Strand Pattern Designation

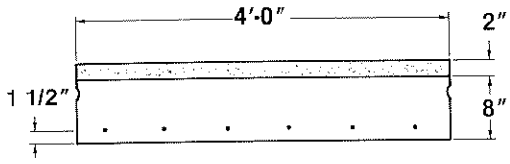
76-S

- S = straight
- Diameter of strand in 16ths
- No. of strand (7)

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.

SOLID FLAT SLAB

8" Thick
Normal Weight Concrete



Section Properties

		Untopped		Topped	
A	=	384	in.^{2}	—	
I	=	2,048	in.^{4}	3,630	in.^{4}
y_b	=	4.00	in.	4.81	in.
y_t	=	4.00	in.	5.19	in.
Z_b	=	512	in.^{3}	755	in.^{3}
Z_t	=	512	in.^{3}	699	in.^{3}
b_w	=	48.00	in.	48.00	in.
wt	=	400	plf	500	plf
		100	psf	125	psf
V/S	=	3.43	in.		

Key

299 — Safe superimposed service load, psf
0.1 — Estimated camber at erection, in.
0.2 — Estimated long-time camber, in.

$f'_c = 5{,}000$ psi

$f'_{ci} = 3{,}500$ psi

FS8

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

Strand Designation Code	Span, ft.																				
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
66-S	299	250	210	177	149	125	105	88	73	60	48	38									
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	−0.1	−0.2	−0.2									
	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	−0.1	−0.2	−0.3	−0.5									
76-S	357	301	255	216	184	157	134	114	97	82	68	57	46	37							
	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	−0.1	−0.1	−0.2	−0.3							
	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	−0.1	−0.2	−0.3	−0.5	−0.7							
58-S		378	338	293	252	218	189	164	142	123	107	92	78	65	54	43	34				
		0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.0	−0.1	−0.2	−0.3	−0.4				
		0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.0	−0.1	−0.3	−0.5	−0.7	−0.7				
68-S				358	311	271	237	207	182	159	138	120	103	88	75	63	53	43	34		
				0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.0	−0.1	−0.3	−0.5		
				0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.2	0.0	−0.1	−0.3	−0.5	−0.8	−1.0		
78-S					367	321	282	248	219	192	168	147	128	112	97	83	71	60	51	42	33
					0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.2	0.1	0.0	−0.1	−0.3	−0.5
					0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.3	0.2	0.1	−0.1	−0.3	−0.6	−0.9	−1.2

FS8 + 2

Table of safe superimposed service load (psf) and cambers — 2" Normal Weight Topping

Strand Designation Code	Span, ft.													
	17	18	19	20	21	22	23	24	25	26	27	28	29	30
66-S	230	195	164	139	116	97	73	52	34					
	0.1	0.1	0.1	0.1	0.0	0.0	−0.1	−0.2	−0.2					
	0.1	0.0	0.0	−0.1	−0.1	−0.2	−0.3	−0.5	−0.6					
76-S	280	239	204	175	149	126	99	76	56	38				
	0.2	0.2	0.1	0.1	0.1	0.1	0.0	−0.1	−0.1	−0.2				
	0.1	0.1	0.1	0.0	0.0	−0.1	−0.2	−0.3	−0.5	−0.7				
58-S	375	324	280	243	211	183	152	124	100	79	59	42		
	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.0	−0.1	−0.2		
	0.3	0.2	0.2	0.2	0.1	0.1	0.0	−0.1	−0.2	−0.4	−0.5	−0.7		
68-S		395	344	301	264	231	199	167	140	115	94	74	57	41
		0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.0	−0.1
		0.4	0.4	0.3	0.3	0.3	0.2	0.1	0.0	−0.1	−0.3	−0.4	−0.6	−0.9

Strength based on strain compatibility; bottom tension limited to $6\sqrt{f'_c}$; see pages 2-3–2-6 for explanation.