

FLOOR LOADS

SIMPLE-SPAN JOIST—ALLOWABLE LOADS FOR UTI JOISTS (PLF)

Joist Span (ft)	UTI 20						UTI 30				UTI 40								UTI 45							
	9½"		11⅞"		14"		9½"		11⅞"		9½"		11⅞"		14"		16"		9½"		11⅞"		14"		16"	
	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%
6	-	305	-	305	-	305	-	315	-	315	-	360	-	400	-	400	-	400	-	327	-	327	-	327	-	327
7	-	261	-	261	-	261	-	270	-	270	-	309	-	343	-	343	-	343	-	280	-	280	-	280	-	280
8	-	229	-	229	-	229	-	236	-	236	-	270	-	300	-	300	-	300	-	245	-	245	-	245	-	245
9	185	203	-	203	-	203	202	210	-	210	234	240	-	267	-	267	-	267	-	218	-	218	-	218	-	218
10	139	183	-	183	-	183	152	189	-	189	177	216	-	240	-	240	-	240	177	196	-	196	-	196	-	196
11	107	166	-	166	-	166	118	172	-	172	137	181	-	218	-	218	-	218	137	178	-	178	-	178	-	178
12	84	140	141	153	-	153	92	158	154	158	108	152	177	197	-	200	-	200	108	163	-	163	-	163	-	163
13	67	119	113	141	-	141	74	145	124	145	87	129	143	168	-	185	-	185	87	151	143	151	-	151	-	151
14	54	103	92	131	-	131	60	120	101	135	71	112	117	145	165	171	-	171	71	137	117	140	-	140	-	140
15	45	89	76	116	109	122	49	98	83	126	58	97	96	126	137	152	-	160	58	116	96	131	-	131	-	131
16	37	74	63	102	91	114	41	82	69	118	48	85	81	111	115	133	-	150	48	97	81	123	116	123	-	123
17			53	90	77	108			58	111			68	98	97	118	130	137			68	115	98	115	-	115
18			45	81	66	96			50	99			58	88	83	105	111	122			58	107	83	109	-	109
19			39	72	56	86			43	85			50	79	71	95	95	110			50	96	72	103	96	103
20			33	65	48	78			37	73			43	71	62	85	83	99			43	86	62	98	83	98
21					42	71									54	77	72	90					54	93	73	93
22					37	64									47	71	63	82					47	85	64	89
23					32	59									41	65	56	75					42	78	56	85
24					29	54									37	59	49	69					37	71	50	82
25																	44	63							44	75
26																	39	59							40	70
27																	35	54							35	65
28																	32	51							32	60
29																										
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Notes:

- Table values apply to uniformly loaded floor joists.
- Span is measured to the center of each support.
- The values in the Total columns are based on an L/240 total load deflection limit. Building codes typically require L/360 for live load. Experience has shown that a live load deflection limit of L/480 at 40 psf for residential floors does a better job than L/360 of meeting most performance expectations.
- Table values do not account for stiffness added by glued or nailed sheathing.
- Provide at least 1¾" of bearing length at end supports and 3½" at intermediate supports.
- Provide lateral restraint at supports (e.g. blocking panels, rim board) and along the compression flange of each joist (e.g. floor sheathing, gypsum board ceiling).
- Use sizing software or consult a professional engineer to analyze conditions outside the scope of this table (e.g. different bearing lengths, concentrated loads) or for multiple span joists if the length of any span is less than half the length of an adjacent span.

HOW TO USE FLOOR LOAD TABLES

- Choose a joist spacing and convert the live and total design loads specified in pounds per square foot (psf) to joist loads in pounds per lineal foot (plf).
Joist Spacing (ft) x Design Load (psf) = Joist Load (plf).

JOIST LOAD (PLF)

Joist Spacing		Design Load (psf)								
Inches	Feet	20	30	40	50	60	70	80	90	100
12	1	20	30	40	50	60	70	80	90	100
16	1.33	27	40	53	67	80	93	106	120	133
19.2	1.6	32	48	64	80	96	112	128	144	160
24	2	40	60	80	100	120	140	160	180	200

- Choose a span and scan across the Span row to find a joist size with sufficient Live and Total load capacities. Both requirements must be satisfied. When no value is shown in a Live column, Total load governs.
- Web stiffeners are required at all supports for 22" and 24" joists. See *Web Stiffener Requirements* on page 20 for more details.

FLOOR LOADS

SIMPLE-SPAN JOIST—ALLOWABLE LOADS FOR UTI JOISTS (PLF)

Joist Span (ft)	UTI 77																UTI 90																		
	9½"		11⅞"		14"		16"		18"		20"		22"		24"		9½"		11⅞"		14"		16"		18"		20"		22"		24"				
	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%			
6	-	428	-	428	-	428	-	428	-	428	-	428	-	797	-	797	-	467	-	467	-	467	-	467	-	467	-	467	-	800	-	800			
7	-	367	-	367	-	367	-	367	-	367	-	367	-	683	-	683	-	400	-	400	-	400	-	400	-	400	-	400	-	686	-	686			
8	-	321	-	321	-	321	-	321	-	321	-	321	-	598	-	598	-	350	-	350	-	350	-	350	-	350	-	350	-	600	-	600			
9	-	286	-	286	-	286	-	286	-	286	-	286	-	531	-	531	-	311	-	311	-	311	-	311	-	311	-	311	-	533	-	533			
10	232	257	-	257	-	257	-	257	-	257	-	257	-	478	-	478	-	280	-	280	-	280	-	280	-	280	-	280	-	480	-	480			
11	181	234	-	234	-	234	-	234	-	234	-	234	-	435	-	435	250	255	-	255	-	255	-	255	-	255	-	255	-	436	-	436			
12	143	214	-	214	-	214	-	214	-	214	-	214	-	398	-	398	200	233	-	233	-	233	-	233	-	233	-	233	-	400	-	400			
13	115	198	186	198	-	198	-	198	-	198	-	198	-	368	-	368	162	215	-	215	-	215	-	215	-	215	-	215	-	369	-	369			
14	94	184	152	184	-	184	-	184	-	184	-	184	-	341	-	341	133	200	-	200	-	200	-	200	-	200	-	200	-	343	-	343			
15	77	155	126	171	-	171	-	171	-	171	-	171	-	319	-	319	111	187	177	187	-	187	-	187	-	187	-	187	-	320	-	320			
16	65	129	106	161	151	161	-	161	-	161	-	161	-	299	-	299	93	175	150	175	-	175	-	175	-	175	-	175	-	300	-	300			
17			89	151	128	151	-	151	-	151	-	151	-	281	-	281		127	165	-	165	-	165	-	165	-	165	-	165	-	282	-	282		
18			76	143	109	143	-	143	-	143	-	143	-	266	-	266		109	156	154	156	-	156	-	156	-	156	-	156	-	267	-	267		
19			65	131	94	135	125	135	-	135	-	135	244	252	-	252		94	147	133	147	-	147	-	147	-	147	-	147	-	253	-	253		
20			57	113	81	129	109	129	-	129	-	129	212	239	-	239		81	140	116	140	-	140	-	140	-	140	-	140	-	240	-	240		
21					71	122	95	122	122	122	-	122	186	227	223	228					101	133	-	133	-	133	-	133	-	229	-	229			
22					62	117	83	117	107	117	-	117	164	207	197	217					89	127	118	127	-	127	-	127	-	218	-	218			
23					55	110	73	112	95	112	-	112	145	189	174	206					79	122	105	122	-	122	-	122	202	209	-	209			
24					49	97	65	107	84	107	105	107	129	174	155	189					70	117	93	117	-	117	-	117	180	200	-	200			
25							58	103	75	103	94	103	115	160	139	174								83	112	106	112	-	112	161	192	-	192		
26							52	99	67	99	84	99	103	148	124	161							74	108	95	108	-	108	145	185	173	185			
27							47	93	60	95	76	95	93	137	112	150							67	104	86	104	-	104	131	178	156	178			
28							42	84	54	92	68	92	84	128	101	139							60	100	78	100	97	100	118	171	142	171			
29								49	89	62	89	76	119	92	130										70	97	88	97	107	166	129	166			
30								45	86	56	86	69	111	83	121												64	93	80	93	98	160	117	160	
31								41	81	51	83	63	104	76	113												58	90	73	90	89	155	107	155	
32												47	80	57	98	69	106													67	88	82	150	98	150
33												43	78	53	92	63	100													61	85	75	141	90	145
34												39	76	48	87	58	94													56	82	69	133	83	141
35												36	72	44	82	54	89													52	80	63	126	76	137
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	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%		
6	-	428	-	428	-	428	-	428	-	428	-	428	-	797	-	797	-	467	-	467	-	467	-	467	-	467	-	467	-	800	-	800		
7	-	367	-	367	-	367	-	367	-	367	-	367	-	683	-	683	-	400	-	400	-	400	-	400	-	400	-	400	-	686	-	686		
8	-	321	-	321	-	321	-	321	-	321	-	321	-	598	-	598	-	350	-	350	-	350	-	350	-	350	-	350	-	600	-	600		
9	-	286	-	286	-	286	-	286	-	286	-	286	-	531	-	531	-	311	-	311	-	311	-	311	-	311	-	311	-	533	-	533		
10	232	257	-	257	-	257	-	257	-	257	-	257	-	478	-	478	-	280	-	280	-	280	-	280	-	280	-	280	-	480	-	480		
11	181	234	-	234	-	234	-	234	-	234	-	234	-	435	-	435	250	255	-	255	-	255	-	255	-	255	-	255	-	436	-	436		
12	143	214	-	214	-	214	-	214	-	214	-	214	-	398	-	398	200	233	-	233	-	233	-	233	-	233	-	233	-	400	-	400		
13	115	198	186	198	-	198	-	198	-	198	-	198	-	368	-	368	162	215	-	215	-	215	-	215	-	215	-	215	-	369	-	369		
14	94	184	152	184	-	184	-	184	-	184	-	184	-	341	-	341	133	200	-	200	-	200	-	200	-	200	-	200	-	343	-	343		
15	77	155	126	171	-	171	-	171	-	171	-	171	-	319	-	319	111	187	177	187	-	187	-	187	-	187	-	187	-	320	-	320		
16	65	129	106	161	151	161	-	161	-	161	-	161	-	299	-	299	93	175	150	175	-	175	-	175	-	175	-	175	-	300	-	300		
17			89	151	128	151	-	151	-	151	-	151	-	281	-	281		127	165	-	165	-	165	-	165	-	165	-	165	-	282	-	282	
18			76	143	109	143	-	143	-	143	-	143	-	266	-	266		109	156	154	156	-	156	-	156	-	156	-	156	-	267	-	267	
19			65	131	94	135	125	135	-	135	-	135	244	252	-	252		94	147	133	147	-	147	-	147	-	147	-	147	-	253	-	253	
20			57	113	81	129	109	129	-	129	-	129	212	239	-	239		81	140	116	140	-	140	-	140	-	140	-	140	-	240	-	240	
21					71	122	95	122	122	122	-	122	186	227	223	228					101	133	-	133	-	133	-	133	-	229	-	229		
22					62	117	83	117	107	117	-	117	164	207	197	217					89	127	118	127	-	127	-	127	-	218	-	218		
23					55	110	73	112	95	112	-	112	145	189	174	206					79	122	105	122	-	122	-	122	202	209	-	209		
24					49	97	65	107	84	107	105	107	129	174	155	189					70	117	93	117	-	117	-	117	180	200	-	200		
25							58	103	75	103	94	103	115	160	139	174								83	112	106	112	-	112	161	192	-	192	
26							52	99	67	99	84	99	103	148	124	161							74	108	95	108	-	108	145	185	173	185		
27							47	93	60	95	76	95	93	137	112	150							67	104	86	104	-	104	131	178	156	178		
28							42	84	54	92	68	92	84	128	101	139							60	100	78	100	97	100	118	171	142	171		
29									49	89	62	89	76	119	92	130									70	97	88	97	107	166	129	166		
30									45	86	56	86	69	111	83	121											64	93	80	93	98	160	117	160
31									41	81	51	83	63	104	76	113											58	90	73	90	89	155	107	155
32											47	80	57	98	69	106													67	88	82	150	98	150
33											43	78	53	92	63	100													61	85	75	141	90	145
34											39	76	48	87	58	94													56	82	69	133	83	141
35											36	72	44	82	54	89													52	80	63	126	76	137
36													41	77	49	84															58	117	70	129
37													38	73	46	80															54	108	65	122
38													35	69	42	76														50	100	60	116	
39														39	72																	56	110	
40															36	68																52	104	
41															34	65																49	97	
42															32	62																45	91	
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Joist Span (ft)	UTI 20						UTI 30				UTI 40								UTI 45							
	9½"		11⅞"		14"		9½"		11⅞"		9½"		11⅞"		14"		16"		9½"		11⅞"		14"		16"	
	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%
6	-	265	-	265	-	265	-	254	-	254	-	288	-	333	-	333	-	333	-	299	-	300	-	300	-	300
7	-	227	-	227	-	227	-	218	-	218	-	247	-	286	-	286	-	286	-	256	-	257	-	257	-	257
8	-	199	-	199	-	199	-	191	-	191	-	216	-	250	-	250	-	250	-	224	-	225	-	225	-	225
9	-	177	-	177	-	177	-	169	-	169	-	192	-	222	-	222	-	222	-	199	-	200	-	200	-	200
10	-	159	-	159	-	159	-	152	-	152	-	173	-	200	-	200	-	200	-	179	-	180	-	180	-	180
11	143	145	-	145	-	145	-	139	-	139	-	157	-	182	-	182	-	182	-	163	-	164	-	164	-	164
12	113	133	-	133	-	133	124	127	-	127	144	144	-	167	-	167	-	167	144	149	-	150	-	150	-	150
13	91	119	-	122	-	122	99	117	-	117	116	129	-	154	-	154	-	154	116	138	-	138	-	138	-	138
14	74	103	-	114	-	114	81	109	-	109	95	112	-	143	-	143	-	143	95	128	-	129	-	129	-	129
15	61	90	103	106	-	106	67	102	-	102	79	97	-	126	-	133	-	133	79	119	-	120	-	120	-	120
16	51	79	86	100	-	100	56	95	94	95	66	85	108	111	-	125	-	125	66	105	108	113	-	113	-	113
17			73	90	-	94			79	90			92	98	-	118	-	118			92	106	-	106	-	106
18			62	81	-	88			68	85			78	88	-	105	-	111			78	100	-	100	-	100
19			53	72	77	84			58	80			67	79	-	95	-	105			67	95	-	95	-	95
20			46	65	66	78			50	76			58	71	83	85	-	99			58	86	84	90	-	90
21					58	71									73	77	-	90					73	86	-	86
22					51	64									64	71	-	82					64	82	-	82
23					45	59									56	65	-	75					57	78	76	78
24					40	54									50	59	67	69					50	71	68	75
25																	60	63							61	72
26																	54	59							54	69
27																	48	54							49	65
28																	43	51							44	60
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See notes on page 10

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MULTIPLE-SPAN JOIST—ALLOWABLE LOADS FOR UTI JOISTS (PLF)

Joist Span (ft)	UTI 50								UTI 60								UTI 70									
	9½"		11⅞"		14"		16"		9½"		11⅞"		14"		16"		11⅞"		14"		16"		18"		20"	
	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%
6	-	272	-	272	-	272	-	272	-	288	-	333	-	333	-	333	-	311	-	311	-	311	-	311	-	311
7	-	233	-	233	-	233	-	233	-	247	-	286	-	286	-	286	-	267	-	267	-	267	-	267	-	267
8	-	204	-	204	-	204	-	204	-	216	-	250	-	250	-	250	-	234	-	234	-	234	-	234	-	234
9	-	181	-	181	-	181	-	181	-	192	-	222	-	222	-	222	-	208	-	208	-	208	-	208	-	208
10	-	163	-	163	-	163	-	163	-	173	-	200	-	200	-	200	-	187	-	187	-	187	-	187	-	187
11	-	148	-	148	-	148	-	148	-	157	-	182	-	182	-	182	-	170	-	170	-	170	-	170	-	170
12	-	136	-	136	-	136	-	136	-	144	-	167	-	167	-	167	-	156	-	156	-	156	-	156	-	156
13	113	126	-	126	-	126	-	126	-	133	-	154	-	154	-	154	-	144	-	144	-	144	-	144	-	144
14	92	117	-	117	-	117	-	117	111	123	-	143	-	143	-	143	-	133	-	133	-	133	-	133	-	133
15	76	109	-	109	-	109	-	109	92	115	-	133	-	133	-	133	-	125	-	125	-	125	-	125	-	125
16	64	102	-	102	-	102	-	102	77	108	-	125	-	125	-	125	-	117	-	117	-	117	-	117	-	117
17			90	96	-	96	-	96			107	118	-	118	-	118	-	110	-	110	-	110	-	110	-	110
18			77	91	-	91	-	91			92	111	-	111	-	111	101	104	-	104	-	104	-	104	-	104
19			66	86	-	86	-	86			79	105	-	105	-	105	87	98	-	98	-	98	-	98	-	98
20			57	82	-	82	-	82			69	98	99	100	-	100	75	93	-	93	-	93	-	93	-	93
21					73	78	-	78					86	95	-	95			-	89	-	89	-	89	-	89
22					64	74	-	74					76	91	-	91			83	85	-	85	-	85	-	85
23					56	71	-	71					67	87	-	87			73	81	-	81	-	81	-	81
24					50	68	68	68					60	82	80	83			65	78	-	78	-	78	-	78
25						60	65							71	80					-	75	-	75	-	75	
26						54	63							64	77					69	72	-	72	-	72	
27						49	60							58	74					62	69	-	69	-	69	
28						44	58							52	70					56	67	-	67	-	67	
29																						-	64	-	64	
30																						60	62	-	62	
31																						55	60	-	60	
32																								-	58	
33																								-	57	
34																								53	55	
35																								49	53	
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37																										
38																										
39																										
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Notes:

1. Table values apply to uniformly loaded floor joists.
2. Span is measured to the center of each support.
3. The values in the Total columns are based on an L/240 total load deflection limit. Building codes typically require L/360 for live load. Experience has shown that a live load deflection limit of L/480 at 40 psf for residential floors does a better job than L/360 of meeting most performance expectations.
4. Table values do not account for stiffness added by glued or nailed sheathing.
5. Provide at least 1¾" of bearing length at end supports and 3½" at intermediate supports.
6. Provide lateral restraint at supports (e.g. blocking panels, rim board) and along the compression flange of each joist (e.g. floor sheathing, gypsum board ceiling).
7. Use sizing software or consult a professional engineer to analyze conditions outside the scope of this table (e.g. different bearing lengths, concentrated loads) or for multiple span joists if the length of any span is less than half the length of an adjacent span.

FLOOR LOADS

MULTIPLE-SPAN JOIST—ALLOWABLE LOADS FOR UTI JOISTS (PLF)

Joist Span (ft)	UTI 77																UTI 90																
	9½"		11⅞"		14"		16"		18"		20"		22"		24"		9½"		11⅞"		14"		16"		18"		20"		22"		24"		
	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	Live L/480	Total 100%	
6	-	359	-	359	-	359	-	359	-	359	-	359	-	550	-	550	-	381	-	447	-	447	-	447	-	447	-	447	-	614	-	614	
7	-	308	-	308	-	308	-	308	-	308	-	308	-	471	-	471	-	327	-	383	-	383	-	383	-	383	-	383	-	526	-	526	
8	-	270	-	270	-	270	-	270	-	270	-	270	-	413	-	413	-	286	-	336	-	336	-	336	-	336	-	336	-	461	-	461	
9	-	240	-	240	-	240	-	240	-	240	-	240	-	367	-	367	-	254	-	298	-	298	-	298	-	298	-	298	-	409	-	409	
10	-	216	-	216	-	216	-	216	-	216	-	216	-	330	-	330	-	229	-	268	-	268	-	268	-	268	-	268	-	368	-	368	
11	-	196	-	196	-	196	-	196	-	196	-	196	-	300	-	300	-	208	-	244	-	244	-	244	-	244	-	244	-	335	-	335	
12	-	180	-	180	-	180	-	180	-	180	-	180	-	275	-	275	-	191	-	224	-	224	-	224	-	224	-	224	-	307	-	307	
13	152	166	-	166	-	166	-	166	-	166	-	166	-	254	-	254	-	176	-	206	-	206	-	206	-	206	-	206	-	283	-	283	
14	125	154	-	154	-	154	-	154	-	154	-	154	-	236	-	236	-	163	-	192	-	192	-	192	-	192	-	192	-	263	-	263	
15	104	144	-	144	-	144	-	144	-	144	-	144	-	220	-	220	145	153	-	179	-	179	-	179	-	179	-	179	-	246	-	246	
16	87	135	-	135	-	135	-	135	-	135	-	135	-	206	-	206	123	143	-	168	-	168	-	168	-	168	-	168	-	230	-	230	
17			120	127	-	127	-	127	-	127	-	127	-	194	-	194			-	158	-	158	-	158	-	158	-	158	-	217	-	217	
18			103	120	-	120	-	120	-	120	-	120	-	183	-	183			143	149	-	149	-	149	-	149	-	149	-	205	-	205	
19			88	113	-	113	-	113	-	113	-	113	-	174	-	174			124	141	-	141	-	141	-	141	-	141	-	194	-	194	
20			77	108	-	108	-	108	-	108	-	108	-	165	-	165			109	134	-	134	-	134	-	134	-	134	-	184	-	184	
21					96	103	-	103	-	103	-	103	-	157	-	157					-	128	-	128	-	128	-	128	-	175	-	175	
22					84	98	-	98	-	98	-	98	-	150	-	150					119	122	-	122	-	122	-	122	-	167	-	167	
23					75	94	-	94	-	94	-	94	-	143	-	143					105	117	-	117	-	117	-	117	-	160	-	160	
24					66	90	88	90	-	90	-	90	-	138	-	138					94	112	-	112	-	112	-	112	-	154	-	154	
25							79	86	-	86	-	86	-	132	-	132							-	107	-	107	-	107	-	147	-	147	
26							71	83	-	83	-	83	-	127	-	127							100	103	-	103	-	103	-	142	-	142	
27							64	80	-	80	-	80	-	122	-	122							90	99	-	99	-	99	-	136	-	136	
28							57	77	74	77	-	77	113	118	-	118							82	96	-	96	-	96	-	132	-	132	
29									67	74	-	74	103	114	-	114									-	93	-	93	-	127	-	127	
30									61	72	-	72	94	110	-	110									86	89	-	89	-	123	-	123	
31									56	70	-	70	86	104	103	106									79	87	-	87	-	119	-	119	
32											64	67	78	98	94	103											-	84	110	115	-	115	
33											59	65	72	92	86	100											-	81	101	112	-	112	
34											54	63	66	87	80	94												76	79	93	108	-	108
35											50	62	61	82	73	89												70	77	86	105	103	105
36												56	77	68	84														79	102	95	102	
37												52	73	63	80															74	100	88	100
38												48	69	58	76															68	97	82	97
39														54	72																	76	94
40															50	68																71	92
41															47	65																66	90
42															44	62																62	88
43																																	
44																																	

See notes on page 12