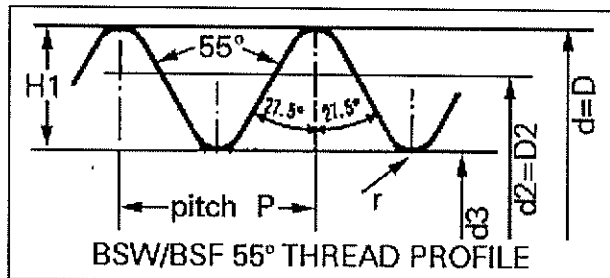


# MARYLAND METRICS THREAD DATA CHARTS

## BRITISH THREAD -- COARSE PITCH -- BSW



Whitworth Coarse Thread BS 84  
BSW (British Standard Whitworth)

British Standard Whitworth Coarse Thread Series (parallel, cylindrical)  
In GB most common Thread. Corresponds to the Metric Thread in its type of use.

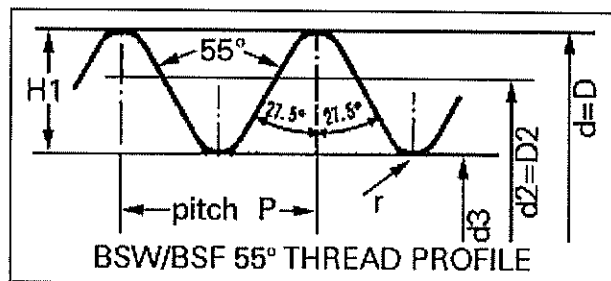
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MARYLAND METRICS -- THREAD DATA CHART:								
British Thread (British Standard Whitworth) -- Coarse Pitch								
Nominal Size Ww	Thread Form Type	Major Diameter mm d=D	Pitch mm p	Threads per inch tpi	Pitch Diameter mm d2=D2	Minor Diameter Male Thd. d3	Thread Height H1	Tap Drill Diameter mm
1/16"	BSW	1.587	0.423	60	1.315	1.050	0.270	1.15
3/32"	BSW	2.381	0.529	48	2.041	1.703	0.338	1.90
1/8"	BSW	3.175	0.635	40	2.768	2.362	0.406	2.50
5/32"	BSW	3.969	0.793	32	3.459	2.952	0.507	3.20
3/16"	BSW	4.762	1.058	24	4.084	3.407	0.677	3.70
7/32"	BSW	5.556	1.058	24	4.878	4.201	0.677	4.50
1/4"	BSW	6.350	1.270	20	5.537	4.724	0.813	5.10
5/16"	BSW	7.938	1.411	18	7.034	6.131	0.904	6.50
3/8"	BSW	9.525	1.588	16	8.509	7.492	1.017	7.90
7/16"	BSW	11.113	1.814	14	9.951	8.789	1.162	9.20
1/2"	BSW	12.700	2.117	12	11.345	9.990	1.355	10.40
9/16"	BSW	14.290	2.117	12	12.930	11.580	1.355	11.89
5/8"	BSW	15.876	2.309	11	14.397	12.918	1.479	13.40
3/4"	BSW	19.051	2.540	10	17.424	15.798	1.627	16.25
7/8"	BSW	22.226	2.822	9	20.419	18.611	1.807	19.25
1"	BSW	25.400	3.175	8	23.368	21.335	2.033	22.00
1 1/8"	BSW	28.576	3.629	7	26.253	23.929	2.324	24.50
1 1/4"	BSW	31.751	3.629	7	29.428	27.104	2.324	27.25
1 3/8"	BSW	34.926	4.233	6	32.215	29.505	2.711	30.25
1 1/2"	BSW	38.100	4.233	6	35.391	32.680	2.711	33.50
1 5/8"	BSW	41.277	5.080	5	38.024	34.771	3.253	35.50
1 3/4"	BSW	44.452	5.080	5	41.199	37.946	3.253	38.50
1 7/8"	BSW	47.627	5.645	4 1/2	44.012	40.398	3.614	41.25
2"	BSW	50.802	5.645	4 1/2	47.187	43.573	3.614	44.50
2 1/4"	BSW	57.152	6.350	4	53.086	49.020	4.066	50.00
2 1/2"	BSW	63.502	6.350	4	59.436	55.370	4.066	56.00
2 3/4"	BSW	69.853	7.257	3 1/2	65.205	60.558	4.647	61.50
3"	BSW	76.203	7.257	3 1/2	71.556	66.909	4.647	68.00
3 1/4"	BSW	82.553	7.816	3 1/4	77.548	72.544	5.005	73.75

3 1/2"	BSW	88.903	7.816	3 1/4	83.899	78.894	5.005	80.00
3 3/4"	BSW	95.254	8.467	3	89.832	84.410	5.422	85.50
4"	BSW	101.604	8.467	3	96.182	90.760	5.422	92.00
4 1/4"	BSW	107.954	8.835	2 7/8	102.297	96.639	5.657	98.00
4 1/2"	BSW	114.304	8.835	2 7/8	108.647	102.990	5.657	104.20
4 3/4"	BSW	120.665	9.237	2 3/4	114.740	108.625	5.915	110.00
5"	BSW	127.005	9.237	2 3/4	121.090	115.176	5.915	116.50
5 1/4"	BSW	133.355	9.677	2 5/8	127.159	120.963	6.196	122.50
5 1/2"	BSW	139.705	9.677	2 5/8	133.509	127.313	6.196	128.50
5 3/4"	BSW	146.055	10.160	2 1/2	139.549	133.043	6.506	134.50
6"	BSW	152.406	10.160	2 1/2	145.900	139.394	6.506	141.00

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### BRITISH THREAD -- FINE PITCH -- BSF



### Whitworth Fine Thread BS 84

British Standard Fine Thread Series (parallel, cylindrical)

BSW and BSF are the Thread selections for commercial screws and nuts. This fine thread, which is widespread in the British machine tool industry, is superseded by the American UNF Thread.

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MARYLAND METRICS -- THREAD DATA CHART:								
British Thread (British Standard Fine) -- Fine Pitch								
Nominal Size BSF	Thread Form Type	Major Diameter mm d=D	Pitch mm p	Threads per inch tpi	Pitch Diameter mm d2=D2	Minor Diameter Male Thd. d3	Thread Height H1	Tap Drill Diameter mm
3/16"	BSF	4.763	0.794	32	4.255	3.747	0.508	4.00
7/32"	BSF	5.556	0.907	28	4.975	4.394	0.581	4.60
1/4"	BSF	6.350	0.977	26	5.725	5.100	0.625	5.30
9/32"	BSF	7.142	0.977	26	6.518	5.893	0.625	6.10
5/16"	BSF	7.938	1.156	22	7.199	6.459	0.739	6.80
3/8"	BSF	9.525	1.27	20	8.712	7.899	0.813	8.30
7/16"	BSF	11.113	1.411	18	10.209	9.304	0.904	9.70
1/2"	BSF	12.700	1.588	16	11.684	10.668	1.017	11.10
9/16"	BSF	14.288	1.588	16	13.272	12.256	1.017	12.70
5/8"	BSF	15.875	1.814	14	14.712	13.549	1.162	14.00
11/16"	BSF	17.463	1.814	14	16.300	15.137	1.162	15.50
3/4"	BSF	19.050	2.117	12	17.693	16.336	1.355	16.75
13/16"	BSF	20.638	2.117	12	19.281	17.924	1.355	18.25
7/8"	BSF	22.225	2.309	11	20.747	19.269	1.479	19.75
1"	BSF	25.400	2.54	10	23.774	22.148	1.627	22.75
1 1/8"	BSF	28.575	2.822	9	26.769	24.963	1.807	26.50
1 1/4"	BSF	31.750	2.822	9	29.944	28.138	1.807	28.75
1 3/8"	BSF	34.925	3.175	8	32.893	30.861	2.033	31.50
1 1/2"	BSF	38.100	3.175	8	36.068	34.036	2.033	34.50

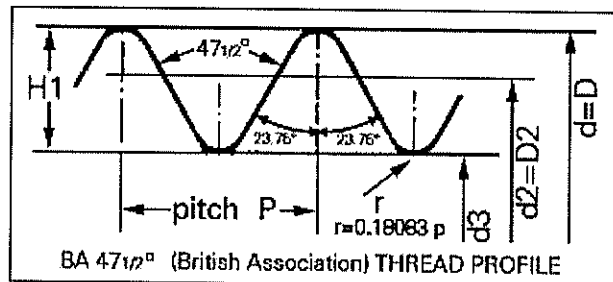
## MARYLAND METRICS -- THREAD DATA CHARTS (8)

1 5/8"	BSF	41.275	3.175	8	39.243	37.211	2.033	38.00
1 3/4"	BSF	44.450	3.629	7	42.126	39.802	2.324	40.50
2"	BSF	50.800	3.629	7	48.476	46.152	2.324	47.00
2 1/4"	BSF	57.150	4.234	6	54.440	51.730	2.711	53.00
2 1/2"	BSF	63.500	4.234	6	60.790	58.080	2.711	59.00
2 3/4"	BSF	69.850	4.234	6	67.140	64.430	2.711	n/a
3"	BSF	76.200	5.08	5	72.946	69.692	3.253	n/a
3 1/4"	BSF	82.550	5.08	5	79.296	76.042	3.253	n/a
3 1/2"	BSF	88.900	5.645	4 1/2	85.285	81.670	3.614	n/a
3 3/4"	BSF	95.250	5.645	4 1/2	91.635	88.020	3.614	n/a
4"	BSF	101.600	5.645	4 1/2	97.985	94.370	3.614	n/a
4 1/4"	BSF	107.950	6.35	4	103.886	99.822	4.066	n/a

BSW & BSF thread notes:	
C = Core diameter = Major Diameter - 1.280654 x P	
d = Actual Depth = 0.640327 x P	
D = Depth of Rounding = 0.073917 x P	
Effective or Pitch Diameter = Major Diameter - .640327 x P	
h = Angular Depth = 0.960491 x P	
h/6 = Shortening = 0.160083 x P	
P = Pitch = 1/Number of threads per inch (tpi)	
r = Radius at the Crest & Root = 0.137329 x P	

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## BRITISH THREAD -- MINIATURE SERIES -- BA



## British Association BS 93

(note: only sizes No. 0-16 are covered by BS 93)

British Association Standard Thread.

Used mainly for instruments and clocks.

Replaced by the metric ISO thread and the ISO fine thread.

MARYLAND METRICS -- THREAD DATA CHART:								
British Thread (British Association) -- Miniature Series								
Nominal Size BA	Thread Form Type	Major Diameter mm	Pitch mm p	Threads per Inch tpi	Pitch Diameter mm	Minor Diameter Male Thd.	Thread Height H1	Tap Drill Diameter
			d=D			d2=D2	d3	mm
No. 25	BA	0.25	0.07	363	0.205			0.18
No. 24	BA	0.29	0.08	317	0.239			0.21
No. 23	BA	0.33	0.09	282	0.272			0.24
No. 22	BA	0.37	0.10	254	0.307			0.27
No. 21	BA	0.42	0.11	230.91	0.350			0.31
No. 20	BA	0.48	0.13	211.67	0.403			0.36
No. 19	BA	0.54	0.14	181.43	0.450			0.40
No. 18	BA	0.62	0.15	169.33	0.524			0.47
No. 17	BA	0.70	0.17	149.41	0.591			0.53
No. 16	BA	0.79	0.19	133.68	0.668	0.56	0.115	0.60

## MARYLAND METRICS -- THREAD DATA CHARTS (8)

No. 15	BA	0.90	0.21	120.95	0.766	0.65	0.125	0.70
No. 14	BA	1	0.23	110.4	0.853	0.72	0.14	0.75
No. 13	BA	1.2	0.25	101.6	1.040	0.9	0.15	0.95
No. 12	BA	1.3	0.28	90.71	1.121	0.96	0.17	1.00
No. 11	BA	1.5	0.32	81.93	1.301	1.13	0.185	1.20
No. 10	BA	1.7	0.35	72.57	1.476	1.28	0.21	1.35
No. 9	BA	1.9	0.39	65.12	1.650	1.43	0.235	1.50
No. 8	BA	2.2	0.43	59.07	1.925	1.68	0.26	1.80
No. 7	BA	2.5	0.48	52.92	2.193	1.92	0.29	2.00
No. 6	BA	2.8	0.53	47.92	2.461	2.16	0.32	2.30
No. 5	BA	3.2	0.59	43.05	2.822	2.49	0.355	2.60
No. 4	BA	3.6	0.66	38.48	3.177	2.81	0.395	2.95
No. 3	BA	4.1	0.73	34.79	3.633	3.22	0.44	3.40
No. 2	BA	4.7	0.81	31.35	4.181	3.73	0.485	3.90
No. 1	BA	5.3	0.90	28.22	4.724	4.22	0.54	4.40
No. 0	BA	6	1	25.4	5.360	4.8	0.6	5.00

BA thread notes:
$C = \text{Core diameter} = \text{Major Diameter} - 1.2000 \times P \text{ (2d)}$
$d = \text{Actual Depth} = 0.60000 \times P$
$\text{Effective or Pitch Diameter} = \text{Major Diameter} - 0.6000 \times P \text{ (d)}$
$h = \text{Triangular height} = 1.1363365 \times P$
Nuts and Bolts across flats is nominally 1.75 x Major Diameter
$P = \text{Pitch} = 1/\text{Number of threads per inch (tpi)}$
$r = \text{Radius at the Crest \& Root} = 0.1808346 \times P$
$t = \text{Shortening} = 0.2681688 \times P$

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