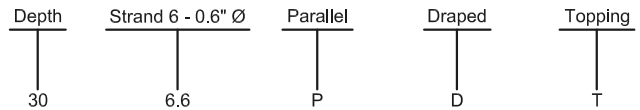
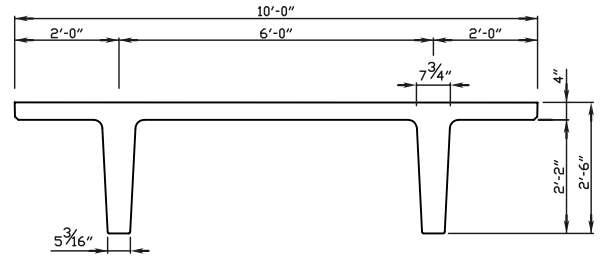


# Prestressed Concrete 30" x 10' DOUBLE TEE (PRETOPPED)

PHYSICAL PROPERTIES	
A = 816 in. <sup>2</sup>	S <sub>b</sub> = 2,656 in. <sup>3</sup>
I = 58,897 in. <sup>4</sup>	St = 7,525 in. <sup>3</sup>
Y <sub>b</sub> = 22.17 in.	Wt. = 850 PLF
Y <sub>t</sub> = 7.83 in.	Wt. = 85 PSF



## DESIGN DATA

1. Precast Strength @ release = 3,500 PSI.
2. Precast Strength @ release for draped tees = 4,500 PSI.
3. Precast Strength @ 28 days = 6,000 PSI
4. Precast Density = 150 PCF
5. Strand = 0.6" Ø 270K Lo-Relaxation.
6. Maximum moment capacity is critical at midspan for parallel strands and is critical near 0.4 span for draped strands.
7. Maximum bottom tensile stress is  $12\sqrt{f'_c} = 930$  PSI
8. Flexural capacity is based on stress/strain strand relationships.
9. All superimposed load is treated as live load in the flexural strength analysis. To determine the allowable live load if the amount of superimposed dead load is known use the following conversion method...

$$\text{Allowable Live Load} = \frac{(1.6)(\text{Load Table Value}) - (1.2)(\text{Superimposed Dead Load})}{1.6}$$

10. If the above conversion is used then allowable stress limits must be checked so they are not exceeded.
11. Deflection limits were not considered when determining allowable loads in this table.

ALLOWABLE SUPERIMPOSED LIVE LOADS (psf)													IBC 2012 & ACI 318-11 (1.2 D + 1.6 L)												
Section	Ø Mn (in. Kips)	Span (Feet)																							
		40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86
30 - 6.6 P	8,135	140	127	110	96	83	71	61	52	44	36														
30 - 8.6 P	10,385				140	124	109	96	84	74	64	56	48	41	35										
30 - 10.6 P	12,403									113	101	89	79	70	62	54	47	41	35						
30 - 12.6 P	14,190										111	100	90	80	71	64	56	50	43	37					
30 - 14.6 D	18,319														107	96	87	78	70	63	56	50	44	38	
30 - 16.6 D	20,488																100	90	82	74	66	59	53	47	42
30 - 18.6 D	22,574																	101	92	84	76	68	62	56	50



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This table is for simple spans and uniform loads. Design data for any of these span-load conditions is available on request. Individual designs may be furnished to satisfy unusual conditions of heavy loads, concentrated loads, cantilevers, etc...