

Introduction

Q-Lock Floor incorporates a concept of composite coaction of concrete and steel which is dependent upon unique deformations of the corrugated steel deck. The deformations include cusps on the webs of the QL-99 type sections along with embossments or V-groove stiffeners on the top and bottom flanges. The deformations are engineered to provide an optimum balance between wet concrete carrying capability and composite coaction with a hardened covering concrete slab. The remaining Q-Lock sections depend on indentations and embossments, which are provided on the flanges and the webs of the units, to develop the composite slab. Indentations are defined as areas of metal extending away from the concrete slab. Embossments are defined as areas of metal protruding into the concrete slab. The type of deformation and the dimensions and locations of

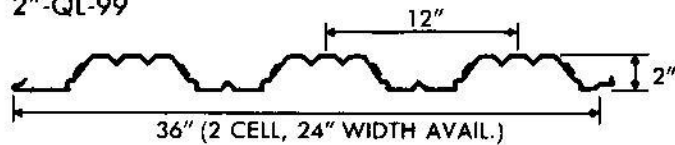
such deformations have been carefully selected and designed following extensive investigation.

The design features of Q-Lock Floor provide a useful blend of (1) maximum "wet strength" in the steel deck sections, and (2) adequate lug area to achieve horizontal shear transfer between the steel deck and the concrete slab. The "wet strength," required to carry the concrete and construction loads, is based on section properties computed for the Q-Lock section.

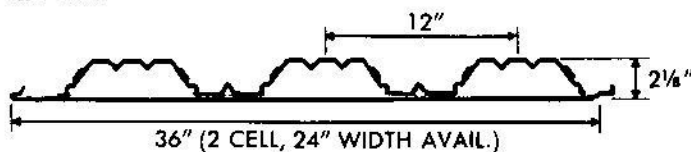
Tests for determining allowable loads and spans were conducted by quarter point loading, first to the design load, cycled, and then to failure load. All allowable load values given in the span tables were based on a safety factor of at least 2.0 on ultimate load. Fire tests have been conducted at Underwriters' Laboratories.

AVAILABLE TYPES

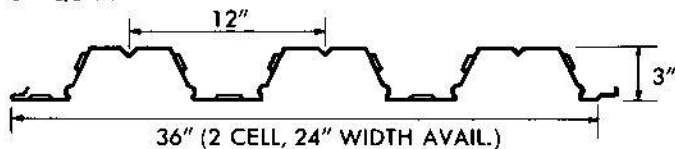
2"-QL-99



QL-AKX



3"-QL-99



QL-WKX



Volume of Concrete Required with Various Profiles (cubic yards/100 square feet of area)

Deck Profile	Concrete Slab Thickness t (in.)							
	2.0	2.5	3.0	3.25	3.5	4.0	4.1875	4.5
QL-3 QL-UKX	—	0.95	1.11	1.18	1.26	1.41	1.47	1.57
QL-21 QL-NKX	—	1.04	1.19	1.27	1.35	1.50	1.56	1.66
2" QL-99 QL-AKX	0.93	1.07	1.24	1.32	1.39	1.55	1.61	1.70
3" QL-99 QL-WKX	1.09	1.24	1.40	1.47	1.55	1.71	1.76	1.86

NOTE: The concrete volumes listed above are based on the exact depths shown. No allowance has been made for frame or deck deflection.

Fire ratings

All of Robertson's steel floor units have been tested by Underwriters' Laboratories, Inc., and are listed in a wide variety of Designs in the U.L. "Fire Resistance Directory." Cellular sections are approved as "cellular metal raceway," since they comply with all of the requirements of U.L. 209. The following

is a partial list of Robertson's floor and ceiling approvals involving only the most economical and popular assemblies. **Unprotected floor assemblies should not be employed if the floor will be electrified. Instead, an appropriate spray fire-proofed assembly should be used.**

FIRE RESISTANCE—UNDERWRITERS' LABORATORIES LISTINGS— TABLE OF RESTRAINED RATINGS

	U.L. Design No.	Listed Q-Lock (QL-) Floor Units	Concrete Type & Thickness	Trench Header		Tapmate		Composite Beam	Fireproofing For Slab
				Standard	Tapway	II II-EA	II-FN EAFN		
1-Hour	D743	2"-99, AKX 3"-99, WKX	2" N.W. L.W.	Yes	Yes	Yes No	Yes No	Yes	Type MK-5 Cementitious
	D916	3, UKX, 21, 2" & 3"-99 NKX, TKX, WKX, AKX	3½" N.W. 2½" L.W.	No	No	No	No	Yes	None
	D858	TKX, 2" & 3"-99 AKX, WKX	2½" N.W. L.W.	Yes	Yes	Yes	Yes	Yes	Type D— $\frac{5}{8}$ Fiber
	D859	TKX, 2" & 3"-99 AKX, WKX	2" N.W. L.W.	Yes	Yes	Yes No	Yes No	Yes	Type D— $\frac{5}{8}$ Fiber
2-Hour	*D712	UKX, 21, NKX, TKX 2" & 3"-99, AKX, WKX	2½" N.W. L.W.	Yes	Yes	Yes	Yes	No	Type MK-5 Cementitious
	*D722	2" & 3"-99, AKX, WKX NKX, 21	2½" N.W. L.W.	Yes	Yes	Yes	Yes	Yes	Type MK-5 Cementitious
	*D739	2" & 3"-99, AKX, WKX 3, NKX, UKX	2½" N.W. L.W.	No	Yes	Yes	Yes	Yes	Type MK-5 Cementitious
	*D743	2"-99, AKX 3"-99, WKX	2" N.W. L.W.	Yes	No	Yes No	Yes No	Yes	Type MK-5 Cementitious
	D826	3, UKX, 21, NKX, TKX AKX, WKX, 2" & 3"-99	3¼" L.W.	Yes	No	No	No	Yes	Type C Fiber
	*D832	3, UKX, NKC—1.5 2" & 3"-99, AKX, WKX	2½" N.W. L.W.	Yes	Yes	Yes	Yes	Yes	Type D— $\frac{5}{8}$ Fiber
	D840	3, UKX, 21, 2" & 3"-99 NKX, TKX, WKX, AKX	3¼" L.W.	No	No	No	No	Yes	None
	*D858	TKX, 2" & 3"-99 AKX, WKX	2½" N.W. L.W.	Yes	Yes	Yes	Yes	Yes	Type D— $\frac{5}{8}$ Fiber
	*D859	TKX, 2" & 3"-99 AKX, WKX	2" N.W. L.W.	Yes	Yes	Yes No	Yes No	Yes	Type D— $\frac{5}{8}$ Fiber
	D916	3, UKX, 21, 2" & 3"-99 NKX, TKX, WKX, AKX	4½" N.W. 3¼" L.W.	No	No	No	No	Yes	None
3-Hour	*D703	2" & 3"-99 AKX, WKX, TKX	2½" N.W. L.W.	Yes	Yes	Yes	Yes	Yes	Type MK-5 Cementitious
	D708	2" & 3"-99, AKX, UKX WKX, TKX, NKX, 21, 3	2½" N.W. L.W.	Yes	Yes	No	No	Yes	Type MK-5 Cementitious
	D832	3, UKX, NKC—1.5 2" & 3"-99, AKX, WKX	2½" N.W. L.W.	Yes	Yes	Yes	Yes	Yes	Type D— $\frac{5}{8}$ Fiber
	D858	TKX, 2" & 3"-99 AKX, WKX	2½" N.W. L.W.	Yes	Yes	Yes Yes	Yes No	Yes	Type D— $\frac{5}{8}$ Fiber
	D859	TKX, 2" & 3"-99 AKX, WKX	2" N.W. L.W.	Yes	Yes	Yes No	Yes No	Yes	Type D— $\frac{5}{8}$ Fiber
	D916	3, UKX, 21, 2" & 3"-99 NKX, TKX, WKX, AKX	5¼" N.W. 4½" L.W.	No	No	No	No	Yes	None

*Always refer to the latest edition of the U.L. Fire Resistance Index and/or latest individual design cards for required fireproofing thicknesses and/or other requirements.

Q-Lock building code approvals (a partial list):

1. ICBO Report No. 1388
2. ICBO Report No. 2739
3. City of Los Angeles, Research Report No. 23597
4. City of New York, Approval Calendar No. 448-40-SM

*Tapmate III-FN and III-EAFN are also covered under these U.L. design numbers.

SECTION PROPERTIES

Steel Unit Only

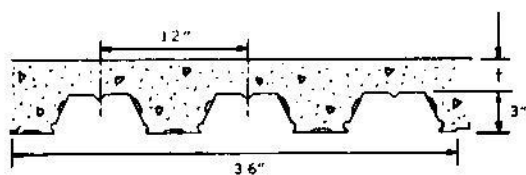
$$I_s = 1.221$$

$$(+ S_t = .816)$$

$$(+ S_b = .769)$$

$$(- S_t = .803)$$

$$(- S_b = .712)$$

**N=9**

Concrete Weight = 145 pcf
 Concrete Strength (f'_c) = 3000 psi
 Slab Width = 12 in.

	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.5	4.5
Dead Load (psf)	45.6	51.7	57.7	63.8	75.9
V_R Lbs.	1951	2117	2299	2493	2903
I_c	6.672	8.534	10.704	13.190	19.125
S_{cc}	4.167	4.908	5.729	6.622	8.605
S_{bc}	1.916	2.219	2.539	2.872	3.567

TOTAL SUPERIMPOSED LOAD,
POUNDS PER SQUARE FOOT

Span Feet	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.5	4.5
9.	269	313	360	399	440
9.25	252	294	337	365	398
9.5	237	276	315	334	359
9.75	223	259	290	305	323
10.	209	244	266	278	289
10.25	197	229	244	253	259
10.5	186	213	224	230	** 355
10.75	175	196	204	209	** 330
11.	165	180	187	188	** 305
11.25	156	166	170	** 238	*** 311
11.5	147	152	** 198	** 225	*** 294
11.75	136	140	** 187	** 213	*** 277
12.	125	** 153	** 177	*** 209	*** 262
12.25	116	** 145	** 167	*** 198	*** 248
12.5	107	** 137	*** 164	*** 187	*** 234
12.75	** 113	** 130	*** 155	*** 177	*** 221
13.	** 107	*** 126	*** 147	*** 167	*** 209
13.25	** 101	*** 119	*** 139	*** 158	*** 198
13.5	*** 96	*** 113	*** 131	*** 150	*** 187
13.75		*** 107	*** 124	*** 141	*** 176
14.		*** 101	*** 117	*** 134	*** 167
14.25		*** 95	*** 111	*** 126	*** 157
14.5		*** 90	*** 105	*** 119	*** 148
14.75		*** 85	*** 99	*** 113	*** 140
15.			*** 93	*** 106	*** 131
15.25			*** 88	*** 100	*** 124
15.5			*** 83	*** 94	*** 116
15.75			*** 78	*** 89	*** 109
16.			*** 73	*** 83	*** 102

N=14

Concrete Weight = 110 pcf
 Concrete Strength (f'_c) = 3000 psi
 Slab Width = 12 in.

	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.25	4.1875
Dead Load (psf)	35.3	39.9	44.5	46.8	55.4
V_R Lbs.	1967	2116	2285	2375	2734
I_c	5.858	7.485	9.397	10.461	15.113
S_{cc}	3.143	3.685	4.290	4.615	5.952
S_{bc}	1.819	2.107	2.413	2.572	3.194

TOTAL SUPERIMPOSED LOAD,
POUNDS PER SQUARE FOOT

Span Feet	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.25	4.1875
9.	264	306	352	376	470
9.25	248	288	331	353	441
9.5	233	271	311	333	406
9.75	219	255	293	313	374
10.	207	241	277	296	344
10.25	195	227	261	279	317
10.5	184	214	247	263	391
10.75	174	203	233	244	267
11.	165	192	219	226	245
11.25	156	182	203	209	224
11.5	148	172	188	193	204
11.75	140	163	174	178	** 253
12.	133	154	161	164	** 240
12.25	126	143	149	151	** 228
12.5	119	133	138	** 172	** 217
12.75	113	123	** 153	** 164	*** 213
13.	108	115	** 145	** 156	*** 202
13.25	102	** 120	** 138	** 148	*** 192
13.5	96	** 114	** 132	*** 145	*** 183
13.75		** 108	*** 128	*** 138	*** 174
14.		** 103	*** 122	*** 131	*** 165
14.25		*** 99	*** 116	*** 124	*** 157
14.5		*** 94	*** 110	*** 118	*** 149
14.75		*** 90	*** 105	*** 112	*** 142
15.			*** 99	*** 107	*** 135
15.25			*** 94	*** 102	*** 128
15.5			*** 90	*** 96	*** 122
15.75			*** 85	*** 92	*** 116
16.			*** 81	*** 87	*** 110

* Denotes shoring required on simple spans, no shoring on multiple spans.

** Denotes shoring required on simple and 2-span conditions only.

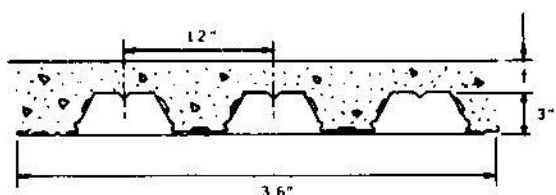
*** Denotes shoring required on all span conditions.

For use of design loads in excess of 200 psf (above horizontal line) see note 6a page 8.

SECTION PROPERTIES

Steel Unit Only

$I_s = 1.894$
 $(+) S_t = .929$
 $(+) S_b = 1.754$
 $(-) S_t = .872$
 $(-) S_b = 1.076$



N=9

Concrete Weight = 145 pcf
 Concrete Strength (f'_c) = 3000 psi
 Slab Width = 12 in.

	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.5	4.5
Dead Load (psf)	47.3	53.3	59.3	65.4	77.5
V_R Lbs.	2093	2265	2450	2645	3053
I_c	10.973	13.805	17.070	20.774	29.532
S_{cc}	5.535	6.458	7.468	8.559	10.986
S_{bc}	3.498	3.965	4.452	4.955	5.994

TOTAL SUPERIMPOSED LOAD,
POUNDS PER SQUARE FOOT

Span Feet	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.5	4.5
9.5	440	476	515	556	642
9.75	429	464	502	542	626
10.	418	453	490	529	610
10.25	396	442	478	516	595
10.5	375	426	466	503	581
10.75	356	404	454	492	568
11.	338	383	431	480	555
11.25	321	364	409	456	542
11.5	305	346	389	434	** 480
11.75	290	329	370	413	** 469
12.	276	313	352	393	** 458
12.25	261	298	336	** 374	*** 448
12.5	246	285	** 313	** 357	*** 438
12.75	231	271	** 297	** 341	*** 428
13.	218	** 242	** 283	** 325	*** 413
13.25	206	** 231	** 270	*** 313	*** 394
13.5	195	** 220	** 257	*** 298	*** 377
13.75		** 210	*** 245	*** 284	*** 360
14.		** 200	*** 234	*** 271	*** 345
14.25		*** 190	*** 223	*** 259	*** 330
14.5		*** 182	*** 213	*** 247	*** 316
14.75		*** 173	*** 203	*** 236	*** 302
15.			*** 194	*** 226	*** 289
15.25			*** 185	*** 216	*** 277
15.5			*** 177	*** 206	*** 266
15.75			*** 169	*** 197	*** 255
16.			*** 162	*** 189	*** 244
16.25			*** 154	*** 180	*** 234
16.5				*** 172	*** 225

N=14

Concrete Weight = 110 pcf
 Concrete Strength (f'_c) = 3000 psi
 Slab Width = 12 in.

	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.25	4.1875
Dead Load (psf)	36.9	41.5	46	48.3	56.9
V_R Lbs.	2107	2260	2431	2521	2879
I_c	9.424	11.881	14.706	16.268	23.038
S_{cc}	4.12	4.798	5.536	5.930	7.541
S_{bc}	3.327	3.780	4.246	4.486	5.418

TOTAL SUPERIMPOSED LOAD,
POUNDS PER SQUARE FOOT

Span Feet	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.25	4.1875
9.5	443	475	511	530	606
9.75	429	463	498	517	590
10.	406	452	486	504	575
10.25	383	438	474	492	561
10.5	356	415	463	480	548
10.75	332	394	443	469	535
11.	310	375	421	446	523
11.25	289	356	401	424	511
11.5	271	339	382	403	489
11.75	254	320	364	384	466
12.	238	301	347	367	444
12.25	224	283	331	350	424
12.5	211	266	316	334	405
12.75	199	251	302	319	** 387
13.	187	236	288	305	** 370
13.25	177	223	276	292	** 354
13.5	167	211	261	** 279	** 339
13.75		200	** 247	** 268	*** 338
14.		189	** 234	** 256	*** 324
14.25		** 179	** 222	** 246	*** 310
14.5		** 170	** 211	** 233	*** 298
14.75		** 162	** 200	*** 222	*** 286
15.			*** 190	*** 211	*** 274
15.25			*** 181	*** 200	*** 263
15.5			*** 173	*** 191	*** 253
15.75			*** 164	*** 182	*** 243
16.			*** 157	*** 173	*** 234
16.25			*** 150	*** 166	*** 225
16.5				*** 158	*** 216

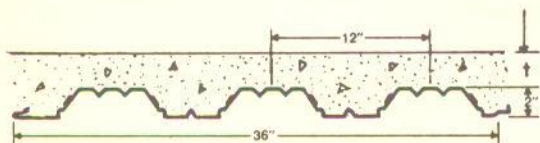
* Denotes shoring required on simple spans, no shoring on multiple spans.

** Denotes shoring required on simple and 2-span conditions only.

*** Denotes shoring required on all span conditions.

For use of design loads in excess of 200 psf (above horizontal line) see note 6a page 8.

2"-QL-99-16



SECTION PROPERTIES

Steel Unit Only

$$I_s = .698$$

$$(+S_t = .651)$$

$$(+S_b = .706)$$

$$(-S_t = .647)$$

$$(-S_b = .683)$$

N=9

Concrete Weight = 145 pcf
Concrete Strength (f'_c) = 3000 psi
Slab Width = 12 in.

	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.5	4.5
Dead Load (psf)	40	46	52	58.1	70.2
V_R Lbs.	1135	1272	1419	1572	1892
I_c	4.605	6.292	8.317	10.690	16.504
S_{cc}	3.049	3.772	4.581	5.467	7.452
S_{bc}	1.806	2.176	2.564	2.966	3.798

TOTAL SUPERIMPOSED LOAD, POUNDS PER SQUARE FOOT

Span Feet	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.5	4.5
7.	324	363	405	449	540
7.25	313	350	391	433	522
7.5	302	339	378	419	504
7.75	292	328	366	405	488
8.	283	318	354	393	473
8.25	275	308	344	381	458
8.5	267	299	333	370	445
8.75	259	290	324	359	432
9.	252	282	315	349	420
9.25	241	275	306	340	409
9.5	226	267	298	331	379
9.75	213	289	291	317	* 342
10.	200	244	272	289	** 332
10.25	187	230	250	* 269	** 323
10.5	174	213	229	* 261	** 314
10.75	162	197	* 230	** 254	** 306
11.		* 193	** 224	** 248	*** 298
11.25		* 183	** 218	** 241	*** 290
11.5		** 173	** 206	** 235	*** 283
11.75		** 163	** 195	** 228	*** 276
12.		** 154	** 185	*** 223	*** 269
12.25			*** 180	*** 211	*** 262
12.5			*** 171	*** 200	*** 256
12.75			*** 162	*** 190	*** 246
13.			*** 154	*** 180	*** 233

N=14

Concrete Weight = 110 pcf
Concrete Strength (f'_c) = 3000 psi
Slab Width = 12 in.

	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.25	4.1875
Dead Load (psf)	31.1	35.7	40.3	42.6	51.2
V_R Lbs.	1136	1261	1400	1472	1756
I_c	3.931	5.378	7.131	8.126	12.579
S_{cc}	2.259	2.785	3.378	3.698	5.026
S_{bc}	1.695	2.046	2.418	2.611	3.359

TOTAL SUPERIMPOSED LOAD, POUNDS PER SQUARE FOOT

Span Feet	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.25	4.1875
7.	324	360	400	420	501
7.25	313	348	386	406	484
7.5	303	336	373	392	468
7.75	293	325	361	380	453
8.	284	315	350	368	439
8.25	275	305	339	356	425
8.5	267	296	329	346	413
8.75	257	288	320	336	401
9.	236	280	311	327	390
9.25	217	272	302	318	379
9.5	200	265	294	310	369
9.75	185	251	287	302	360
10.	172	235	280	294	351
10.25	159	218	266	287	331
10.5	148	203	252	268	304
10.75	138	189	238	249	* 293
11.		177	221	230	* 286
11.25		165	205	213	** 279
11.5		154	* 203	* 220	** 272
11.75		145	* 192	** 209	** 265
12.		* 136	** 180	** 199	** 259
12.25			** 169	** 189	** 247
12.5			** 159	** 180	*** 242
12.75			** 150	** 171	*** 230
13.			** 142	** 162	*** 219

* Denotes shoring required on simple spans, no shoring on multiple spans.

** Denotes shoring required on simple and 2-span conditions only.

*** Denotes shoring required on all span conditions.

_____ For use of design loads in excess of 200 psf (above horizontal line) see note 6a page 8.

SECTION PROPERTIES

Steel Unit Only

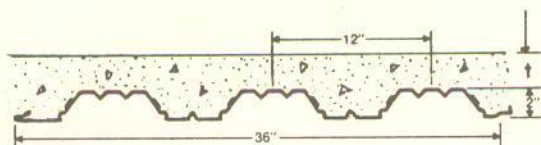
$$I_s = .558$$

$$(+ S_t = .525)$$

$$(+ S_b = .567)$$

$$(- S_t = .519)$$

$$(- S_b = .531)$$

**N=9**

Concrete Weight = 145 pcf
 Concrete Strength (f'_c) = 3000 psi
 Slab Width = 12 in.

	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.5	4.5
Dead Load (psf)	39.2	45.2	51.3	57.3	69.4
V_R Lbs.	1136	1277	1427	1584	1909
I_c	3.921	5.353	7.066	9.066	13.950
S_{cc}	2.814	3.487	4.235	5.053	6.881
S_{bc}	1.477	1.777	2.091	2.415	3.086

TOTAL SUPERIMPOSED LOAD,
POUNDS PER SQUARE FOOT

Span Feet	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.5	4.5
7.	324	364	407	452	545
7.25	313	352	393	437	526
7.5	302	340	380	422	509
7.75	288	329	368	408	492
8.	268	319	356	396	477
8.25	250	302	346	384	438
8.5	233	282	331	357	391
8.75	218	264	302	323	347
9.	203	247	275	292	** 378
9.25	190	231	250	263	** 367
9.5	179	212	227	** 296	** 356
9.75	167	194	206	** 281	** 342
10.	157	178	** 227	** 264	*** 336
10.25	148	162	** 214	** 249	*** 326
10.5	139	** 169	** 201	** 234	*** 314
10.75	127	** 159	** 189	*** 229	*** 296
11.		** 150	** 179	*** 216	*** 278
11.25		** 142	*** 174	*** 203	*** 262
11.5		** 133	*** 164	*** 192	*** 247
11.75		*** 129	*** 155	*** 181	*** 232
12.		*** 122	*** 146	*** 170	*** 219
12.25			*** 138	*** 161	*** 206
12.5			*** 130	*** 151	*** 194
12.75			*** 122	*** 143	*** 183
13.			*** 115	*** 135	*** 172

N=14

Concrete Weight = 110 pcf
 Concrete Strength (f'_c) = 3000 psi
 Slab Width = 12 in.

	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.25	4.1875
Dead Load (psf)	30.4	35	39.5	41.8	50.4
V_R Lbs.	1133	1264	1407	1481	1772
I_c	3.386	4.633	6.137	6.987	10.781
S_{cc}	2.094	2.588	3.142	3.440	4.673
S_{bc}	1.393	1.680	1.983	2.139	2.744

TOTAL SUPERIMPOSED LOAD,
POUNDS PER SQUARE FOOT

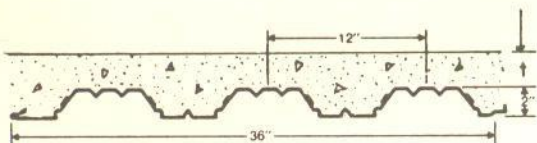
Span Feet	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.25	4.1875
7.	323	361	402	423	506
7.25	312	348	388	408	488
7.5	299	337	375	395	472
7.75	278	326	363	382	457
8.	259	315	351	370	443
8.25	242	294	341	359	429
8.5	226	275	326	348	417
8.75	212	257	305	330	401
9.	198	241	286	310	365
9.25	186	226	269	291	333
9.5	173	213	253	268	303
9.75	160	200	237	247	275
10.	148	189	218	227	** 315
10.25	137	178	201	208	** 297
10.5	128	168	185	191	** 281
10.75	119	157	* 189	** 204	** 266
11.		146	** 179	** 193	** 251
11.25		** 141	** 169	** 183	*** 247
11.5		** 133	** 160	** 173	*** 233
11.75		** 125	** 152	** 164	*** 221
12.		** 117	** 144	*** 160	*** 209
12.25			*** 140	*** 152	*** 198
12.5			*** 132	*** 144	*** 188
12.75			*** 125	*** 136	*** 178
13.			*** 119	*** 129	*** 169

* Denotes shoring required on simple spans, no shoring on multiple spans.

** Denotes shoring required on simple and 2-span conditions only.

*** Denotes shoring required on all span conditions.

For use of design loads in excess of 200 psf (above horizontal line) see note 6a page 8.



SECTION PROPERTIES

Steel Unit Only

$$I_s = .419$$

$$(+ S_t = .397)$$

$$(+ S_b = .427)$$

$$(- S_t = .386)$$

$$(- S_b = .363)$$

N=9

Concrete Weight = 145 pcf
 Concrete Strength (f'_c) = 3000 psi
 Slab Width = 12 in.

	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.5	4.5
Dead Load (psf)	38.4	44.5	50.5	56.5	68.6
V_R Lbs.	1139	1285	1439	1599	1929
I_c	3.177	4.331	5.705	7.304	11.189
S_{cc}	2.537	3.146	3.821	4.557	6.195
S_{bc}	1.141	1.371	1.610	1.857	2.366

TOTAL SUPERIMPOSED LOAD,
POUNDS PER SQUARE FOOT

Span Feet	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.5	4.5
6.5	321	388	442	492	* 593
6.75	295	356	420	473	* 554
7.	272	328	387	* 436	* 489
7.25	251	303	357	* 390	* 430
7.5	232	280	* 324	* 348	* 377
7.75	* 214	* 259	* 292	* 310	** 452
8.	* 199	* 241	* 262	* 276	** 422
8.25	* 185	* 219	* 235	** 307	** 382
8.5	* 172	* 198	* 210	** 286	*** 384
8.75	* 160	* 179	** 229	** 266	*** 358
9.	* 149	** 181	** 214	*** 260	*** 333
9.25	* 139	** 169	** 200	*** 242	*** 311
9.5	** 130	** 158	*** 194	*** 226	*** 290
9.75	** 121	*** 153	*** 182	*** 212	*** 271
10.	** 113	*** 143	*** 170	*** 198	*** 253
10.25	*** 109	*** 134	*** 159	*** 185	*** 237
10.5	*** 102	*** 125	*** 149	*** 173	*** 221
10.75	*** 95	*** 117	*** 139	*** 162	*** 206
11.		*** 109	*** 130	*** 152	*** 193
11.25		*** 102	*** 122	*** 142	*** 180
11.5		*** 96	*** 114	*** 133	*** 168
11.75		*** 90	*** 107	*** 124	*** 156
12.		*** 84	*** 100	*** 116	*** 146
12.25			*** 93	*** 108	*** 135
12.5			*** 87	*** 101	*** 126

N=14

Concrete Weight = 110 pcf
 Concrete Strength (f'_c) = 3000 psi
 Slab Width = 12 in.

	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.25	4.1875
Dead Load (psf)	29.6	34.2	38.8	41.1	49.7
V_R Lbs.	1132	1270	1418	1495	1792
I_c	2.784	3.805	5.032	5.723	8.791
S_{cc}	1.898	2.351	2.856	3.127	4.244
S_{bc}	1.083	1.304	1.537	1.656	2.117

TOTAL SUPERIMPOSED LOAD,
POUNDS PER SQUARE FOOT

Span Feet	Concrete Slab Thickness, t (in.)				
	2.0	2.5	3	3.25	4.1875
6.5	312	377	436	460	551
6.75	287	347	410	442	531
7.	265	320	379	409	512
7.25	245	296	351	378	478
7.5	227	274	325	351	* 431
7.75	* 210	* 255	* 302	* 326	* 388
8.	* 196	* 237	* 281	* 303	* 349
8.25	* 182	* 221	* 262	* 278	* 313
8.5	* 170	* 206	* 243	* 253	* 281
8.75	* 159	* 192	* 221	* 229	** 318
9.	* 148	* 180	* 201	* 208	** 298
9.25	* 139	* 169	183	** 216	** 280
9.5	* 130	* 155	** 188	** 203	*** 273
9.75	* 122	** 148	** 176	*** 191	*** 257
10.	* 114	** 139	** 166	*** 186	*** 241
10.25	** 107	*** 131	*** 161	*** 175	*** 227
10.5	** 101	*** 123	*** 151	*** 164	*** 213
10.75	** 95	*** 119	*** 143	*** 154	*** 200
11.		*** 112	*** 134	*** 145	*** 189
11.25		*** 105	*** 126	*** 137	*** 178
11.5		*** 99	*** 119	*** 129	*** 167
11.75		*** 93	*** 112	*** 122	*** 157
12.		*** 88	*** 106	*** 115	*** 148
12.25			*** 100	*** 108	*** 139
12.5			*** 94	*** 102	*** 131

* Denotes shoring required on simple spans, no shoring on multiple spans.

** Denotes shoring required on simple and 2-span conditions only.

*** Denotes shoring required on all span conditions.

_____ For use of design loads in excess of 200 psf (above horizontal line) see note 6a page 8.