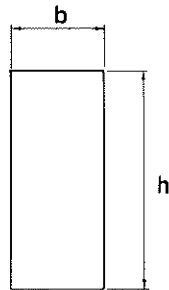


RECTANGULAR BEAMS

Normal Weight Concrete



$f'_c = 5000 \text{ psi}$

$f_{pu} = 270,000 \text{ psi}$

Section Properties							
Designation	b (in.)	h (in.)	A (in. ²)	I (in. ⁴)	y _b (in.)	Z (in. ³)	wt (plf)
12RB16	12	16	192	4096	8.00	512	200
12RB20	12	20	240	8000	10.00	800	250
12RB24	12	24	288	13,824	12.00	1152	300
12RB28	12	28	336	21,952	14.00	1568	350
12RB32	12	32	384	32,768	16.00	2048	400
12RB36	12	36	432	46,656	18.00	2592	450
16RB24	16	24	384	18,432	12.00	1536	400
16RB28	16	28	448	29,269	14.00	2091	467
16RB32	16	32	512	43,691	16.00	2731	533
16RB36	16	36	576	62,208	18.00	3456	600
16RB40	16	40	640	85,333	20.00	4267	667

Key

- 3246 — Safe superimposed service load, plf
- 0.4 — Estimated camber at erection, in.
- 0.1 — Estimated long-time camber, in.

Safe loads shown include 50% dead load and 50% live load. 800 psi top tension has been allowed, therefore additional top reinforcement is required.

Table of safe superimposed service load (plf) and cambers

Designation	No. Strand	e	Span, ft.																		
			16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	
12RB16	5	5.67	3246	2527	2012	1632	1342	1117													
			0.4	0.5	0.6	0.7	0.7	0.8													
			0.1	0.1	0.2	0.2	0.2	0.2													
12RB20	8	6.60	5816	4548	3641	2970	2459	2062	1747	1493	1285	1112									
			0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2									
			0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2									
12RB24	10	7.76	8585	6726	5397	4413	3665	3083	2621	2248	1940	1684	1470	1288	1133	1000					
			0.3	0.4	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.3	1.4					
			0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1				
12RB28	12	8.89		9074	7290	5970	4966	4184	3564	3064	2655	2316	2031	1791	1585	1409	1255	1122	1002		
				0.3	0.4	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.4	1.4	1.5		
				0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	
12RB32	13	10.48			9584	7858	6545	5524	4713	4059	3524	3080	2708	2394	2125	1894	1694	1519	1365	1230	
					0.3	0.4	0.5	0.5	0.6	0.7	0.8	0.9	0.9	1.0	1.1	1.2	1.2	1.3	1.4	1.4	
					0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
12RB36	15	11.64					8450	7140	6100	5261	4575	4006	3530	3123	2775	2475	2215	1989	1790	1614	
							0.4	0.5	0.6	0.6	0.7	0.8	0.9	0.9	1.0	1.1	1.2	1.2	1.3	1.4	
							0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
16RB24	13	7.86		8847	7098	5803	4819	4052	3444	2954	2552	2220	1941	1705	1503	1330	1180				
				0.4	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.2	1.3	1.4	1.5				
				0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0		
16RB28	13	8.89			9720	7959	6621	5579	4752	4086	3540	3087	2708	2388	2114	1878	1674	1496	1335	1194	
					0.4	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.4	1.4	1.5	1.5	
					0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
16RB32	18	10.29					8808	7434	6343	5464	4744	4147	3647	3224	2863	2549	2275	2036	1827	1642	
							0.5	0.5	0.6	0.7	0.8	0.9	0.9	1.0	1.1	1.2	1.3	1.3	1.4	1.5	
							0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1
16RB36	20	11.64						9519	8133	7015	6100	5342	4706	4165	3700	3300	2954	2651	2386	2152	
							0.5	0.6	0.6	0.7	0.8	0.9	0.9	1.0	1.1	1.2	1.2	1.3	1.4	1.4	
							0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
16RB40	22	13.00							8647	7527	6599	5821	5163	4601	4117	3698	3332	3011	2728		
							0.6	0.6	0.7	0.8	0.9	0.9	1.0	1.1	1.1	1.2	1.3	1.4	1.5	1.5	
							0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1