

BS EN 4552:2015



BSI Standards Publication

**Aerospace series — Pipe
coupling 37°, spherical, in
heat resisting steel — Straight
nipples, welded end — Inch
series**

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National foreword

This British Standard is the UK implementation of EN 4552:2015. It supersedes BS EN 4552:2003 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee ACE/69, Aerospace hydraulic systems, fluids and components.

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

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Date	Text affected
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EUROPEAN STANDARD

EN 4552

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2015

ICS 49.080

Supersedes EN 4552:2003

English Version

Aerospace series - Pipe coupling 37°, spherical, in heat resisting steel - Straight nipples, welded end - Inch series

Série aérospatiale - Système de raccordement sphérique 37°, en acier résistant à chaud - Mamelons droits à souder - Série inch

Luft- und Raumfahrt - Rohrverschraubung 37°, aus hochwarmfestem Stahl - Gerade Verschraubungen zum Anschweißen - Inch-Reihe

This European Standard was approved by CEN on 7 February 2015.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN 4552:2015) 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of an identical text or by endorsement, at the latest by January 2016, and conflicting national standards shall be withdrawn at the latest by January 2016.

This document supersedes EN 4552:2003.

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1 Scope

This standard specifies the characteristics of swivel nuts for inch series pipe couplings, 37°, in heat resisting steel, for aerospace applications.

Nominal pressure: Class D in accordance with ISO 6771.

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 2424, *Aerospace series — Marking of aerospace products*

EN 3468, *Aerospace series — Steel FE-PA13 — Softened — $500 \leq R_m \leq 700$ MPa — Forgings — $D_e \leq 100$ mm*¹⁾

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

EN 4549, *Aerospace series — Pipe coupling, in heat resisting steel or in heat resisting nickel alloy — Coupling end, welded — Design configuration — Inch series*

EN 4550-1, *Aerospace series — Pipe coupling, 37° — Design configuration — Inch series — Part 1: Male sealing ends, spherical*

EN 4560, *Aerospace series — Pipe coupling 37°, spherical, up to 21 000 kPa — Inch series — Technical specification*

ISO 3161, *Aerospace — UNJ threads — General requirements and limit dimensions*

ISO 6771, *Aerospace — Fluid systems and components — Pressure and temperature classifications*

3 Required characteristics

3.1 Configuration – Dimensions – Tolerances – Masses

See Figure 1 and Figure 2 and Table 1 to Table 4. Dimensions and tolerances are in millimetres.

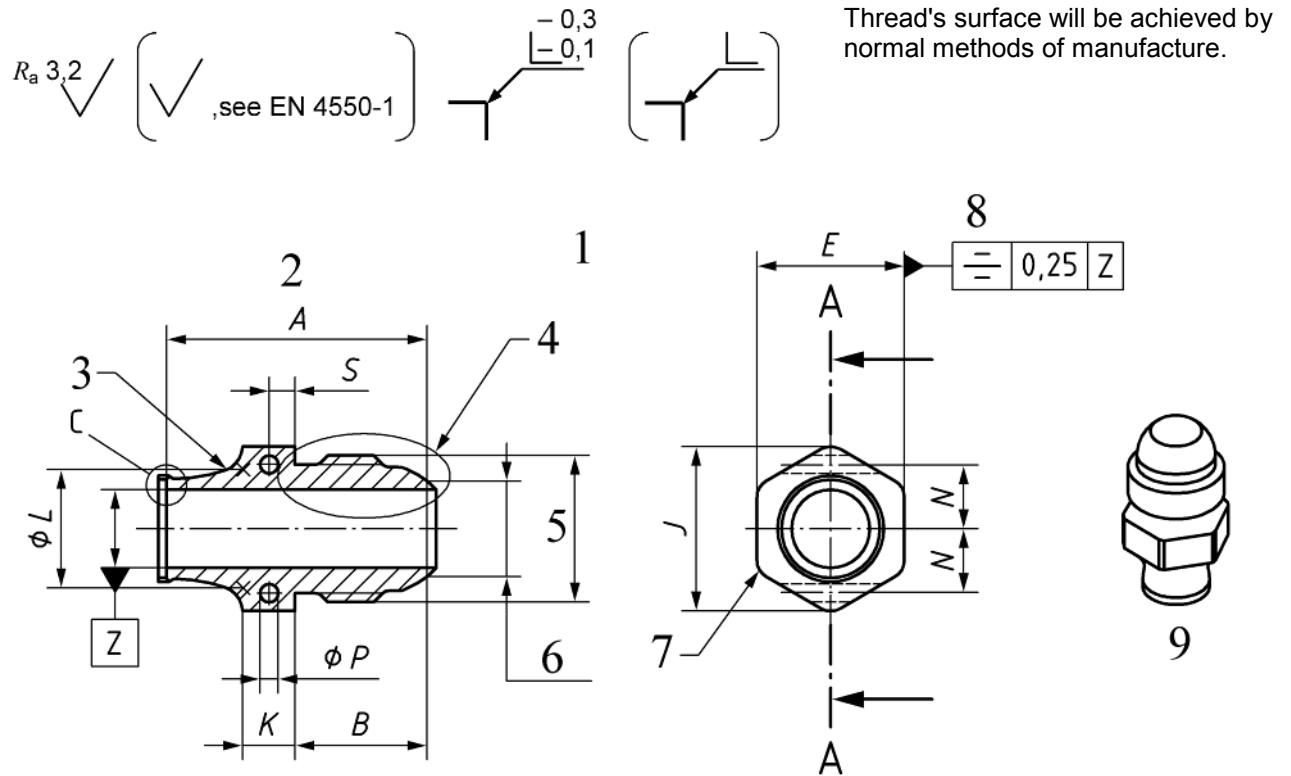
Table 1

Code	Locking wire hole option
N	without locking wire hole
Y	with 2 locking wire holes

¹⁾ Published as ASD-STAN Prestandard at the date of publication of this standard (<http://www.asd-stan.org/>).

3.2 Materials

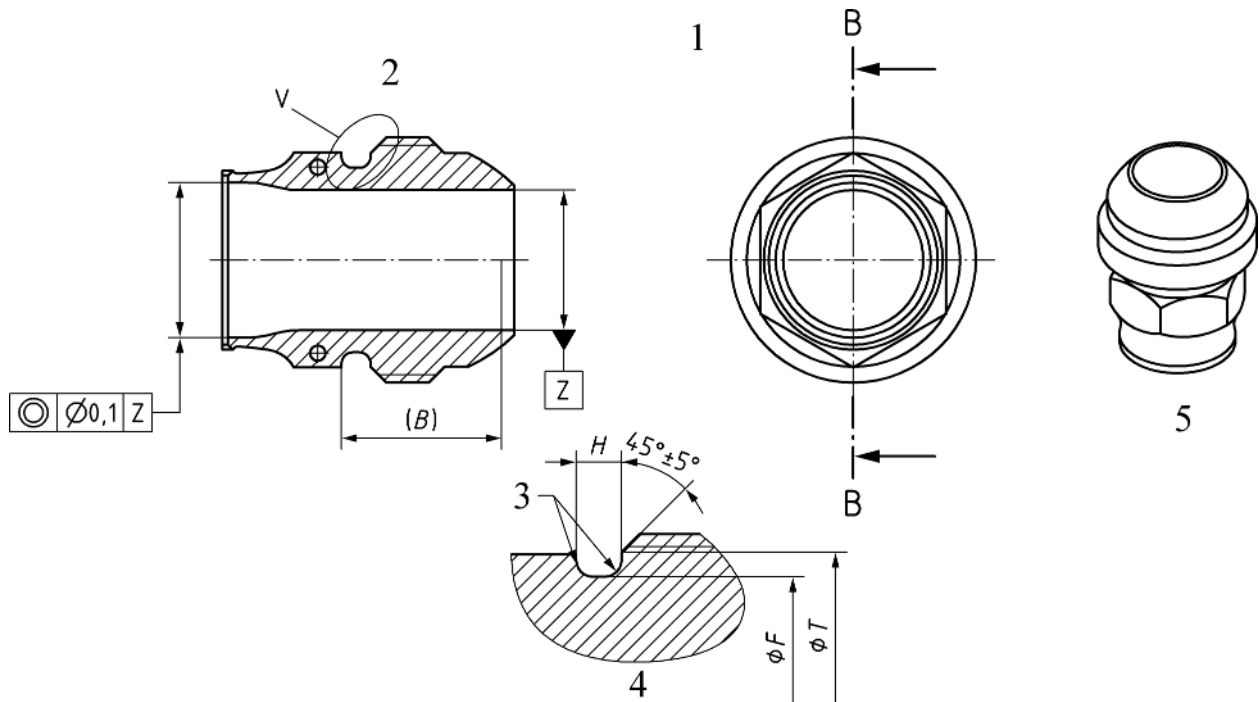
EN 3468 with minimum hardness HB > 140 or EN 3487 with minimum hardness HB > 140.



Key

- 1 Style A
- 2 Section A-A
- 3 $R 2,5$ to $R 4,1$
- 4 D except dimension B
- 5 Thread
- 6 ($\varnothing E$ per EN 4550-1)
- 7 3 positions
- 8 Marking
- 9 3 D view

Figure 1 — Hexagonal larger than thread



Key

- 1 Style B otherwise same as style A
- 2 Section B-B
- 3 R 0,80 to R 1,80
- 4 Detail V
- 5 3 D view

Figure 2 — Hexagonal smaller than thread

Table 2

Dimensional code ^a	Nominal diameter	Wall thickness of tube	Thread ^b	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	<i>J</i>	Style	<i>K</i>	<i>L</i>		Mass ^c	
				± 0,25	± 0,25			+ 0,05 - 0,25	min.		± 0,25	min.	max.		
A03	4,763	0,711	375 0-24UNJ-3A	21,60	11,45	EN4549A003	EN 4550-1-03	8,70	9,50	A	2,54	5,90	7,20	6,80	
B03		0,889				EN4549B003									
A04	6,350	0,711	437 5-20UNJF-3A	22,80	12,65	EN4549A004	EN 4550-1-04	11,10	12,24			7,50	8,80		9,55
B04		0,889				EN4549B004									
A05	7,924	0,711	500 0-20UNJF-3A	23,40	13,20	EN4549A005	EN 4550-1-05	12,70	14,02			9,00	10,30		11,80
B05		0,889				EN4549B005									
A06	9,525	0,711	562 5-18UNJF-3A	25,80	13,10	EN4549A006	EN 4550-1-06	14,30	15,80		5,08	10,60	11,90	16,35	
B06		0,889				EN4549B006									
A08	12,700	0,711	750 0-16UNJF-3A	27,10	14,40	EN4549A008	EN 4550-1-08	15,90	17,63			13,80	15,00	24,50	
B08		0,889				EN4549B008									
A10	15,875	0,711	875 0-14UNJF-3A	29,45	16,75	EN4549A010	EN 4550-1-10	19,05	21,23			17,00	18,20	34,50	
B10		0,889				EN4549B010									
A12	19,050	0,711	1.062 5-12UNJ-3A	31,10	18,40	EN4549A012	EN 4550-1-12	20,65	23,06	20,10	21,40	42,70			
B12		0,889				EN4549B012									
A16	25,400	0,711	1.312 5-12UNJ-3A	32,60	19,90	EN4549A016	EN 4550-1-16	27,00	30,25	26,50	27,70	59,50			
B16		0,889				EN4549B016									

^a This code corresponds to:
– tube wall thickness (*A*: 0,711 mm; *B*: 0,889 mm);
– nominal diameter given in 16th of inches within two digits.

^b Quoted in inches in accordance with ISO 3161.

^c Mass ≈ quoted in kg/1 000 parts.

Table 3

(For style B only)

Dimensional code ^a	Nominal diameter	H $\pm 0,25$	F $\pm 0,10$	T
A08	12,700	2,55	15,80	16,75
B08				
A10	15,875	3,05	18,90	19,65
B10				
A12	19,050	3,30	20,50	24,00
B12				
A16	25,400	3,30	26,85	30,35
B16				

^a This code corresponds to:
 – tube wall thickness (A : 0,711 mm; B : 0,889 mm);
 – nominal diameter given in 16th of inches within two digits.

Table 4

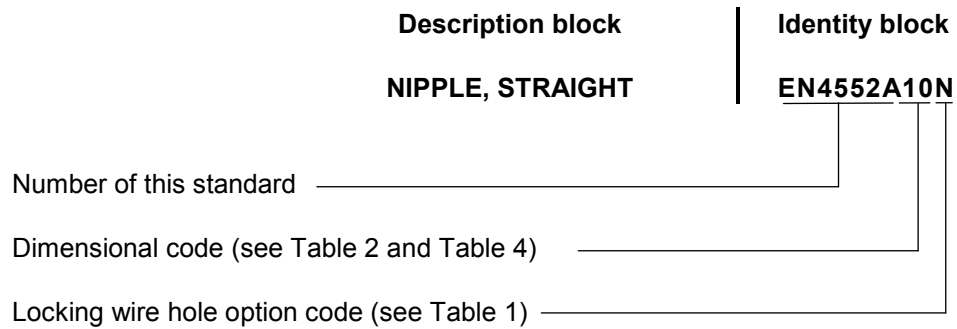
(When locking wire hole option code is "Y")

Dimensional code ^a	Nominal diameter	N	P	S $\pm 0,25$
A03	04,775	03,20	1,45	1,25
B03		03,45	1,55	
A04	06,350	04,30	1,45	
B04		04,55	1,55	
A05	07,925	05,20	1,65	
B05		05,45	1,90	
A06	09,525	06,10	1,65	2,55
B06		06,35	1,90	
A08	12,700	07,25	1,65	
B08		07,50	1,90	
A10	15,875	08,65	1,65	
B10		08,90	1,90	
A12	19,050	10,05	1,65	
B12		10,30	1,90	
A16	25,400	12,90	1,65	
B16		13,40	1,90	

^a This code corresponds to:
 – tube wall thickness (A : 0,711 mm; B : 0,889 mm);
 – nominal diameter given in 16th of inches within two digits.

4 Designation

EXAMPLE



NOTE If necessary, the code I9005 shall be placed between the description block and the identity block.

5 Marking

According to EN 2424, style A and Figure 1.

6 Technical specification

According to EN 4560.

Annex A
(informative)

Standard evolution form

MODIFICATION	REASON AND VALIDATION
<p>Table 4 page 8.</p> <p>Before: Dimensions <i>P</i></p> <ul style="list-style-type: none">A03 was 1,15B03 was 1,30A04 was 1,15B04 was 1,30A05 was 1,45B05 was 1,60 <p>After: Dimensions <i>P</i></p> <ul style="list-style-type: none">A03 is 1,45B03 is 1,55A04 is 1,45B04 is 1,55A05 is 1,65B05 is 1,90	<p>Accordance with standard EN 4551.</p>

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