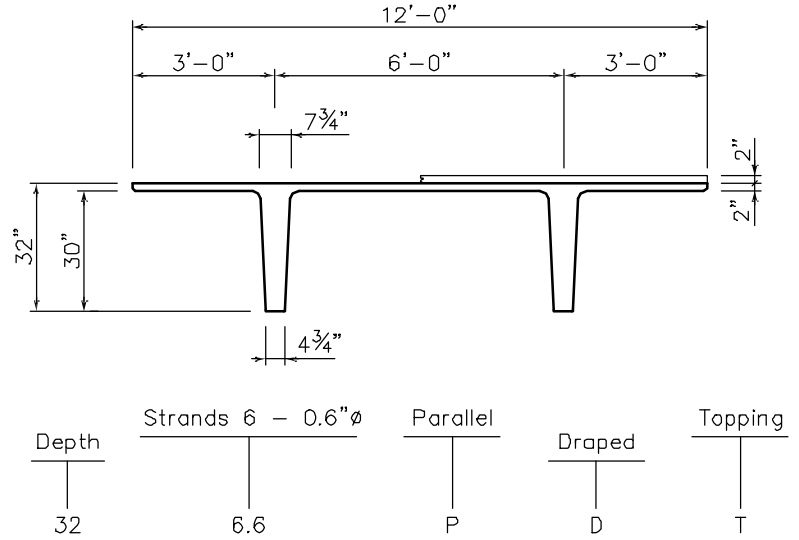


# Prestressed Concrete 32"x12' Double Tee (2" C.I.P. TOPPING)

PHYSICAL PROPERTIES	
Precast	
$A' = 951 \text{ in.}^2$	$S'_b = 3198 \text{ in.}^3$
$I' = 80,182 \text{ in.}^4$	$S'_t = 11,570 \text{ in.}^3$ (at top of D.T.)
$Y_b = 25.07 \text{ in.}$	$S'_{tt} = 8,979 \text{ in.}^3$ (at top of topping)
$Y'_t = 6.93 \text{ in.}$ (to top of D.T.)	Wt. = 991 PLF
$Y'_{tt} = 8.93 \text{ in.}$ (to top of topping)	Wt. = 83 PSF



### DESIGN DATA

1. Precast strength @ RELEASE = 3000 PSI. (min.)
2. Precast strength @ 28 days = 6000 PSI.
3. Precast Density = 150 PCF
4. Strand = 0.6"  $\phi$  270k LO-relaxation.
5. Topping Strength = 3,000 PSI
6. Topping Density = 150 PCF
7. Maximum bottom tensile stress is  $12\sqrt{f'_c} = 930 \text{ PSI}$ .
8. All superimposed load is treated as live load in the flexural strength analysis.
9. Flexural capacity is based on stress/strain strand relationships.
10. Maximum moment capacity is critical at midspan for parallel strands and is critical near 0.4 span for draped strands.
11. All loads shown refer to allowable loads after the topping has hardened.

Table of Safe Superimposed Loads (lbs. per sq. ft.)																							
Section	$\phi M_n$ (in. Kips)	Span in Feet																					
		46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	
32-6.6 PT	9,334	76	64	54	45	36																	
32-8.6 PT	11,900	116	101	88	76	66	56	48	40	33													
32-10.6 PT	14,322	153	135	119	105	92	81	71	62	53	46	39	33										
32-12.6 PT	16,423	185	165	146	130	116	103	91	81	71	63	55	48	41	35	30							
32-14.6 DT	20,943	256	230	206	186	167	151	136	123	110	99	89	80	72	64	57	51	45	39	33			
32-16.6 DT	22,860							161	146	132	120	109	99	88	78	69	60	53	48	42	38	33	
32-18.6 DT	24,486														105	94	84	75	66	58	51	44	39

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, flange or stem openings and narrow widths.



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