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BS EN 4078:2009

Aerospace series — Inserts, threaded, thin wall, locked and self-locking, in heat resisting steel, MoS2 lubricated — Classification: 1 100 MPa (at ambient temperature) / 315 °C

ICS 49.030.30

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ISBN 978 0 580 67777 9

Amendments/corrigenda issued since publication

Date	Comments

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4078

November 2009

ICS 49.030.30

English Version

Aerospace series - Inserts, threaded, thin wall, locked and self-locking, in heat resisting steel, MoS2 lubricated - Classification: 1 100 MPa (at ambient temperature) / 315 °C

Série aérospatiale - Douilles filetées, à paroi mince, freinées et à freinage interne, en acier résistant à chaud lubrifiées MoS2 - Classification: 1 100 MPa (à température ambiante) / 315 °C

Luft- und Raumfahrt - Gewindeeinsatz, dünnwandig, gesichert und schraubensichernd, aus hochwarmfestem Stahl, MoS2 geschmiert - Klasse: 1 100 MPa (bei Raumtemperatur) / 315 °C

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Foreword

This document (EN 4078:2009) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

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1 Scope

This European Standard specifies the characteristics of threaded thin wall inserts, locked and with a self-locking feature achieved by deforming out-of-round the internal thread of mid length, in heat resisting steel, MoS_2 lubricated.

Classification : 1 100 MPa[1] / 315 °C[2].

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.

EN 2424, *Aerospace series — Marking of aerospace products*

EN 2491, *Aerospace series — Molybdenum disulphide dry lubricants — Coating methods*

EN 4217, *Aerospace series — Inserts, thin wall, for airframe applications — Installation and removal procedure*[3]

EN 4218, *Aerospace series — Inserts, thin wall, self-locking, MJ threads, in heat resisting steel, MoS_2 lubricated — Classification 1 100 MPa (at ambient temperature) / 315 °C — Technical specification*[3]

ISO 965-1, *ISO general-purpose metric screw threads — Tolerances — Part 1: Principles and basic data*

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

TR 3791, *Aerospace series — Materials for self-locking nuts, threaded inserts and screw thread inserts of temperature classes ≥ 425 °C*

2.1 Configuration – Dimensions – Masses

See Figure 1 and Table 1.

Dimensions and tolerances are expressed in millimetres and apply before MoS_2 lubrication.

Details of form not stated are at the manufacturer's option.

2.2 Materials

TR 3791.

2.3 Surface treatment

EN 2491, thickness not specified.

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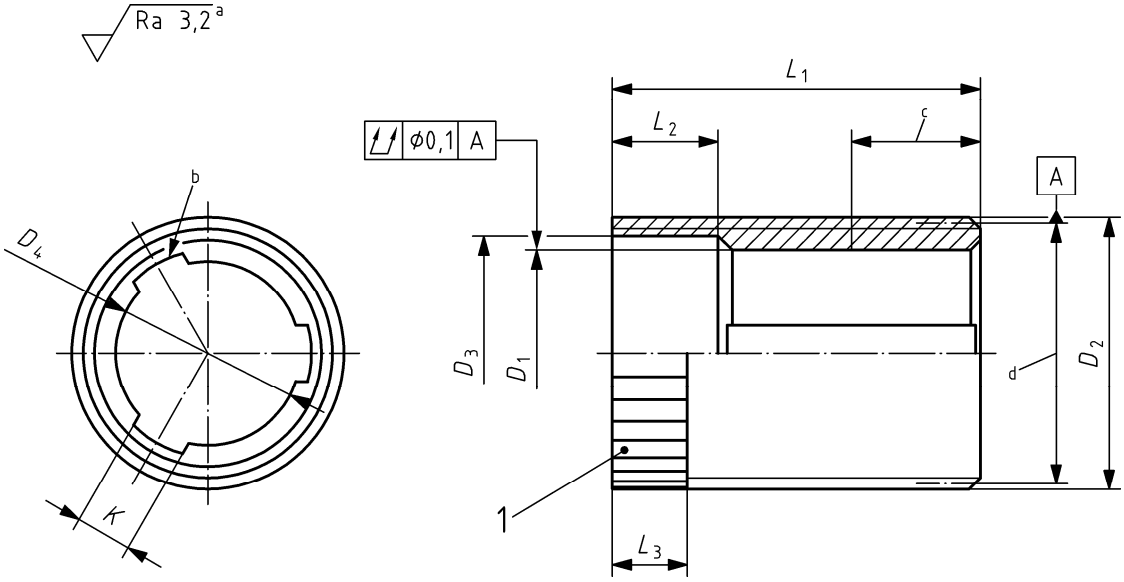
1) Corresponds to the minimum tensile stress which the insert is able to withstand at ambient temperature without breaking or cracking when tested with a bolt of a higher strength class.

2) Maximum temperature that the insert is able to withstand, without permanent alteration to its original characteristics, after ambient temperature has been restored. The maximum temperature is conditioned by the MoS_2 lubricant.

3) In preparation at the date of publication of this standard.

Dimensions in millimetres



Key

1 Knurled across thread to produce L3 serrations

a These values in micrometres apply before surface treatment. They do not apply to threads and sheared edges the surface texture of which will be as achieved by normal manufacturing methods.

b Three slots equip-spaced

c Thread lock approximately mid length

d Thread pitch diameter

Figure 1

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Table 1

Diameter code	**Internal thread**[a]	**External thread**[b]					L1 ± 0,3 Configuration		L2	L3	**Mass**[c] Configuration	
	D_1	D_2	Minor diameter	D_3	D_4	K						
			max.	± 0,13	min.	min.	A	B	± 0,2	± 0,3	A	B
030	MJ3x0,5-4H6H	M5x0,8-4g	4,044	3,17	2,82	0,9	-	5,1	2,15	1,6	-	0,33
040	MJ4x0,7-4H6H	M6x1-4g	4,954	4,21	3,72	1,15	-	6,9	2,55	1,9	-	0,51
050	MJ5x0,8-4H6H	M7x1-4g	5,973	5,23	4,56	1,25	7,6	9,1	2,95	2,3	0,68	0,83
060	MJ6x1-4H5H	M8x1-4g	7,016	6,28	5,44	1,5	8,9	10,7	3,15	2,4	1,05	1,28
080	MJ8x1-4H5H	M10x1-4g	9,056	8,32	7,28	2	12,8	15,7	3,95	2,9	2,02	2,47
100	MJ10x1.25-4H5H	M12x1-4g	11,11	10,37	9,14	2,5	16,2	19,9	4,65	3,3	3,30	4,13
120	MJ12x1,25-4H5H	M14x1-4g	13,116	12,37	11,14		19,9	24,8		3,5	5,04	6,25
140	MJ14x1,5-4H5H	M16x1-4g	15,116	14,37	13,14		23,1	28,8		3,6	7,06	8,95

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

[b] In accordance with ISO 965-1, except for the maximum minor diameter which shall be as stated in Table 1.

[c] Approximate values (kg/1 000 pieces), calculated on the basis of 7,85 kg/dm³, for information purposes only.

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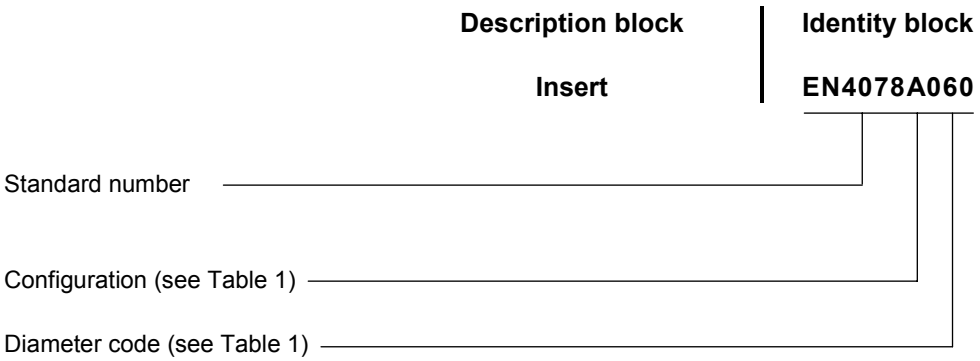
3 Designation

EXAMPLE:



NOTE If necessary, the code I9005 shall be placed between the description block and the identity block.

4 Marking

EN 2424, style G.

5 Installation

EN 4217.

6 Technical specification

EN 4218.

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