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**Aerospace — Nuts, hexagonal, plain, normal height, normal across flats, with MJ threads, classifications: 600 MPa (at ambient temperature)/120 °C, 600 MPa (at ambient temperature)/235 °C, 900 MPa (at ambient temperature)/425 °C, 1 100 MPa (at ambient temperature)/235 °C, 1 100 MPa (at ambient temperature)/315 °C, 1 100 MPa (at ambient temperature)/650 °C, 1 210 MPa (at ambient temperature)/730 °C, 1 250 MPa (at ambient temperature)/235 °C and 1 550 MPa (at ambient temperature)/600 °C — Dimensions**

*Aéronautique et espace — Écrous hexagonaux ordinaires, hauteur normale, surplats normaux, à filetages MJ, classifications: 600 MPa (à température ambiante)/120 °C, 600 MPa (à température ambiante)/235 °C, 900 MPa (à température ambiante)/425 °C, 1 100 MPa (à température ambiante)/235 °C, 1 100 MPa (à température ambiante)/315 °C, 1 100 MPa (à température ambiante)/650 °C, 1 210 MPa (à température ambiante)/730 °C, 1 250 MPa (à température ambiante)/235 °C et 1 550 MPa (à température ambiante)/600 °C — Dimensions*



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## Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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ISO 8279 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 4, *Aerospace fastener systems*.

This third edition cancels and replaces the second edition (ISO 8279:1997), which has been technically revised.

## Introduction

The dimensions specified in this International Standard have been determined to satisfy the requirements of the procurement specification ISO 9139.

# **Aerospace — Nuts, hexagonal, plain, normal height, normal across flats, with MJ threads, classifications: 600 MPa (at ambient temperature)/120 °C, 600 MPa (at ambient temperature)/235 °C, 900 MPa (at ambient temperature)/425 °C, 1 100 MPa (at ambient temperature)/235 °C, 1 100 MPa (at ambient temperature)/315 °C, 1 100 MPa (at ambient temperature)/650 °C, 1 210 MPa (at ambient temperature)/730 °C, 1 250 MPa (at ambient temperature)/235 °C and 1 550 MPa (at ambient temperature)/600 °C — Dimensions**

## **1 Scope**

This International Standard specifies the dimensions of plain, hexagonal nuts, of normal height, normal across flats, with MJ threads, of classifications: 600 MPa<sup>1)</sup>/120 °C<sup>2)</sup>, 600 MPa<sup>1)</sup>/235 °C<sup>2)</sup>, 900 MPa<sup>1)</sup>/425 °C<sup>2)</sup>, 1 100 MPa<sup>1)</sup>/235 °C<sup>2)</sup>, 1 100 MPa<sup>1)</sup>/315 °C<sup>2)</sup>, 1 100 MPa<sup>1)</sup>/650 °C<sup>2)</sup>, 1 210 MPa<sup>1)</sup>/730 °C<sup>2)</sup>, 1 250 MPa<sup>1)</sup>/235 °C<sup>2)</sup> and 1 550 MPa<sup>1)</sup>/600 °C<sup>2)</sup>.

Nuts provided with holes are intended to be used with lockwire in conformity with ISO 245.

This International Standard is only applicable for the compilation of aerospace product standards.

## **2 Normative references**

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 245, *Aerospace — Lockwire — Diameters*

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

ISO 8788, *Aerospace — Nuts, metric — Tolerances of form and position*

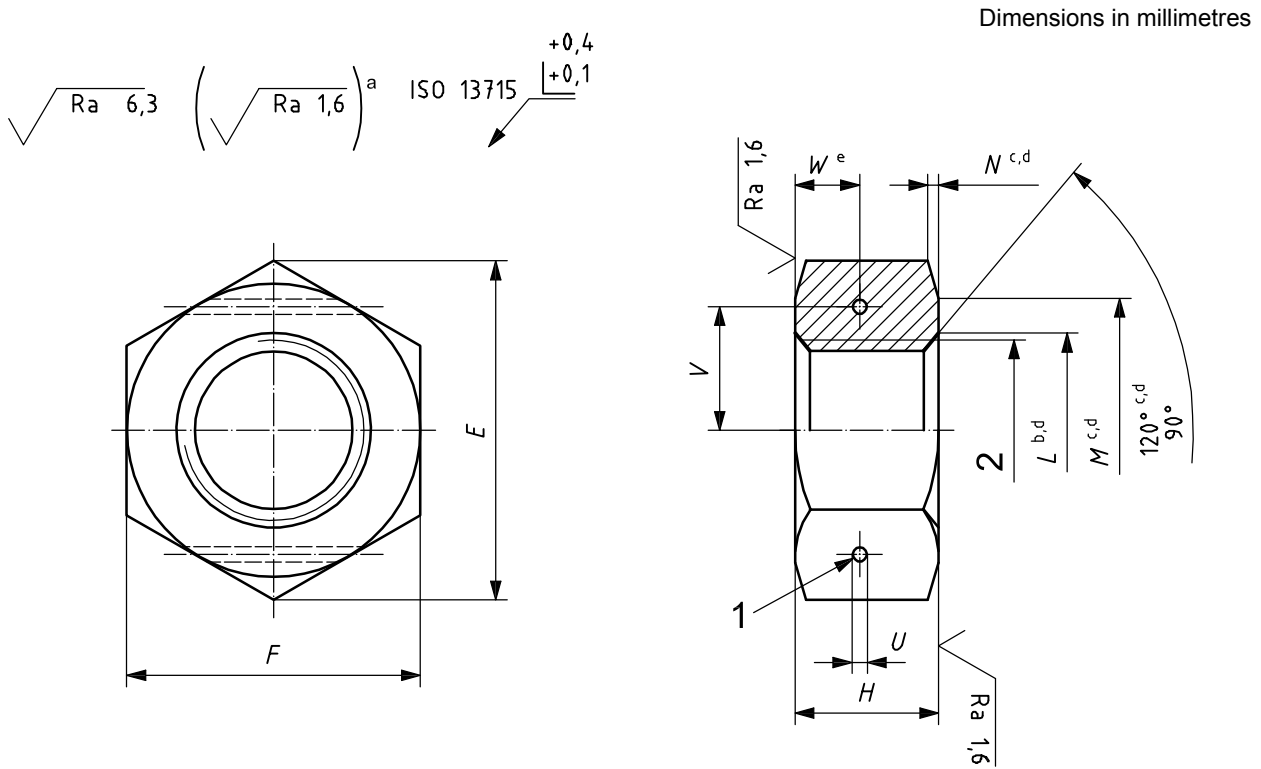
- 1) Corresponds to the minimum tensile stress that the nut is able to withstand at ambient temperature, without breaking or cracking, when tested with a bolt of a higher strength class.
- 2) Maximum temperature that the nut is able to withstand, without permanent alteration to its original characteristics, after ambient temperature has been restored. The maximum temperature is conditioned by the material or by the surface treatment.

### 3 Configuration and dimensions

See Figure 1 and Table 1.

Dimensions and tolerances are expressed in millimetres.

They apply after any surface coating(s), but before the application of any lubricant.



Tolerances of form and position shall conform to those specified in ISO 8788. Details of form not stated are left to the manufacturer's discretion.

#### Key

- 1 two holes diameter  $U$ , optional
- 2 thread

- a These values, in micrometres, apply before any surface coating(s) is(are) applied. The values do not apply to threads whose surface texture will be as achieved by the usual manufacturing methods.
- b All forms of entry (chamfer or radius) permissible within these limiting dimensions.
- c Form of contour, within limiting dimensions, is left to the manufacturer's discretion. Diameter  $M$  may be tangential to, but shall not intrude on, the flats.
- d To both faces.
- e From one face.

Figure 1

Table 1

Dia- meter code	Thread <sup>a</sup>	<i>L</i>		<i>M</i>	<i>U</i>	<i>E</i>	<i>F</i>		<i>H</i>	<i>N</i>		<i>V</i>	<i>W</i>	Lockwire diameter <sup>b</sup>
		nom.	tol.	min.	H13	min.	nom.	tol.	h14	nom.	tol.	± 0,2	min.	
020	MJ2 × 0,4-4H6H	2,2	+0,6 0	3,4	—	4,2	4	h12	1,6	0,4	0 -2	—	—	—
025	MJ2,5 × 0,45-4H6H	2,7		4,4		5,3	5		2					
030	MJ3 × 0,5-4H6H	3,2		5,4		6,5	6		2,4					
040	MJ4 × 0,7-4H6H	4,2		6,4		7,6	7		3,2					
050	MJ5 × 0,8-4H6H	5,2		7,4		8,7	8		4					
060	MJ6 × 1-4H5H	6,3	+0,8 0	9,3	1	10,9	10	h13	4,8	0,5	0 -3	3,9	2	0,8
070	MJ7 × 1-4H5H	7,3		10,2		12	11		5,6			4,4	2,4	
080	MJ8 × 1-4H5H	8,3		12,2		14,3	13		6,4			5	2,8	
100	MJ10 × 1,25-4H5H	10,3		16	18,9	17	8		6,9	3,6		1,25		
120	MJ12 × 1,25-4H5H	12,3		18	21,1	19	9,6		8	4,4				
140	MJ14 × 1,5-4H5H	14,4		21	24,5	22	11,2		9,6	5,1				
160	MJ16 × 1,5-4H5H	16,4		23	26,8	24	12,8		10,7	5,9				
180	MJ18 × 1,5-4H5H	18,4		26	30,2	27	14,4		12	6,7				
200	MJ20 × 1,5-4H5H	20,4		29	33,6	30	16		13,4	7,5				
220	MJ22 × 1,5-4H5H	22,4		30,9	35,8	32	17,6		14,4	8,3				
240	MJ24 × 2-4H5H	24,5	34,9	40,4	36	19,2	16,1	9,1						

<sup>a</sup> In accordance with ISO 5855-2.

<sup>b</sup> For information, in conformity with ISO 245.

## Bibliography

- [1] ISO 9139, *Aerospace — Nuts, plain or slotted (castellated) — Procurement specification*
- [2] ISO 13715, *Technical drawings — Edges of undefined shape — Vocabulary and indications*



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