

BS EN 3417:2012



BSI Standards Publication

## **Aerospace series — Rivets, solid, universal head, in nickel base alloy NI-P11, metric series**

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**National foreword**

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A list of organizations represented on this committee can be obtained on request to its secretary.

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EUROPEAN STANDARD

**EN 3417**

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2012

ICS 49.030.60

English Version

**Aerospace series - Rivets, solid, universal head, in nickel base alloy NI-P11, metric series**

Série aérospatiale - Rivets ordinaires, à tête ronde aplatie,  
en alliage à base de nickel NI-P11, série métrique

Luft- und Raumfahrt - Vollniete, mit Universalkopf, aus  
Nickelbasislegierung NI-P11, metrische Reihe

This European Standard was approved by CEN on 24 September 2011.

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## Foreword

This document (EN 3417:2012) 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.

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of an identical text or by endorsement, at the latest by September 2012, and conflicting national standards shall be withdrawn at the latest by September 2012.

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## 1 Scope and field of application

This European Standard defines the characteristics of solid rivets, with universal head, metric series, in nickel base alloy, for maximum operating temperature 650 °C.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 2305, *Nickel base alloy NI-P11 — 540 MPa ≤ R<sub>m</sub> ≤ 620 MPa — Bars and wires for rivets — Aerospace series* <sup>1)</sup>

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

EN 2941, *Aerospace series — Nickel alloy rivets — Technical specification*

ISO 8280, *Aerospace — Rivets, solid, universal head, metallic material, with or without surface treatment — Dimensions*

ISO 10299, *Aerospace — Rivets, solid — Material and metric series identification*

## 3 Required characteristics

### 3.1 Configuration — Dimensions — Masses

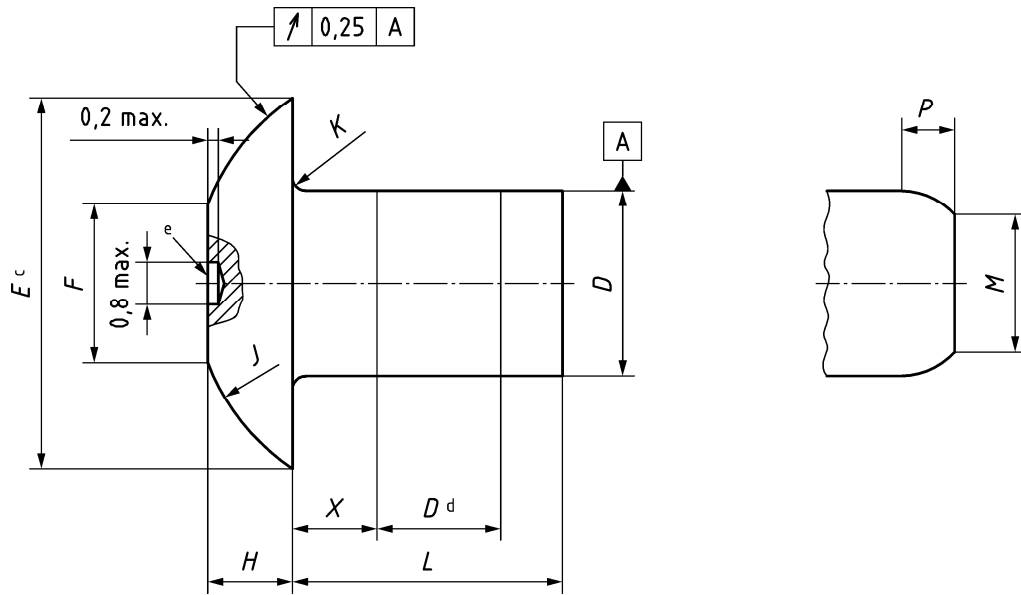
See figure 1 and tables 1 and 2.

### 3.2 Material

EN 2305

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1) Published as ASD-STAN pre-standard at the date of publication of the present standard.



Non-radiused tail end (code "N")

Radiused tail end (code "R")<sup>a</sup>,

b

**Key**

- a the length range is limited (see Table 2)
- b chamfer or convex radius, at manufacturer's option
- c rounded edge permissible within limiting *E* dimensions
- d or  $(L-X)/2$  if  $(L-X) \leq D$
- e drill start (code 1) optional

**Figure 1**

**Table 1<sup>a</sup>**

Dimensions in millimetres

Diameter code	<i>D</i> <sup>b</sup> d11	<i>E</i>		<i>F</i>		<i>H</i> $+0,2$ 0	<i>J</i>	<i>K</i> $\pm 0,08$	<i>M</i>		<i>P</i>		<i>X</i>
		max.	min.	max.	min.				max.	min.	max.	min.	
025	2,5	5,25	4,75	2,5	1,8	1,1	3	0,15	2	1,7	0,8	0,5	1,4
030	3	6,3	5,7	3	2,2	1,3	3,7		2,4	2,1	0,9	0,6	
035	3,5	7,35	6,65	3,5	2,6	1,6	4,3	0,25	2,8	2,45	1,05	0,7	1,6
040	4	8,4	7,6	4	3	1,8	4,9		3,2	2,8	1,2	0,8	
050	5	10,5	9,5	5	3,7	2,2	6,1		4	3,5	1,5	1	

<sup>a</sup> Values in conformity with ISO 8280.

<sup>b</sup> Over length *X*, *D* max. may increase by 0,03.

Table 2<sup>a</sup>

Dimensions in millimetres

Diameter code		025			030			035			040			050		
Length		b		Mass	b		Mass	b		Mass	b		Mass	b		Mass
Code	$L_{+0,5}^0$	N	R	kg/1 000 pieces <sup>c</sup>	N	R	kg/1 000 pieces <sup>c</sup>	N	R	kg/1 000 pieces <sup>c</sup>	N	R	kg/1 000 pieces <sup>c</sup>	N	R	kg/1 000 pieces <sup>c</sup>
004	4	X	X	0,327	X	X	0,503	X	X	0,728						
005	5	X	X	0,372	X	X	0,564	X	X	0,814						
006	6	X	X	0,414	X	X	0,628	X	X	0,898	X	X	1,231			
007	7	X	X	0,455	X	X	0,689	X	X	0,981	X	X	1,340			
008	8	X	X	0,500	X	X	0,750	X	X	1,065	X	X	1,449	X	X	2,447
009	9	X	X	0,542	X	X	0,811	X	X	1,147	X	X	1,558	X	X	2,616
010	10	X	X	0,584	X	X	0,875	X	X	1,231	X	X	1,671	X	X	2,790
011	11	X	X	0,628	X	X	0,936	X	X	1,315	X	X	1,780	X	X	2,960
012	12	X	X	0,670	X	X	0,997	X	X	1,398	X	X	1,889	X	X	3,133
013	13	X	X	0,712	X	X	1,061	X	X	1,481	X	X	1,998	X	X	3,303
014	14	X	X	0,757	X	X	1,122	X	X	1,565	X	X	2,107	X	X	3,476
015	15	X	X	0,798	X	X	1,183	X	X	1,651	X	X	2,219	X	X	3,649
016	16	X	X	0,840	X	X	1,244	X	X	1,735	X	X	2,328	X	X	3,819
017	17	X		0,885	X	X	1,308	X	X	1,818	X	X	2,437	X	X	3,992
018	18	X		0,927	X	X	1,369	X	X	1,901	X	X	2,546	X	X	4,162
019	19	X		0,972	X		1,430	X	X	1,985	X	X	2,655	X	X	4,335
020	20	X		1,013	X		1,491	X	X	2,068	X	X	2,764	X	X	4,505
022	22	X		1,097	X		1,616	X		2,235	X	X	2,985	X	X	4,848
024	24	X		1,183	X		1,738	X		2,402	X	X	3,203	X	X	5,191
026	26	X		1,270	X		1,863	X		2,572	X		3,421	X	X	5,533
028	28	X		1,353	X		1,985	X		2,738	X		3,643	X	X	5,881
030	30	X		1,440	X		2,110	X		2,905	X		3,860	X		6,233
032	32	X		1,526	X		2,232	X		3,072	X		4,079	X		6,587
035	35	X		1,655	X		2,418	X		3,325	X		4,409	X		7,080
040	40				X		2,726	X		3,742	X		4,957	X		7,939
045	45							X		4,162	X		5,502	X		8,799
050	50										X		6,050	X		9,658
055	55													X		10,514
060	60													X		11,374

<sup>a</sup> Length-ranges are in conformity with ISO 8280.

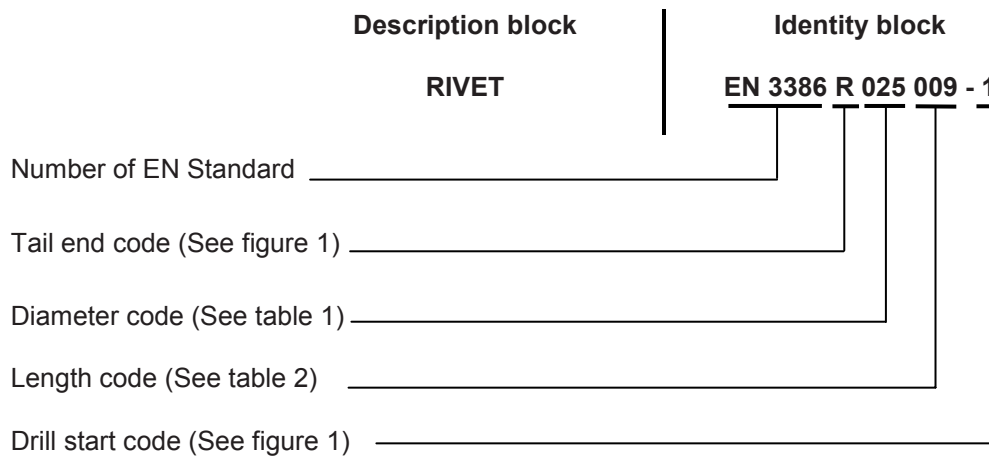
<sup>b</sup> Tail end code (see figure 1).

<sup>c</sup> Approximate values, calculated on the basis of 8,85 kg/dm<sup>3</sup>, 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

ISO 10299

### 5.3 Metric identification

Dot, indented, on the tail end, the only criteria being legibility.

## 6 Technical specification

EN 2941





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