a Safety Factor of 3 to obtain (ASD) Diaphragm Shear values for seismic loading (worst case).
 The following Safety Factors shown are from Table D5 of 2004 Supplement AISI Specifications.
Seismic: $\phi = .55$ for LRFD and $\Omega = 3.00$ for ASD for welds.
Wind: $\phi = .70$ for LRFD and $\Omega = 2.35$ for ASD for welds.
Other: $\phi = .60$ for LRFD and $\Omega = 2.65$ for ASD for welds.
 Calculations are based on a "SINGLE SPAN CONDITION". For "Other Span Conditions" contact the Metal Dek Group for additional information.
 $F_y = 40$ ksi and $F_u = 55$ ksi

* Indicates Shear Buckling controls. A Safety Factor of 2.00 was used as referenced in SDI DDM03.

Deep-Dek® 6



Allowable Diaphragm Shear

SUPPORT CONNECTION: 1/2" Effective Weld Diameter
SIDELAP CONNECTION: S/L Screws #10
ATTACHMENT PATTERN: 12 / 4

S = Allowable Diaphragm Shear (lbs/foot)
G' = Stiffness Factor (kips/in.)

GAGE	SIDE LAP SPACING	FACTOR	DECK SPAN - C to C SUPPORT							
			14' - 0"	16' - 0"	18' - 0"	20' - 0"	22' - 0"	24' - 0"	26' - 0"	28' - 0"
20 0.0358"	6"	S	710	685	665	650	637	627	618	610
		G'	6.4	7.3	8.1	8.9	9.7	10.4	11.2	11.9
	12"	S	460	435	415	399	386	376	366	359
		G'	6.3	7.0	7.8	8.5	9.2	9.8	10.5	11.1
	18"	S	376	351	331	315	302	291	282	274
		G'	6.1	6.8	7.5	8.2	8.8	9.4	9.9	10.5
	24"	S	334	308	288	272	259	249	239	231
		G'	6.0	6.7	7.3	7.9	8.5	9.0	9.5	10.0
	30"	S	308	283	263	247	234	223	214	206
		G'	5.9	6.6	7.2	7.7	8.2	8.7	9.2	9.6
	36"	S	291	266	246	230	217	206	197	189
		G'	5.8	6.5	7.0	7.6	8.0	8.5	8.9	9.3
18 0.0474"	6"	S	944	911	885	864	847	832	820	810
		G'	12.4	13.9	15.3	16.7	18.1	19.4	20.6	21.8
	12"	S	614	580	553	532	514	500	487	477
		G'	11.7	13.0	14.3	15.5	16.6	17.6	18.6	19.6
	18"	S	502	468	441	420	402	388	375	365
		G'	11.3	12.5	13.6	14.6	15.5	16.4	17.2	18.0
	24"	S	446	412	385	364	346	331	319	308
		G'	11.0	12.0	13.0	13.9	14.7	15.5	16.1	16.8
	30"	S	413	378	351	330	312	298	285	275
		G'	10.7	11.7	12.6	13.4	14.1	14.7	15.3	15.8
	36"	S	390	356	329	307	290	275	263	252
		G'	10.5	11.5	12.3	13.0	13.6	14.2	14.7	15.1
16 0.0598"	6"	S	1197	1154	1121	1094	1072	1054	1038	1025
		G'	20.8	23.1	25.4	27.5	29.5	31.4	33.3	35.0
	12"	S	780	736	702	675	653	634	618	604
		G'	19.3	21.2	22.9	24.6	26.1	27.5	28.8	30.0
	18"	S	639	595	561	534	511	492	477	463
		G'	18.2	19.8	21.3	22.6	23.8	24.9	25.8	26.7
	24"	S	569	525	490	463	440	421	406	392
		G'	17.5	18.9	20.1	21.2	22.1	23.0	23.7	24.4
	30"	S	526	482	448	420	398	379	363	349
		G'	17.0	18.2	19.2	20.1	20.9	21.6	22.2	22.7
	36"	S	498	454	419	392	369	350	334	321
		G'	16.5	17.6	18.5	19.3	20.0	20.5	21.0	21.4
14 0.0747"	6"	S	1504	1450	1407	1373	1345	1322	1302	1285
		G'	33.4	36.8	40.0	42.9	45.7	48.3	50.7	53.0
	12"	S	983	928	884	849	821	797	777	759
		G'	30.0	32.5	34.8	36.8	38.7	40.3	41.9	43.3
	18"	S	807	751	708	673	644	620	600	583
		G'	27.8	29.8	31.5	33.0	34.3	35.4	36.4	37.4
	24"	S	719	663	619	584	555	531	511	494
		G'	26.3	27.9	29.2	30.3	31.3	32.1	32.8	33.4
	30"	S	666	610	566	531	502	478	458	441
		G'	25.2	26.5	27.6	28.4	29.1	29.7	30.2	30.6
	36"	S	631	574	531	495	467	443	422	405
		G'	24.3	25.4	26.3	26.9	27.5	27.9	28.2	28.5

NOTES: Data is prepared in accordance with SDI's DIAPHRAGM DESIGN MANUAL, DDM03
 S values have been divided by a Safety Factor of 3 to obtain (ASD) Diaphragm Shear values for seismic loading (worst case).
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Seismic: $\phi = .55$ for LRFD and $\Omega = 3.00$ for ASD for welds.
Wind: $\phi = .70$ for LRFD and $\Omega = 2.35$ for ASD for welds.
Other: $\phi = .60$ for LRFD and $\Omega = 2.65$ for ASD for welds.
 Calculations are based on a "SINGLE SPAN CONDITION". For "Other Span Conditions" contact the Metal Dek Group for additional information.
 Fy = 40 ksi and Fu = 55 ksi

* Indicates Shear Buckling controls. A Safety Factor of 2.00 was used as referenced in SDI DDM03.