HOLLOW-CORE

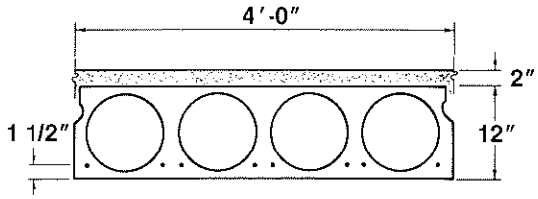
Strand Pattern Designation

76-S
- S = straight
- Diameter of strand in 16ths
- Number 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.

Capacity of sections of other configurations are similar. For precise values, see local hollow-core manufacturer.

4′-0″ x 12″
Lightweight Concrete



f'_c = 5000 psi
f'_{ci} = 3500 psi

Low-relaxation strand

Section Properties

		Untopped	Topped
A	=	262 in.²	—
I	=	4949 in.⁴	8800 in.⁴
Y_b	=	6.00 in.	8.08 in.
Y_t	=	6.00 in.	5.92 in.
Z_b	=	825 in.³	1089 in.³
Z_t	=	825 in.³	1486 in.³
b_w	=	8.00 in.	8.00 in.
wt	=	209 plf	309 plf
		52 psf	77 psf
V/S	=	2.18 in.	

Key
- 138 — Safe superimposed service load, psf
- 0.6 — Estimated camber at erection, in.
- 0.7 — Estimated long-time camber, in.

4LHC12

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

Strand Designation Code	Span, ft.																						
	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
76-S	138	126	115	105	96	88	80	73	67	61	56	51	46	42									
	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.3	0.2									
	0.7	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.4	0.3	0.2	0.0	−0.1	−0.3									
58-S	186	171	157	144	133	123	113	104	96	89	82	76	70	65	60	55	51	47	43				
	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8	0.7	0.6	0.5	0.4				
	1.1	1.1	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.0	0.9	0.8	0.7	0.6	0.4	0.3	0.1	0.1	−0.4				
68-S	192	183	175	170	163	153	141	131	122	113	105	98	91	84	78	73	68	63	59	54	50	47	43
	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.9	1.3	1.3	1.2	1.1	1.0	0.9	0.8	0.6
	1.4	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.4	1.3	1.1	1.0	0.8	0.6	0.4	0.2	−0.1	−0.4
78-S	198	189	181	173	166	162	155	149	144	136	127	119	111	103	97	90	84	79	74	69	64	60	56
	1.4	1.5	1.5	1.6	1.7	1.7	1.8	1.8	1.9	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.8	1.7	1.7	1.6	1.5
	1.8	1.8	1.9	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.1	2.1	2.1	2.0	1.9	1.8	1.7	1.6	1.4	1.2	1.0	0.7
88-S	204	195	187	179	172	165	158	152	147	144	139	134	127	119	114	107	100	94	88	83	78	73	68
	1.7	1.8	1.8	1.9	2.0	2.1	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.3
	2.1	2.2	2.3	2.4	2.5	2.6	2.6	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.7	2.7	2.6	2.5	2.4	2.3	2.1	2.0	1.8

4LHC12+2

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

Strand Designation Code	Span, ft.																						
	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
76-S	250	224	202	182	165	149	134	122	110	100	90	81	71	62	53								
	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4								
	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.1	0.0	−0.0	−0.2	−0.3	−0.4	−0.6								
58-S	263	247	235	222	213	201	185	169	154	141	129	118	108	99	90	82	75	68	62				
	0.7	0.7	0.8	0.8	0.8	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.8	0.8				
	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.4	0.3	0.1	0.0	−0.2	−0.3	−0.6				
68-S	275	259	244	234	222	210	203	193	183	175	163	150	138	127	117	108	99	91	84	77	71	64	
	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	
	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	0.9	0.8	0.7	0.6	0.4	0.3	0.1	−0.1	−0.5	
78-S	281	265	253	240	228	216	209	199	189	181	173	165	161	154	143	132	123	114	105	97	90	83	77
	1.0	1.1	1.2	1.3	1.3	1.4	1.5	1.5	1.6	1.7	1.7	1.8	1.8	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9
	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.4	1.4	1.4	1.3	1.2	1.2	1.1	0.9	0.8	0.6	0.4	0.2
88-S		274	259	246	237	225	215	205	195	187	179	171	164	157	151	145	142	135	125	117	108	101	94
		1.3	1.4	1.5	1.6	1.7	1.8	1.8	1.9	2.0	2.1	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5
		1.4	1.5	1.6	1.6	1.7	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.6	1.5	1.4	1.3	1.1	0.9

Strength based on strain compatibility; bottom tension limited to $6\sqrt{f'_c}$; see pages 2-3–2-5 for explanation