



A 242, A 243,
A 244, A 245 : June: 1974

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British Standard : Aerospace Series
Specification for

Hexagonal castle nuts (of Class 3B UNJ thread)

Index form of title: Nut, castle, hexagonal, Class 3B UNJ thread.

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The following BSI references relate to the work on this standard:
Committee reference ACE/12. Draft for approval 73/35603

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British Standards Institution · 2 Park Street · London W1A 2BS

Telephone 01-629 9000
Telex 266933

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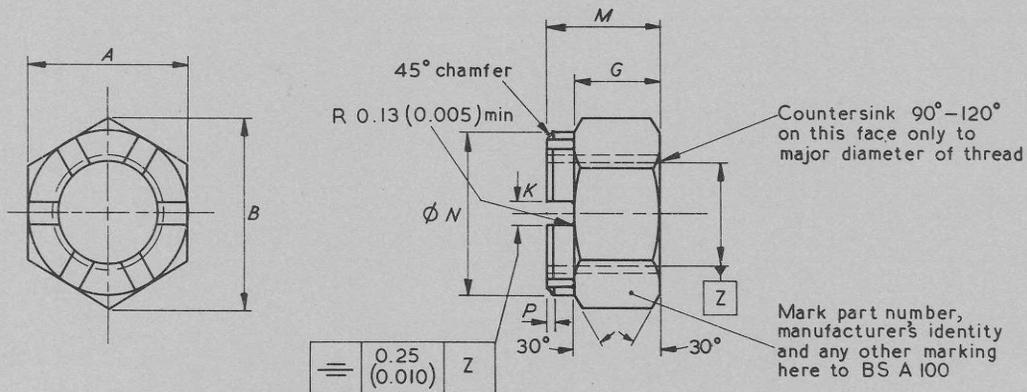


Fig. 1. Details of nut

NOTES

1. **Material.** Heat treatment, finish and part number, refer to Table 2.
2. **Dimensions.** Except for threads, dimensions are in millimetres: inch equivalents are shown in Table 1. When plated parts are called for, all dimensions shall be met after plating.
3. **Procurement.** BS A 100 for manufacture and inspection of nuts.
4. **Threads.** All threads shall have unified screw threads of 'UNJ' basic profile – Class 3B fit and shall conform to the requirements of BS 4084*.
5. **Call-up for nuts.** Example of complete part numbers as shown on Page 4.
6. **Limits.** $\pm 0.25\ (\pm 0.010)$, angles $\pm 5^\circ$, unless otherwise specified.
7. **Corrosion resistant.** Steel nuts A243, A244 and A245 shall have letter 'C' applied to one of the hexagonal surfaces.
8. **Axial tensile strengths.** Axial tensile strengths quoted are as shown in *American Air Force–Navy Aeronautical Standard AN 310, Revision 7, dated 17 September 1969.*
Until confirmatory test data become available these loads are to be used as reference loads only.

*BS 4084 'Unified screw threads of UNJ basic profile'

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Table 1. Dimensions

Dash no.	<i>T</i> Thread	<i>A</i>		<i>B</i> max.		<i>M</i>		<i>G</i>	
		mm	in	mm	in	mm	in	mm	in
-03	10-32 UNJF	9.55	0.376	11.02	0.434	6.60	0.260	2.79	0.110
		9.32	0.367			6.35	0.250	2.54	0.100
-04	1/4-28 UNJF	11.15	0.439	12.88	0.507	7.37	0.290	3.30	0.130
		10.90	0.429			7.11	0.280	3.05	0.120
-05	5/16-24 UNJF	12.75	0.502	14.73	0.580	8.64	0.340	4.32	0.170
		12.50	0.492			8.38	0.330	4.06	0.160
-06	3/8-24 UNJF	14.33	0.564	16.54	0.651	10.67	0.420	5.59	0.220
		14.07	0.554			10.41	0.410	5.33	0.210
-07	7/16-20 UNJF	17.53	0.690	20.24	0.797	11.68	0.460	6.60	0.260
		17.27	0.680			11.43	0.450	6.35	0.250
-08	1/2-20 UNJF	19.10	0.752	22.05	0.868	14.48	0.570	9.14	0.360
		18.80	0.740			14.22	0.560	8.89	0.350
-09	9/16-18 UNJF	22.28	0.877	25.73	1.013	15.75	0.620	10.41	0.410
		21.97	0.865			15.49	0.610	10.16	0.400
-10	5/8-18 UNJF	23.88	0.940	27.56	1.085	18.54	0.730	11.81	0.465
		23.57	0.928			18.29	0.720	11.56	0.455
-12	3/4-16 UNJF	27.03	1.064	31.22	1.229	20.96	0.825	14.22	0.560
		26.72	1.052			20.70	0.815	13.97	0.550
-14	7/8-14 UNJF	31.80	1.252	36.73	1.446	23.37	0.920	16.76	0.660
		31.39	1.236			23.11	0.910	16.51	0.650
-16	1-12 UNJF	36.58	1.440	42.24	1.663	25.65	1.010	19.05	0.750
		36.17	1.424			25.40	1.000	18.80	0.740
-18	1 1/8-12 UNJF	41.33	1.627	47.73	1.879	29.72	1.170	20.57	0.810
		40.92	1.611			29.46	1.160	20.32	0.800
-20	1 1/4-12 UNJF	46.08	1.814	53.21	2.095	32.00	1.260	22.35	0.880
		45.67	1.798			31.75	1.250	22.10	0.870

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Table 1 (continued)

Dash no.	N		K		P		Axial tensile strength min. (see Note 8)		Mass approx.	
	mm	in	mm	in	mm	in	N	lbf	kg/100	lb/100
-03	9.22	0.363	2.54	0.100	1.02	0.040	9 830	2 210	0.187	0.413
	9.09	0.358	2.03	0.080	0.76	0.030				
-04	10.79	0.425	2.54	0.100	1.02	0.040	18 150	4 080	0.306	0.674
	10.67	0.420	2.03	0.080	0.76	0.030				
-05	12.32	0.485	2.54	0.100	1.27	0.050	28 910	3 500	0.462	1.019
	12.06	0.475	2.03	0.080	1.02	0.040				
-06	13.84	0.545	3.68	0.145	1.27	0.050	44 930	10 100	0.633	1.395
	13.59	0.535	3.17	0.125	1.02	0.040				
-07	17.02	0.670	3.68	0.145	1.52	0.060	60 500	13 600	1.206	2.658
	16.76	0.660	3.17	0.125	1.27	0.050				
-08	18.67	0.735	3.68	0.145	1.52	0.060	82 290	18 500	1.811	3.992
	18.41	0.725	3.17	0.125	1.27	0.050				
-09	21.84	0.860	4.57	0.180	1.52	0.060	104 980	23 600	3.701	6.216
	21.59	0.850	4.06	0.160	1.27	0.050				
-10	23.37	0.920	4.57	0.180	1.78	0.070	133 890	30 100	3.627	7.996
	23.11	0.910	4.06	0.160	1.52	0.060				
-12	26.54	1.045	4.57	0.180	2.03	0.080	195 720	44 000	5.074	11.187
	26.03	1.025	4.06	0.160	2.78	0.070				
-14	31.24	1.330	4.57	0.180	2.03	0.080	268 890	60 000	8.214	18.101
	30.73	1.210	4.06	0.160	2.78	0.070				
-16	36.07	1.420	4.57	0.180	2.29	0.090	358 970	80 700	11.680	25.750
	35.56	1.400	4.06	0.160	2.03	0.080				
-18	40.79	1.606	4.57	0.180	2.54	0.100	452 830	101 800	17.235	37.997
	40.28	1.586	4.06	0.160	2.29	0.090				
-20	45.54	1.793	4.57	0.180	2.54	0.100	579 160	130 200	29.291	53.552
	45.03	1.773	4.06	0.160	2.29	0.090				

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Table 2. Physical characteristics

Part no.	Material	Strength min.		Finish
		*MPa	lbf/in ²	
A242	Alloy steel S139 condition 'D'	1 080	157 000	Cadmium plated to DTD 904
A243	Corrosion resist steel DTD 5076	970	140 000	None
A244	Corrosion resist steel DTD 5076	970	140 000	Cadmium plated to DTD 904
A245	Corrosion resist steel DTD 5076	970	140 000	Silver plated to DTD 939

*1 MPa = 1 MN/m² = 0.1 hbar

Example of complete part number

