

INTERNATIONAL  
STANDARD

ISO  
3221

First edition  
1989-10-15

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**Aerospace — Nuts, anchor, self-locking, fixed, 90° corner, with counterbore, with MJ threads, coated or uncoated, classification 1 100 MPa/235 °C, 1 100 MPa/315 °C or 1 100 MPa/425 °C — Dimensions**

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*Aéronautique et espace — Écrous à river, à freinage interne, à filetage MJ, fixes, d'angle 90°, avec chambrage, revêtus ou non revêtus, de classification 1 100 MPa/235 °C, 1 100 MPa/315 °C ou 1 100 MPa/425 °C — Dimensions*

[ISO 3221:1989](#)

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Reference number  
ISO 3221 : 1989 (E)

## Foreword

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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 3221 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*.

ISO 3221:1989

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 — Nuts, anchor, self-locking, fixed, 90° corner, with counterbore, with MJ threads, coated or uncoated, classification 1 100 MPa/235 °C, 1 100 MPa/315 °C or 1 100 MPa/425 °C — Dimensions

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### 0 Introduction

The dimensions laid down in this International Standard have been specified so as to satisfy the requirements laid down in ISO 5858.

### 1 Scope

This International Standard lays down the dimensions for fixed, 90° corner, counterbored anchor nuts, with MJ threads, coated or uncoated, with a self-locking feature achieved by forming the upper portion out-of-round and with a classification of

- 1 100 MPa/235 °C; or
- 1 100 MPa/315 °C; or
- 1 100 MPa/425 °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.*<sup>1)</sup>

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

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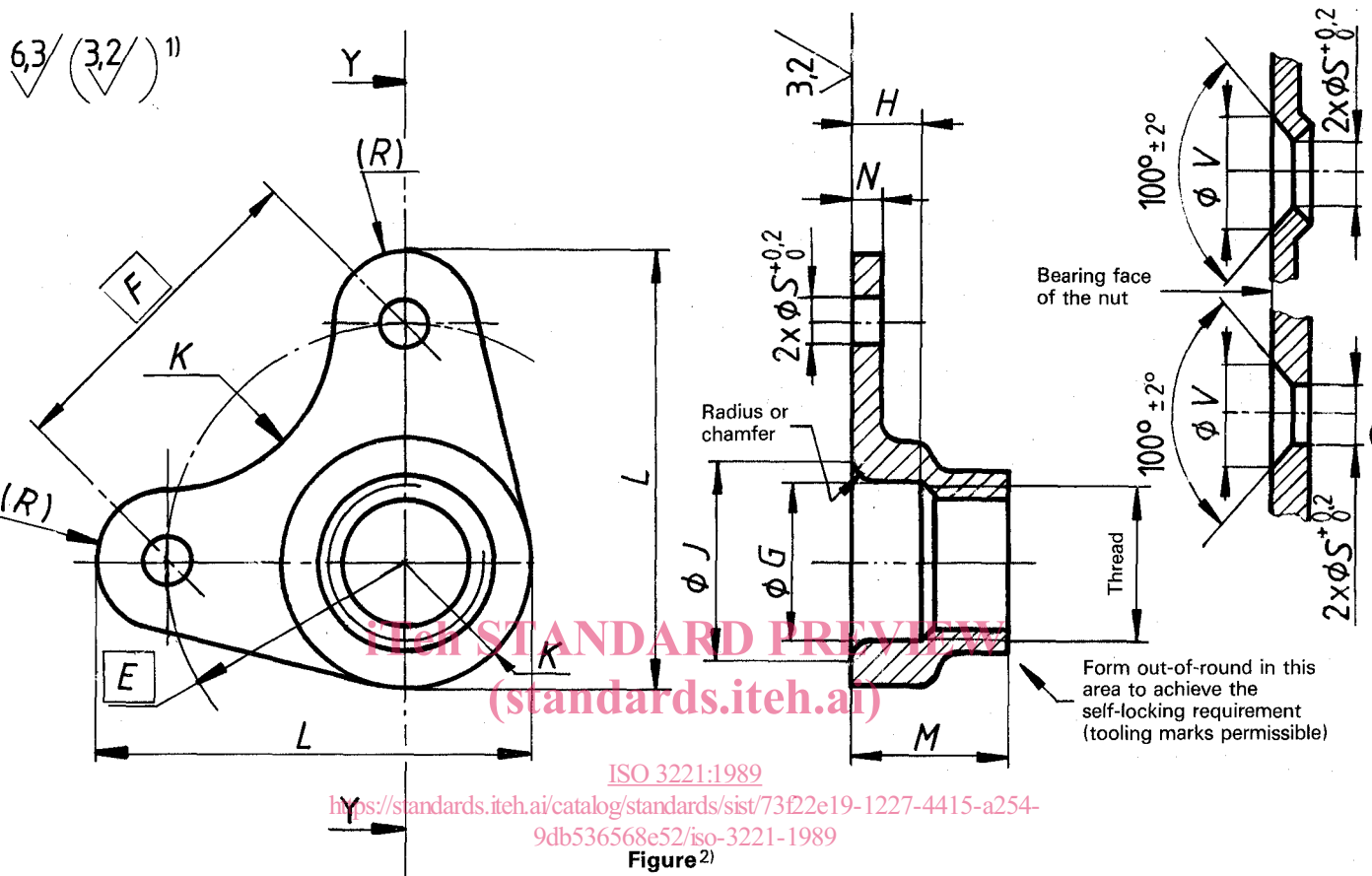
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1) At present at the stage of draft.

4 Configuration and dimensions

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

**Alternatives :** countersunk rivet holes (when specified by purchaser) may be dimpled or cut countersunk (at manufacturer's option)



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Figure 2)

Table 3), 4), 5)

Size code	Thread <sup>6)</sup>	E	F	G min.	H min.	J <sup>7)</sup> max.	K max.	L max.	M max.	N <sup>8)</sup> max.	R	S	V ±0,25
030	MJ 3 × 0,5 – 4H6H	6	8,5	9)	9)	4,6	3	11,7	3,2	1	2,5	2,5	4,8
040	MJ 4 × 0,7 – 4H6H	8,5	12	4,4	2,2	6,2	4	15,7	5,8	1	3	2,5	4,8
050	MJ 5 × 0,8 – 4H6H	9,5	13,4	5,5	2,4	7,3	4,5	17,2	6,9	1	3	2,5	4,8
060	MJ 6 × 1 – 4H5H	11	15,6	6,5	2,7	8,7	5	19,7	8,1	1,2	3,5	2,5	4,8
080	MJ 8 × 1 – 4H5H	11	15,6	8,5	2,7	10,9	6,5	21,2	9,9	1,5	3,5	3	5,7
100	MJ10 × 1,25 – 4H5H	13	18,4	10,5	3	12,9	8,1	25,8	12	1,6	4,5	3,5	6,6

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

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

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

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

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

7) Measured to points of tangency (radiused) or to sharp corners (chamfered).

8) Sheet thickness, applicable at the rivet location.

9) This nut does not have a counterbore.

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**Descriptors :** aircraft industry, aircraft equipment, fasteners, nuts (fasteners), anchor nuts, self locking nuts, counterbore nuts, dimensions.

Price based on 2 pages

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