SLOVENSKI STANDARD
SIST EN 2146:2001

01-januar-2001

Aerospace series - Rivets, solid, universal head, in aluminium alloy 2017A, inch based series

Aerospace series - Rivets, solid, universal head, in aluminium alloy 2017A, inch based series

Luft- und Raumfahrt - Vollniete, mit Universalkopf, aus Aluminiumlegierung 2017A, Inch-Reihe

Série aérospatiale - Rivets ordinaires, a tete ronde aplatie, en alliage d'aluminium 2017A, série base inches

Ta slovenski standard je istoveten z: **EN 2146:1992**

ICS:

49.025.20	Aluminij	Aluminium
49.030.60	Kovice	Rivets

SIST EN 2146:2001 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 2146:1992

November 1992

UDC 621.884.2-034.715:629.7

Descriptors: Aircraft industry, full rivet, round head rivet, aluminium alloy, dimension, designation, marking

English version

Aerospace series - Rivets, solid, universal head, in aluminium alloy 2017A, inch based series

Série aérospatiale - Rivets ordinaires, à tête ronde aplatie, en alliage d'aluminium 2017A, série base inches

Luft- und Raumfahrt - Vollniete, mit Universalkopf, aus Aluminiumlegierung 2017A, Inch-Reihe

This European Standard was approved by CEN on 1992-11-16. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart,36 B-1050 Brussels

Foreword

This European Standard has been prepared by the European Association of Aerospace Manufacturers (AECMA).

After inquiries and votes carried out in accordance with the rules of this Association, this Standard has successively received the approval of the National Associations and the Official Services of the member countries of AECMA, 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 May 1993, and conflicting national standards shall be withdrawn at the latest by May 1993.

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard :

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This standard specifies the characteristics of solid rivets, with universal head, inch based series, in aluminium alloy, for maximum operating temperature 120 °C.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 2000, Aerospace series - Quality assurance - EN aerospace products - Approval of the quality system of manufacturers

EN 2116, Aerospace series - Aluminium alloy 2017A-H13 wire for solid rivets D ≤ 10 mm [1)]

EN 2345, Aluminium and aluminium alloy rivets - Technical specification - Aerospace series [1)]

EN 2424, Aerospace series - Identification marking of standard fasteners [1)]

3 Required characteristics

3.1 Configuration - Dimensions - Masses

See figure 1 and tables 1 and 2. Dimensions and tolerances are expressed in millimetres.

3.2 Material

EN 2116

The rivet shall be delivered in T4 condition.

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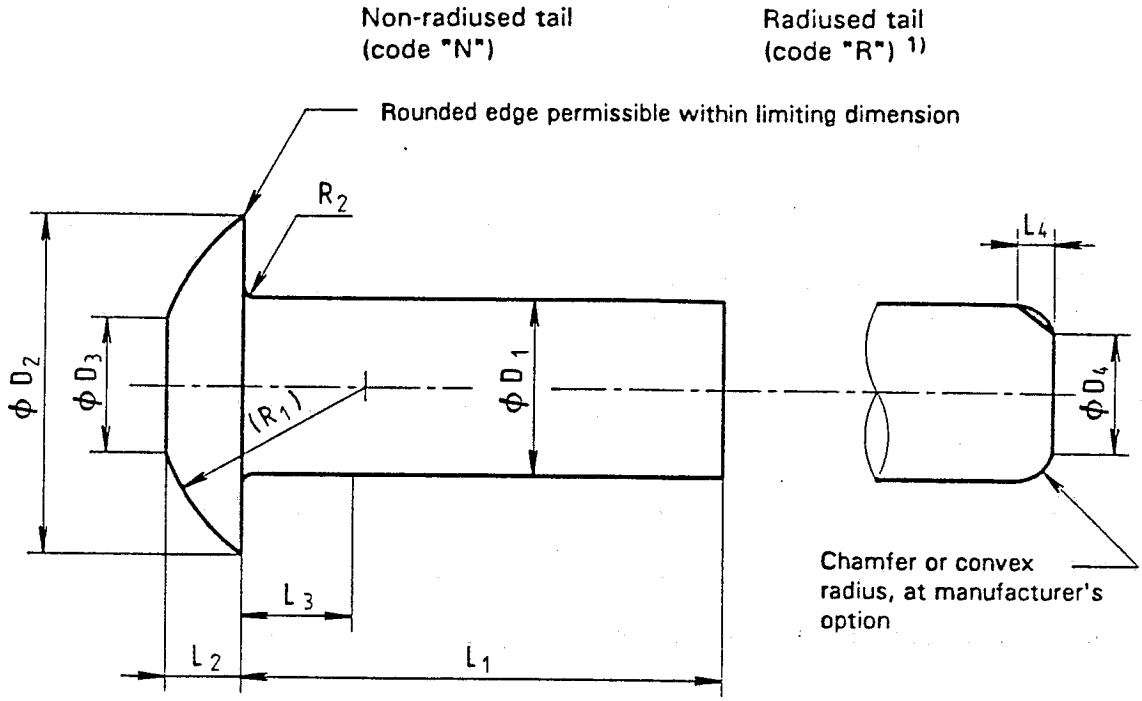
1) Published as AECMA standard at the date of publication of the present standard



1) The length range is limited (see table 2).

Figure 1

Table 1

Diameter code	D_1 1) max.	D_1 1) min.	D_2 max.	D_2 min.	D_3 max.	D_3 min.	D_4 max.	D_4 min.	L_2 +0,2 0	L_3	L_4 max.	L_4 min.	R_1	R_2 ± 0,08
024	2,45	2,35	5	4,5	2,4	1,8	1,9	1,6	1	1,45	0,8	0,5	2,9	0,15
032	3,25	3,15	6,7	6	3,2	2,4	2,6	2,3	1,4		1	0,7	3,9	
040	4,05	3,94	8,3	7,5	4	3	3,2	2,8	1,7	1,95	1,2	0,8	4,9	0,25
048	4,85	4,73	10	9	4,8	3,6	3,8	3,3	2		1,5	1	5,9	
056	5,65	5,53	11,7	10,5	5,6	4,2	4,5	3,9	2,4		1,8	1,2	6,8	
064	6,45	6,33	13,3	12,1	6,4	4,8	5,1	4,5	2,7		2,1	1,4	7,8	
080	8,03	7,9	16,7	15,1	8	6	6,4	5,6	3,4		2,4	1,6	9,8	
096	9,63	9,5	20	18,1	9,6	7,2	7,7	6,7	4,1		3	2	11,7	

1) D_1 max. may increase by 0,03, over length L_3.

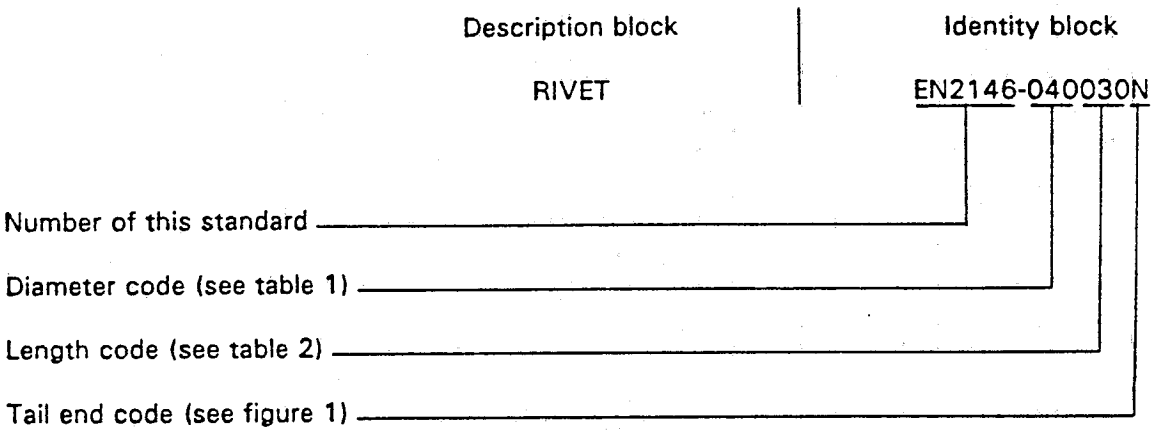
Table 2

Diameter code		024			032			040			048			056			064			080			096		
Length		1)		Mass	1)		Mass	1)		Mass	1)		Mass	1)		Mass	1)		Mass	1)		Mass	1)		Mass
Code	L_1 + 0,5 0	N	R	kg/1000 pieces 2)	N	R	kg/1000 pieces 2)	N	R	kg/1000 pieces 2)	N	R	kg/1000 pieces 2)	N	R	kg/1000 pieces 2)	N	R	kg/1000 pieces 2)	N	R	kg/1000 pieces 2)	N	R	kg/1000 pieces 2)
004	4	x	x	0,083	x	x	0,176																		
005	5	x	x	0,095	x	x	0,198																		
006	6	x	x	0,107	x	x	0,220	x	x	0,373															
007	7	x	x	0,119	x	x	0,242	x	x	0,408															
008	8	x	x	0,131	x	x	0,264	x	x	0,443	x	x	0,664												
009	9	x	x	0,143	x	x	0,286	x	x	0,478	x	x	0,714												
010	10	x	x	0,155	x	x	0,308	x	x	0,513	x	x	0,764	x	x	1,137									
011	11	x	x	0,167	x	x	0,330	x	x	0,548	x	x	0,814	x	x	1,205									
012	12	x	x	0,179	x	x	0,352	x	x	0,583	x	x	0,864	x	x	1,273	x	x	1,734						
014	14	x	x	0,203	x	x	0,396	x	x	0,653	x	x	0,964	x	x	1,409	x	x	1,912	x	x	3,266			
016	16	x	x	0,227	x	x	0,440	x	x	0,723	x	x	1,064	x	x	1,545	x	x	2,090	x	x	3,544			
018	18	x		0,251	x	x	0,484	x	x	0,793	x	x	1,164	x	x	1,681	x	x	2,268	x	x	3,822	x	x	5,868
020	20	x		0,275	x		0,528	x	x	0,863	x	x	1,264	x	x	1,817	x	x	2,446	x	x	4,100	x	x	6,266
022	22	x		0,299	x		0,572	x	x	0,933	x	x	1,364	x	x	1,953	x	x	2,624	x	x	4,378	x	x	6,664
024	24	x		0,323	x		0,616	x	x	1,003	x	x	1,464	x	x	2,089	x	x	2,802	x	x	4,656	x	x	7,062
026	26	x		0,347	x		0,660	x		1,073	x	x	1,564	x		2,225	x		2,980	x	x	4,934	x	x	7,460
028	28	x		0,371	x		0,704	x		1,143	x	x	1,664	x		2,361	x		3,158	x	x	5,212	x	x	7,858
030	30	x		0,395	x		0,748	x		1,213	x	x	1,764	x		2,497	x		3,336	x	x	5,490	x	x	8,256
032	32	x		0,419	x		0,792	x		1,283	x		1,864	x		2,633	x		3,514	x		5,768	x		8,654
035	35	x		0,455	x		0,858	x		1,388	x		2,014	x		2,837	x		3,781	x		6,185	x		9,251
040	40				x		0,968	x		1,563	x		2,264	x		3,177	x		4,226	x		6,880	x		10,246
045	45							x		1,738	x		2,514	x		3,517	x		4,671	x		7,575	x		11,241
050	50							x		1,913	x		2,764	x		3,857	x		5,116	x		8,270	x		12,236
055	55										x		3,014	x		4,197	x		5,561	x		8,965	x		13,231
060	60										x		3,264	x		4,537	x		6,006	x		9,660	x		14,226

1) Tail end code (see figure 1)
2) Approximate values, calculated on the basis of 2,76 kg/dm³, given for information purpose only

4 Designation

Example:



Note: If necessary, the originator code I9005 shall be placed between the description block and the identity block.

5 Marking

5.1 Rivet identification

EN 2424, style G

5.2 Material identification

See figure 2 and table 3.
Symbol at manufacturer's option

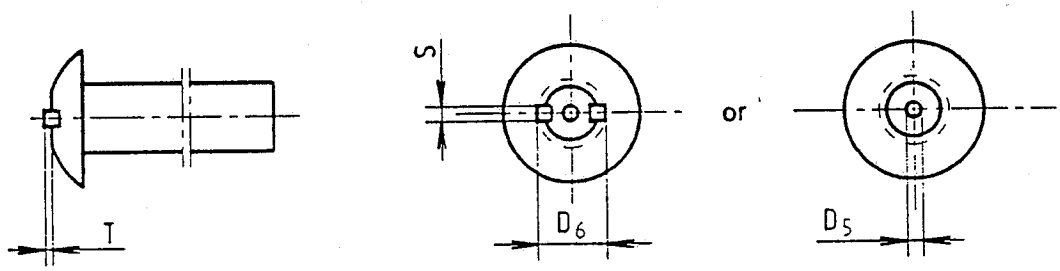


Figure 2

Table 3

Diameter code	024	032	040	048	056	064	080	096
T ± 0,05	0,13		0,15			0,2		
S max.	0,8							
D_5 max.								
D_6 max.	= D_1 max. (see table 1)							