

REV. B

SAE MA3280

FEDERAL SUPPLY CLASS

RATIONALE

MA3280B HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

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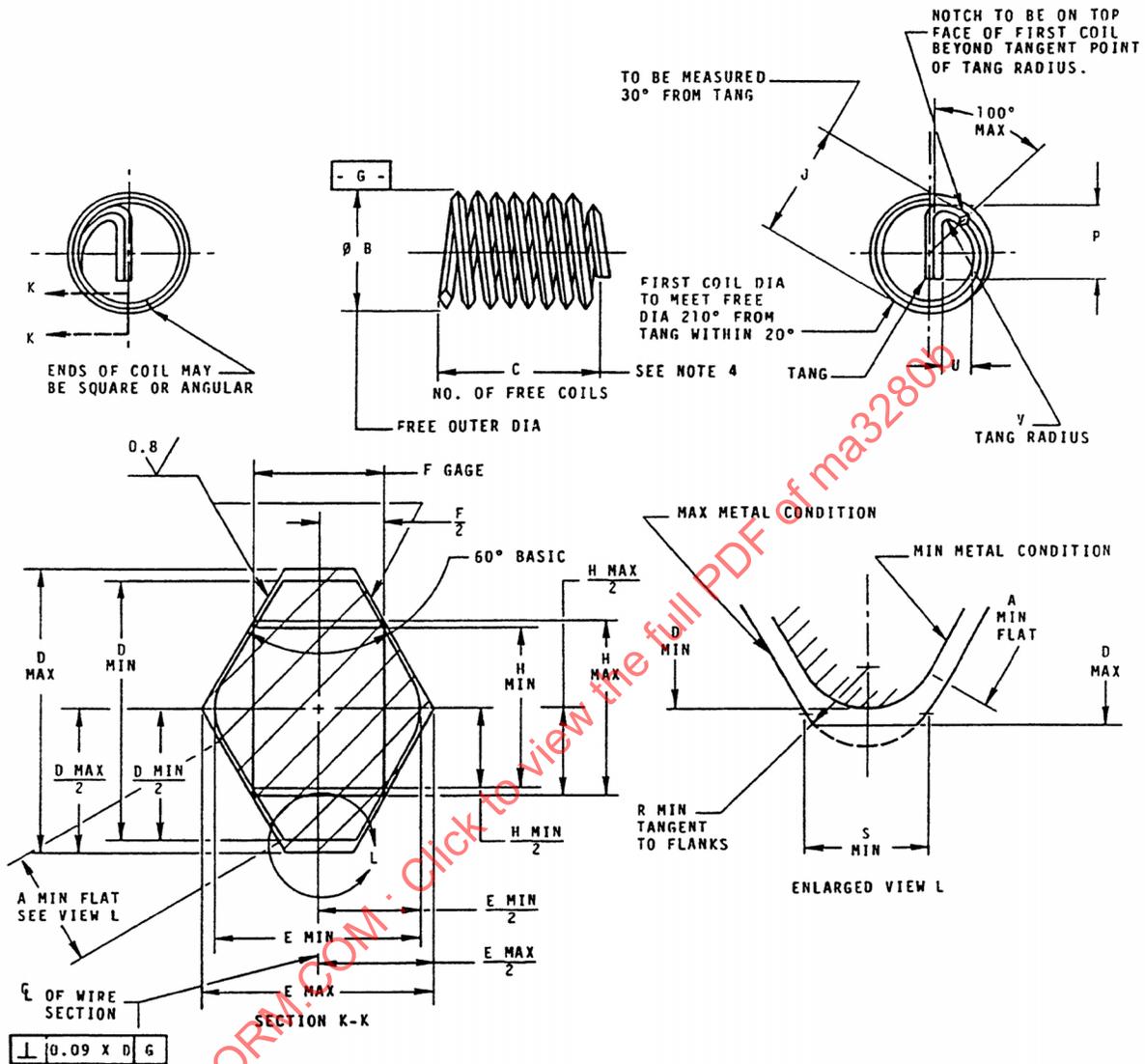
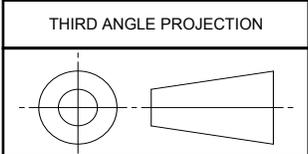


FIGURE 1

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CUSTODIAN: E-25

PROCUREMENT SPECIFICATION: NONE

**SAE Aerospace**  
An SAE International Group

METRIC AEROSPACE STANDARD

INSERT, SCREW THREAD, HELICAL COIL, METRIC SERIES, FREE RUNNING, CRES, DRY FILM LUBRICATED

**SAE MA3280**  
SHEET 1 OF 5

**REV. B**

ISSUED 1981-09 REVISED 1995-12 REAFFIRMED 2012-12

TABLE 1

THREAD SIZE DIA	THREAD SIZE PITCH	AEROSPACE STANDARD		AEROSPACE STANDARD		AEROSPACE STANDARD		AEROSPACE STANDARD		AEROSPACE STANDARD		NOMINAL LENGTH		NOMINAL LENGTH		NOMINAL LENGTH		NOMINAL LENGTH	
		PART NUMBER	1 DIA	PART NUMBER	2 DIA	PART NUMBER	2.5 DIA	PART NUMBER	3 DIA	PART NUMBER	1.5 DIA	SEE NOTE 1	NOTE 1						
2	0.4	MA3280-140	MA3280-190	MA3280-240	MA3280-290	MA3280-340	2.0	3.0	4.0	5.0	6.0	0.074	2.50	2.70					
2	0.45	MA3280-100	MA3280-150	MA3280-200	MA3280-250	MA3280-300	2.2	3.3	4.4	5.5	6.6	0.082	2.80	3.00					
2.5	0.45	MA3280-101	MA3280-151	MA3280-201	MA3280-251	MA3280-301	2.5	3.8	5.0	6.3	7.5	0.082	3.20	3.70					
3	0.5	MA3280-102	MA3280-152	MA3280-202	MA3280-252	MA3280-302	3.0	4.5	6.0	7.5	9.0	0.105	3.80	4.35					
3.5	0.6	MA3280-103	MA3280-153	MA3280-203	MA3280-253	MA3280-303	3.5	5.3	7.0	8.8	10.5	0.160	4.40	4.95					
4	0.7	MA3280-104	MA3280-154	MA3280-204	MA3280-254	MA3280-304	4.0	6.0	8.0	10.0	12.0	0.163	5.05	5.60					
5	0.8	MA3280-105	MA3280-155	MA3280-205	MA3280-255	MA3280-305	5.0	7.5	10.0	12.5	15.0	0.209	6.25	6.80					
6	1	MA3280-106	MA3280-156	MA3280-206	MA3280-256	MA3280-306	6.0	9.0	12.0	15.0	18.0	0.267	7.40	7.95					
7	1	MA3280-107	MA3280-157	MA3280-207	MA3280-257	MA3280-307	7.0	10.5	14.0	17.5	21.0	0.267	8.65	9.20					
8	1	MA3280-108	MA3280-158	MA3280-208	MA3280-258	MA3280-308	8.0	12.0	16.0	20.0	24.0	0.267	9.70	10.25					
8	1.25	MA3280-109	MA3280-159	MA3280-209	MA3280-259	MA3280-309	8.0	12.0	16.0	20.0	24.0	0.415	9.80	10.35					
10	1	MA3280-141	MA3280-191	MA3280-241	MA3280-291	MA3280-341	10.0	15.0	20.0	25.0	30.0	0.267	11.95	12.50					
10	1.25	MA3280-110	MA3280-160	MA3280-210	MA3280-260	MA3280-310	10.0	15.0	20.0	25.0	30.0	0.415	12.10	12.65					
10	1.5	MA3280-111	MA3280-161	MA3280-211	MA3280-261	MA3280-311	10.0	15.0	20.0	25.0	30.0	0.511	11.95	12.50					
12	1.25	MA3280-112	MA3280-162	MA3280-212	MA3280-262	MA3280-312	12.0	18.0	24.0	30.0	36.0	0.415	14.30	15.00					
12	1.5	MA3280-113	MA3280-163	MA3280-213	MA3280-263	MA3280-313	12.0	18.0	24.0	30.0	36.0	0.511	14.25	14.95					
12	1.75	MA3280-114	MA3280-164	MA3280-214	MA3280-264	MA3280-314	12.0	18.0	24.0	30.0	36.0	0.654	14.30	15.00					
14	1.5	MA3280-115	MA3280-165	MA3280-215	MA3280-265	MA3280-315	14.0	21.0	28.0	35.0	42.0	0.511	16.55	17.25					
14	2	MA3280-116	MA3280-166	MA3280-216	MA3280-266	MA3280-316	14.0	21.0	28.0	35.0	42.0	0.799	16.65	17.35					
16	1.5	MA3280-117	MA3280-167	MA3280-217	MA3280-267	MA3280-317	16.0	24.0	32.0	40.0	48.0	0.511	18.90	19.60					
16	2	MA3280-118	MA3280-168	MA3280-218	MA3280-268	MA3280-318	16.0	24.0	32.0	40.0	48.0	0.799	18.90	19.60					
18	1.5	MA3280-119	MA3280-169	MA3280-219	MA3280-269	MA3280-319	18.0	27.0	36.0	45.0	54.0	0.511	21.05	21.75					
18	2	MA3280-120	MA3280-170	MA3280-220	MA3280-270	MA3280-320	18.0	27.0	36.0	45.0	54.0	0.799	21.15	21.85					
18	2.5	MA3280-121	MA3280-171	MA3280-221	MA3280-271	MA3280-321	18.0	27.0	36.0	45.0	54.0	1.017	21.30	22.00					
20	1.5	MA3280-122	MA3280-172	MA3280-222	MA3280-272	MA3280-322	20.0	30.0	40.0	50.0	60.0	0.511	23.15	24.00					
20	2	MA3280-123	MA3280-173	MA3280-223	MA3280-273	MA3280-323	20.0	30.0	40.0	50.0	60.0	0.799	23.20	24.05					
20	2.5	MA3280-124	MA3280-174	MA3280-224	MA3280-274	MA3280-324	20.0	30.0	40.0	50.0	60.0	1.017	23.55	24.40					
22	1.5	MA3280-125	MA3280-175	MA3280-225	MA3280-275	MA3280-325	22.0	33.0	44.0	55.0	66.0	0.511	25.55	26.45					
22	2	MA3280-126	MA3280-176	MA3280-226	MA3280-276	MA3280-326	22.0	33.0	44.0	55.0	66.0	0.799	25.60	26.50					
22	2.5	MA3280-127	MA3280-177	MA3280-227	MA3280-277	MA3280-327	22.0	33.0	44.0	55.0	66.0	1.017	25.90	26.90					
24	2	MA3280-128	MA3280-178	MA3280-228	MA3280-278	MA3280-328	24.0	36.0	48.0	60.0	72.0	0.799	28.10	29.10					
24	3	MA3280-129	MA3280-179	MA3280-229	MA3280-279	MA3280-329	24.0	36.0	48.0	60.0	72.0	1.234	28.00	29.00					
27	2	MA3280-130	MA3280-180	MA3280-230	MA3280-280	MA3280-330	27.0	40.5	54.0	67.5	81.0	0.799	31.30	32.30					
27	3	MA3280-131	MA3280-181	MA3280-231	MA3280-281	MA3280-331	27.0	40.5	54.0	67.5	81.0	1.234	31.40	32.40					
30	2	MA3280-132	MA3280-182	MA3280-232	MA3280-282	MA3280-332	30.0	45.0	60.0	75.0	90.0	0.799	34.50	35.70					
30	3	MA3280-133	MA3280-183	MA3280-233	MA3280-283	MA3280-333	30.0	45.0	60.0	75.0	90.0	1.234	34.90	36.10					
33	2	MA3280-134	MA3280-184	MA3280-234	MA3280-284	MA3280-334	33.0	49.5	66.0	82.5	99.0	0.799	37.80	39.20					
33	3	MA3280-135	MA3280-185	MA3280-235	MA3280-285	MA3280-335	33.0	49.5	66.0	82.5	99.0	1.234	38.10	39.50					
36	2	MA3280-136	MA3280-186	MA3280-236	MA3280-286	MA3280-336	36.0	54.0	72.0	90.0	108.0	0.799	41.00	42.40					
36	3	MA3280-137	MA3280-187	MA3280-237	MA3280-287	MA3280-337	36.0	54.0	72.0	90.0	108.0	1.234	41.30	42.70					
39	2	MA3280-138	MA3280-188	MA3280-238	MA3280-288	MA3280-338	39.0	58.5	78.0	97.5	117.0	0.799	44.30	45.70					
39	3	MA3280-139	MA3280-189	MA3280-239	MA3280-289	MA3280-339	39.0	58.5	78.0	97.5	117.0	1.234	44.40	45.80					

TABLE 1 (CONTINUED)

THREAD SIZE	THREAD SIZE PITCH	C ± .25		D MIN	D MAX	E MIN	E MAX	F GAGE	H MIN	H MAX	J MIN	J MAX						
		COIL DIA																
2	0.4	3.250	5.500	7.750	10.125	12.375	14.625	16.875	19.125	0.389	0.433	0.274	0.350	0.200	0.2495	0.2600	2.50	2.70
2.2	0.45	3.125	5.375	7.625	9.875	12.125	14.375	16.625	18.875	0.437	0.487	0.318	0.394	0.225	0.2820	0.2920	2.60	2.80
2.5	0.45	3.375	5.750	8.125	10.500	12.875	15.250	17.625	20.000	0.437	0.487	0.318	0.394	0.225	0.2820	0.2920	3.05	3.65
3	0.5	3.750	6.375	8.875	11.375	13.875	16.375	18.875	21.375	0.482	0.541	0.362	0.438	0.250	0.3145	0.3250	3.60	4.30
3.5	0.6	3.750	6.375	8.750	11.375	13.750	16.375	18.750	21.375	0.586	0.650	0.449	0.525	0.300	0.3795	0.3900	4.25	4.90
4	0.7	3.625	6.125	8.625	11.125	13.625	16.125	18.625	21.125	0.683	0.758	0.510	0.612	0.350	0.4445	0.4550	4.90	5.55
5	0.8	4.125	6.875	9.625	12.375	15.125	17.875	20.625	23.375	0.775	0.866	0.598	0.700	0.400	0.5085	0.5200	6.10	6.75
6	1	4.000	6.750	9.500	12.125	14.750	17.375	20.000	22.625	0.975	1.063	0.748	0.875	0.500	0.6370	0.6500	7.25	7.90
7	1	4.875	8.000	11.125	14.125	17.125	20.125	23.125	26.125	0.975	1.063	0.748	0.875	0.500	0.6370	0.6500	8.40	9.15
8	1	5.875	9.375	13.000	16.500	20.000	23.500	27.000	30.500	0.975	1.063	0.748	0.875	0.500	0.6370	0.6500	9.20	9.65
8	1.25	4.500	7.375	10.250	13.250	16.250	19.250	22.250	25.250	1.251	1.353	0.967	1.094	0.625	0.7990	0.8120	9.50	9.90
10	1	7.625	12.000	16.500	21.000	25.500	30.000	34.500	39.000	0.975	1.063	0.748	0.875	0.500	0.6370	0.6500	11.10	11.55
10	1.25	5.875	9.500	13.125	16.750	20.375	24.000	27.625	31.250	1.251	1.353	0.967	1.094	0.625	0.7990	0.8120	11.50	11.95
10	1.5	4.875	8.000	11.125	14.250	17.375	20.500	23.625	26.750	1.522	1.624	1.160	1.312	0.750	0.9615	0.9740	11.80	12.25
12	1.25	7.250	11.625	15.875	20.250	24.625	29.000	33.375	37.750	1.251	1.353	0.967	1.094	0.625	0.7990	0.8120	13.50	14.00
12	1.5	6.000	9.625	13.375	17.000	20.750	24.500	28.250	32.000	1.522	1.624	1.160	1.312	0.750	0.9615	0.9740	13.80	14.30
12	1.75	5.000	8.250	11.500	14.625	17.750	20.875	24.000	27.125	1.792	1.894	1.379	1.531	0.875	1.1240	1.1370	14.10	14.60
14	1.5	7.125	11.375	15.625	20.000	24.375	28.750	33.125	37.500	1.522	1.624	1.160	1.312	0.750	0.9615	0.9740	15.80	16.30
14	2	5.125	8.500	11.750	15.000	18.375	21.625	25.000	28.375	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	16.40	16.90
16	1.5	8.250	13.125	18.000	22.750	27.625	32.500	37.375	42.250	1.522	1.624	1.160	1.312	0.750	0.9615	0.9740	17.80	18.30
16	2	6.125	9.750	13.500	17.250	21.000	24.750	28.500	32.250	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	18.40	18.90
18	1.5	9.500	15.000	20.375	25.875	31.375	36.875	42.375	47.875	1.522	1.624	1.160	1.312	0.750	0.9615	0.9740	19.80	20.35
18	2	7.000	11.125	15.375	19.500	23.625	27.875	32.125	36.375	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	20.40	20.95
18	2.5	5.375	8.875	12.250	15.625	19.000	22.375	25.750	29.125	2.604	2.706	1.998	2.188	1.250	1.6110	1.6240	20.90	21.45
20	1.5	10.750	16.875	22.875	28.875	35.000	41.000	47.000	53.000	1.522	1.624	1.160	1.312	0.750	0.9615	0.9740	21.80	22.50
20	2	7.875	12.500	17.250	21.875	26.500	31.125	35.750	40.375	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	22.40	23.10
20	2.5	6.125	9.875	13.625	17.375	21.125	24.875	28.625	32.375	2.604	2.706	1.998	2.188	1.250	1.6110	1.6240	22.90	23.60
22	1.5	11.875	18.500	25.125	31.625	38.250	44.750	51.250	57.750	1.522	1.624	1.160	1.312	0.750	0.9615	0.9740	24.10	24.80
22	2	8.750	13.750	18.875	23.875	29.000	34.125	39.250	44.375	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	24.40	25.10
22	2.5	6.750	10.875	14.875	18.875	22.875	26.875	30.875	34.875	2.604	2.706	1.998	2.188	1.250	1.6110	1.6240	24.90	25.60
24	2	9.500	15.000	20.375	25.875	31.375	36.875	42.375	47.875	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	26.40	27.10
24	3	6.125	10.000	13.750	17.500	21.250	25.000	28.750	32.500	3.146	3.248	2.396	2.625	1.500	1.9360	1.9485	27.50	28.20
27	2	10.875	17.000	23.250	29.375	35.500	41.625	47.750	53.875	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	29.40	30.10
27	3	7.000	11.250	15.500	19.750	24.000	28.250	32.500	36.750	3.146	3.248	2.396	2.625	1.500	1.9360	1.9485	30.50	31.20
30	2	12.250	19.125	25.875	32.750	39.625	46.500	53.375	60.250	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	32.50	33.20
30	3	7.875	12.500	17.125	21.875	26.625	31.375	36.125	40.875	3.146	3.248	2.396	2.625	1.500	1.9360	1.9485	33.50	34.20
33	2	13.625	21.125	28.625	36.000	43.500	50.375	57.250	64.125	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	35.80	36.50
33	3	8.750	13.875	19.000	24.125	29.250	34.375	39.500	44.625	3.146	3.248	2.396	2.625	1.500	1.9360	1.9485	36.80	37.20
36	2	15.000	23.250	31.375	39.500	47.750	56.000	64.250	72.500	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	39.00	39.70
36	3	9.750	15.250	20.875	26.500	32.250	38.000	43.750	49.500	3.146	3.248	2.396	2.625	1.500	1.9360	1.9485	39.50	40.20
39	2	16.375	25.250	34.125	43.000	51.875	60.750	69.625	78.500	2.063	2.165	1.598	1.750	1.000	1.2865	1.2990	42.30	43.00
39	3	10.750	16.750	22.750	28.875	34.875	40.875	46.875	52.875	3.146	3.248	2.396	2.625	1.500	1.9360	1.9485	42.50	43.20

TABLE 1 (CONTINUED)

THREAD SIZE	THREAD SIZE DIA	THREAD PITCH	P		P		R	S		U		V	APPROX. MATE MASS, KILO-GRAMS/100		APPROX. MATE MASS, KILO-GRAMS/100	APPROX. MATE MASS, KILO-GRAMS/100
			MIN	MAX	MIN	MAX		MIN	MAX	1.5 DIA	2.5 DIA		1.5 DIA	2.5 DIA		
2	2.2	0.4	1.30	1.90	0.072	0.125	0.86	0.37	0.22	0.002	0.003	0.005	0.007	0.008		
2	2.5	0.45	1.40	2.00	0.081	0.141	0.91	0.62	0.25	0.002	0.004	0.006	0.008	0.009		
3	3.5	0.5	1.60	2.25	0.081	0.141	1.22	0.81	0.30	0.003	0.006	0.008	0.010	0.012		
4	4	0.7	1.95	2.80	0.090	0.156	1.33	0.86	0.30	0.006	0.009	0.012	0.016	0.019		
5	5	0.8	2.20	3.00	0.108	0.188	1.47	0.92	0.30	0.009	0.014	0.020	0.026	0.031		
6	6	1	2.50	3.55	0.126	0.219	1.67	1.02	0.45	0.014	0.022	0.031	0.039	0.048		
7	7	1	3.15	4.55	0.144	0.250	2.09	1.41	0.60	0.025	0.040	0.055	0.070	0.085		
8	8	1.25	3.70	4.85	0.180	0.312	2.55	1.65	0.60	0.044	0.072	0.099	0.126	0.153		
10	10	1.25	4.30	5.50	0.180	0.312	3.10	2.09	0.75	0.062	0.099	0.136	0.173	0.210		
12	12	1.5	4.75	6.50	0.180	0.312	3.88	2.27	0.75	0.083	0.132	0.180	0.228	0.277		
14	14	1.5	4.75	6.50	0.226	0.391	3.60	2.02	0.75	0.100	0.160	0.221	0.281	0.342		
16	16	1.5	5.50	8.00	0.180	0.312	4.90	2.95	0.75	0.136	0.212	0.288	0.362	0.439		
18	18	1.5	5.50	8.00	0.226	0.391	4.77	2.86	0.75	0.162	0.257	0.352	0.446	0.541		
20	20	1.5	6.70	9.75	0.271	0.469	4.54	2.56	0.75	0.188	0.302	0.416	0.530	0.643		
22	22	1.75	6.70	9.75	0.226	0.391	5.84	3.77	1.00	0.240	0.376	0.512	0.649	0.785		
24	24	1.5	7.20	11.25	0.271	0.469	5.58	3.50	1.20	0.281	0.444	0.608	0.772	0.935		
26	26	1.5	7.20	11.25	0.316	0.547	5.36	3.23	1.40	0.318	0.509	0.700	0.890	1.081		
28	28	1.5	8.30	12.75	0.271	0.469	6.76	4.34	1.15	0.391	0.614	0.836	1.059	1.282		
30	30	1.5	8.30	12.75	0.361	0.625	6.26	3.79	1.40	0.497	0.784	1.091	1.368	1.685		
32	32	1.5	9.30	14.00	0.271	0.469	7.78	5.32	1.45	0.519	0.810	1.101	1.392	1.682		
34	34	1.5	9.30	14.00	0.361	0.625	7.30	4.76	1.70	0.665	1.053	1.441	1.828	2.216		
36	36	1.5	10.40	14.50	0.271	0.469	8.83	6.26	1.75	0.665	1.033	1.401	1.769	2.137		
38	38	1.5	10.40	14.50	0.361	0.625	8.30	5.74	2.70	0.856	1.347	1.838	2.328	2.819		
40	40	1.5	10.40	14.50	0.451	0.781	7.79	5.20	2.85	1.031	1.645	2.258	2.872	3.486		
42	42	1.5	10.40	14.50	0.271	0.469	9.77	7.19	2.85	0.890	1.284	1.739	2.193	2.647		
44	44	1.5	11.40	16.00	0.271	0.469	9.40	6.65	2.85	1.072	1.678	2.284	2.890	3.495		
46	46	1.5	11.40	16.00	0.361	0.625	8.89	6.11	2.85	1.297	2.054	2.812	3.569	4.326		
48	48	1.5	12.50	16.50	0.271	0.469	11.10	8.01	2.85	1.013	1.563	2.113	2.662	3.212		
50	50	1.5	12.50	16.50	0.361	0.625	10.45	7.61	2.85	1.313	2.046	2.779	3.512	4.245		
52	52	1.5	14.00	17.50	0.271	0.469	9.94	7.07	2.85	1.593	2.510	3.426	4.342	5.259		
54	54	1.5	14.00	17.50	0.361	0.625	11.46	8.60	2.85	1.576	2.448	3.321	4.193	5.065		
56	56	1.5	15.00	19.00	0.361	0.625	10.45	7.51	2.85	2.239	3.548	4.857	6.166	7.474		
58	58	1.5	15.00	19.00	0.451	0.781	13.14	9.93	2.85	2.017	3.121	4.225	5.329	6.493		
60	60	1.5	17.00	21.00	0.361	0.625	12.13	8.85	2.85	2.884	4.540	6.196	7.853	9.509		
62	62	1.5	17.00	21.00	0.451	0.781	14.81	11.26	2.85	3.876	5.656	7.700	9.745	11.782		
64	64	1.5	17.00	21.00	0.541	0.938	13.65	10.32	2.85	3.611	5.656	7.700	9.745	11.782		
66	66	1.5	18.50	22.50	0.361	0.625	16.35	12.74	2.85	3.063	4.712	6.361	8.010	9.659		
68	68	1.5	18.50	22.50	0.451	0.781	15.19	11.78	2.85	4.420	6.894	9.367	11.841	14.315		
70	70	1.5	20.00	24.00	0.361	0.625	17.77	14.29	2.85	3.671	5.633	7.595	9.557	11.519		
72	72	1.5	20.00	24.00	0.451	0.781	16.73	13.23	2.85	5.316	8.280	11.204	14.147	17.091		
74	74	1.5	20.00	24.00	0.541	0.938	19.28	15.77	2.85	4.331	6.634	8.936	11.239	13.542		
76	76	1.5	20.00	24.00	0.541	0.938	18.28	14.68	2.85	6.290	9.745	13.200	16.654	20.109		