



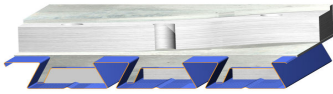
SECTION PROPERTIES $f_y = 40 \text{ ksi}$

GAGE	I _p (in ⁴)	I _n (in ⁴)	S _p (in ³)	S _n (in ³)	R _{be} (lb/ft)	R _{bi} (lb/ft)	V _a (lb/ft)
20	1.802	1.746	0.721	0.771	1043	2138	5501
18	2.489	2.375	1.042	1.118	1761	3554	9644
16	3.190	2.375	1.414	1.448	2710	5412	13477

45 PCF LIGHTWEIGHT INSULATING CONCRETE

h	5.5"			6.5"			7.5"			8.5"			9.5"			10.5"			
GAGE	20	18	16	20	18	16	20	18	16	20	18	16	20	18	16	20	18	16	
V _c	1.0	1.0	1.0	1.3	1.3	1.3	1.6	1.6	1.6	1.9	1.9	1.9	2.2	2.2	2.2	2.5	2.5	2.5	
A _c	24.0	24.0	24.0	36.0	36.0	36.0	48.0	48.0	48.0	60.0	60.0	60.0	72.0	72.0	72.0	84.0	84.0	84.0	
W _{c, wet}	12.1	12.1	12.1	15.8	15.8	15.8	19.6	19.6	19.6	23.3	23.3	23.3	27.1	27.1	27.1	30.8	30.8	30.8	
W _{c, dry}	9.4	9.4	9.4	12.3	12.3	12.3	15.2	15.2	15.2	18.2	18.2	18.2	21.1	21.1	21.1	24.0	24.0	24.0	
L	Load Comb.	DOUBLE SPAN - MAXIMUM ALLOWABLE UNIFORM LIVE LOADS, (psf) - LRFD																	
7'-0"	D+L (Strength)	143	244	375	141	241	373	139	239	371	137	237	369	134	235	367	132	233	364
	D+L (Deflection)	855	1165	1487	852	1162	1484	849	1159	1481	846	1156	1478	843	1153	1475	840	1151	1472
7'-6"	D+L (Strength)	133	227	350	131	224	347	129	222	345	126	220	343	124	218	341	122	216	339
	D+L (Deflection)	692	945	1206	690	942	1203	687	939	1200	684	936	1197	681	933	1194	678	930	1191
8'-0"	D+L (Strength)	124	212	327	122	210	325	120	207	323	117	205	320	115	203	318	113	201	316
	D+L (Deflection)	568	776	991	565	773	988	562	770	985	560	767	982	557	764	979	554	761	977
8'-6"	D+L (Strength)	116	199	306	114	197	304	112	194	302	110	192	299	107	190	297	105	188	295
	D+L (Deflection)	472	645	824	469	642	821	466	639	818	463	636	815	460	633	812	457	630	809
9'-0"	D+L (Strength)	109	187	272	107	185	270	105	183	267	103	181	265	100	178	263	98	176	261
	D+L (Deflection)	395	541	692	392	538	689	390	535	686	387	532	683	384	529	680	381	526	677
9'-6"	D+L (Strength)	103	177	243	101	175	241	99	172	238	96	170	236	94	168	234	92	166	232
	D+L (Deflection)	334	458	586	331	455	583	328	452	580	325	449	577	323	446	574	320	443	571
10'-0"	D+L (Strength)	97	167	218	95	165	216	93	162	214	91	160	211	89	158	209	86	156	207
	D+L (Deflection)	285	391	500	282	388	497	279	385	494	276	382	491	273	379	488	270	376	486
10'-6"	D+L (Strength)	92	150	197	90	148	194	88	146	192	86	144	190	83	141	188	81	139	186
	D+L (Deflection)	244	336	430	241	333	427	238	330	424	236	327	421	233	324	418	230	321	415
11'-0"	D+L (Strength)	88	136	178	85	134	176	83	132	174	81	129	172	79	127	169	77	125	167
	D+L (Deflection)	211	290	372	208	287	369	205	284	366	202	281	363	199	278	360	196	275	357
11'-6"	D+L (Strength)	83	124	162	81	121	160	78	119	158	76	117	156	74	115	153	72	113	151
	D+L (Deflection)	183	252	324	180	249	321	177	246	318	174	243	315	171	240	312	168	237	309
12'-0"	D+L (Strength)	75	113	148	73	110	146	71	108	144	69	106	141	66	104	139	64	102	137
	D+L (Deflection)	159	220	283	157	217	280	154	214	277	151	211	274	148	209	271	145	206	269
12'-6"	D+L (Strength)	69	103	135	66	101	133	64	99	131	62	96	129	60	94	127	58	92	125
	D+L (Deflection)	140	193	249	137	190	246	134	187	243	131	184	240	128	182	237	125	179	234
13'-0"	D+L (Strength)	63	94	124	60	92	122	58	90	120	56	118	54	86	116	52	83	113	113
	D+L (Deflection)	123	170	220	120	167	217	117	164	214	114	162	211	111	159	208	108	156	205
13'-6"	D+L (Strength)	57	87	115	55	85	112	53	82	110	51	80	108	49	78	106	46	76	104
	D+L (Deflection)	108	151	194	105	148	191	102	145	189	99	142	186	97	139	183	94	136	180
14'-0"	D+L (Strength)	53	80	106	51	78	104	48	76	101	46	73	99	44	71	97	42	69	95
	D+L (Deflection)	96	134	173	93	131	170	90	128	167	87	125	164	84	122	161	81	119	158
14'-6"	D+L (Strength)	48	74	98	46	72	96	44	69	93	42	67	91	40	65	89	38	63	87
	D+L (Deflection)	85	119	154	82	116	151	79	113	148	76	110	145	73	107	142	70	104	139
15'-0"	D+L (Strength)	45	68	91	42	66	88	40	64	86	38	62	84	36	60	82	34	57	80
	D+L (Deflection)	75	106	138	72	103	135	70	100	132	67	97	129	64	94	126	61	91	123
15'-6"	D+L (Strength)	41	63	84	39	61	82	37	59	80	35	57	78	32	55	75	30	52	73
	D+L (Deflection)	65	91	119	62	88	116	59	85	113	56	83	110	53	80	107	50	77	104
16'-0"	D+L (Strength)	38	59	78	36	57	76	34	54	74	32	52	72	29	50	70	27	48	67
	D+L (Deflection)	55	79	103	52	76	100	50	73	97	47	70	94	44	67	91	41	64	88
16'-6"	D+L (Strength)	35	55	73	33	52	71	31	50	69	29	48	66	27	46	64	24	44	62
	D+L (Deflection)	47	68	89	45	65	86	42	62	83	39	59	81	36	56	78	33	53	75
17'-0"	D+L (Strength)	33	51	68	30	49	66	28	47	64	26	44	62	24	42	59	22	40	57
	D+L (Deflection)	41	59	78	38	56	75	35	53	72	32	50	69	29	47	66	26	44	63
17'-6"	D+L (Strength)	30	47	64	28	45	61	26	43	59	24	41	57	22	39	55	19	37	53
	D+L (Deflection)	35	51	67	32	48	65	29	45	62	26	42	59	23	39	56	20	36	53
18'-0"	D+L (Strength)	28	44	60	26	42	57	24	40	55	22	38	53	19	36	51	17	33	49
	D+L (Deflection)	30	44	59	27	41	56	24	38	53	21	35	50	18	32	47	15	29	44
18'-6"	D+L (Strength)	26	41	56	24	39	54	22	37	51	20	35	49	17	33	47			30
	D+L (Deflection)	25	38	51	22	35	48	20	32	45	17	29	42	14	26	39			23
19'-0"	D+L (Strength)	24	39	52	22	37	50	20	34	48		32	46		30	44			28
	D+L (Deflection)	22	33	44	19	30	41	16	27	39		24	36		21	33			18
19'-6"	D+L (Strength)	23	36	49	20	34	47		32	45		30	42		27	40			38
	D+L (Deflection)	18	28	38	15	25	36		22	33		19	30		16	27			24
20'-0"	D+L (Strength)	21	34	46		32	44		30	42		27	40		24	37			35
	D+L (Deflection)	15	24	33		21	30		18	28		15	25		12	22			19
20'-6"	D+L (Strength)		32	43		30	41		27	39			37			35			
	D+L (Deflection)		21	29		18	26		15	23			20			17			
21'-0"	D+L (Strength)		30	41			39			36			34						
	D+L (Deflection)		17	25			22			19			16						
21'-6"	D+L (Strength)		28	38			36			34									
	D+L (Deflection)		15	21			18			15									

MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS



SECTION PROPERTIES fy = 40 ksi

GAGE	Ip (in4)	In (in4)	Sp (in3)	Sn (in3)	Rbe (lb/ft)	Rbi (lb/ft)	Va (lb/ft)
20	1.802	1.746	0.721	0.771	1043	2138	5501
18	2.489	2.375	1.042	1.118	1761	3554	9644
16	3.190	2.375	1.414	1.448	2710	5412	13477

45 PCF LIGHTWEIGHT INSULATING CONCRETE

h	11.5"			12.5"			13.5"			14.5"			15.5"			16.5"			
GAGE	20	18	16	20	18	16	20	18	16	20	18	16	20	18	16	20	18	16	
Vc	2.8	2.8	2.8	3.2	3.2	3.2	3.5	3.5	3.5	3.8	3.8	3.8	4.1	4.1	4.1	4.4	4.4	4.4	
Ac	96.0	96.0	96.0	108.0	108.0	108.0	120.0	120.0	120.0	132.0	132.0	132.0	144.0	144.0	144.0	156.0	156.0	156.0	
Wc _{wet}	34.6	34.6	34.6	38.3	38.3	38.3	42.1	42.1	42.1	45.8	45.8	45.8	49.6	49.6	49.6	53.3	53.3	53.3	
Wc _{dry}	26.9	26.9	26.9	29.8	29.8	29.8	32.7	32.7	32.7	35.7	35.7	35.7	38.6	38.6	38.6	41.5	41.5	41.5	
L	DOUBLE SPAN - MAXIMUM ALLOWABLE UNIFORM LIVE LOADS, (psf) - LRFD																		
5'-0"	D+L (Strength)	191	332	517	189	330	515	187	328	513	185	325	510	182	323	508	180	321	506
	D+L (Deflection)	2350	3204	4088	2347	3201	4085	2344	3198	4083	2341	3195	4080	2338	3192	4077	2335	3189	4074
5'-6"	D+L (Strength)	172	300	468	169	297	465	167	295	463	165	293	461	163	291	459	161	289	457
	D+L (Deflection)	1758	2399	3064	1755	2396	3061	1752	2393	3058	1749	2391	3055	1746	2388	3052	1743	2385	3049
6'-0"	D+L (Strength)	155	273	427	153	271	424	151	268	422	149	266	420	147	264	418	145	262	416
	D+L (Deflection)	1347	1841	2352	1344	1838	2349	1341	1835	2346	1338	1832	2344	1335	1829	2341	1332	1826	2338
6'-6"	D+L (Strength)	142	250	392	140	248	390	137	246	388	135	243	385	133	241	383	131	239	381
	D+L (Deflection)	1053	1441	1843	1050	1438	1840	1047	1435	1837	1044	1432	1834	1041	1430	1832	1038	1427	1829
7'-0"	D+L (Strength)	130	230	362	128	228	360	126	226	358	123	224	356	121	222	354	119	219	351
	D+L (Deflection)	837	1148	1469	834	1145	1466	831	1142	1463	828	1139	1461	825	1136	1458	823	1133	1455
7'-6"	D+L (Strength)	120	213	336	118	211	334	115	209	332	113	207	330	111	205	328	109	203	326
	D+L (Deflection)	675	927	1189	672	924	1186	669	921	1183	666	918	1180	663	916	1177	660	913	1174
8'-0"	D+L (Strength)	111	199	314	109	196	312	107	194	310	104	192	307	102	190	305	100	188	303
	D+L (Deflection)	551	759	974	548	756	971	545	753	968	542	750	965	539	747	962	536	744	959
8'-6"	D+L (Strength)	103	186	293	101	183	291	99	181	289	97	179	286	94	177	284	92	175	282
	D+L (Deflection)	454	627	806	451	624	803	448	621	800	445	618	798	443	615	795	440	613	792
9'-0"	D+L (Strength)	96	174	259	94	172	256	92	170	254	90	167	252	87	165	250	85	163	248
	D+L (Deflection)	378	523	674	375	520	671	372	518	668	369	515	665	366	512	662	363	509	660
9'-6"	D+L (Strength)	90	164	230	88	161	227	85	159	225	83	157	223	81	155	221	79	153	219
	D+L (Deflection)	317	440	568	314	437	565	311	435	563	308	432	560	305	429	557	302	426	554
10'-0"	D+L (Strength)	84	154	205	82	151	203	80	149	200	78	147	198	75	145	196	73	143	194
	D+L (Deflection)	267	373	483	264	370	480	261	367	477	259	364	474	256	361	471	253	358	468
10'-6"	D+L (Strength)	79	137	184	77	135	181	75	133	179	73	131	177	70	128	175	68	126	173
	D+L (Deflection)	227	318	413	224	315	410	221	312	407	218	309	404	215	306	401	212	303	398
11'-0"	D+L (Strength)	74	123	165	72	121	163	70	118	161	68	116	159	66	114	156	64	112	154
	D+L (Deflection)	193	273	355	190	270	352	187	267	349	185	264	346	182	261	343	179	258	340
11'-6"	D+L (Strength)	70	110	149	67	108	147	65	106	145	63	104	142	61	102	140	59	99	138
	D+L (Deflection)	165	235	306	162	232	303	160	229	300	157	226	297	154	223	295	151	220	292
12'-0"	D+L (Strength)	62	99	135	60	97	133	58	95	130	56	93	128	53	91	126	51	89	124
	D+L (Deflection)	142	203	266	139	200	263	136	197	260	133	194	257	130	191	254	127	188	251
12'-6"	D+L (Strength)	55	90	122	53	88	120	51	85	118	49	83	116	47	81	114	44	79	111
	D+L (Deflection)	122	176	231	119	173	228	116	170	225	113	167	223	110	164	220	107	161	217
13'-0"	D+L (Strength)	50	81	111	47	79	109	45	77	107	43	75	105	41	73	103	39	70	100
	D+L (Deflection)	105	153	202	102	150	199	99	147	196	96	144	193	94	141	190	91	138	187
13'-6"	D+L (Strength)	44	74	101	42	71	99	40	69	97	38	67	95	36	65	93	33	63	90
	D+L (Deflection)	91	133	177	88	130	174	85	127	171	82	124	168	79	121	165	76	118	162
14'-0"	D+L (Strength)	40	67	93	37	65	90	35	62	88	33	60	86	31	58	84	29	56	82
	D+L (Deflection)	78	116	155	75	113	152	72	110	149	69	107	147	67	104	144	64	101	141
14'-6"	D+L (Strength)	35	61	85	33	59	82	31	56	80	29	54	78	27	52	76	24	50	74
	D+L (Deflection)	67	101	137	64	98	134	62	96	131	59	93	128	56	90	125	53	87	122
15'-0"	D+L (Strength)	32	55	78	29	53	75	27	51	73	25	49	71	23	46	69	21	44	67
	D+L (Deflection)	58	89	120	55	86	117	52	83	114	49	80	111	46	77	109	43	74	106
15'-6"	D+L (Strength)	28	50	71	26	48	69	24	46	67	22	44	64	19	41	62	17	39	60
	D+L (Deflection)	47	74	101	44	71	98	41	68	96	38	65	93	35	62	90	32	59	87
16'-0"	D+L (Strength)	25	46	65	23	43	63	21	41	61	18	39	59	16	37	56	14	35	54
	D+L (Deflection)	38	61	85	35	58	83	32	55	80	29	52	77	26	50	74	23	47	71
16'-6"	D+L (Strength)	22	42	60	20	39	58	18	37	55	16	35	53	14	33	51	12	31	49
	D+L (Deflection)	30	51	72	27	48	69	24	45	66	21	42	63	19	40	60	16	36	57
17'-0"	D+L (Strength)	20	38	55	17	36	53	15	33	51	13	31	48	11	30	46	9	27	44
	D+L (Deflection)	23	41	60	20	38	57	17	35	54	14	33	51	12	30	48	10	27	45
17'-6"	D+L (Strength)	17	34	50	15	32	48	13	30	46	11	28	44	9	26	42	7	23	40
	D+L (Deflection)	17	33	50	15	30	47	13	28	44	11	26	41	9	24	38	7	19	35
18'-0"	D+L (Strength)	15	31	46	13	29	44	11	27	42	9	25	40	7	22	38	5	25	35
	D+L (Deflection)	15	26	41	13	24	38	11	21	35	9	18	32	7	15	29	5	18	27
18'-6"	D+L (Strength)	13	28	43	11	26	40	9	24	38	7	22	36	5	20	34	4	16	32
	D+L (Deflection)	13	20	34	11	18	31	9	15	28	7	15	25	5	12	22	4	11	19
19'-0"	D+L (Strength)	11	26	39	9	24	37	7	22	35	5	20	33	4	18	30	3	14	27
	D+L (Deflection)	11	15	27	9	14	24	7	12	21	5	10	18	4	11	15	3	10	14
19'-6"	D+L (Strength)	10	24	36	8														