

DOUBLE TEE

TYPE "A" LOAD TABLE

8LDT 24

Table of safe superimposed live load (psf) Lightweight Concrete No Topping 8'-0" x 24" Double Tee

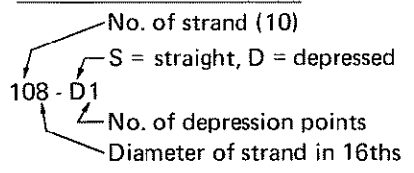
Strand Pattern	Span, ft																							
	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	
48-S	44*	37*	31*	26*																				
68-S	71*	61*	53*	46*	40*	34*	29*	25*																
88-S	93*	82*	72*	63*	56*	49*	43*	38*	33*	28*	24*													
68-D1	96*	85*	75*	66*	58*	51*	45*	40*	35*	30*	26*													
88-D1			106*	95*	85*	76*	68*	61*	54*	49*	43*	39*	34*	31*	27*	24*								
108-D1					108*	97*	88*	79*	72*	65*	58*	53*	48*	43*	38	34	30	26						
128-D1													59	53	48	43	39	35	31	27	24			
148-D1																			38	34	31	27	24	
Dead Load	f_t	276	303	331	361	392	423	457	491	527	564	602	642	683	725	768	812	858	905	953	1003	1054	1106	1159
	f_b	-692	-760	-830	-904	-981	-1061	-1144	-1231	-1320	-1413	-1509	-1608	-1710	-1815	-1923	-2035	-2149	-2267	-2388	-2512	-2639	-2770	-2903
100 plf Live Load	f_t	86	94	103	112	122	132	142	153	164	176	188	200	213	226	239	253	268	282	297	313	329	345	362
	f_b	-216	-237	-259	-282	-306	-331	-357	-384	-412	-441	-471	-502	-533	-566	-600	-635	-671	-708	-745	-784	-824	-864	-906
	a	0.116	0.140	0.167	0.198	0.233	0.272	0.317	0.366	0.422	0.483	0.551	0.625	0.707	0.797	0.895	1.001	1.117	1.243	1.379	1.526	1.685	1.855	2.038

*Capacity governed by ultimate strength Values below heavy line require release strengths higher than 3500 psi $f'_c = 5000$ psi $f_{pu} = 270,000$ psi

Notation

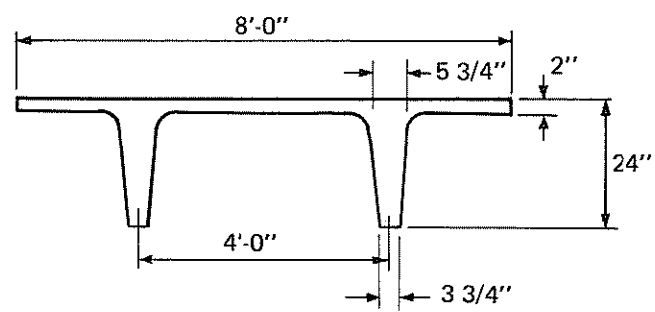
- f_t = top fiber stress, psi (after assumed 25% loss)
- f_b = bottom fiber stress, psi (after assumed 25% loss)
- a = center deflection, in.
- $0.001 l^2 \alpha$ = initial center camber, in. (after assumed 10% loss)
- l = span (ft)
- M_u = ult. moment capacity, in.-kips

Strand Pattern Designation



Section Properties

- $A = 401$ in.²
- $I = 20,985$ in.⁴
- $y_b = 17.15$ in.
- $y_t = 6.85$ in.
- $Z_b = 1224$ in.³
- $Z_t = 3064$ in.³
- $wt = 320$ plf
- 40 psf



Lightweight Concrete
No Topping
8'-0" x 24" Double Tee
8LDT 24

Strand Pattern	Eccentricity in.		Prestress alone					M_u
			end		center		α	
	end	ctr	f_t	f_b	f_t	f_b		
48-S	12.15	12.15	-127	1078	-127	1078	0.451	2772
68-S	10.48	10.48	-120	1440	-120	1440	0.584	3745
88-S	9.15	9.15	-85	1731	-85	1731	0.679	4544
68-D1	10.48	14.65	-120	1440	-297	1883	0.738	4675
88-D1	9.15	14.40	-85	1731	-383	2476	0.939	6034
108-D1	6.75	14.15	63	1738	-461	3050	1.084	7209
128-D1	5.15	13.90	211	1745	-532	3607	1.223	8327
148-D1	3.72	13.65	388	1681	-596	4147	1.343	9357