

BS EN 6123:2016



BSI Standards Publication

**Aerospace series — Fitting end,  
24° internal cone, external  
thread, flareless type — Extra  
fine thread pitch — Inch series  
— Design standard**

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**National foreword**

This British Standard is the UK implementation of EN 6123:2016.

The UK participation in its preparation was entrusted to Technical Committee ACE/12, Aerospace fasteners and fastening systems.

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

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**Amendments issued since publication**

Date	Text affected
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EUROPEAN STANDARD

**EN 6123**

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2016

ICS 49.080

English Version

**Aerospace series - Fitting end, 24° internal cone, external thread, flareless type - Extra fine thread pitch - Inch series - Design standard**

Série aérospatiale - Raccord, cône interne à 24°, filetage externe, de type sans épanoui - Filetage à pas extra fin - Série inch - Norme de conception

Luft- und Raumfahrt - Endstück, Innenkonus 24°, Außengewinde, nicht gebördelt - Extrafeingewindesteigung - Inch-Reihe - Konstruktionsnorm

This European Standard was approved by CEN on 27 September 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 6123:2016) 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 European 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of an identical text or by endorsement, at the latest by September 2016, and conflicting national standards shall be withdrawn at the latest by September 2016.

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## 1 Scope

This European Standard specifies the dimensions, tolerances and the required characteristics of a fitting end, 24° cone, external thread, flareless type, size -04 up to -20 for use in hydraulic and fluid systems at 5 080 psi, diameter  $1/4 \text{ inch} \leq D \leq 1 1/4 \text{ inch}$  ( $6,35 \text{ mm} \leq D \leq 31,75 \text{ mm}$ ) for aerospace applications.

This is a design standard.

This fitting end cannot be used for plug in union.

## 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.

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

### 3 Required characteristics

#### 3.1 Configuration, dimensions and tolerances

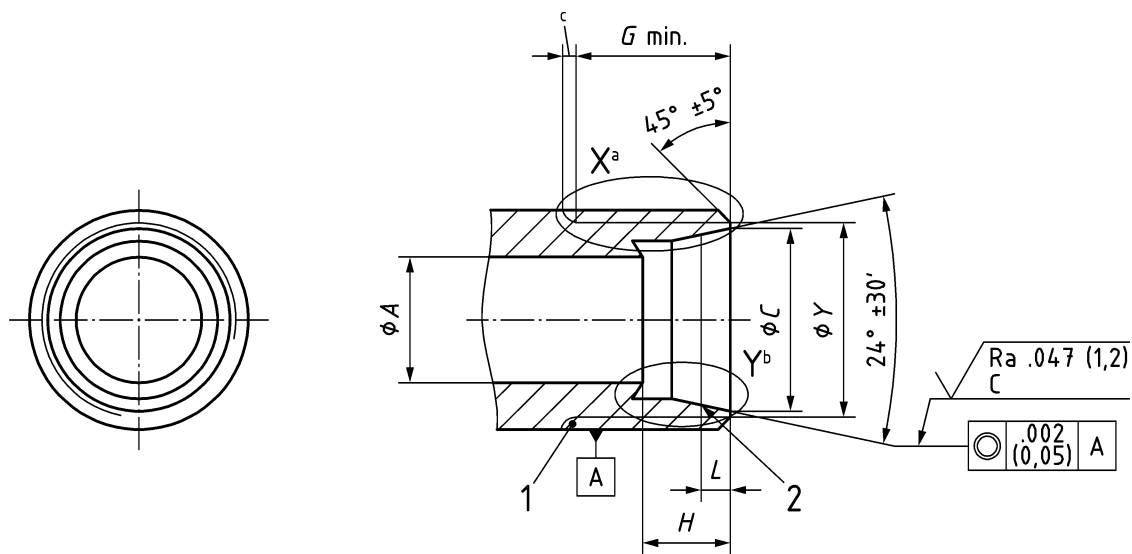
The configuration, dimensions and tolerances shall conform with Figure 1 to Figure 5, Table 1 and Table 2.

Dimensions and tolerances are expressed in inch (millimetres).

Unless otherwise specified, the following tolerances are applicable:

Linear dimensions:  $\pm .010$  ( $\pm 0,25$ )

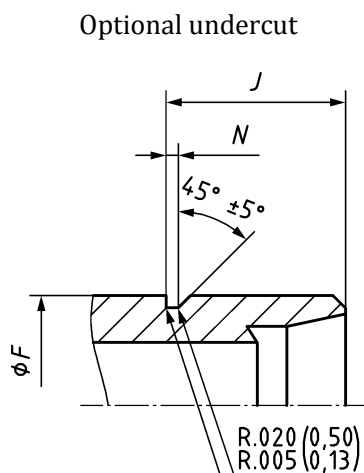
Angular dimensions:  $\pm 0^{\circ}30'$



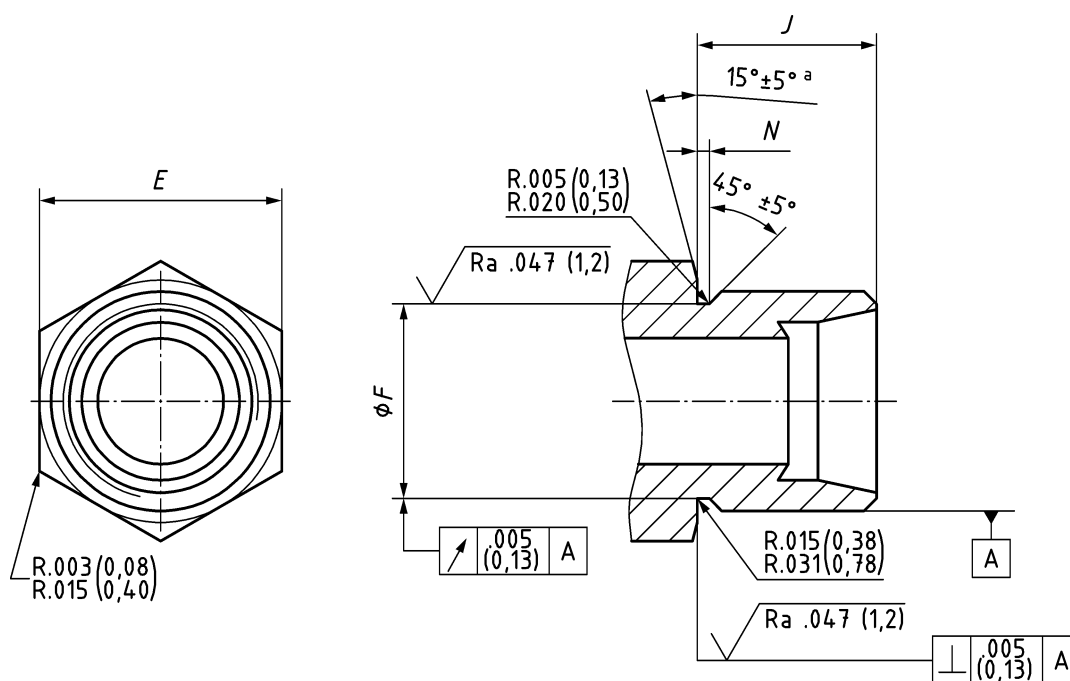
#### Key

- 1 Thread T (as per ISO 3161)
- 2 Gage point, see Figure 4 or Figure 5
- a This style may have an optional undercut as shown in Figure 2.
- b Sealing surface
- c 2 incomplete threads max., root radius not required

**Figure 1 — Configuration, dimensions and tolerances of fitting end design, style G**



**Figure 2 — Configuration, dimensions and tolerances of fitting end design, style B (same as style G except as shown)**

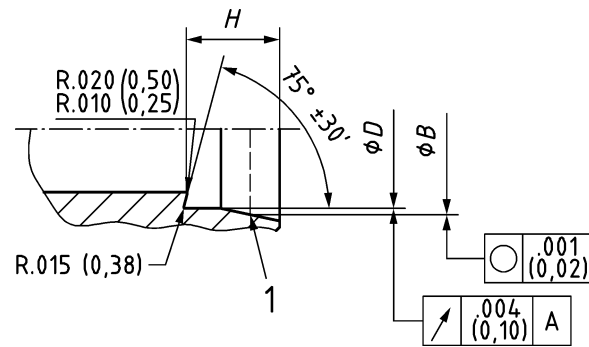


**Key**

a Chamfer

**Figure 3 — Configuration, dimensions and tolerances of fitting end design, style E (same as style G except as shown)**

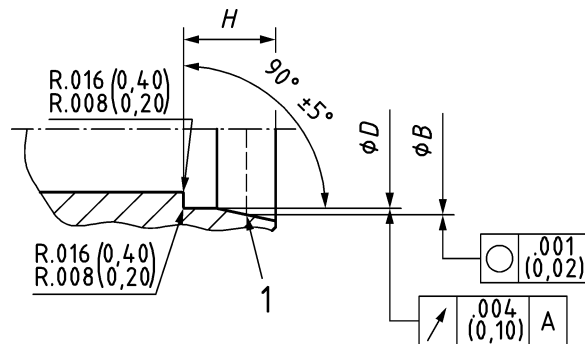




**Key**

- 1 Gage point

**Figure 4 — Configuration, dimensions and tolerances of fitting end design**



**Key**

- 1 Gage point

**Figure 5 — Configuration, dimensions and tolerances of fitting end design, optional style F**

**Table 1 — Dimensions and tolerances**

*(continued)*

Diameter code no.	T thread class 3A	ø A ±.003 (± 0,08)	ø B GAGE	ø C REF.	ø D +.004 0 (+ 0,10) (0)	ø F +.004 -.003 (+ 0,10) (- 0,08)
04	.4375-28UNJEF	.187 (4,75)	.2930 (7,442)	.319 (8,10)	.261 (6,63)	.379 (9,63)
06	.5625-24UNJEF	.297 (7,54)	.4160 (10,566)	.441 (11,20)	.386 (9,80)	.497 (12,62)
08	.7500-20UNJEF	.422 (10,72)	.5600 (14,224)	.601 (15,27)	.514 (13,06)	.674 (17,12)
10	.8750-20UNJEF	.500 (12,70)	.6860 (17,424)	.727 (18,47)	.641 (16,28)	.799 (20,29)
12	1.0625-18UNJEF	.656 (16,66)	.8100 (20,574)	.852 (21,64)	.766 (19,46)	.971 (24,66)
16	1.3125-16UNJ	.875 (22,22)	1.0620 (26,975)	1.102 (27,99)	1.016 (25,81)	1.221 (31,01)
20	1.6250-16UNJ	1.093 (27,76)	1.3160 (33,426)	1.355 (34,42)	1.270 (32,26)	1.533 (38,94)

**Table 1 — Dimensions and tolerances (concluded)**

Diameter code no.	G min.	H ±.003 (± 0,08)	J ±.010 (± 0,25)	L ±.003 (± 0,08)	N +.015 0 (+ 0,38) (0)	ø Y ±.010 (± 0,25)
04	.443 (11,25)	.234 (5,94)	.453 (11,51)	.060 (1,52)	.075 (1,91)	.365 (9,27)
06	.459 (11,66)	.250 (6,35)	.469 (11,91)	.057 (1,45)	.083 (2,11)	.480 (12,19)
08	.552 (14,02)	.305 (7,75)	.562 (14,27)	.095 (2,41)	.094 (2,39)	.660 (16,76)
10	.615 (15,62)	.350 (8,89)	.625 (15,87)		.107 (2,72)	.775 (19,68)
12	.678 (17,22)		.415 (10,54)	.688 (17,47)	.097 (2,46)	.125 (3,18)
16	.678 (17,22)	.093 (2,36)			1.195 (30,35)	
20	.678 (17,22)	.090 (2,29)			1.505 (38,22)	

The diameter code no. is given in 1/16 inch of tube diameter.  
For dimensions E, see Table 2.

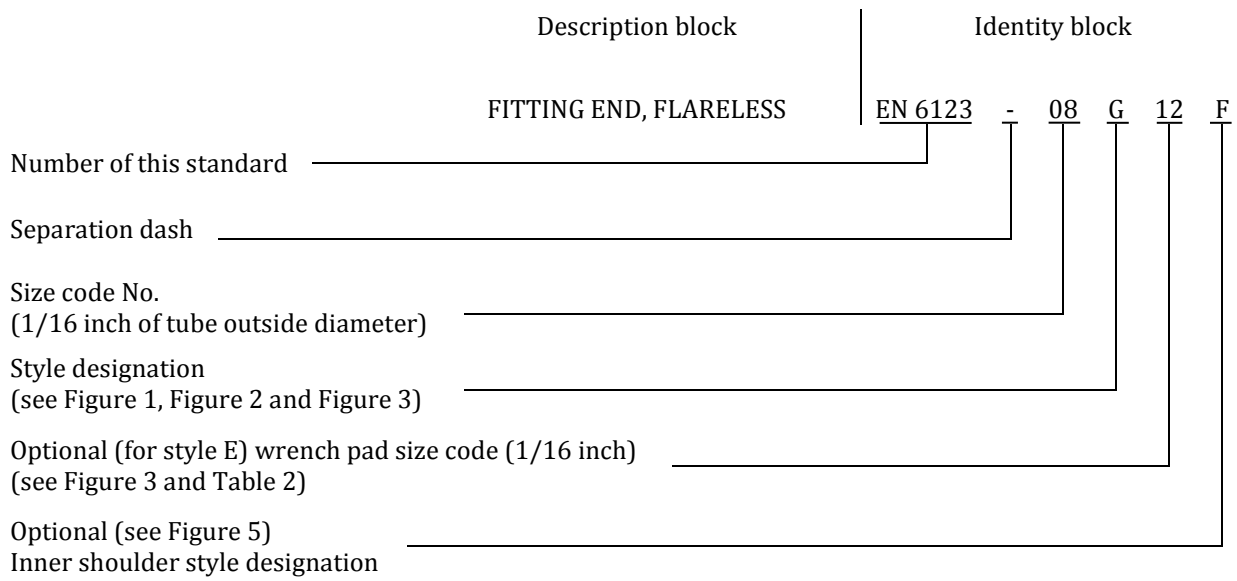
Table 2 — Wrench pad dimensions

E					Fitting diameter code										
Size	Inch	Tol. inch	mm	Tol. mm	Wrench inch	04	06	08	10	12	16	20			
07	.438	+0.003 -0.004	11,11	+ 0,08 - 0,10	7/16	R									
08	.500		12,70		1/2	p									
09	.563		14,29		9/16	X	R								
10	.625		15,88		5/8	p	p								
11	.688		17,46		11/16	X	X								
12	.750		19,05		3/4	S	S	R							
13	.813		20,64		13/16	S	S	p							
14	.875		22,23		7/8	S	S	X	R						
15	.938		23,81		15/16	S	S	p	p						
16	1.000		25,40		1"	S	S	X	X						
17	1.063		26,99		1" 1/16	S	S	S	p	R					
18	1.125		28,58		1" 1/8	S	S	S	p	p					
19	1.188		30,16		1" 3/16	S	S	S	p	p					
20	1.250		31,75		1" 1/4	S	S	S	X	X					
21	1.313		33,34		1" 5/16	S	S	S	S	p	R				
22	1.375		34,93		1" 3/8	S	S	S	S	X	p				
23	1.438		36,51		1" 7/16	S	S	S	S	S	p				
24	1.500		38,10		1" 1/2	S	S	S	S	S	X				
25	1.563		39,69		1" 9/16	S	S	S	S	S	p				
26	1.625		± 0.10		41,28	± 0,25	1" 5/8	S	S	S	S	S	X	R	
27	1.688				42,86		1" 11/16	S	S	S	S	S	S	S	p
28	1.750				44,45		1" 3/4	S	S	S	S	S	S	S	p
29	1.813				46,04		1" 13/16	S	S	S	S	S	S	S	p
30	1.875				47,63		1" 7/8	S	S	S	S	S	S	S	p
31	1.938				49,21		1" 15/16	S	S	S	S	S	S	S	p
32	2.000	50,80		2"	S		S	S	S	S	S	S	X		

R Recommended for weight saving  
X Not permissible for use in 5 080 psi systems (used in 3 000 psi systems)  
p Possible use  
S Special design

## 4 Designation

### EXAMPLE



**RECORD OF REVISIONS**

Edition	Clause modified	Description of modification
1 08/03	All	New standard
2 02/06	3.1 Figure 1 Figures 3, 4, 5 Table 1	Tolerances added Notes amended Tolerances amended Dimensions $G_{\min}$ amended, dimensions W deleted





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