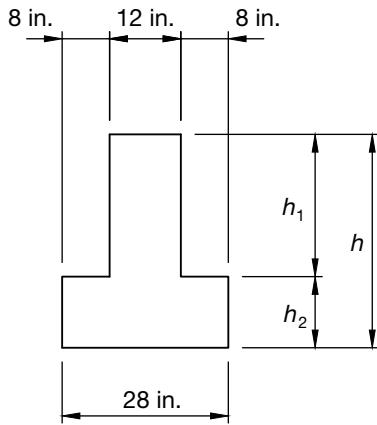


3.11 Inverted T Beam Load Tables

3

Normalweight concrete



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

Section Properties								
Designation	h in.	h_1/h_2 in.	A in. ²	I in. ⁴	y_b in.	S_b in. ³	S_t in. ³	wt lb/ft
28IT20	20	12/8	368	11,688	7.91	1478	967	383
28IT24	24	12/12	480	20,275	9.60	2112	1408	500
28IT28	28	16/12	528	32,076	11.09	2892	1897	550
28IT32	32	20/12	576	47,872	12.67	3778	2477	600
28IT36	36	24/12	624	68,101	14.31	4759	3140	650
28IT40	40	24/16	736	93,503	15.83	5907	3869	767
28IT44	44	28/16	784	124,437	17.43	7139	4683	817
28IT48	48	32/16	832	161,424	19.08	8460	5582	867
28IT52	52	36/16	880	204,884	20.76	9869	6558	917
28IT56	56	40/16	928	255,229	22.48	11,354	7614	967
28IT60	60	44/16	976	312,866	24.23	12,912	8747	1017

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
 6510 – Superimposed service load capacity, lb/ft
 0.2 – 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	
28IT20	9	2.44	6510	5070	4040	3280	2710	2260	1900	1610	1380	1180	1020								
			0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.7	0.8								
			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1					
28IT24	18	2.73	9610	7500	5990	4880	4030	3370	2850	2420	2080	1790	1550	1350	1170	1020					
			0.2	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8					
			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-0.1	-0.2				
28IT28	13	3.08			8350	6820	5650	4750	4030	3450	2970	2580	2250	1970	1730	1530	1350	1190	1060		
					0.3	0.3	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	0.8	0.8		
					0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-0.1	-0.2	-0.2	
28IT32	15	3.47				9040	7520	5330	5380	4620	4000	3490	3050	2690	2370	2110	1870	1670	1490	1330	
						0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9	0.9	0.9	
						0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	-0.1
28IT36	16	3.50					9830	8290	7070	6090	5280	4610	4060	3580	3180	2830	2530	2270	2040	1830	
							0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9	0.9	
							0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	-0.1
28IT40	19	4.21						8630	7440	6460	5640	4960	4390	3890	3470	3100	2780	2500	2250		
							0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	0.9	0.9		
							0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
28IT44	20	4.40							9180	7980	6990	6160	5460	4860	4340	3890	3500	3160	2850		
							0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8		
							0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
28IT48	22	4.55								9710	8520	7520	6670	5950	5330	4790	4320	3900	3540		
							0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.9		
							0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
28IT52	24	5.17									9980	8820	7830	6990	6270	5640	4100	4610	4190		
							0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.8					
							0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
28IT56	26	5.23										9300	8310	7460	6730	6080	5520	5020			
							0.5	0.6	0.6	0.7	0.7	0.7	0.8	0.8							
							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	
28IT60	28	5.57												9640	8660	7820	7080	6430	5850		
							0.6	0.6	0.7	0.7	0.7	0.8	0.8								
							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

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