
International Standard



7332

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

Metric fasteners for aerospace construction — Nuts, anchor, self-locking, floating, two lug, reduced series, with counterbore — Strength classification 1 100 MPa — Maximum operating temperature 235 °C

Éléments de fixation métriques pour les constructions aérospatiales — Écrous à river, à freinage interne, flottants, double patte, série réduite, avec chambrage — Classe de résistance 1 100 MPa — Température maximale d'utilisation 235 °C

First edition — 1983-08-01

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UDC 621.882 : 629.7

Ref. No. ISO 7332-1983 (E)

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

Price based on 3 pages

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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.

International Standard ISO 7332 was developed by Technical committee ISO/TC 20, *Aircraft and space vehicles*, and was circulated to the member bodies in November 1981.

It has been approved by the member bodies of the following countries:

Austria	Germany, F.R.	Spain
Belgium	Italy	Sweden
Brazil	Mexico	United Kingdom
Canada	Netherlands	USA
China	Romania	USSR
Czechoslovakia	South Africa, Rep. of	

The member body of the following country expressed disapproval of the document on technical grounds :

France

Metric fasteners for aerospace construction — Nuts, anchor, self-locking, floating, two lug, reduced series, with counterbore — Strength classification 1 100 MPa — Maximum operating temperature 235 °C

0 Introduction

This International Standard is confined to those dimensional characteristics accepted to date. Sub-clauses 4.5, 4.6 and 4.7 will be completed when the relevant International Standards become available.

Sub-clauses relating to "Designation" and "Marking" will be added later.

1 Scope

This International Standard specifies requirements for two lug, reduced series, counterbored, floating anchor nuts, with a self-locking feature achieved by forming the upper portion out-of-round.

2 Field of application

These nuts are intended for use in airborne vehicle assemblies, in which the fasteners are mainly subjected to shear loads. The counterbore is deep enough to accommodate a bolt plain shank in excess of assembly thickness as well as the incomplete threads.

They are intended to be used with threaded parts of 1 100 MPa¹⁾ tensile strength classification. The cadmium plating restricts the use of these nuts to a temperature not exceeding 235 °C.

3 References

ISO 128, *Technical drawings — General principles of presentation*.

ISO 286/1, *ISO system for limits and fits — Part 1 : Basis for tolerances, deviations and fits*.²⁾

ISO 468, *Surface roughness — Parameters, their values and general rules for specifying requirements*.

ISO 1101, *Technical drawings — Geometrical tolerancing — Tolerances of form, orientation, location and runout — Generalities, definitions, symbols, indications on drawings*.

ISO 1302, *Technical drawings — Method of indicating surface texture on drawings*.

ISO 2692, *Technical drawings — Geometrical tolerancing — Maximum material principle*.³⁾

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*.

1) This strength class applies at a temperature of 20 °C.

2) At present at the stage of draft. (Revision of ISO/R 286-1962.)

3) At present at the stage of draft. (Revision of ISO/R 1101/2-1974.)

4 Required characteristics

4.1 Configuration

Configuration shall be in accordance with the figure, which is presented in conformity with ISO 128. Only maximum envelope dimensions and those affecting interchangeability are imposed. The minimum dimensions are limited by the strength requirements. Details of form, not stated, are at the manufacturer's option.

4.2 Dimensions

All linear dimensions are expressed in millimetres; they shall conform with the table and apply as follows :

- threads : after cadmium plating but before dry film lubricant;
- other surfaces : after cadmium plating and dry film lubricant.

Standard tolerance symbols and values for linear dimensions are in conformity with ISO 286. Symbols for tolerances for form and position conform with ISO 1101 and ISO 2692.

4.3 Screw threads

MJ threads : see ISO 5855.

4.4 Surface roughness

R_a max., in micrometres, $\sqrt[6.3]{\quad}$ ($\sqrt{\quad}$) in accordance with ISO 468 and ISO 1302. These values are applicable before cadmium plating and dry film lubricant.

This requirement does not apply to threads, sheared edges or punched holes, where the surface texture will be as achieved by normal methods of manufacture. Tool marks are permissible to produce the self-locking feature.

4.5 Material and relevant characteristics

Steel. See clause 0.

4.6 Surface treatment

Cadmium plated and dry film lubricated. See clause 0.

4.7 Procurement specification

See clause 0.

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Dimensions in millimetres

Remove sharp edges 0,1 to 0,4

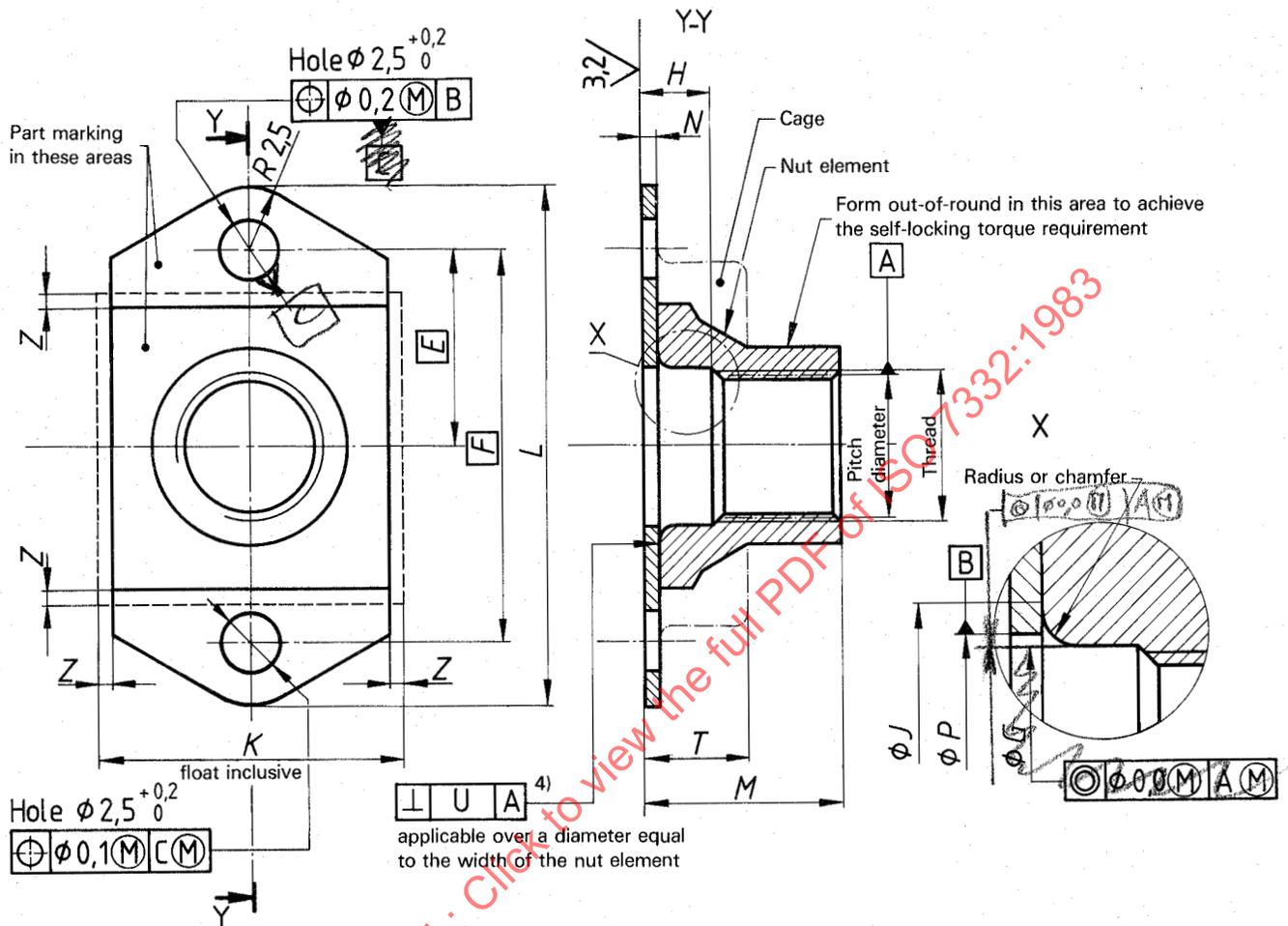


Figure – Configuration

Table – Dimensions and masses

Dimensions in millimetres

Diameter code	Thread ¹⁾	E	F	G		H		J ²⁾	K	L	M	N ³⁾	P	T	U ⁴⁾	Radial float Z	Mass, kg/1 000
				min.	max.	min.	max.										
040	MJ4 × 0,7 – 4H6H	6	12	4,4	2,2	6,2	11	17,2	5,8	0,8	5,4	4,5	0,15	0,5	1,76		
050	MJ5 × 0,8 – 4H6H	7	14	5,5	2,4	7,3	12	19,2	6,9	0,8	6,5	4,5	0,18	0,5	1,9		
060	MJ6 × 1 – 4H5H	8	16	6,5	2,7	8,7	13,2	21,2	8,1	0,8	7,5	4,6	0,18	0,5	2,8		

- 1) In the self-locking zone, the tolerances apply before forming out-of-round.
- 2) Diameter J is to sharp corners (chamfered) or point of tangency (radiused).
- 3) Dimension N is the sheet thickness applicable at the rivet location.
- 4) See checking requirements in the procurement specification.

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