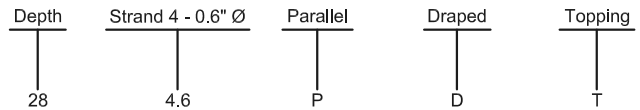
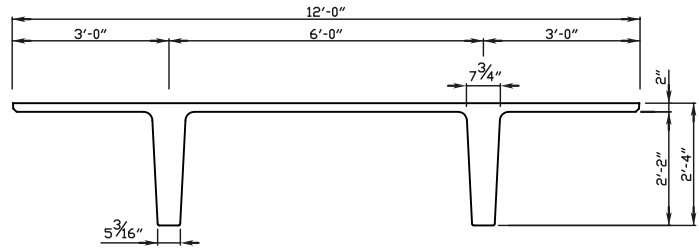


# Prestressed Concrete 28" x 12' DOUBLE TEE (NO TOPPING)

PHYSICAL PROPERTIES	
A = 624 in. <sup>2</sup>	S <sub>b</sub> = 2,289 in. <sup>3</sup>
I = 45,595 in. <sup>4</sup>	St = 5,643 in. <sup>3</sup>
Y <sub>b</sub> = 19.92 in.	Wt. = 650 PLF
Y <sub>t</sub> = 8.08 in.	Wt. = 54 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	
28 - 4.6 P	5,239	73	62	53	45	38																				
28 - 6.6 P	7,517	115	101	89	78	71	63	55	48	42	36															
28 - 8.6 P	9,568	159	143	130	116	103	92	82	73	65	58	51	45	40												
28 - 10.6 P	11,390				146	131	117	105	95	85	76	69	62	55	50	44	40									
28 - 12.6 P	12,985								111	103	93	84	76	68	61	55	49	44	39							
28 - 14.6 D	16,926												103	94	86	78	71	64	59	53	48	44	39			
28 - 16.6 D	18,909													105	96	87	80	73	66	61	55	50	46	41	37	
28 - 18.6 D	20,812														105	96	88	81	74	68	62	56	51	47	43	



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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...