

## TYPE "IEF" INVERTED EXTRA DUTY FORM DECK



### SECTION PROPERTIES FY=60 KSI (GRADE 80)

**ASD ( $\Omega=1.67$ )**

DECK TYPE	DESIGN THICKNESS	WT PSF	FINISH	I <sup>P</sup> IN. <sup>4</sup>	I <sup>N</sup> IN. <sup>4</sup>	S <sup>P</sup> IN. <sup>3</sup>	S <sup>N</sup> IN. <sup>3</sup>	M <sup>P</sup> / $\Omega$ IN. - LBS. PER FT.	M <sup>N</sup> / $\Omega$ IN. - LBS. PER FT.
24	.0239 IN.	1.3	GALV.	0.117	0.134	0.123	0.126	4411	4528
22	.0295 IN.	1.6	GALV.	0.149	0.171	0.166	0.166	5956	5958
20	.0358 IN.	2.0	GALV.	0.189	0.213	0.220	0.213	7904	7647
18	.0474 IN.	2.6	GALV.	0.263	0.292	0.298	0.302	10719	10850

DECK-SPAN	DECK TYPE	DESIGN THICKNESS	DECK SUPPORT SPACING (FT. - IN.)						POUNDS PER SQUARE FOOT				
			5-0	5-06	6-0	6-06	7-0	7-06	8-0	8-06	9-0	9-06	10-0
SIMPLE	24	STRESS DOWNWARD	118	97	82	70	60	52	46	41	36	33	29
		DEFLECTION L/240	61	46	36	28	22	18	15	12	11	9	8
	22	STRESS DOWNWARD	159	131	110	94	81	71	62	55	49	44	40
		DEFLECTION L/240	78	59	45	36	29	23	19	16	13	11	10
	20	STRESS DOWNWARD	211	174	146	125	108	94	82	73	65	58	53
		DEFLECTION L/240	99	75	57	45	36	29	24	20	17	14	12
	18	STRESS DOWNWARD	286	236	198	169	146	127	112	99	88	79	71
		DEFLECTION L/240	138	104	80	63	50	41	34	28	24	20	17

DOUBLE	24	STRESS DOWNWARD	121	100	84	71	62	54	47	42	37	33	30
		DEFLECTION L/240	148	111	86	67	54	44	36	30	25	22	18
	22	STRESS DOWNWARD	159	131	110	94	81	71	62	55	49	44	40
		DEFLECTION L/240	188	141	109	86	69	56	46	38	32	27	24
	20	STRESS DOWNWARD	204	169	142	121	104	91	80	71	63	56	51
		DEFLECTION L/240	239	179	138	109	87	71	58	49	41	35	30
	18	STRESS DOWNWARD	289	239	201	171	148	129	113	100	89	80	72
		DEFLECTION L/240	333	250	193	152	121	99	81	68	57	49	42

TRIPLE	24	STRESS DOWNWARD	151	125	105	89	77	67	59	52	47	42	38
		DEFLECTION L/240	116	87	67	53	42	34	28	24	20	17	14
	22	STRESS DOWNWARD	199	164	138	118	101	88	78	69	61	55	50
		DEFLECTION L/240	147	111	85	67	54	44	36	30	25	21	18
	20	STRESS DOWNWARD	255	211	177	151	130	113	100	88	79	71	64
		DEFLECTION L/240	187	140	108	85	68	55	46	38	32	27	23
	18	STRESS DOWNWARD	362	299	251	214	185	161	141	125	112	100	90
		DEFLECTION L/240	261	196	151	119	95	77	64	53	45	38	33

LOAD TABLES AND SECTION PROPERTIES WERE GENERATED BY THE SDI.  
Standard Cover Width is 36".

FOR LOADS THAT CAUSE L/120 DEFLECTION, MULTIPLY BY 2.0. FOR LOADS THAT CAUSE L/180 DEFLECTION, MULTIPLY BY 1.5. FOR LOADS THAT CAUSE L/360 DEFLECTION, MULTIPLY BY 0.667

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### MAXIMUM CONSTRUCTION CLEAR SPANS

#### SLAB INFORMATION

Total Slab Depth, inches	W.W.F	Mp	Mn	Theo. Concrete Volume	
				yd <sup>3</sup> /100ft <sup>2</sup>	ft <sup>3</sup> /ft <sup>2</sup>
3.5	6x6- W2.9 x W2.9	5.79	7.44	0.923	0.249
4	6x6- W2.9 x W2.9	7.35	9.01	1.08	0.291
4.5	6x6- W2.9 x W2.9	8.92	10.6	1.23	0.333
5	6x6- W4.0 x W4.0	14.3	16.4	1.39	0.374
5.5	6x6- W4.0 x W4.0	16.5	18.6	1.54	0.416
6	6x6- W4.0 x W4.0	18.6	20.7	1.70	0.458
6.5	6x6- W4.0 x W4.0	20.8	22.9	1.85	0.499

Total Slab Depth	Deck	NW Concrete N=9 145 PCF			LW Concrete N=14 115 PCF		
		1 Span	2 Span	3 Span	1 Span	2 Span	3 Span
3.5 (t=2.00) NW 36 PSF LW 27 PSF	24	5-11	6-11	7-0	6-5	7-7	7-8
	22	7-2	8-4	8-6	7-9	9-2	9-3
	20	8-0	9-8	10-0	8-10	10-7	10-11
	18	8-11	11-4	11-8	9-10	12-4	12-9
4 (t=2.50) NW 42 PSF LW 32 PSF	24	5-8	6-7	6-8	6-1	7-2	7-3
	22	6-9	7-11	8-0	7-5	8-8	8-10
	20	7-8	9-3	9-6	8-4	10-1	10-5
	18	8-6	10-9	11-1	9-3	11-9	12-1
4.5 (t=3.00) NW 48 PSF LW 37 PSF	24	5-5	6-4	6-5	5-10	6-11	7-0
	22	6-7	7-10	8-0	7-2	8-8	8-11
	20	7-4	8-10	9-0	7-12	9-7	9-11
	18	8-1	10-3	10-7	8-10	11-2	11-7
5 (t=3.50) NW 54 PSF LW 41 PSF	24	5-2	6-1	6-2	5-8	6-8	6-9
	22	6-3	7-3	7-4	6-10	8-0	8-1
	20	7-0	8-5	8-8	7-8	9-4	9-7
	18	7-10	9-10	10-2	8-7	10-10	11-2
5.5 (t=4.00) NW 60 PSF LW 46 PSF	24	5-0	5-10	5-11	5-6	6-5	6-6
	22	6-0	7-0	7-1	6-7	7-8	7-10
	20	6-9	8-1	8-4	7-5	8-11	9-2
	18	7-6	9-5	9-9	8-3	10-5	10-9
6 (t=4.50) NW 66 PSF LW 50 PSF	24	4-10	5-8	5-9	5-4	6-3	6-4
	22	5-10	6-9	6-10	6-5	7-6	7-7
	20	6-7	7-10	8-0	7-2	8-8	8-11
	18	7-3	9-1	9-5	8-0	10-1	10-5

#### REINFORCED CONCRETE SLAB ALLOWABLE LOADS

Slab Depth	Reinforcement		Superimposed Uniform Load (psf) – 3 Span Condition												
			Clear Span (ft-in.)												
	W.W.F	As	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
3.5 (t=3.00)	6x6- W2.9 x W2.9	0.058	274	216	175	145	122	104	89	78	68	61	54	49	44
	6x6- W4.0 x W4.0	0.080	364	288	233	193	162	138	119	104	91	81	72	65	58
4 (t=3.50)	6x6- W2.9 x W2.9	0.058	331	262	212	175	147	125	108	94	83	73	65	59	53
	6x6- W4.0 x W4.0	0.080	*	351	284	235	197	168	145	126	111	98	88	79	71
	4x4- W2.9 x W2.9	0.087	*	387	313	259	217	185	160	139	122	108	97	87	78
4.5 (t=4.00)	6x6- W2.9 x W2.9	0.058	389	307	249	206	173	147	127	111	97	86	77	69	62
	6x6- W4.0 x W4.0	0.080	*	*	335	277	233	198	171	149	131	116	103	93	84
	4x4- W2.9 x W2.9	0.087	*	*	368	304	256	218	188	164	144	127	114	102	92
5 (t=4.50)	6x6- W4.0 x W4.0	0.058	*	*	386	319	268	228	197	171	151	133	119	107	96
	4x4- W2.9 x W2.9	0.080	*	*	*	350	294	251	216	188	166	147	131	117	106
	4x4- W4.0 x W4.0	0.120	*	*	*	*	395	337	291	253	222	197	176	158	142
5.5 (t=5.00)	6x6- W4.0 x W4.0	0.080	*	*	*	361	303	258	223	194	170	151	135	121	109
	4x4- W2.9 x W2.9	0.087	*	*	*	396	333	283	244	213	187	166	148	133	120
	4x4- W4.0 x W4.0	0.120	*	*	*	*	*	382	329	287	252	223	199	179	161
6 (t=5.50)	6x6- W4.0 x W4.0	0.080	*	*	*	*	338	288	249	217	190	169	150	135	122
	4x4- W2.9 x W2.9	0.087	*	*	*	*	371	316	273	237	209	185	165	148	134
	4x4- W4.0 x W4.0	0.120	*	*	*	*	*	*	368	321	282	250	223	200	180
6.5 (t=6.00)	6x6- W4.0 x W4.0	0.080	*	*	*	*	374	318	275	239	210	186	166	149	135
	4x4- W2.9 x W2.9	0.087	*	*	*	*	*	349	301	262	230	204	182	163	147
	4x4- W4.0 x W4.0	0.120	*	*	*	*	*	*	*	355	312	276	246	221	200

WEB CRIPPLING AND SHEAR HAVE NOT BEEN ACCOUNTED FOR ON THESE TABLES. REQUIRED BEARING SHOULD BE DETERMINED BASED ON SPECIFIC SPAN CONDITIONS.

\* INDICATES LIVE LOADS IN EXCESS OF 400 P.S.F

The design stress for Grade 80 is 0.75 times the 80 ksi due to the low ductility of the steel.

**SHEAR AND WEB CRIPPLING (BARE DECK) TYPE IEF INVERTED EXTRA DUTY FORM DECK**

DECK TYPE	$V^N/\Omega$ LBS PER FT	WEB CRIPPLING ( $R^N/\Omega$ ), LBS/FT. ONE FLANGE LOADING END BEARING			WEB CRIPPLING ( $R^N/\Omega$ ), LBS/FT. ONE FLANGE LOADING INTERIOR BEARING		
		1.5"	2"	3"	1.5"	2"	3"
24	2153	676	745	862	987	1075	1222
22	2985	995	1093	1259	1478	1603	1813
20	3715	1418	1553	1781	2136	2309	2599
18	4886	2367	2582	2941	3635	3910	4371

ALL SECTION PROPERTIES AND ASD FLEXURAL STRENGTHS ARE CALCULATED IN ACCORDANCE WITH  
ANSI/SDI C-2017, ANSI/SDI SD-2022 AND AISI S100-2012 AND AISI S100-2016