

## Simple Span Application



### Floor Beams (LDF=1.00)

$F_b = 2,400$  psi  
 $F_v = 265$  psi  
 $E = 1.8 \times 10^6$   
 $\text{True } E = 1.9 \times 10^6$

Width (in.)	Depth (in.)	Span (feet)																
		8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
3 1/2	6	405	205	116	71	-	-	-	-	-	-	-	-	-	-	-	-	-
	7 1/2	795	404	231	143	94	64	-	-	-	-	-	-	-	-	-	-	-
	9	1,174	701	403	251	165	114	81	59	-	-	-	-	-	-	-	-	-
	9 1/2	1,308	825	474	296	195	135	96	70	52	-	-	-	-	-	-	-	-
	10 1/2	1,599	1,020	642	401	266	184	132	97	72	55	-	-	-	-	-	-	-
	11 1/8	2,046	1,306	904	583	387	269	193	143	108	83	64	50	-	-	-	-	-
	13 1/2	2,646	1,690	1,170	856	573	399	288	213	162	125	97	77	62	-	-	-	-
	14	2,846	1,817	1,258	921	639	446	322	239	181	140	110	87	70	56	-	-	-
	15	3,268	2,087	1,446	1,059	788	550	397	295	225	174	137	109	87	71	58	-	-
	16	3,696	2,376	1,646	1,205	920	669	484	360	274	213	168	134	108	88	72	59	-
	16 1/2	3,873	2,527	1,751	1,282	979	735	532	396	302	234	185	148	119	97	80	66	54
	18	4,437	3,009	2,085	1,528	1,166	918	693	517	395	307	243	195	158	129	106	88	73
	19 1/2	5,060	3,532	2,448	1,794	1,370	1,079	866	660	505	394	312	250	203	167	138	115	96
	21	5,753	3,978	2,840	2,082	1,590	1,249	998	814	633	494	392	316	257	211	175	146	123
22 1/2	6,528	4,433	3,262	2,392	1,827	1,426	1,139	929	771	611	485	391	319	263	218	183	154	
Width (in.)	Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
5 1/2	6	637	322	183	112	73	-	-	-	-	-	-	-	-	-	-	-	-
	7 1/2	1,249	635	363	225	147	100	71	51	-	-	-	-	-	-	-	-	-
	9	1,844	1,102	633	394	260	179	127	93	69	51	-	-	-	-	-	-	-
	9 1/2	2,056	1,297	745	465	307	212	151	110	82	62	-	-	-	-	-	-	-
	10 1/2	2,513	1,603	1,009	630	418	289	207	152	114	87	67	51	-	-	-	-	-
	11 1/8	3,216	2,052	1,420	916	609	423	304	224	169	130	101	79	62	-	-	-	-
	13 1/2	4,159	2,655	1,838	1,346	900	626	452	335	254	196	153	121	97	78	63	50	-
	14	4,473	2,856	1,978	1,448	1,005	700	505	375	285	220	172	137	109	88	71	58	-
	15	5,136	3,280	2,272	1,664	1,239	864	624	464	353	273	215	171	137	111	90	74	61
	16	5,809	3,733	2,586	1,894	1,433	1,052	761	566	431	335	264	210	170	138	113	93	76
	16 1/2	6,086	3,971	2,751	2,015	1,520	1,155	836	622	474	368	291	232	187	153	125	103	85
	18	6,972	4,728	3,276	2,383	1,795	1,396	1,090	813	620	483	382	306	248	203	167	138	115
	19 1/2	7,952	5,551	3,847	2,777	2,091	1,627	1,299	1,038	793	618	490	393	320	262	217	180	151
	21	9,041	6,250	4,432	3,199	2,410	1,875	1,498	1,221	995	777	616	496	404	332	275	230	193
22 1/2	10,258	6,966	5,055	3,649	2,749	2,140	1,709	1,394	1,156	960	763	614	501	413	343	287	242	
24	11,628	7,741	5,716	4,126	3,110	2,421	1,934	1,578	1,309	1,101	930	750	612	505	421	353	298	

**Tabulated values are pounds per lineal foot.**

Notes for X-Beam Floor Beams:

- (1) For preliminary design use only. Final design should include a complete analysis, including bearing stresses and lateral stability.
- (2) Span = simply supported beam.
- (3) Maximum deflection =  $L/360$  under live load. Where additional stiffness is desired or for other live/total load ratios, design for deflection must be modified per requirements.
- (4) Service condition = dry.
- (5) Tabulated values represent total loads based on live/total load = 0.8 and are in addition to the beam weight (assumed 35 pcf).
- (6) Sufficient bearing length shall be provided at supports.
- (7) Maximum beam shear is located at a distance from the supports equal to the depth of the beam.

Special order sizes in green.

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Width (in.)	Depth (in.)	Span (feet)																
		8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
6 3/4	9	2,263	1,352	776	483	319	220	156	114	84	63	-	-	-	-	-	-	-
	10 1/2	3,084	1,967	1,239	774	513	355	254	187	140	106	82	63	-	-	-	-	-
	12	4,030	2,572	1,780	1,161	771	536	385	285	215	165	128	100	79	63	-	-	-
	13 1/2	5,104	3,258	2,256	1,652	1,104	769	555	411	312	240	188	149	119	95	77	62	-
	15	6,304	4,025	2,788	2,023	1,520	1,060	766	570	433	335	264	210	169	136	111	91	74
	16 1/2	7,469	4,873	3,364	2,427	1,827	1,417	1,026	764	582	452	357	285	230	187	153	126	105
	18	8,556	5,802	3,972	2,865	2,157	1,678	1,337	997	761	593	469	375	304	249	205	170	141
	19 1/2	9,759	6,800	4,626	3,338	2,514	1,956	1,562	1,272	974	759	601	483	392	322	266	221	185
	21	11,096	7,671	5,328	3,845	2,897	2,254	1,800	1,467	1,216	954	757	609	495	407	338	282	237
	22 1/2	12,590	8,549	6,077	4,386	3,305	2,572	2,054	1,675	1,389	1,169	936	754	615	506	421	352	297
	24	14,271	9,501	6,872	4,961	3,738	2,910	2,325	1,896	1,573	1,323	1,127	921	752	620	516	433	366
	25 1/2	16,176	10,535	7,713	5,569	4,197	3,268	2,611	2,130	1,767	1,487	1,267	1,090	907	749	625	525	444
	27	18,354	11,664	8,542	6,210	4,681	3,645	2,913	2,376	1,972	1,660	1,415	1,218	1,058	895	747	628	532
	28 1/2	20,868	12,900	9,329	6,884	5,189	4,042	3,230	2,636	2,188	1,842	1,570	1,352	1,175	1,029	884	744	631
30	23,801	14,261	10,172	7,591	5,723	4,458	3,563	2,908	2,414	2,033	1,733	1,493	1,297	1,136	1,002	873	742	
Width (in.)	Depth (in.)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
8 3/4	9	2,934	1,753	1,006	627	413	285	202	147	109	82	62	-	-	-	-	-	-
	10 1/2	3,997	2,550	1,606	1,003	665	460	329	242	181	138	106	82	64	-	-	-	-
	12	5,224	3,334	2,308	1,505	1,000	695	499	369	278	213	166	130	103	81	64	51	-
	13 1/2	6,616	4,224	2,897	2,088	1,431	997	719	533	404	312	244	193	154	123	99	80	65
	15	8,171	5,210	3,542	2,554	1,922	1,375	993	738	561	435	342	272	218	177	144	118	96
	16 1/2	9,682	6,247	4,249	3,064	2,306	1,793	1,330	990	755	586	462	369	298	243	199	164	136
	18	11,092	7,373	5,016	3,618	2,724	2,119	1,691	1,293	987	768	607	487	394	322	266	220	183
	19 1/2	12,651	8,587	5,843	4,215	3,174	2,470	1,971	1,606	1,262	984	780	626	509	417	345	287	240
	21	14,383	9,889	6,729	4,856	3,657	2,846	2,272	1,852	1,535	1,236	981	789	642	528	438	366	307
	22 1/2	16,320	11,082	7,675	5,539	4,173	3,248	2,594	2,115	1,753	1,475	1,213	978	797	657	546	457	385
	24	18,499	12,316	8,679	6,265	4,720	3,675	2,935	2,394	1,985	1,670	1,422	1,193	974	804	669	561	474
	25 1/2	20,969	13,657	9,741	7,032	5,300	4,126	3,297	2,689	2,231	1,877	1,599	1,376	1,176	971	810	680	575
	27	23,793	15,120	10,862	7,842	5,911	4,603	3,678	3,000	2,490	2,096	1,785	1,537	1,335	1,160	968	814	690
	28 1/2	27,051	16,723	12,040	8,694	6,553	5,104	4,079	3,328	2,762	2,325	1,981	1,706	1,482	1,298	1,144	965	819
30	30,853	18,486	13,186	9,587	7,227	5,629	4,499	3,672	3,048	2,566	2,187	1,884	1,637	1,434	1,264	1,122	962	

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