INTERNATIONAL STANDARD

ISO 12277

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Aerospace — Gang channel, self-locking, floating, standard series, with counterbore, classifications: 1 100 MPa (at ambient temperature)/120 °C, 1 100 MPa (at ambient temperature)/235 °C and 1 100 MPa (at ambient temperature)/425 °C — Dimensions

Aéronautique et espace — Bandes à écrous prisonniers, à freinage interne, flottants, série normale, avec chambrage, classifications: 1 100 MPa (à température ambiante)/120 °C, 1 100 MPa (à température ambiante)/235 °C et 1 100 MPa (à température ambiante)/425 °C — Dimensions

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 12277 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 4, *Aerospace fastener systems*.

Introduction

The dimensions specified in this International Standard have been determined to allow production of a part which will satisfy the requirements of the procurement specification ISO 5858.

Aerospace — Gang channel, self-locking, floating, standard series, with counterbore, classifications: 1 100 MPa (at ambient temperature)/120 °C, 1 100 MPa (at ambient temperature)/235 °C and 1 100 MPa (at ambient temperature)/425 °C — Dimensions

1 Scope

This International Standard specifies the dimensions of standard series gang channels with self-locking, floating nuts, with counterbore, with MJ threads, of classifications: 1 100 MPa[1)]/120 °C[2)], 1 100 MPa[1)]/235 °C[2)], 1 100 MPa[1)]/425 °C[2)].

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

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 5855-2:1999, *Aerospace — MJ threads — Part 2: Limit dimensions for bolts and nuts*.

ISO 5858:1999, *Aerospace — Nuts, self-locking, with maximum operating temperature less than or equal to 425 °C — Procurement specification*.

ISO 8788:2000, *Aerospace — Nuts, metric — Tolerances of form and position*.

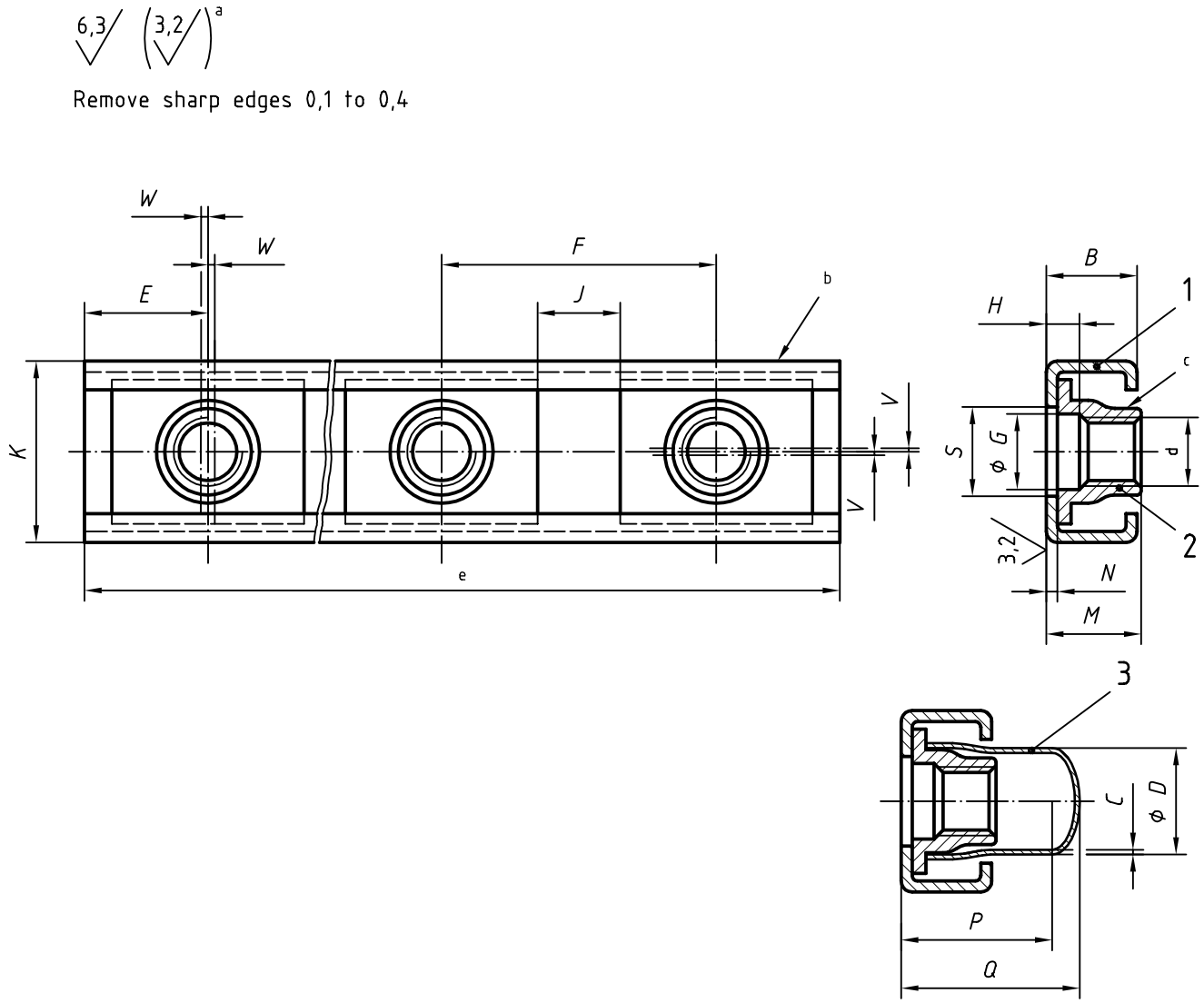
3 Configuration and dimensions

See Figure 1 and Table 1. Dimensions and tolerances are in millimetres. They apply after any surface coating(s) but before the application of any lubricant.

The metallic cap (optional) shall remain joined (type of attachment at the user's discretion) to the nut at the maximum operating temperature. See test conditions in ISO 5858.

1) Corresponds to the minimum tensile stress which 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 either by the material or by the surface treatment.



Key

1 Gang

2 Nut

3 Metallic cap

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

[a] These values, in micrometres, are valid prior to any surface coating(s). The values do not apply to threads, punched holes or shear edges the surface texture of which will be as achieved by the usual manufacturing methods.

[b] The gang external form and the nut retention feature are left to the manufacturer's discretion.

[c] Form out-of-round in this area to achieve the self-locking torque requirement. Tooling marks permissible in this area

[d] Thread

[e] Standard length: 200 max.

Figure 1

Table 1

Diameter code	Thread[a]	B max.	C max.	D max.	E min.	F [b] min.	G	H max.	J min.	K max.	M max.	N max.	P[c] max.	Q max.	S min.	V	W
040	MJ4×0,7-4H6H	5,3	0,4	6,6	8	18	4,4	2,2	6,7	10,6	5,8	0,8	11	13	5,5	0,25	0,75
050	MJ5×0,8-4H6H	6,6		8,1	9	20	5,5	2,4		13,2	6,9		11,4	13,4	6,5		
060	MJ6×1-4H5H	7,3		9,2	11	24	6,5	2,7		14,7	8,1		12,7	14,7	7,5		
080	MJ8×1-4H5H	9	0,5	12,8	14	30	8,5		12,7	18	9,9	1	15	18	9,5		

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

[b] First nominal values of nut spacing – Increments:

— 1st choice: 6

— 2nd choice: 2

[c] Maximum intrusion of the bolt.

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