INTERNATIONAL STANDARD

ISO

9757

First edition
2000-12-15

Aerospace — Fork-ends, in steel, threaded, for aircraft control wire rope turnbarrels — Dimensions and loads

Aéronautique et espace — Embouts à chape, filetés, en acier, pour tendeurs de câbles de commande d'aéronefs — Dimensions et charges

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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.

International Standard ISO 9757 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 12, *Mechanical system parts*.

Annex A forms a normative part of this International Standard.

Aerospace — Fork-ends, in steel, threaded, for aircraft control wire rope turnbarrels — Dimensions and loads

1 Scope

This International Standard specifies the characteristics of fork-ends, in either low alloy steel or corrosion-resistant steel, for aircraft control cable turnbarrels.

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 2020-1:1997, *Aerospace — Preformed flexible steel wire rope for aircraft controls — Part 1: Dimensions and loads.*

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

ISO 8074:1985, *Aerospace — Surface treatment of austenitic stainless steel parts.*

ISO 9761:1999, *Aerospace — Locking clips, in corrosion-resistant steel, for aircraft control wire rope turnbuckles — Dimensions.*

ISO 10955:1999, *Aerospace — End fittings and turnbarrels for aircraft control wire rope — Technical specification.*

ISO 13715:2000, *Technical drawings — Edges of undefined shape — Vocabulary and indication on drawings.*

EN 2133:1998, *Aerospace series — Cadmium plating of steels with specified tensile strength ⩽ 1 450 MPa, copper, copper alloys and nickel alloys.*

EN 2207:—[1], *Aerospace series — Steel FE-PL43S — 900 MPa ⩽ R_m ⩽ 1 100 MPa — Hand and die forging D_e ⩽ 40 mm.*[2]

EN 3487:—[1], *Aerospace series — Steel FE-PL 3601 — Softened — 500 MPa ⩽ R_m ⩽ 700 MPa — Bars for machining — D_e ⩽ 100 mm.*[2]

SAE AMS 2431/6A, *Peening Media, Glass Shot.*

SAE AMS 5643P, *Steel, Corrosion Resistant, Bars, Wire, Forgings, Tubing, and Rings, 16Cr 4.0Ni 0.30(Cb+Ta) 4.0Cu, Solution Heat Treated, Precipitation Hardenable.*

SAE AMS 6370K, *Steel Bars, Forgings and Rings, 0.95Cr 0.20Mo (0.28-0.33C).*

QQ-P-416F, *Plating, Cadmium (Electrodeposited).*[3]

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[1] To be published.

[2] AECMA.

[3] May be obtained from: DODSSP Customer Service, Defense Printing Service Detachment Office, Building 4D, 700 Robbions Ave., Philadelphia, PA 19111-5094, USA.

3 Configuration, dimensions, loads and masses

Configuration, dimensions, loads and masses shall be in accordance with Figure 1 and Table 1.

4 Material

Code A: corrosion-resistant steel (in accordance with annex A).

Code B: low alloy steel (in accordance with annex A).
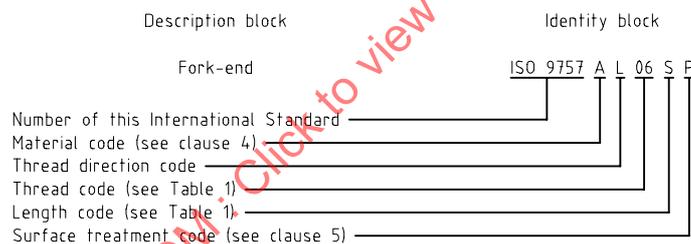
5 Surface treatment

Corrosion-resistant steel: passivation (code P) in accordance with ISO 8074 or peening (code G) (in accordance with annex A).

Low alloy steel: cadmium plating in accordance with annex A.

6 Designation

Each fork-end in accordance with this International Standard shall be designated as shown in the following example.

EXAMPLE

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              Description block              Identity block

                    Fork-end                ISO 9757 A L 06 S P

     Number of this International Standard
     Material code (see clause 4)
     Thread direction code
     Thread code (see Table 1)
     Length code (see Table 1)
     Surface treatment code (see clause 5)
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Where the following codes are applied for the thread direction:

— code R: right-hand thread;

— code L: left-hand thread.

7 Marking

The marking position shall be in accordance with Figure 1.

In addition to the manufacturer's own marking, each fork-end in accordance with this International Standard shall be marked using the identity block specified in clause 6.

The marking method is at the manufacturer's option.

8 Technical specification

In accordance with ISO 10955.

Dimensions in millimetres/Surface roughness in micrometres

a   Pitch diameter

b   Thread

c   Slot for locking clip according to ISO 9761

d   Marking

e   Notch for thread on left only

Figure 1

3

Table 1

Dimensions in millimetres

Thread[a]		D_1[b]	D_2	D_3		E	F	H	L_1		L_2	L_3	L_4	L_5	P		T	Mass	Minimum breaking load[c]	Nominal diameter of wire rope[c]
Code	Designation			nom.	lim. dev.				Code									g/piece		
		+0,6 −0,25	H8			H11	h11	+0,25 0		± 0,5	0 −0,25	± 0,5	± 0,5	± 0,5	min.	max.		≈	kN	
04	MJ4 × 0,70 − 4h6h	10		2,9	0 −0,1	2,5	5,5		S	37	9,5	15	8	24,5	3,26	3,36	0,08	4	2,15	1,6
05	MJ5 × 0,80 − 4h6h	12	5	3,8		3	6,5		S	50	11		10	30,5	4,18	4,33		9,2	4,45	2,4
									L	63		23		43,5			0,1	10,3		
06	MJ6 × 1,00 − 4h6h	14		4,6		5	9,5	1	S	55	13		12	35	5,1	5,27		13,3	8,9	3,2
									L	71				51				15,4		
07	MJ7 × 1,00 − 4h6h	17	6	5,6	0 −0,15	6	10,5		S	62	14,5	25	14	39,5	6,09	6,27	0,15	20,2	12,45	4
									L	80				57,5				23,7		
08	MJ8 × 1,00 − 4h6h	20	8	6,6		6,5	13,5		S	70	18	28	16	44,5	7,1	7,27		34	18,6	4,8
10	MJ10 × 1,25 − 4h6h	23		7,8		7,5	15,5	1,5	S	84	20	31	20	56,5	8,93	9,11	0,2	56,3	24,9	5,6
12	MJ12 × 1,25 − 4h6h	25	10	9,8		8	17,5		S	88	22	35	24	57	10,91	11,11		82,4	31,2	6,4

a   In accordance with ISO 5855-2.

b   A fault in the shape of the spherical surface of radius D_1/2 is permitted within the limits of the limit deviation value for D_1.

c   In accordance with ISO 2020-1.