



**SLOVENSKI STANDARD**  
**SIST EN 2144:2001**  
**01-januar-2001**

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**Aerospace series - Rivets, solid, universal head, in aluminium alloy 2117, inch based series**

Aerospace series - Rivets, solid, universal head, in aluminium alloy 2117, inch based series

Luft- und Raumfahrt - Vollniete, mit Universalkopf, aus Aluminiumlegierung 2117, Inch-Reihe

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

Série aérospatiale - Rivets ordinaires, a tête ronde aplatie, en alliage d'aluminium 2117, série base inches

[SIST EN 2144:2001](https://standards.iteh.ai/catalog/standards/sist/634ed6b3-f942-4c65-a728-53efbba5dbf/sist-en-2144-2001)

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**Ta slovenski standard je istoveten z: EN 2144:1994**

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**ICS:**

49.025.20	Aluminij	Aluminium
49.030.60	Kovice	Rivets

**SIST EN 2144:2001**

**en**

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EUROPEAN STANDARD

EN 2144

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 1994

UDC 621.884.2-034.715:629.7

Descriptors: Aircraft industry, full rivets, round head rivets, aluminium alloy, dimensions, designation, marking

English version

**Aerospace series - Rivets, solid, universal head, in  
aluminium alloy 2117, inch based series**

Série aérospatiale - Rivets ordinaires, à tête  
ronde aplatie, en alliage d'aluminium 2117,  
série base inches

Luft- und Raumfahrt - Vollniete, mit  
Universalkopf, aus Aluminiumlegierung 2117,  
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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

**iTeh STANDARD PREVIEW****(standards.iteh.ai)**

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

SIST EN 2144:2001

<https://standards.iteh.ai/catalog/standards/sist/2144-4c65-a728-4c65-a728>

After inquiries and votes carried out in accordance with the rules of this Association, this draft 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 January 1995, and conflicting national standards shall be withdrawn at the latest by January 1995.

In accordance with 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 United Kingdom.

## 1 Scope

This standard specifies the characteristics of solid rivets, universal head, in aluminium alloy 2117, inch based series, 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 2345 Aluminium and aluminium alloy rivets - Technical specification - Aerospace series <sup>1)</sup>
- EN 2424 Aerospace series - Marking of aerospace products <sup>1)</sup>
- QQ-A-430C Federal specification - Aluminium alloy rod and wire ; for rivets and cold heading <sup>2)</sup>

## 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

Aluminium alloy 2117-H13 according to QQ-A-430C ( $1,6 \text{ mm} \leq D \leq 10 \text{ mm}$ ).

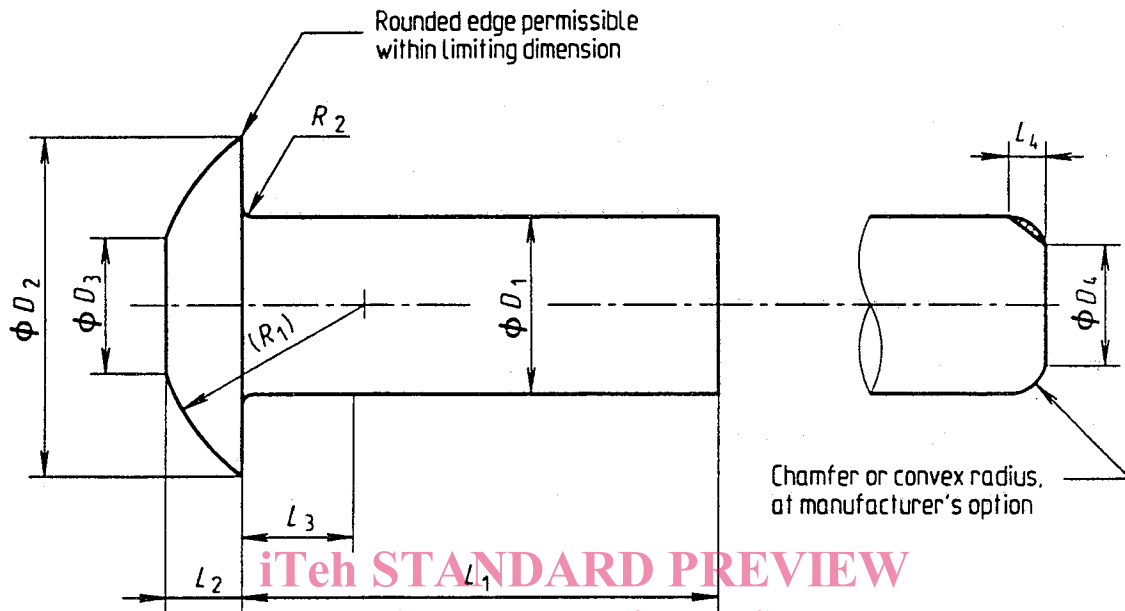
The rivet shall be delivered in T4 condition.

1) Published as AECMA Standard at the date of publication of this standard

2) Published by : Superintendent of Documents, US Government Printing Office, Washington, DC 20402, United States

Non-radiused tail  
(code "N")

Radiused tail  
(code "R")



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Figure 1

Table 1

Diameter code	$D_1$ <sup>1)</sup>		$D_2$		$D_3$		$D_4$		$L_2$ + 0,2 0	$L_3$	$L_4$		$R_1$	$R_2$ ± 0,08
	max.	min.	max.	min.	max.	min.	max.	min.			max.	min.		
024	2,45	2,35	5	4,5	2,4	1,8	1,9	1,6	1	1,4	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	
036	3,65	3,55	7,5	6,8	3,6	2,7	2,9	2,5	1,6	1,6	1,1	0,7	4,4	0,25
040	4,05	3,94	8,3	7,5	4	3	3,2	2,8	1,7		1,2	0,8	4,9	
048	4,85	4,73	10	9	4,8	3,6	3,8	3,3	2	2	1,5	1	5,9	

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

Table 2

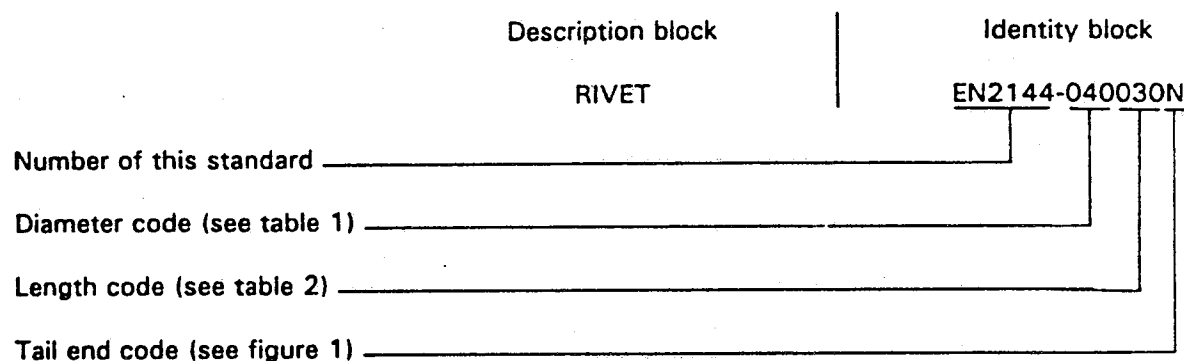
Diameter code		024			032			036			040			048		
code	Length $L_1 + 0,5$ 0	1)		Mass <sup>2)</sup>	1)		Mass <sup>2)</sup>	1)		Mass <sup>2)</sup>	1)		Mass <sup>2)</sup>	1)		Mass <sup>2)</sup>
		N	R		N	R		N	R		N	R		N	R	
004	4	x	x	0,083	x	x	0,176	x	x	0,227			—			—
005	5	x	x	0,095	x	x	0,198	x	x	0,254			—			—
006	6	x	x	0,107	x	x	0,220	x	x	0,280	x	x	0,373			—
007	7	x	x	0,119	x	x	0,242	x	x	0,306	x	x	0,408			—
008	8	x	x	0,131	x	x	0,264	x	x	0,332	x	x	0,443	x	x	0,664
009	9	x	x	0,143	x	x	0,286	x	x	0,358	x	x	0,478	x	x	0,714
010	10	x	x	0,155	x	x	0,308	x	x	0,384	x	x	0,513	x	x	0,764
011	11	x	x	0,167	x	x	0,330	x	x	0,410	x	x	0,548	x	x	0,814
012	12	x	x	0,179	x	x	0,352	x	x	0,436	x	x	0,583	x	x	0,864
013	13	x	x	0,191	x	x	0,374	x	x	0,462	x	x	0,618	x	x	0,914
014	14	x	x	0,203	x	x	0,396	x	x	0,488	x	x	0,653	x	x	0,964
015	15	x	x	0,215	x	x	0,418	x	x	0,515	x	x	0,688	x	x	1,014
016	16	x	x	0,227	x	x	0,440	x	x	0,541	x	x	0,723	x	x	1,064
017	17	x		0,239	x	x	0,462	x	x	0,567	x	x	0,758	x	x	1,114
018	18	x		0,251	x	x	0,484	x	x	0,593	x	x	0,793	x	x	1,164
019	19	x		0,263	x		0,506	x	x	0,619	x	x	0,828	x	x	1,214
020	20	x		0,275	x		0,528	x	x	0,645	x	x	0,863	x	x	1,264
022	22	x		0,299	x		0,572	x		0,697	x	x	0,933	x	x	1,364
024	24	x		0,323	x		0,616	x		0,749	x	x	1,003	x	x	1,464
026	26	x		0,347	x		0,660	x		0,802	x		1,073	x	x	1,564
028	28	x		0,371	x		0,704	x		0,854	x		1,143	x	x	1,664
030	30	x		0,395	x		0,748	x		0,906	x		1,213	x		1,764
032	32	x		0,419	x		0,792	x		0,958	x		1,283	x		1,864
035	35	x		0,455	x		0,858	x		1,037	x		1,388	x		2,014
040	40			—	x		0,968	x		1,167	x		1,563	x		2,264
045	45			—			—	x		1,298	x		1,738	x		2,514
050	50			—			—				x		1,913	x		2,764
055	55			—			—						—	x		3,014
060	60			—			—						—	x		3,264

1) Tail end code (see figure 1)

2) Approximate values (kg/1 000 pieces), calculated on the basis of 2,76 kg/dm<sup>3</sup>, given for information purposes only

#### 4 Designation

EXAMPLE :



NOTE : If necessary, the code 19005 shall be placed between the description block and the identity block.

#### 5 Marking

##### 5.1 Rivet

EN 2424, style G

##### 5.2 Material

See figure 2 and table 3. <https://standards.iteh.ai/catalog/standards/sist/634ed6b3-f942-4c65-a728-53efbba5dbf/sist-en-2144-2001>

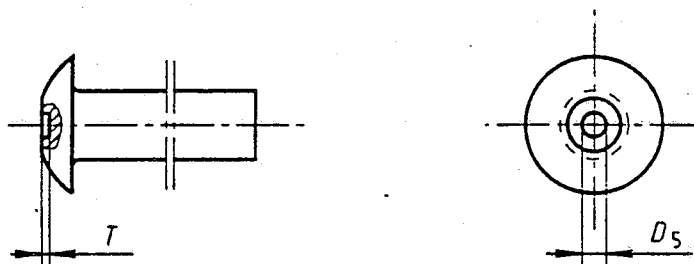


Figure 2

Table 3

Diameter code	024	032	036	040	048
$T \pm 0,05$	0,13			0,15	
$D_5$ max.	0,8				

#### 6 Technical specification

EN 2345 plus EN 2000 for the approval of manufacturers