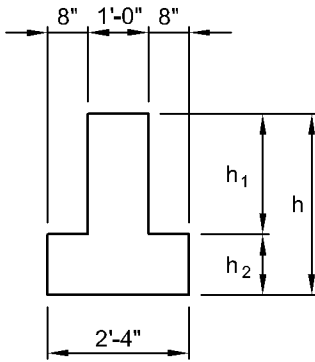


# INVERTED TEE BEAMS

Normal Weight Concrete



Section Properties								
Designation	h in.	h <sub>1</sub> /h <sub>2</sub> in./in.	A in. <sup>2</sup>	I in. <sup>4</sup>	y <sub>b</sub> in.	S <sub>b</sub> <sub>3</sub> in. <sup>3</sup>	S <sub>t</sub> <sub>3</sub> in. <sup>3</sup>	wt plf
28IT20	20	12/8	368	11,688	7.91	1,478	967	383
28IT24	24	12/12	480	20,275	9.60	2,112	1,408	500
28IT28	28	16/12	528	32,076	11.09	2,892	1,897	550
28IT32	32	20/12	576	47,872	12.67	3,778	2,477	600
28IT36	36	24/12	624	68,101	14.31	4,759	3,140	650
28IT40	40	24/16	736	93,503	15.83	5,907	3,869	767
28IT44	44	28/16	784	124,437	17.43	7,139	4,683	817
28IT48	48	32/16	832	161,424	19.08	8,460	5,582	867
28IT52	52	36/16	880	204,884	20.76	9,869	6,558	917
28IT56	56	40/16	928	255,229	22.48	11,354	7,614	967
28IT60	60	44/16	976	312,866	24.23	12,912	8,747	1,017

$f'_c = 5,000$  psi  
 $f_{pu} = 270,000$  psi  
 $\frac{1}{2}$  in. diameter  
 low-relaxation strand

1. Check local area for availability of other sizes.
2. Safe loads shown include 50% superimposed 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.

### Key

- 6511 – Safe superimposed service load, plf.
- 0.2 – Estimated camber at erection, in.
- 0.1 – Estimated long-time camber, in.

**Table of safe superimposed service load (plf) and cambers (in.)**

Designation	No. Strand	y <sub>s</sub> (end) in. y <sub>s</sub> (center) in.	Span, ft																		
			16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	
28IT20	98-S	2.44 2.44	6511	5076	4049	3289	2711	2262	1905	1617	1381	1186	1022								
			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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28IT24	188-S	2.73 2.73	9612	7504	5997	4882	4034	3374	2850	2427	2081	1795	1555	1351	1178	1029					
			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	0.1	0.0	0.0	-0.1	-0.2			
28IT28	138-S	3.08 3.08	8353	6822	5657	4750	4031	3451	2976	2582	2252	1973	1735	1530	1352	1197	1061				
			0.3	0.3	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	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	0.1	0.1	0.0	0.0	-0.1	-0.2	-0.2	
28IT32	158-S	3.47 3.47	9049	7521	5333	5389	4628	4006	3490	3057	2691	2379	2110	1876	1673	1495	1337				
			0.3	0.4	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	0.9			
			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	0.0	0.0	0.0	0.0	-0.1
28IT36	168-S	3.50 3.50	9832	8295	7075	6092	5287	4619	4060	3587	3183	2835	2534	2271	2040	1836					
			0.3	0.4	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	0.9			
			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	0.0	0.0	0.0	0.0	-0.1
28IT40	198-S	4.21 4.21	8638	7440	6460	5647	4966	4390	3898	3474	3107	2787	2506	2258							
			0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	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	0.1	0.1	0.1	0.1
28IT44	208-S	4.40 4.40	9186	7989	6997	6165	5462	4861	4344	3896	3505	3162	2859								
			0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8	0.8							
			0.1	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	0.1	0.1	0.1	0.0
28IT48	228-S	4.55 4.55	9719	8525	7523	6676	5953	5330	4791	4320	3907	3542									
			0.4	0.5	0.5	0.6	0.6	0.7	0.7	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	0.1	0.1	0.1	0.1
28IT52	248-S	5.17 5.17	9987	8823	7838	6998	6274	5647	4100	4619	4196										
			0.5	0.5	0.6	0.6	0.6	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
28IT56	268-S	5.23 5.23	9307	8319	7469	6731	6088	5524	5026												
			0.5	0.6	0.6	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	0.2	0.2	0.2	0.2
28IT60	288-S	5.57 5.57	9645	8668	7820	7081	6432	5859													
			0.6	0.6	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	0.2	0.2	0.2	0.2