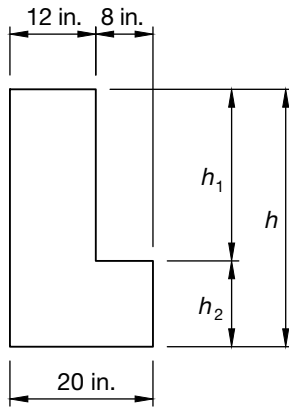


3.10 L-Beam Load Tables

3

Normalweight concrete



$f'_c = 5000$  psi  
 $f_{pu} = 270,000$  psi  
 1/2 in. diameter,  
 low-relaxation strand

Designation	Section Properties							
	$h$ in.	$h_1/h_2$ in.	$A$ in. <sup>2</sup>	$I$ in. <sup>4</sup>	$y_b$ in.	$S_b$ in. <sup>3</sup>	$S_t$ in. <sup>3</sup>	$wt$ lb/ft
20LB20	20	12/8	304	10,160	8.74	1163	902	317
20LB24	24	12/12	384	17,568	10.5	1673	1301	400
20LB28	28	16/12	432	27,883	12.22	2282	1767	450
20LB32	32	20/12	480	41,600	14.00	2971	2311	500
20LB36	36	24/12	528	59,119	15.82	3737	2930	550
20LB40	40	24/16	608	81,282	17.47	4653	3608	633
20LB44	44	28/16	656	108,107	19.27	5610	4372	683
20LB48	48	32/16	704	140,133	21.09	6645	5208	733
20LB52	52	36/16	752	177,752	22.94	7749	6117	783
20LB56	56	40/16	800	221,355	24.8	8926	7095	833
20LB60	60	44/16	848	271,332	26.68	10,170	8143	883

1. Check local area for availability of other sizes.
2. Loads shown include 50% superimposed dead load and 50% live load. Top tension stress at transfer has been allowed to exceed  $6\sqrt{f'_c}$ ; therefore, top reinforcement is required.
3. Loads can be significantly increased by use of structural composite topping.

Key  
 6560 – Superimposed service load capacity, lb/ft  
 0.3 – Estimated camber at erection, in.  
 0.1 – Estimated long-time camber, in.

Table of superimposed service load capacity, lb/ft, and cambers, in.

Designation	Number strand	$y_s$ in.	Span, ft																		
			16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	
20LB20	9	2.44	6560	5130	4100	3340	2760	2310	1960	1670	1430	1240	1070								
			0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.0	1.1	1.2								
			0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2								
20LB24	10	2.80	9570	7490	6000	4900	4060	3410	2890	2470	2130	1850	1610	1410	1240	1090	969				
			0.3	0.3	0.4	0.5	0.5	0.6	0.7	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2				
			0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0			
20LB28	12	3.33			8220	6730	5590	4710	4000	3440	2970	2590	2270	2000	1760	1560	1390	1240	1110	992	
					0.4	0.4	0.5	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.2	1.2	1.2	1.3	1.3
					0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0
20LB32	14	3.71				8940	7440	6280	5350	4610	4000	3490	3070	2710	2400	2140	1910	1710	1540	1380	
						0.4	0.5	0.5	0.6	0.7	0.7	0.8	0.9	1.0	1.0	1.1	1.2	1.2	1.2	1.3	1.3
						0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
20LB36	16	4.25					9450	7980	6820	5880	5110	4470	3940	3480	3100	2770	2480	2230	2010	1810	
							0.4	0.5	0.5	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.1	1.2	1.2	1.2	1.3
							0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2
20LB40	18	4.89						9810	8380	7230	6290	5510	4850	4300	3830	3420	3070	2760	2490	2250	
							0.4	0.5	0.6	0.6	0.7	0.8	0.8	0.9	1.0	1.0	1.1	1.1	1.1	1.2	1.2
							0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
20LB44	19	5.05							8950	7800	6840	6040	5360	4780	4280	3850	3470	3140	2850		
							0.5	0.6	0.6	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.1	1.1	1.1
							0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
20LB48	21	5.81								9220	8100	7150	6360	5670	5090	4580	4140	3750	3400		
							0.5	0.6	0.6	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.1	1.1	1.1
							0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
20LB52	23	6.17									9630	8520	7570	6770	6080	5480	4950	4490	4090		
							0.6	0.6	0.7	0.7	0.8	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
							0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
20LB56	25	6.64										9950	8860	7920	7120	6420	5820	5280	4810		
							0.6	0.7	0.7	0.8	0.8	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
							0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
20LB60	27	7.33												9080	8170	7380	6680	6080	5540		
							0.7	0.7	0.8	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
							0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

Strength is based on strain compatibility; bottom tension is limited to  $12\sqrt{f'_c}$ ; see pages 3–8 through 3–11 for explanation.