SLOVENSKI STANDARD
SIST EN 4234:2020

01-oktober-2020

Nadomešča:
SIST EN 4234:2015

Aeronavtika - Objemke s polžastim gonilom - Mere, mase

Aerospace series - Clamps, worm drive - Dimensions, masses

Luft- und Raumfahrt - Schellen mit Schneckenbetrieb - Maße, Massen

Série aérospatiale - Colliers à vis tangente - Dimensions, masses

Ta slovenski standard je istoveten z: **EN 4234:2020**

ICS:

49.030.99	Drugi vezni elementi	Other fasteners

SIST EN 4234:2020 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4234

July 2020

ICS 49.030.99

Supersedes EN 4234:2015

English Version

Aerospace series - Clamps, worm drive - Dimensions, masses

Série aérospatiale - Colliers à vis tangente - Dimensions, masses

Luft- und Raumfahrt - Schellen mit Schneckenbetrieb - Maße, Massen

This European Standard was approved by CEN on 14 July 2019.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN 4234:2020 E

Contents

European foreword

This document (EN 4234:2020) 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-STAN, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2021, and conflicting national standards shall be withdrawn at the latest by January 2021.

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

This document supersedes EN 4234:2015.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Republic of North Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This document specifies the characteristics of worm drive clamps designed for use with suitable rubber hoses to form joints in fluid system pipelines for aerospace applications.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 2465, *Aerospace series — Steel X2CrNi18-9 (1.4307) — Softened — 450 MPa ≤ R_m ≤ 680 MPa — Bars for machining — 4 mm ≤ D_e ≤ 100 mm*

EN 2516, *Aerospace series — Passivation of corrosion resisting steels and decontamination of nickel base alloys*

EN 3077, *Clamps worm drive — Technical specification*[1]

EN 3487, *Aerospace series — Steel FE-PA3601 (X6CrNiTi18-10) — Air melted — Softened — Bar for machining — a or D ≤ 250 mm — 500 MPa ≤ R_m ≤ 700 MPa*

EN 3488, *Aerospace series — Steel FE-PA3601 (X6CrNiTi18-10) — Air melted — Softened — Sheet and strip — a ≤ 6 mm — 500 MPa ≤ R_m ≤ 700 MPa*

EN 10088 (all parts), *Stainless steels*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Design

The housing shall be firmly attached to the band.

NOTE Clamps of form N are only equipped with a stamped band and undrilled, round-headed screw.

1 Published as ASD-STAN Prestandard at date of publication of this European standard by AeroSpace and Defence industries Association of Europe – Standardization (ASD-STAN) (www.asd-stan.org).

5 Required characteristics

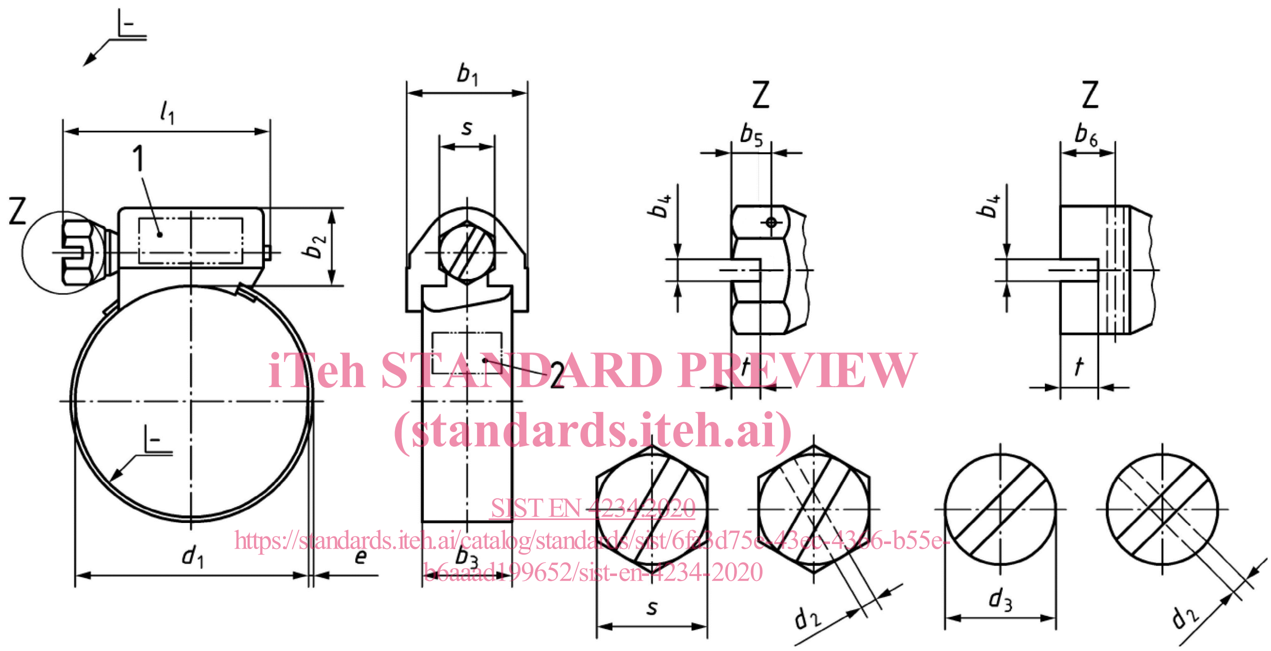
5.1 Configuration — Dimensions — Masses

The configuration shall correspond with Figure 1.

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

Dimensions shall correspond with Figure 1 and Table 1 to Table 4.

Sharp edges are not permissible and the inner edges should be rounded or beaded.



Key

1 Field 1 for marking

2 Field 2 for marking

NOTE The band is serrated or not according to the manufacturer.

Figure 1

Table 1 — Dimensions

Dimensions in millimetres

Form	b_1 max.	b_2 max.	b_3	b_4 min.	b_4 max.	b_5	b_6	d_2 $^{+0,3}_{0}$	d_3	e ±0,05	l_1 max.	s h12	t
L	16	11,3	12 ± 0,15	1,6	1,95	4 ± 0,1			$8^{0}_{-0,3}$		30		2,75 ± 0,25
M[a] 10/16 to 16/27	10,9	8,9	8 ± 0,3	1	1,2	2,7 ± 0,1	$3^{+0,3}_{0}$	1,2	6 ± 0,2	0,7	20,8	7	1,35 ± 0,27
M[a] 23/35 to 380/400	12	10	8 ± 0,15			2,6 $^{+0,2}_{0}$			$7^{0}_{-0,3}$		22		$1,6^{+0,2}_{0}$
N	7,5	7,3	$5^{+0,12}_{0}$	0,9	1	—	—	—	$4^{0}_{-0,2}$	0,4	13	—	$1,2^{+0,2}_{0}$

[a] Alternative tolerances for $M \leq$ ø 27; $e = 0,6 \pm 0,05$.

Table 2 — Clamp ranges and masses

Size code	d_1 min.	d_1 max.	Mass[a] N	Mass[a] L	Mass[a] M	Size code	d_1 min.	d_1 max.	Mass[a] L	Mass[a] M
	mm		g/piece				mm		g/piece	
011	7	11	3,6		—	190	170	190	55,0	39,4
016	10	16	—		7,9	200	180	200	56,0	
019	10	19	4,0		—	210	190	210	58,0	
022	12[b]	22		24,0	8,5	220	200	220	60,0	
027	16	27		25,0	10,6	230	210	230	62,0	
035	23	35		25,5	14,6	240	220	240	63,0	44,5
045	25	45		28,0	14,3	250	230	250	64,0	
050	32	50		29,0	16,6	260	240	260	66,0	
060	40	60		31,0	17,9	270	250	270	68,0	
070	50	70		33,0	19,3	280	260	280	70,0	49,5
080	60	80		35,0	20,6	290	270	290	72,0	
090	70	90	—	38,0	21,9	300	280	300	74,0	
100	80	100		40,0	24,7	310	290	310	75,0	
110	90	110		41,0	26,1	320	300	320	76,0	54,5
120	100	120		44,0	27,1	330	310	330	77,0	
130	110	130		45,0	30,7	340	320	340	79,0	
140	120	140		47,0		350	330	350	80,0	
150	130	150		49,0	34,8	360	340	360	82,0	59,5
160	140	160		50,0		370	350	370	83,0	
170	150	170		52,0		380	360	380	84,0	
180	160	180		54,0		390	370	390	85,0	
—						400	380	400	86,0	64,5

[a] Calculated on the basis of a density of 7,85 kg/dm^3.

[b] For form L: $d_{1\text{min.}} = 14$.

Table 3 — Configuration

Details of form	Code	
Locking wire hole	H	(with locking wire hole)
	—	(without locking wire hole)

Table 4 — Shape of head

Clamp form	L		M 10/16 to 16/27		M 23/35 to 380/400		N
Head code	R	S	R	S	R	S	R
Visual shape of head							
Flange	Cylindrical	Hexagonal	Cylindrical	Hexagonal	Cylindrical conical	Hexagonal conical	Cylindrical conical

5.2 Materials and surface treatment

See Table 5.

Table 5 — Materials and surface treatment

Material			Surface treatment	Code
Band	Housing	Screw		
according to EN 3488[a]	according to EN 3488[a]	according to EN 3487[a]	passivated according to EN 2516	—
		according to EN 2465[a]	passivated according to EN 2516	A
		according to EN 3487[a]	without	B
		according to EN 2465[a]	without	C

[a] Alternative material according to EN 10088.