NUT - HEXAGONAL, SELF-LOCKING, BALL, BIHEX, SHEAR TYPE, ALUMINIUM ALLOY

Issue : **J**
Date : **Jan 05**
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SUMMARY

1 - SCOPE AND FIELD OF APPLICATION

This standard specifies the dimensions, tolerances, required characteristics and the masses of a self-locking hexagonal nut.

2 - REFERENCES

ABS1419	:	Nut - Break-off groove, calibrated for short-thread bolts, recessed on thread end.
AMS 4340	:	Aluminium alloy extrusions. Solution heat treated, stress relieved, and overaged.
AMS 5520	:	Steel, corrosion and heat resistant, sheet, strip, foil and plate 15Cr - 7.2,5Mo - 1.1Al solution heat treated, precipitation hardenable.

AMS 5528	:	Steel sheet, strip, and plate, corrosion resistant 17Cr - 7.1Ni - 1.1Al solution heat treated.
AMS 5643	:	Steel, corrosion resistant, bars, wire, forgings, tubing, and rings 16Cr - 4.0Ni - 0.30 (Cb + Ta) - 4.0Cu solution heat treated, precipitation hardenable.
AMS QQ-A-225/9	:	Aluminium alloy 7075, bar, rod, wire and special shapes ; rolled, drawn or cold finished.
AMS QQ-P-416	:	Plating, cadmium (electrodeposited).
AS 8879	:	Screw threads - UNJ profile inch.
EN 2424	:	Aerospace series - Marking of aerospace products.
MIL-A-8625	:	Anodic coatings, for aluminium and aluminium alloys.
MIL-H-6088	:	Heat treatment of aluminium alloys.
MIL-H-6875	:	Heat treatment of steel, process for.

3 - TERMINOLOGY

Not applicable.

4 - REQUIRED CHARACTERISTICS

4.1 - Configuration, dimensions, tolerances, mass

4.1.1 - Configuration shall be in accordance with the figure.

4.1.2 - Dimensions shall be in accordance with Table 1.

All dimensions are given after finish and before lubrication.

4.1.3 - Tolerances shall be in accordance with Table 1.

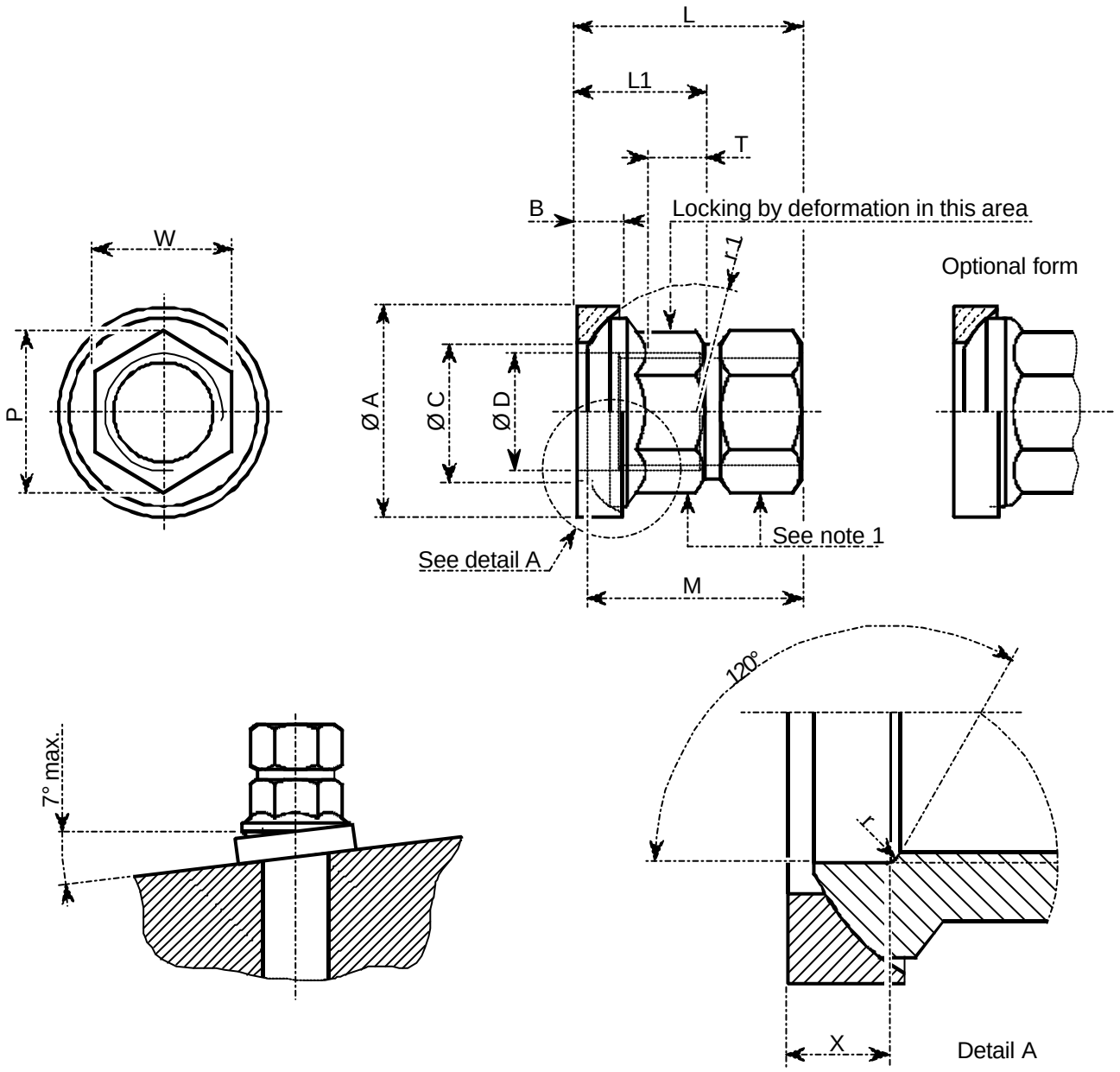
4.1.4 - Mass shall be in accordance with Table 1.

4.2 - Materials, thermal treatments, finishes, lubrications

Materials, thermal treatments, finishes and lubrications shall be in accordance with Table 2.

4.3 - Mechanical characteristics

Axial tensile strength shall be in accordance with Table 1.



NOTE 1 : Slight machining burrs are tolerated in this zone.

Figure - Configuration

Table 1 - Dimensions, tolerances, mechanical characteristics, mass

ITEM CODE No.	NOMINAL Æ	THREAD UNJF-3B AS PER AS 8879	Ø A	B	Ø C (Ref.)	Ø D (Ref.)	L (Ref.)	L1 (Ref.)	M	P (Ref.)	r1 (Sph.)
3	4,76	.1900-32	10,03 9,78	2,23 1,98	7,24	5,71	10,29	6,10	9,65 9,14	7,24	6,22 5,97
3A	5,56	.2160-28	11,94 11,68	2,41 2,16	8,13	6,53	11,56	6,73	10,92 10,41	8,13	6,86 6,60
4	6,35	.2500-28	13,08 12,83	3,12 2,87	9,27	7,31	12,06	7,11	11,30 10,79	9,02	7,87 7,62
5	7,94	.3125-24	16,76 16,51	4,06 3,81	11,43	8,84	14,10	8,25	12,95 12,45	10,92	9,78 9,52
6	9,52	.3750-24	20,07 19,81	4,57 4,32	13,33	10,49	15,87	9,27	14,99 14,48	14,55	11,30 11,05
7	11,11	.4375-20	22,68 22,43	6,02 5,76	15,37	12,14	17,91	11,30	16,26 15,75	16,33	12,83 12,57
8	12,70	.5000-20	25,53 25,27	6,73 6,48	17,53	13,72	19,43	12,32	17,14 16,64	20,01	14,35 14,10
9	14,28	.5625-18	30,10 29,84	6,86 6,60	20,50	15,37	21,72	13,08	20,32 19,81	21,84	18,16 17,91
10	15,88	.6250-18	34,92 34,54	8,00 7,75	22,15	16,97	23,88	14,22	22,10 21,59		19,30 19,05

ITEM CODE No.	NOMINAL Æ	THREAD UNJF-3B AS PER AS 8879	r max.	T min.	W	X min.	Min. AXIAL TENSILE STRENGTH (daN)	MASS (kg/1 000)
3	4,76	.1900-32	0,5	2,49	6,40 6,12	2,54	712	0,895
3A	5,56	.2160-28			7,19 6,88		1001	-
4	6,35	.2500-28			7,97 7,67	2,64	1 335	1,921
5	7,94	.3125-24	0,6	2,92	9,60 9,27	2,69	2 225	4,052
6	9,52	.3750-24		3,30	12,78 12,45	2,74	3 115	6,621
7	11,11	.4375-20	0,8	3,60	14,35 13,97	2,84	4 227	10,489
8	12,70	.5000-20		4,19	17,53 17,14	2,89	5 562	15,097
9	14,28	.5625-18	1,0	4,70	19,13 18,69	2,99	6 452	-
10	15,88	.6250-18		5,08			8 010	-

Dimensions in mm.

Table 2 - Materials, thermal treatments, finishes, lubrications

ELEMENT	MATERIAL	THERMAL TREATMENT	FINISHES	IDENTIFICATION	LUBRICATION
NUT	Aluminium alloy 7050 as per AMS 4340 or 7075 as per AMS QQ-A-225/9	T73 as per MIL-H-6088	Anodizing as per MIL-A-8625	Black	Cetyl alcohol
WASHER	CRES 17.4 PH as per AMS 5643 17.7 PH as per AMS 5528 PH 15.7 MO as per AMS 5520	H.1025 TH.1050 MIL-H-6875	Cadmium plating as per AMS QQ-P-416 type II, class 2	Purple paint layer item code Nos 9 and 10 only	-

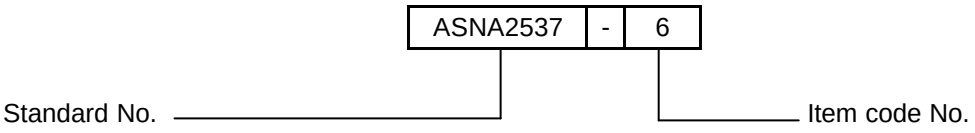
NOTE 2 : Elements which can not be machined, stored or used separately.

5 - DESIGNATION

Example of part number identification to be used on drawing schedules :

ASNA2537-6 , Nut

Example of part number construction :



6 - MARKING

Parts shall be marked as per EN 2424, category F.

7 - TECHNICAL SPECIFICATION

ABS1419.

8 - MANUFACTURERS

Refer to the list of qualified manufacturers and products.

AMENDMENT RECORD SHEET

ISSUE	MODIFIED PARAGRAPH	MODIFICATION SUMMARY	JUSTIFICATION
A.11.88		New standard.	Following note No. 437.127/88
B.04.89	3	Locking by deformation area modified. Table material, finish modified. General characteristics modified.	Mod. 9999
C.10.89		Masses modified.	Following manufacturer's information
D.11.91		Standard fully amended.	PMS8592 A 320 Mod. 21407
E.04.99		Item code No. 3A added.	DA request Ref. EIA-1067/99 TF3-WG1 item 858
F.02.00	Table 1	Values of dimensions L, L1 and M modified for item code No. 3A : 11,30 mm changed to 11,56 mm, 6,35 mm changed to 6,60 mm and 10,67/10,16 mm changed to 10,92/10,41 mm. Axial tensile strength modified for item code No. 3A : 889 daN changed to 1 000 daN. HS 381 added in technical specification.	DA request Ref. EIS-1033/00
G.10.00		Dimensions A, B, D, L1 and r1 modified in accordance with manufacturer's documentation for item code No. 3A.	DA request
H.10.01		Groove breaking torque modified for item code No. 3A : 0,68/0,59 m.daN changed to 0,68/0,51 m.daN.	In accordance with manufacturer's documentation
J.01.05		A/DET 0063 and HS 381 replaced by ABS1419 in technical specification. Torque-off & go thread gage penetration requirements deleted. Min tensile strength for –3A updated. Marking requirement modified.	ABS1419 update.

NOTE : Modification to the last standard issue are indicated by a vertical line in the margin.