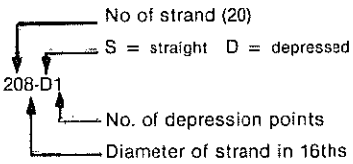
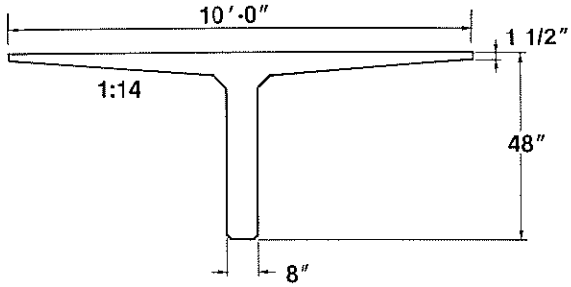
SINGLE TEE

Strand Pattern Designation



Safe loads shown include dead load of 10 psf for untopped members and 15 psf for topped members. Remainder is live load. Long-time cambers include superimposed dead load but do not include live load.

10′-0″ x 48″



Section Properties

A	=	782 in.^{2}
I	=	169,020 in.^{4}
Y_b	=	35.19 in.
Y_t	=	12.81 in.
Z_b	=	4803 in.^{3}
Z_t	=	13,194 in.^{3}
wt	=	815 plf
		81 psf
V/S	=	2.33 in.

Key

126 — Safe superimposed service load, psf
1.5 — Estimated camber at erection, in.
1.8 — Estimated long-time camber, in.

f'_c = 5000 psi
f_{pu} = 270,000 psi
Low-relaxation strand

10ST48

Table of safe superimposed service load (psf) and cambers — **Normal Weight Concrete — No Topping**

Strand Pattern	e_e / e_c	Span, ft. 68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112
148-D1	23.78 33.14	126 1.5 1.8	115 1.6 1.8	106 1.6 1.8	96 1.6 1.8	88 1.6 1.8	80 1.6 1.7	73 1.5 1.6	66 1.5 1.6	60 1.5 1.4	55 1.4 1.3	49 1.3 1.1	44 1.2 0.9	39 1.1 0.6										
168-D1	20.39 32.89	148 1.8 2.1	136 1.8 2.2	125 1.8 2.2	115 1.8 2.1	105 1.9 2.1	97 1.9 2.1	89 1.8 2.0	82 1.8 1.9	75 1.8 1.9	68 1.8 1.8	62 1.7 1.6	57 1.6 1.5	51 1.6 1.3	47 1.4 1.0	42 1.3 0.8								
188-D1	17.75 32.64	169 1.9 2.4	156 2.0 2.4	144 2.0 2.5	133 2.1 2.5	123 2.1 2.5	113 2.1 2.5	104 2.2 2.4	96 2.2 2.3	89 2.1 2.2	82 2.1 2.2	75 2.1 2.1	69 2.0 1.9	63 2.0 1.8	58 1.9 1.6	53 1.8 1.4	48 1.7 1.2	43 1.5 0.9						
208-D1	15.44 32.39							119 2.4 2.7	111 2.4 2.7	102 2.4 2.7	95 2.4 2.6	87 2.4 2.5	81 2.4 2.4	74 2.3 2.2	69 2.3 2.1	63 2.2 1.9	58 2.1 1.7	53 2.0 1.5	48 1.9 1.2	44 1.7 0.9				
228-D1	13.73 32.14											100 2.7 2.9	92 2.7 2.8	86 2.7 2.7	79 2.6 2.5	73 2.6 2.4	68 2.5 2.2	63 2.4 2.0	58 2.3 1.7	53 2.2 1.5	49 2.0 1.2	44 1.9 0.9		
248-D1	12.14 31.89															84 2.9 2.8	78 2.8 2.7	72 2.8 2.5	67 2.7 2.2	62 2.6 2.0	57 2.5 1.7	52 2.4 1.4	48 2.2 1.1	44 2.0 0.7

10LST48

Table of safe superimposed service load (psf) and cambers — **Lightweight Concrete — No Topping**

Strand Pattern	e_e / e_c	Span, ft. 76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120
148-D1	23.78 33.14	104 2.9 3.3	96 2.9 3.3	89 3.0 3.2	82 3.0 3.1	76 3.0 3.1	70 3.0 3.0	65 3.0 2.9	60 3.0 2.8	55 2.9 2.6	51 2.9 2.5	47 2.8 2.3	43 2.7 2.0	39 2.6 1.8	36 2.4 1.4	32 2.2 1.0								
168-D1	20.39 32.89	121 3.3 3.9	113 3.4 3.9	105 3.5 3.9	97 3.5 3.9	90 3.5 3.8	84 3.5 3.7	78 3.5 3.6	72 3.5 3.4	67 3.5 3.3	62 3.5 3.1	58 3.4 3.0	53 3.4 2.8	49 3.3 2.5	45 3.2 2.3	42 3.0 2.0	38 2.9 1.7	35 2.7 1.3						
188-D1	17.75 32.64		129 3.7 4.4	120 3.8 4.4	112 3.9 4.4	104 3.9 4.4	97 4.0 4.4	91 4.1 4.3	85 4.1 4.3	79 4.1 4.2	73 4.1 4.0	68 4.1 3.8	64 4.0 3.5	59 3.9 3.3	55 3.9 3.0	51 3.8 2.8	47 3.6 2.5	44 3.5 2.2	40 3.3 1.8	37 3.1 1.4				
208-D1	15.44 32.39								96 4.5 4.9	90 4.5 4.8	84 4.6 4.7	79 4.6 4.6	74 4.6 4.4	69 4.6 4.2	64 4.6 4.0	60 4.5 3.7	56 4.4 3.3	52 4.2 2.9	48 4.1 2.6	45 3.9 2.2	41 3.8 1.8	38 3.5 1.3		
228-D1	13.73 32.14													78 5.1 5.0	73 5.1 4.8	69 5.1 4.6	64 5.0 4.3	60 5.0 4.0	56 4.9 3.6	52 4.8 3.2	49 4.6 2.7	45 4.4 2.2	42 4.2 1.8	
248-D1	12.14 31.89																		64 5.5 4.5	60 5.4 4.1	56 5.3 3.7	52 5.2 3.3	49 5.0 2.7	46 4.8 2.2

Strength based on strain compatibility; bottom tension limited to $12\sqrt{f'_c}$; see pages 2-3–2-5 for explanation

Values below heavy line require release strengths higher than 3500 psi.