

Deep-Dek® 7.5



Allowable Diaphragm Shear

SUPPORT CONNECTION: 1/2" Effective Weld Diameter		S = Allowable Diaphragm Shear (lbs/foot)								
SIDELAP CONNECTION: 1-1/2" Seam Welds		G' = Stiffness Factor (kips/in.)								
ATTACHMENT PATTERN: 12 / 2										
GAGE	SIDE LAP SPACING	FACTOR	DECK SPAN - C to C SUPPORT							
			16' - 0"	18' - 0"	20' - 0"	22' - 0"	24' - 0"	26' - 0"	28' - 0"	30' - 0"
18 0.0474"	6"	S	1520	1515	1510	1507	1504	1501	1499	1497
		G'	10.1	11.3	12.4	13.5	14.6	15.7	16.8	17.8
	12"	S	1175	1160	1147	1137	1129	1121	1115	1110
		G'	9.9	11.0	12.0	13.1	14.1	15.1	16.1	17.0
	18"	S	873	856	842	830	821	813	806	800
		G'	9.7	10.7	11.7	12.7	13.6	14.6	15.5	16.3
	24"	S	709	691	677	664	654	646	638	632
		G'	9.5	10.5	11.4	12.3	13.2	14.1	14.9	15.7
	30"	S	607	589	574	561	551	542	535	528
		G'	9.3	10.3	11.2	12.0	12.9	13.7	14.5	15.2
	36"	S	538	519	504	491	481	472	465	458
		G'	9.2	10.1	11.0	11.8	12.6	13.3	14.0	14.7
16 0.0598"	6"	S	1953	1946	1940	1936	1932	1928	1925	1923
		G'	17.4	19.4	21.2	23.1	24.9	26.6	28.3	30.0
	12"	S	1510	1490	1474	1461	1450	1441	1432	1426
		G'	16.8	18.6	20.3	21.9	23.5	25.1	26.6	28.0
	18"	S	1122	1100	1082	1067	1055	1044	1035	1027
		G'	16.3	17.9	19.5	21.0	22.4	23.8	25.1	26.4
	24"	S	911	888	869	854	841	830	820	812
		G'	15.8	17.3	18.8	20.2	21.5	22.7	23.9	25.0
	30"	S	780	756	737	721	708	697	687	679
		G'	15.4	16.9	18.2	19.5	20.7	21.8	22.9	23.9
	36"	S	691	667	647	631	618	606	597	588
		G'	15.1	16.4	17.7	18.8	19.9	21.0	21.9	22.9
14 0.0747"	6"	S	2493	2484	2476	2470	2465	2461	2457	2454
		G'	29.0	32.1	35.0	37.9	40.6	43.3	45.9	48.4
	12"	S	1927	1902	1881	1864	1850	1838	1828	1819
		G'	27.5	30.2	32.8	35.2	37.5	39.8	41.9	44.0
	18"	S	1432	1403	1380	1362	1346	1332	1321	1311
		G'	26.2	28.6	30.9	33.0	35.0	36.9	38.7	40.5
	24"	S	1163	1133	1109	1089	1073	1059	1047	1036
		G'	25.2	27.4	29.4	31.2	33.0	34.6	36.2	37.6
	30"	S	996	965	941	920	903	889	877	866
		G'	24.3	26.3	28.1	29.7	31.3	32.7	34.0	35.3
	36"	S	882	851	826	806	788	774	761	751
		G'	23.6	25.3	27.0	28.5	29.8	31.1	32.3	33.3

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.

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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							
			16' - 0"	18' - 0"	20' - 0"	22' - 0"	24' - 0"	26' - 0"	28' - 0"	30' - 0"
18 0.0474"	6"	S	782	769	758	749	742	736	731	726
		G'	9.8	10.8	11.9	12.9	13.9	14.8	15.8	16.7
	12"	S	466	452	440	431	423	417	411	406
		G'	9.3	10.2	11.1	12.0	12.8	13.7	14.4	15.2
	18"	S	356	342	330	321	313	306	300	296
		G'	8.9	9.8	10.6	11.3	12.1	12.8	13.4	14.0
	24"	S	301	286	274	265	257	250	245	240
		G'	8.6	9.4	10.1	10.8	11.4	12.0	12.6	13.1
	30"	S	267	253	241	231	224	217	211	206
		G'	8.4	9.1	9.7	10.3	10.9	11.4	11.9	12.4
	36"	S	245	230	219	209	201	194	189	184
		G'	8.2	8.8	9.4	10.0	10.5	10.9	11.4	11.8
16 0.0598"	6"	S	990	973	959	948	939	931	924	918
		G'	16.5	18.2	19.9	21.5	23.0	24.5	25.9	27.3
	12"	S	590	572	558	546	536	527	520	514
		G'	15.3	16.8	18.1	19.4	20.6	21.7	22.8	23.8
	18"	S	452	433	418	406	396	388	380	374
		G'	14.5	15.7	16.8	17.8	18.8	19.7	20.6	21.4
	24"	S	382	363	348	336	326	317	310	304
		G'	13.8	14.8	15.8	16.7	17.5	18.2	18.9	19.5
	30"	S	339	321	306	294	284	275	268	261
		G'	13.2	14.1	15.0	15.7	16.4	17.0	17.6	18.1
	36"	S	311	293	278	265	255	247	239	233
		G'	12.8	13.6	14.3	15.0	15.5	16.1	16.5	17.0
14 0.0747"	6"	S	1241	1220	1203	1188	1176	1166	1158	1150
		G'	26.8	29.4	31.8	34.1	36.3	38.4	40.4	42.3
	12"	S	741	718	700	685	672	661	652	644
		G'	24.1	26.1	27.9	29.6	31.1	32.6	33.9	35.2
	18"	S	568	545	526	510	498	487	477	469
		G'	22.2	23.8	25.2	26.5	27.6	28.7	29.7	30.6
	24"	S	480	457	438	423	410	399	389	381
		G'	20.8	22.0	23.2	24.2	25.1	25.9	26.6	27.3
	30"	S	428	404	385	370	357	346	336	328
		G'	19.7	20.7	21.6	22.4	23.1	23.8	24.3	24.8
	36"	S	392	369	350	334	321	310	301	293
		G'	18.8	19.7	20.4	21.1	21.6	22.1	22.5	22.9

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.

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Allowable Diaphragm Shear

GAGE		SIDE LAP SPACING	FACTOR	DECK SPAN - C to C SUPPORT							
				16' - 0"	18' - 0"	20' - 0"	22' - 0"	24' - 0"	26' - 0"	28' - 0"	30' - 0"
		6"	S	1663	1642	1624	1610	1599	1589	1580	1573
			G'	10.1	11.3	12.4	13.5	14.6	15.7	16.8	17.8
		12"	S	1355	1325	1302	1282	1266	1252	1240	1229
			G'	9.9	11.0	12.1	13.1	14.1	15.1	16.1	17.1
		18"	S	1010	979	955	934	917	903	891	880
			G'	9.7	10.7	11.8	12.7	13.7	14.6	15.5	16.4
		24"	S	833	802	777	756	739	725	712	701
			G'	9.5	10.5	11.5	12.4	13.3	14.2	15.0	15.9
		30"	S	726	694	669	648	631	617	604	593
			G'	9.4	10.4	11.3	12.2	13.0	13.8	14.6	15.4
		36"	S	654	622	597	576	559	544	532	521
			G'	9.3	10.2	11.1	11.9	12.7	13.5	14.2	14.9
		6"	S	2137	2109	2087	2069	2054	2041	2030	2021
			G'	17.5	19.4	21.3	23.1	24.9	26.7	28.4	30.0
		12"	S	1741	1703	1672	1647	1626	1608	1593	1580
			G'	16.9	18.6	20.4	22.0	23.6	25.2	26.7	28.1
		18"	S	1298	1258	1226	1200	1178	1160	1144	1130
			G'	16.4	18.0	19.6	21.1	22.6	24.0	25.3	26.6
		24"	S	1071	1030	998	972	950	931	915	901
			G'	16.0	17.5	19.0	20.4	21.7	23.0	24.2	25.3
		30"	S	933	892	860	833	811	792	776	762
			G'	15.7	17.1	18.5	19.8	21.0	22.1	23.2	24.2
		36"	S	840	800	767	740	718	699	683	669
			G'	15.4	16.7	18.0	19.2	20.3	21.4	22.4	23.3
		6"	S	2727	2692	2664	2640	2621	2605	2591	2579
			G'	29.1	32.1	35.1	38.0	40.7	43.4	46.0	48.5
		12"	S	2222	2173	2134	2102	2075	2052	2033	2016
			G'	27.6	30.3	32.9	35.4	37.7	40.0	42.1	44.2
		18"	S	1656	1606	1565	1532	1504	1480	1460	1443
			G'	26.5	28.9	31.2	33.4	35.4	37.3	39.1	40.8
		24"	S	1366	1315	1274	1240	1212	1188	1167	1150
			G'	25.6	27.8	29.8	31.7	33.5	35.2	36.7	38.2
		30"	S	1190	1139	1097	1063	1035	1011	990	972
			G'	24.8	26.8	28.7	30.4	31.9	33.4	34.7	36.0
		36"	S	1072	1020	979	945	916	892	871	853
			G'	24.2	26.0	27.7	29.2	30.6	31.9	33.1	34.2

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 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® 7.5



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							
			16' - 0"	18' - 0"	20' - 0"	22' - 0"	24' - 0"	26' - 0"	28' - 0"	30' - 0"
18 0.0474"	6"	S	911	885	864	847	832	820	810	801
		G'	9.8	10.9	11.9	12.9	13.9	14.9	15.8	16.7
	12"	S	580	553	532	514	500	487	477	468
		G'	9.4	10.3	11.3	12.1	13.0	13.8	14.6	15.4
	18"	S	468	441	420	402	388	375	365	355
		G'	9.1	9.9	10.8	11.6	12.3	13.0	13.7	14.3
	24"	S	412	385	364	346	331	319	308	299
		G'	8.8	9.7	10.4	11.1	11.8	12.4	13.0	13.5
	30"	S	378	351	330	312	298	285	275	265
		G'	8.7	9.4	10.1	10.8	11.4	11.9	12.4	12.9
	36"	S	356	329	307	290	275	263	252	243
		G'	8.5	9.2	9.9	10.5	11.0	11.5	12.0	12.4
16 0.0598"	6"	S	1154	1121	1094	1072	1054	1038	1025	1013
		G'	16.6	18.3	20.0	21.6	23.1	24.6	26.0	27.4
	12"	S	736	702	675	653	634	618	604	593
		G'	15.6	17.0	18.4	19.7	20.9	22.1	23.2	24.2
	18"	S	595	561	534	511	492	477	463	451
		G'	14.8	16.1	17.3	18.3	19.4	20.3	21.2	22.0
	24"	S	525	490	463	440	421	406	392	380
		G'	14.3	15.4	16.4	17.4	18.2	19.0	19.7	20.3
	30"	S	482	448	420	398	379	363	349	337
		G'	13.9	14.9	15.8	16.6	17.3	18.0	18.6	19.1
	36"	S	454	419	392	369	350	334	321	309
		G'	13.6	14.5	15.3	16.0	16.6	17.2	17.7	18.1
14 0.0747"	6"	S	1450	1407	1373	1345	1322	1302	1285	1270
		G'	27.0	29.6	32.0	34.4	36.6	38.6	40.6	42.6
	12"	S	928	884	849	821	797	777	759	744
		G'	24.6	26.6	28.5	30.2	31.8	33.3	34.7	35.9
	18"	S	751	708	673	644	620	600	583	568
		G'	23.0	24.7	26.1	27.5	28.7	29.8	30.8	31.7
	24"	S	663	619	584	555	531	511	494	479
		G'	21.9	23.3	24.5	25.5	26.5	27.3	28.0	28.7
	30"	S	610	566	531	502	478	458	441	426
		G'	21.0	22.2	23.2	24.1	24.8	25.4	26.0	26.5
	36"	S	574	531	495	467	443	422	405	390
		G'	20.4	21.4	22.2	22.9	23.5	24.0	24.5	24.8

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