

STANDARDS ASSOCIATION OF AUSTRALIA.

Headquarters :
 Science House, Gloucester and Essex Streets, Sydney.

AUSTRALIAN STANDARD SPECIFICATION FOR AIRCRAFT MATERIAL
 (Emergency Series)

HEXAGONAL STEEL NUTS
 (Plain, Slotted and Castle)

This standard forms one of a series prepared by the Standards Association of Australia at the request of Departments of the Commonwealth Government for use in relation to the supply of materials required for defence purposes. In appropriate cases these specifications will be reviewed for inclusion in the normal series of Australian standards.

(The order shall state the Part Number of the Nuts required.)

1. Material. All nuts shall be manufactured from bars complying with the requirements of British Air Ministry Material Specification No. D.T.D. 126A.† or Australian Standard No. (E) D. 533, or where corrosion-resisting steel is specified, with the requirements of British Standard No. S.80‡.

2. Manufacture. All nuts shall be hexagonal and shall be made in an approved manner, so that the top and bottom faces are perpendicular to the axis of the thread. The faces of the hexagon shall be concentric with the thread.

3. Dimensions.

(a) *Plain Nuts.* Plain nuts shall be manufactured to the dimensions and tolerances given in Table I.

(b) *Thin Nuts.* Thin nuts shall be manufactured to the dimensions and tolerances given in Table II.

(c) *Slotted Nuts.* Slotted nuts shall be manufactured to the dimensions and tolerances given in Table III.

(d) *Castle Nuts.* Castle nuts shall be manufactured to the dimensions and tolerances given in Table IV.

4. Screw Threads. The screw threads of all nuts, those in steel to No. D.T.D. 126A or A.S. No. (E) D. 533 after coating, shall conform to the dimensions and tolerances specified in Table III. of A.S. No. B.46—1941 (B.S. No. 93—1919 (*Corr. Aug. 1940*) endorsed without amendment) for B.A. threads; or Tables 8 and 12 of A.S. No. B.47—1940 (B.S. No. 84—1940 endorsed without amendment) for B.S.F. threads. The screw threads, those in steel to D.T.D. 126A or A.S. No. (E) D. 533 after coating, shall be required to pass approved gauges.

5. Anti-corrosion Coating. Unless otherwise ordered, all finished nuts in steel to D.T.D. 126A or A.S. No. (E) D. 533 shall be uniformly coated with zinc or cadmium by an approved process. The thickness of such coating shall be not less than 0.0003 in. If the coating is electro-deposited the nuts shall be heated to a suitable temperature between 100° C. and 200° C. for at least 30 minutes after coating.

*This Australian Standard is British Standard Specification No. A.16 with amendments regarding materials. For reference to the specification in its amended form it is essential that the Australian classification number (E) D. 2504 be used.

†No. D.T.D. 126A has been endorsed without amendment as A.S. No. (E) D. 526.

‡B.S. No. S.80 has been endorsed without amendment as A.S. No. (E) D. 523.

Price 1/-, post free 1/2.

6. **Marking.** (a) All nuts over $\frac{3}{8}$ in. nominal size shall have the appropriate part number applied on one of the hexagonal faces. If made of corrosion-resisting steel they shall in addition be marked with the letter "Z" preceding the part number.

NOTE.—The distinguishing letter for the type of nut in Tables I to IV, namely, P (plain nut), T (thin nut), S (slotted nut) and C (castle nut) shall not be applied on the nuts, these letters being only for the purpose of specifying nuts on drawings and for ordering the parts. Further, for ordering purposes a letter Y shall be inserted in the part reference number for non-corrosion-resisting nuts between the specification number and part number so as to distinguish clearly between non-corrosion-resisting and corrosion-resisting parts.

For example, the complete part reference number for a $\frac{1}{8}$ in. non-corrosion-resisting steel plain nut (left hand thread) is 2504Y/LPL, and for corrosion-resisting steel 2504Z/LPL, while the corresponding markings on the actual nuts will be LL and ZLL.

(b) All nuts $\frac{3}{8}$ in. nominal size and under shall be made into parcels which shall be labelled with the appropriate part number and if the nuts are made of corrosion-resisting steel with the letter "Z" preceding the part number.

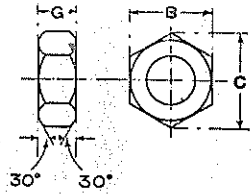
This specification, prepared by the Special Committee on Aircraft Materials and Components, was approved on behalf of the Council of the Association on 4th December, 1941.

NOTE.

In order to keep abreast of progress in the industries concerned, Australian standards are subject to periodical review. Suggestions for improvement, addressed to the Headquarters of the Association, will be welcomed.

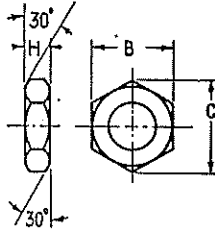
TABLE I.

Plain Nuts.



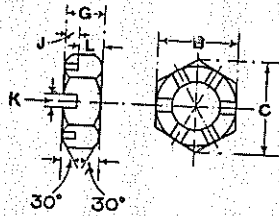
1 Nominal size.	2 Part No.		3 Width across flats B		5 Approx. Width across corners C	7 Thickness G _a	
	Rt. hd. thd.	Lt. hd. thd.	Min.	Max.		Min.	Max.
			in.	in.		in.	in.
6 B.A.	AP	APL	0.190	0.193	0.22	0.100	0.110
4 B.A.	BP	BPL	0.245	0.248	0.29	0.132	0.142
2 B.A.	CP	CPL	0.321	0.324	0.37	0.175	0.185
$\frac{3}{16}$ in. B.S.F.	DP	DPL	0.410	0.413	0.48	0.161	0.171
$\frac{1}{4}$ "	EP	EPL	0.440	0.445	0.51	0.190	0.200
$\frac{5}{16}$ "	FP	FPL	0.520	0.525	0.61	0.215	0.225
$\frac{3}{8}$ "	GP	GPL	0.520	0.525	0.61	0.240	0.250
$\frac{1}{2}$ "	JP	JPL	0.595	0.600	0.69	0.302	0.312
$\frac{5}{8}$ "	LP	LPL	0.705	0.710	0.82	0.365	0.375
$\frac{3}{4}$ "	NP	NPL	0.815	0.820	0.95	0.427	0.437
$\frac{7}{8}$ "	PP	PPL	0.915	0.920	1.06	0.490	0.500
1 "	QP	QPL	1.002	1.010	1.17	0.552	0.562
$1\frac{1}{8}$ "	RP	RPL	1.092	1.100	1.27	0.615	0.625
$1\frac{1}{4}$ "	SP	SPL	1.192	1.200	1.39	0.677	0.687
$1\frac{3}{8}$ "	TP	TPL	1.192	1.200	1.39	0.708	0.718
$1\frac{1}{2}$ "	UP	UPL	1.292	1.300	1.50	0.740	0.750
$1\frac{3}{4}$ "	VP	VPL	1.382	1.390	1.61	0.802	0.812
2 "	WP	WPL	1.468	1.480	1.71	0.865	0.875

TABLE II.
Thin Nuts.



1 Nominal size.	2 Part No.		3 Width across flats B		5 Approx. Width across corners C	6 Thickness H	
	Rt. hd. thd.	Lt. hd. thd.	Min.	Max.		Min.	Max.
			in.	in.		in.	in.
6 B.A.	AT	ATL	0.190	0.193	0.22	0.063	0.073
4 B.A.	BT	BTL	0.245	0.248	0.29	0.085	0.095
2 B.A.	CT	CTL	0.321	0.324	0.37	0.113	0.123
$\frac{7}{16}$ in. B.S.F.	DT	DTL	0.410	0.413	0.48	0.104	0.114
$\frac{1}{2}$ "	ET	ETL	0.440	0.445	0.51	0.123	0.133
$\frac{5}{8}$ "	FT	FTL	0.520	0.525	0.61	0.140	0.150
$\frac{3}{4}$ "	GT	GTL	0.520	0.525	0.61	0.156	0.166
$\frac{7}{8}$ "	HT	HTL	0.580	0.585	0.65	0.176	0.186
1 "	JT	JTL	0.595	0.600	0.69	0.198	0.208
$\frac{1 1}{8}$ "	KT	KTL	0.650	0.655	0.76	0.220	0.230
$\frac{1 1}{4}$ "	LT	LTL	0.705	0.710	0.82	0.240	0.250
$\frac{1 3}{8}$ "	MT	MTL	0.780	0.785	0.88	0.260	0.270
$\frac{1 1}{2}$ "	NT	NTL	0.815	0.820	0.95	0.281	0.291
$\frac{1 5}{8}$ "	PT	PTL	0.915	0.920	1.06	0.323	0.333
$\frac{1 7}{8}$ "	QT	QTL	1.002	1.010	1.17	0.365	0.375
2 "	RT	RTL	1.092	1.100	1.27	0.406	0.416
$2 \frac{1}{4}$ "	ST	STL	1.192	1.200	1.39	0.448	0.458
$2 \frac{1}{2}$ "	TT	TTL	1.192	1.200	1.39	0.470	0.480
$2 \frac{3}{4}$ "	UT	UTL	1.292	1.300	1.50	0.490	0.500
$3 \frac{1}{8}$ "	VT	VTL	1.382	1.390	1.61	0.530	0.540
3 "	WT	WTL	1.468	1.480	1.71	0.573	0.583
$3 \frac{1}{2}$ "	XT	XTL	1.658	1.670	1.93	0.656	0.666
$4 \frac{1}{4}$ "	YT	YTL	1.845	1.860	2.15	0.730	0.750

TABLE III.
Slotted Nuts.



For width across flats and corners (dimensions B & C) see Table I.

1 Nominal size.	2 Part No.	3 Thickness G		5 Slot.		7 Face of nut to bottom of slot L	
		4 Min.	4 Max.	6 J	6 K	7 Min.	8 Max.
2 B.A.	CS	0.240	0.250	0.090	0.080	0.150	0.160
$\frac{1}{2}$ in. B.S.F.	DS	0.240	0.250	0.090	0.090	0.160	0.160
$\frac{3}{8}$ "	ES	0.250	0.260	0.090	0.090	0.160	0.170
$\frac{1}{2}$ "	FS	0.260	0.270	0.090	0.090	0.170	0.180
$\frac{5}{16}$ "	GS	0.270	0.280	0.090	0.090	0.180	0.190
$\frac{3}{8}$ "	JS	0.302	0.312	0.090	0.090	0.212	0.222
$\frac{1}{2}$ "	LS	0.365	0.375	0.140	0.125	0.225	0.235
$\frac{5}{8}$ "	NS	0.427	0.437	0.140	0.125	0.287	0.297
$\frac{3}{4}$ "	PS	0.490	0.500	0.187	0.165	0.303	0.313
$\frac{7}{8}$ "	QS	0.562	0.562	0.187	0.165	0.365	0.375
$1\frac{1}{8}$ "	RS	0.615	0.625	0.187	0.165	0.428	0.438
$1\frac{1}{4}$ "	SS	0.677	0.687	0.234	0.208	0.443	0.453
$1\frac{3}{8}$ "	TS	0.708	0.718	0.234	0.208	0.474	0.484
$1\frac{1}{2}$ "	US	0.740	0.750	0.234	0.208	0.506	0.516
$1\frac{3}{4}$ "	VS	0.802	0.812	0.240	0.208	0.582	0.572
1 "	WS	0.865	0.875	0.280	0.250	0.585	0.595