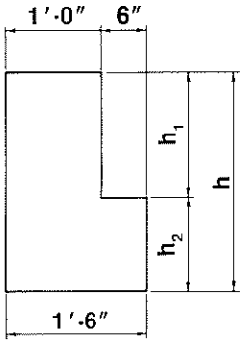
L-SHAPED BEAMS



f'_c = 5,000 psi

f_{pu} = 270,000 psi

½ in. diameter
low-relaxation strand

Key

6,675 — Safe superimposed service load, plf
0.3 — Estimated camber at erection, in.
0.1 — Estimated long-time camber, in.

Normal Weight Concrete

Section Properties								
Designation	h (in.)	h_1/h_2 (in.)	A (in.²)	I (in.⁴)	y_b (in.)	Z_b (in.³)	Z_t (in.³)	wt (plf)
18LB20	20	12/8	288	9,696	9.00	1,077	882	300
18LB24	24	12/12	360	16,762	10.80	1,552	1,270	375
18LB28	28	16/12	408	26,611	12.59	2,114	1,727	425
18LB32	32	20/12	456	39,695	14.42	2,753	2,258	475
18LB36	36	24/12	504	56,407	16.29	3,463	2,862	525
18LB40	40	24/16	576	77,568	18.00	4,309	3,526	600
18LB44	44	28/16	624	103,153	19.85	5,197	4,271	650
18LB48	48	32/16	672	133,705	21.71	6,159	5,086	700
18LB50	52	36/16	720	169,613	23.60	7,187	5,972	750
18LB56	56	40/16	768	211,264	25.50	8,285	6,927	800
18LB60	60	44/16	816	259,046	27.41	9,451	7,949	850

1. Check local area for availability of other sizes.

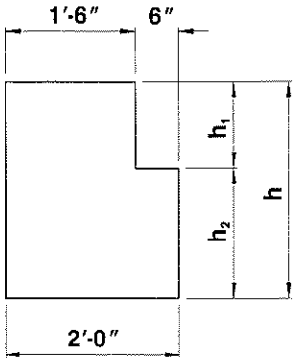
2. Safe loads shown include 50% dead load and 50% live load. 800 psi top tension has been allowed, therefore additional top reinforcement is required.

3. Safe loads can be significantly increased by use of structural composite topping.

Table of safe superimposed service load (plf) and cambers

Designation	No. Strand	e	Span, ft.																	
			16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50
18LB20	9	6.26	6,675 0.3 0.1	5,211 0.4 0.1	4,164 0.5 0.2	3,389 0.6 0.2	2,800 0.7 0.2	2,341 0.8 0.2	1,978 0.9 0.2	1,684 1.0 0.2	1,444 1.1 0.2	1,245 1.2 0.2	1,080 1.2 0.2							
18LB24	10	7.67	9,625 0.3 0.1	7,534 0.3 0.1	6,038 0.4 0.1	4,931 0.5 0.1	4,090 0.6 0.2	3,434 0.7 0.2	2,915 0.7 0.2	2,495 0.8 0.2	2,152 0.9 0.2	1,868 1.0 0.2	1,629 1.1 0.2	1,427 1.1 0.1	1,253 1.2 0.1	1,104 1.2 0.1	975 1.3 0.0			
18LB28	12	8.93			8,387 0.4 0.1	6,857 0.4 0.1	5,694 0.5 0.2	4,789 0.6 0.2	4,071 0.7 0.2	3,491 0.8 0.2	3,017 0.8 0.2	2,624 0.9 0.2	2,295 1.0 0.2	2,017 1.1 0.2	1,781 1.1 0.2	1,578 1.2 0.2	1,402 1.3 0.2	1,249 1.3 0.1	1,114 1.4 0.1	995 1.4 0.1
18LB32	14	10.22				9,049 0.4 0.1	7,528 0.5 0.2	6,344 0.5 0.2	5,404 0.6 0.2	4,647 0.7 0.2	4,026 0.8 0.2	3,512 0.8 0.2	3,082 0.9 0.2	2,717 1.0 0.3	2,406 1.1 0.3	2,138 1.1 0.3	1,906 1.2 0.2	1,706 1.3 0.2	1,530 1.3 0.2	1,375 1.4 0.2
18LB36	16	11.52					9,617 0.4 0.1	8,117 0.5 0.2	6,927 0.6 0.2	5,966 0.6 0.2	5,180 0.7 0.2	4,529 0.8 0.2	3,983 0.9 0.3	3,521 0.9 0.3	3,126 1.0 0.3	2,787 1.1 0.3	2,493 1.2 0.3	2,236 1.2 0.3	2,011 1.3 0.3	1,813 1.3 0.3
18LB40	18	12.52							8,581 0.5 0.2	7,398 0.6 0.2	6,429 0.6 0.2	5,626 0.7 0.2	4,954 0.8 0.2	4,385 0.8 0.2	3,899 0.9 0.3	3,480 1.0 0.3	3,118 1.1 0.3	2,802 1.1 0.3	2,524 1.2 0.3	2,281 1.2 0.3
18LB44	19	14.19								9,039 0.5 0.2	7,866 0.6 0.2	6,893 0.6 0.2	6,078 0.7 0.2	5,389 0.8 0.2	4,800 0.8 0.2	4,293 0.9 0.2	3,854 1.0 0.2	3,471 1.0 0.3	3,135 1.1 0.3	2,838 1.2 0.2
18LB48	21	15.48									9,439 0.5 0.2	8,281 0.6 0.2	7,311 0.7 0.2	6,490 0.7 0.2	5,789 0.8 0.2	5,186 0.9 0.3	4,663 0.9 0.3	4,207 1.0 0.3	3,806 1.1 0.3	3,453 1.1 0.3
18LB52	23	16.78										9,798 0.6 0.2	8,658 0.6 0.2	7,694 0.7 0.2	6,871 0.8 0.2	6,162 0.8 0.3	5,548 0.9 0.3	5,012 1.0 0.3	4,542 1.0 0.3	4,127 1.1 0.3
18LB56	25	18.07												8,993 0.7 0.2	8,038 0.7 0.2	7,216 0.8 0.3	6,504 0.8 0.3	5,883 0.9 0.3	5,337 1.0 0.3	4,856 1.0 0.3
18LB60	27	19.36													9,292 0.7 0.2	8,349 0.7 0.3	7,532 0.8 0.3	6,819 0.9 0.3	6,193 0.9 0.3	5,641 1.0 0.3

L-SHAPED BEAMS



f'_c = 5,000 psi

f_{pu} = 270,000 psi

½ in. diameter
low-relaxation strand

Key

8,138 — Safe superimposed service load, plf
0.5 — Estimated camber at erection, in.
0.2 — Estimated long-time camber, in.

Normal Weight Concrete

Section Properties								
Designation	h (in.)	h_1/h_2 (in.)	A (in.²)	I (in.⁴)	y_b (in.)	Z_b (in.³)	Z_t (in.³)	wt (plf)
24LB20	20	12/8	408	13,781	9.29	1,483	1,287	425
24LB24	24	12/12	504	23,822	11.14	2,138	1,852	525
24LB28	28	16/12	576	37,824	13.00	2,910	2,522	600
24LB32	32	20/12	648	56,416	14.89	3,789	3,297	675
24LB36	36	24/12	720	80,179	16.80	4,773	4,176	750
24LB40	40	24/16	816	110,246	18.59	5,930	5,149	850
24LB44	44	28/16	888	146,606	20.49	7,155	6,236	925
24LB48	48	32/16	960	190,054	22.40	8,485	7,424	1,000
24LB52	52	36/16	1,032	241,171	24.33	9,913	8,716	1,075
24LB56	56	40/16	1,104	300,533	26.26	11,445	10,105	1,150
24LB60	60	44/16	1,176	368,719	28.20	13,075	11,595	1,225

1. Check local area for availability of other sizes.

2. Safe loads shown include 50% dead load and 50% live load. 800 psi top tension has been allowed, therefore additional top reinforcement is required.

3. Safe loads can be significantly increased by use of structural composite topping.

Table of safe superimposed service load (plf) and cambers

Designation	No. Strand	e	Span, ft.																
			18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50
24LB20	15	6.55	8,138 0.5 0.2	6,511 0.6 0.3	5,307 0.7 0.3	4,392 0.8 0.4	3,679 1.0 0.4	3,114 1.1 0.5	2,658 1.2 0.5	2,284 1.4 0.5	1,975 1.5 0.6	1,716 1.6 0.6	1,496 1.7 0.6	1,309 1.8 0.6	1,148 1.9 0.6	1,008 2.0 0.6			
24LB24	15	8.01		9,091 0.5 0.1	7,431 0.5 0.2	6,168 0.6 0.2	5,180 0.7 0.2	4,394 0.8 0.2	3,760 0.9 0.3	3,241 1.0 0.3	2,811 1.1 0.3	2,451 1.2 0.3	2,146 1.3 0.3	1,887 1.3 0.2	1,666 1.4 0.2	1,475 1.5 0.2	1,307 1.5 0.1	1,161 1.5 0.1	1,031 1.6 0.0
24LB28	18	9.34				8,537 0.6 0.2	7,185 0.6 0.2	6,113 0.7 0.2	5,248 0.8 0.3	4,540 0.9 0.3	3,953 1.0 0.3	3,461 1.1 0.3	3,045 1.2 0.3	2,689 1.3 0.3	2,383 1.3 0.3	2,118 1.4 0.3	1,889 1.5 0.3	1,689 1.5 0.3	1,512 1.6 0.2
24LB32	21	10.69					9,526 0.6 0.2	8,121 0.7 0.2	6,987 0.7 0.3	6,059 0.8 0.3	5,290 0.9 0.3	4,646 1.0 0.3	4,100 1.1 0.3	3,635 1.2 0.4	3,234 1.3 0.4	2,887 1.4 0.4	2,584 1.4 0.4	2,318 1.5 0.3	2,083 1.6 0.3
24LB36	24	12.03							8,964 0.7 0.3	7,787 0.8 0.3	6,813 0.9 0.3	5,996 0.9 0.3	5,304 1.0 0.3	4,714 1.1 0.4	4,206 1.2 0.4	3,766 1.3 0.4	3,382 1.4 0.4	3,044 1.4 0.4	2,747 1.5 0.4
24LB40	27	13.11								9,665 0.7 0.3	8,464 0.8 0.3	7,458 0.8 0.3	6,606 0.9 0.3	5,879 1.0 0.3	5,254 1.1 0.3	4,711 1.2 0.4	4,238 1.2 0.4	3,823 1.3 0.4	3,457 1.4 0.4
24LB44	28	14.83										9,088 0.8 0.3	8,062 0.8 0.3	7,186 0.9 0.3	6,432 1.0 0.3	5,778 1.1 0.3	5,208 1.1 0.3	4,708 1.2 0.3	4,266 1.3 0.3
24LB48	32	16.17											9,811 0.8 0.3	8,757 0.9 0.3	7,850 1.0 0.3	7,063 1.0 0.4	6,378 1.1 0.4	5,776 1.2 0.4	5,244 1.3 0.4
24LB52	35	17.51													9,318 0.9 0.3	8,394 1.0 0.3	7,589 1.1 0.4	6,882 1.1 0.4	6,258 1.2 0.4
24LB56	37	18.83														9,745 0.9 0.3	8,818 1.0 0.3	8,005 1.0 0.3	7,287 1.1 0.4
24LB60	38	20.15																9,285 1.0 0.3	8,461 1.1 0.4