

# Safe Load Table

## 10" x 16" flexicore SECTION

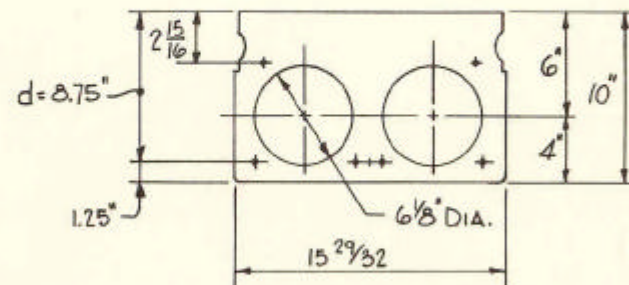
UNIFORMLY DISTRIBUTED SUPERIMPOSED\* LOAD IN LBS. PER SQ. FT.

STD. DESIGNATION	TENSILE STEEL AREA SQ. IN.	SIMPLE SPANS IN FEET AND INCHES																					
		18'-0"	18'-6"	19'-0"	19'-6"	20'-0"	20'-6"	21'-0"	21'-6"	22'-0"	22'-6"	23'-0"	23'-6"	24'-0"	24'-6"	25'-0"	25'-6"	26'-0"	26'-6"	27'-0"	27'-6"	28'-0"	28'-6"
T 207	2.074	361	332	304	278	255	232	212	193	176	160	144	130	116	103	91	80	69	59	50	46	43	40
T 177	1.767	330	302	275	250	228	207	188	171	155	140	125	111	98	86	75	64	54	48	44	41	38	
T 163	1.626	306	285	263	239	216	197	178	162	146	131	117	104	92	80	68	58	49	45	42	39		
T 141	1.408	258	240	224	208	194	181	163	148	133	118	105	92	79	68	57	49	45	42	39			
T 123	1.227	218	202	187	174	161	149	138	128	120	108	94	81	69	58	50	46	42	39				
T 111	1.111	192	177	164	152	140	130	120	110	102	94	87	75	63	53	48	44	40					
T 104**	1.037	175	161	149	137	126	117	107	99	91	83	76	70	59	50	46	42	39					
T 99	0.994	165	152	140	128	118	109	100	92	84	77	70	63	57	49	45	41	37					
T 92	0.920	148	136	125	114	105	96	87	80	73	66	60	54	48	43	38							
T 88**	0.884	140	128	117	107	98	90	81	74	67	61	55	49	44	39								
T 86	0.862	134	123	112	103	94	85	77	70	64	57	51	46	40									

\*INCLUDES THE LIVE LOAD PLUS ANY DEAD LOAD THAT IS ADDITIONAL TO THE WEIGHT OF THE BARE GROUTED SLABS IN PLACE.

**REMARKS**

- Safe loads for greater steel content must not be extrapolated. A balanced slab has 2.32 sq. in. of steel for ACI Code allowables of 20,000 - 1688 - 8.
  - Safe superimposed  $w_s = \frac{6M}{L^2} - 80$  lbs. ( $w_s$  in lbs. per sq. ft., M is in ft.-lbs. per slab, L is in ft.)
  - The maximum span without stirrups =  $\frac{4170}{w_{b+s}}$ . With stirrups used it is  $\frac{11070}{w_{b+s}}$ .
  - The table is based upon dead load and grout of 107 lbs. per lin. ft. or  $w_D = 80$  lbs. per sq. ft.
  - Stirrups are needed for all loadings above the heavy dashed line.
  - The above tabulated load contemplate a depth, d, to the centroid of the steel of 8.75 in.
  - Minimum total wall thickness ( $b'$ ) = 3.22 in.
  - Load computations are in accordance with 1951 ACI 318 CODE.
  - Deflections in reinforced concrete members under service loads depend on the elastic properties of concrete and steel, as well as on shrinkage and creep which, in turn, are influenced by temperature and humidity, curing conditions, age of concrete at the time of loading and other factors. Therefore, all simple methods of computation of deflection are necessarily approximate.
    - The safe loads above the solid stepped line have been reduced from the actual safe load as calculated in Item 2. This reduction improves the deflection characteristics under normal loading.
    - The elastic deflection (calculated on the basis of a cracked section) due to the design  $w_s$  only is not likely to exceed 1/360 of the span.
    - With an actual  $w_s$  of less than 40% of the design  $w_s$  and assuming an uncracked section, the total elastic deflection, due to the dead load of the slab and the actual  $w_s$ , is not likely to exceed 1/720 of the span.
    - Under the conditions described in (c) and using a long-time deflection multiplier of 2.0, the long time deflection is not likely to exceed 1/360 of the span.
- \*\* Indicates slabs with 2 rods tensile steel.



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