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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Aerospace — Self-locking bihexagonal nuts, classifications 1 100 MPa/650 °C, 1 250 MPa/760 °C, 1 550 MPa/235 °C and 1 550 MPa/650 °C — Dimensions

Aéronautique et espace — Écrous bihexagonaux à freinage interne, classifications 1 100 MPa/650 °C, 1 250 MPa/760 °C, 1 550 MPa/235 °C *et* 1 550 MPa/650 °C — *Dimensions*

Reference number
ISO 9199 : 1987 (E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 9199 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles.*

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Aerospace — Self-locking bihexagonal nuts, classifications 1 100 MPa/650 °C, 1 250 MPa/760 °C, 1 550 MPa/235 °C and 1 550 MPa/650 °C — Dimensions

0 Introduction

The dimensions laid down in this International Standard have been specified so that the requirements laid down in the appropriate procurement specification, either ISO 5858 or ISO 8641 (depending on the classification of the nut), are complied with.

1 Scope

This International Standard lays down the dimensions for bihexagonal nuts, with a self-locking feature achieved by forming the upper portion out-of-round and having the following classifications:

- 1 100 MPa/650 °C;
- 1 250 MPa/760 °C;
- 1 550 MPa/235 °C;
- 1 550 MPa/650 °C.

2 Field of application

This International Standard is intended solely for the drawing up of complete product standards which, in order for such nuts to be manufactured, shall include the following additional information:

- material[1];
- possible surface coating(s)[1];
- procurement specification, i.e. either ISO 5858 or ISO 8641;
- designation;
- marking.

3 References

ISO 4095, *Fasteners for aerospace construction — Bihexagonal wrenching configuration.*

ISO 5855-1, *Aerospace construction — MJ threads — Part 1: Basic profile.*

ISO 5855-2, *Aerospace construction — MJ threads — Part 2: Dimensions for bolts and nuts.*

ISO 5858, *Aerospace — Self-locking nuts with maximum operating temperature less than or equal to 425 °C — Procurement specification.*[2]

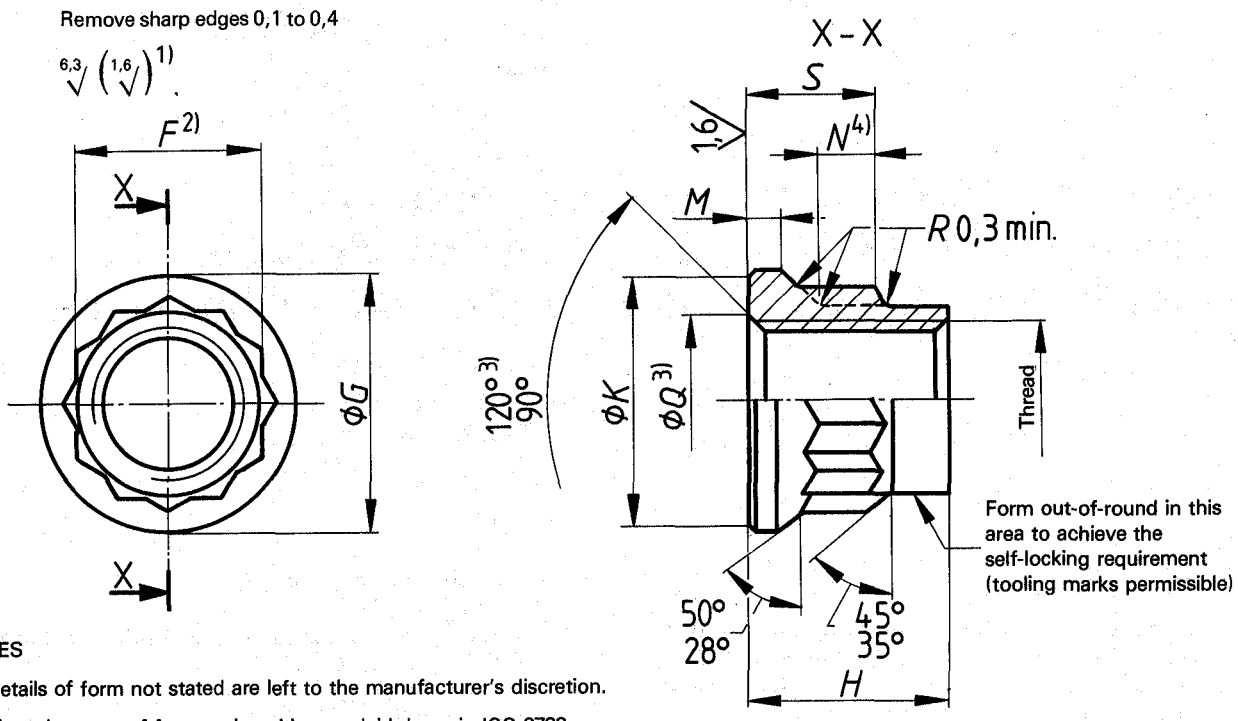
ISO 8641, *Aerospace — Self-locking nuts with maximum operating temperature greater than 425 °C — Procurement specification.*

ISO 8788, *Aerospace — Fasteners — Tolerances of form and position for nuts.*

1) The material and the possible surface coating(s) to be quoted in the complete product standard shall be chosen advisedly according to the characteristics required for the nuts.

2) At present at the stage of draft.

Dimensions in millimetres



NOTES

1 Details of form not stated are left to the manufacturer's discretion.

2 The tolerances of form and position are laid down in ISO 8788.

Figure — Configuration

Table — Dimensions

Dimensions in millimetres

Size code	Thread 5)	F	G max.	H max.	K min.	M min.	N min.	Q max.	Q min.	S max.
040	MJ4 × 0,70 — 4H6H	6	7,4	5,6	6,7	1,2	1,8	4,8	4,2	4,2
050	MJ5 × 0,80 — 4H6H	7	9,1	7	8,3	1,2	2	5,8	5,2	4,9
060	MJ6 × 1,00 — 4H5H	8	10,6	8,1	9,8	1,2	2,3	7,1	6,3	5,5
070	MJ7 × 1,00 — 4H5H	9	12,1	9,1	11,3	1,2	2,6	8,1	7,3	6,1
080	MJ8 × 1,00 — 4H5H	10	13,6	10,4	12,8	1,2	2,8	9,1	8,3	6,7
100	MJ10 × 1,25 — 4H5H	12	16,8	13	15,8	1,2	3,1	11,1	10,3	8,1
120	MJ12 × 1,25 — 4H5H	14	19,9	15	18,8	1,4	3,5	13,1	12,3	9,5
140	MJ14 × 1,50 — 4H5H	17	23	17,5	21,9	1,7	4	15,2	14,4	10,7
160	MJ16 × 1,50 — 4H5H	19	26	20	24,9	1,9	4,7	17,2	16,4	12,3
180	MJ18 × 1,50 — 4H5H	22	29,1	22,5	28	2,1	5,6	19,2	18,4	13,7
200	MJ20 × 1,50 — 4H5H	24	32,3	25	31,2	2,3	6,8	21,2	20,4	15,8
220	MJ22 × 1,50 — 4H5H	27	35,4	27,5	34,3	2,5	8,3	23,2	22,4	17,6
240	MJ24 × 2,00 — 4H5H	30	38	30	36,9	2,7	10,1	25,3	24,5	19,4

NOTE — These dimensions are applicable after any electrolytic deposition, but before the application of any dry film lubricant.

1) These values, in micrometres, are applicable before any surface coating(s) is(are) applied. This requirement does not apply to threads the surface texture of which will be as achieved by the usual manufacturing methods.

2) Bihexagonal configuration in accordance with ISO 4095 over length *N*.

3) All forms of entry (radius or chamfer) are permissible within these limiting dimensions.

4) Wrench pad engagement.

5) In accordance with ISO 5855. In the self-locking zone, the tolerances apply before forming out-of-round.

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Descriptors : aircraft industry, aircraft equipment, fasteners, nuts (fasteners), double hexagonal nuts, self locking nuts, dimensions.

Price based on 2 pages