

INTERNATIONAL STANDARD

ISO
9157

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ORGANISATION INTERNATIONALE DE NORMALISATION
МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

**Aerospace — Nuts, spline-drive, self-locking, with
MJ threads, coated or uncoated, classification
1 100 MPa/650 °C, 1 250 MPa/760 °C, 1 550 MPa/235 °C
or 1 550 MPa/650 °C — Dimensions**

*Aéronautique et espace — Écrous cannelés à freinage interne, à filetage MJ, revêtus ou non
revêtus, de classification 1 100 MPa/650 °C, 1 250 MPa/760 °C, 1 550 MPa/235 °C ou
1 550 MPa/650 °C — Dimensions*

Reference number
ISO 9157:1988 (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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 9157 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.

Aerospace — Nuts, spline-drive, self-locking, with MJ threads, coated or uncoated, classification 1 100 MPa/650 °C, 1 250 MPa/760 °C, 1 550 MPa/235 °C or 1 550 MPa/650 °C — Dimensions

0 Introduction

The dimensions laid down in this International Standard have been specified so as to satisfy the requirements laid down in ISO 5858 or ISO 8641 (depending on the classification of the nut).

1 Scope

This International Standard lays down the dimensions for nuts, with spline drive per ISO 7403, MJ thread, a self-locking feature achieved by forming the upper portion out-of-round, coated or uncoated, and with a classification of

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

2 Field of application

This International Standard is intended solely for the drawing up of product standards appropriate for aerospace use.

3 References

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

ISO 5858, *Aerospace — Self-locking nuts with maximum operating temperature less than or equal to 425 °C — Procurement specification.*¹⁾

ISO 7403, *Fasteners for aerospace construction — Spline drive wrenching configuration — Metric series.*

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) At present at the stage of draft.

4 Configuration and dimensions

See the figure and the table. Dimensions are expressed in millimetres.

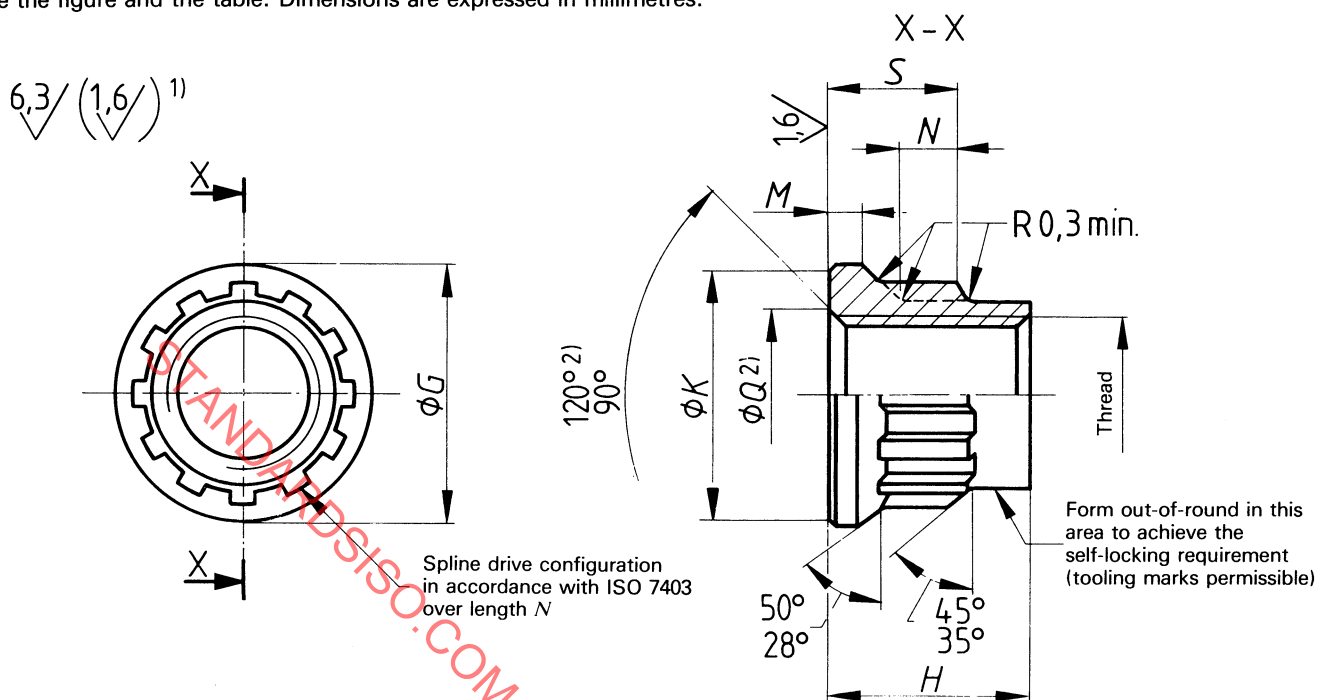


Figure 3)

Table 4), 5), 6)

Size code	Thread ⁷⁾	Spline drive ISO 7403 Dash No.	G	H	K	M	$N^{8)}$	Q		S
			max.	max.	min.	min.	min.	max.	min.	max.
040	MJ 4 × 0,7 – 4H6H	060	7,4	5,6	6,7	1,2	1,8	4,8	4,2	4,2
050	MJ 5 × 0,8 – 4H6H	070	9,1	7	8,3	1,2	2	5,8	5,2	4,9
060	MJ 6 × 1 – 4H5H	080	10,6	8,1	9,8	1,2	2,3	7,1	6,3	5,5
070	MJ 7 × 1 – 4H5H	090	12,1	9,1	11,3	1,2	2,6	8,1	7,3	6,1
080	MJ 8 × 1 – 4H5H	100	13,6	10,4	12,8	1,2	2,8	9,1	8,3	6,7
100	MJ10 × 1,25 – 4H5H	120	16,8	13	15,8	1,2	3,1	11,1	10,3	8,1
120	MJ12 × 1,25 – 4H5H	140	19,9	15	18,8	1,4	3,5	13,1	12,3	9,5
140	MJ14 × 1,5 – 4H5H	170	23	17,5	21,9	1,7	4	15,2	14,4	10,7
160	MJ16 × 1,5 – 4H5H	190	26	20	24,9	1,9	4,7	17,2	16,4	12,3
180	MJ18 × 1,5 – 4H5H	220	29,1	22,5	28	2,1	5,6	19,2	18,4	13,7
200	MJ20 × 1,5 – 4H5H	240	32,3	25	31,2	2,3	6,8	21,2	20,4	15,8
220	MJ22 × 1,5 – 4H5H	270	35,4	27,5	34,3	2,5	8,3	23,2	22,4	17,6
240	MJ24 × 2 – 4H5H	300	38	30	36,9	2,7	10,1	25,3	24,5	19,4

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

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

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

4) The dimensions and tolerances are applicable after any coating has been applied, but before the application of any dry film lubricant.

5) Remove sharp edges 0,1 to 0,4.

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

7) In accordance with ISO 5855-2. In the self-locking zone, the tolerances apply before forming out-of-round.

8) Wrench pad engagement.

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