BS ISO 19632:2015

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 ISO 19632:2015.

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

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INTERNATIONAL STANDARD

ISO 19632

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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

Reference number
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Foreword

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 10, *Aerospace fluid systems and components*.

Introduction

International Standards use the International system of units (SI); however, large segments of the aerospace industry make use of other measurement systems as a matter of common working practice.

All dimensions and units used in this International Standard are given in SI units, with other units also indicated for the convenience of the user.

The decimal sign used in International Standards is the comma (“,”); however, the comma is not used in common working practice with non-SI dimensions. Therefore, in common with many other aerospace standards, the decimal point (“.”) is used in this International Standard when providing dimensions in inch-pound units.

NOTE The use of non-SI units and the decimal point in this International Standard does not constitute general acceptance of measurement systems other than SI within International Standards.

INTERNATIONAL STANDARD ISO 19632:2015(E)

Aerospace series — Fitting end, 24° internal cone, external thread, flareless type extra fine thread pitch inch series — Design standard

1 Scope

This International 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 35 000 kPa (5 080 psi), diameter 6,35 mm ≤ D ≤ 31,75 mm (1/4 inch ≤ D ≤ 1 1/4 inch) for aerospace applications.

This is a design standard.

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 — Configuration, dimensions and tolerances

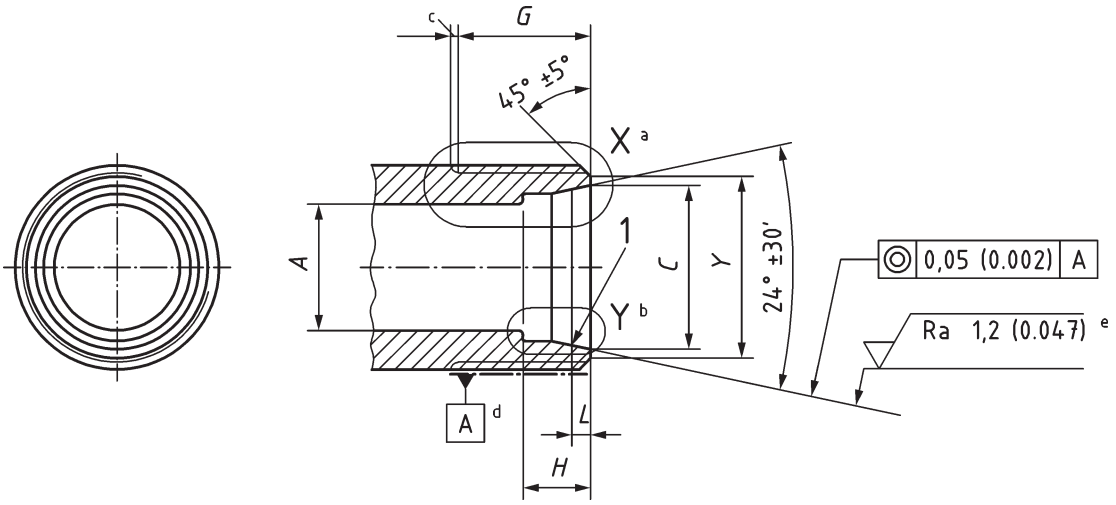
The configuration, dimensions and tolerances shall conform with Figure 1 to Figure 5, Table 1 and Table 2.

Dimensions and tolerances are expressed in millimetres (inch).

Unless otherwise specified, the following tolerances are applicable:

— Linear dimensions: ± 0,25 mm (± 0.010 inch)

— Angular dimensions: ± 0°30’



Key

1 gauge point

a This style may have an optional undercut as shown in Figure 2.

b See Figure 4 or Figure 5.

c Two incomplete threads max., root radius not required.

d Thread T as per ISO 3161.

e Sealing surface.

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

Style G is not an appropriate configuration for port fitting.

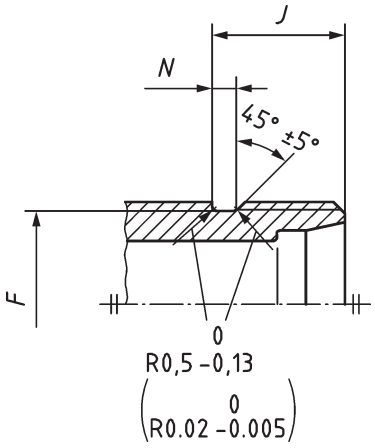


Figure 2 — Configuration, dimensions and tolerances of fitting end design, style B (same as style G except as shown)

Style B is not an appropriate configuration for port fitting.

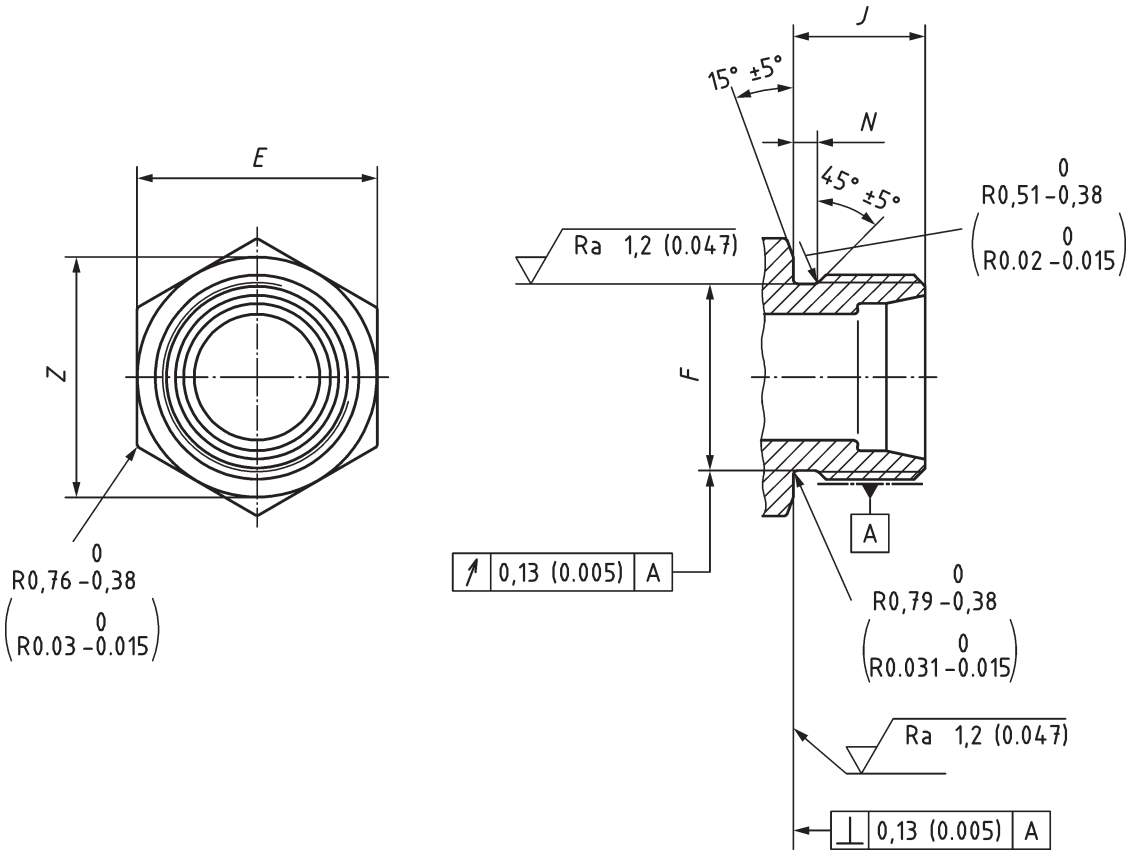
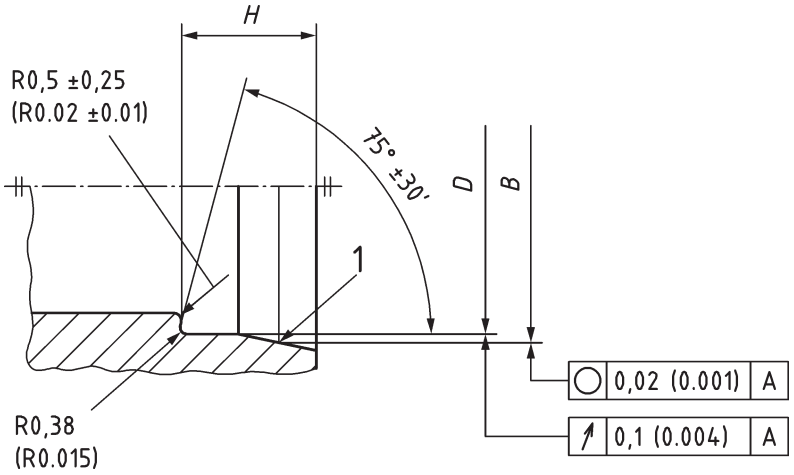


Figure 3 — Configuration, dimensions and tolerances of fitting end design, style E (same as style G except as shown)

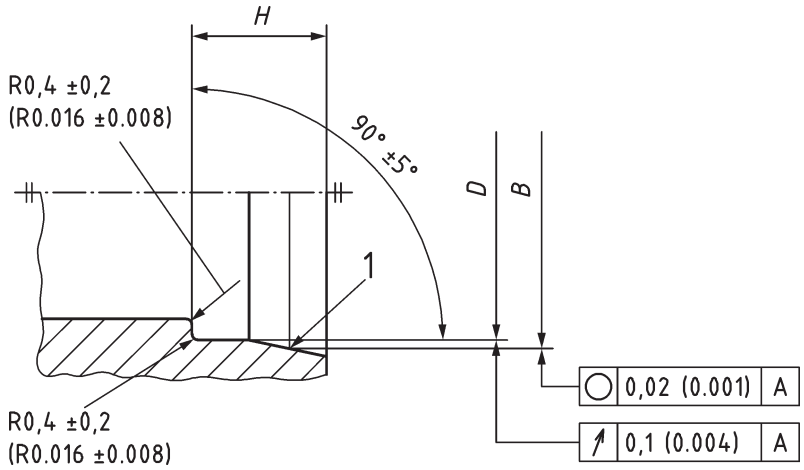
Style E is an appropriate configuration for port fitting.



Key

1 gauge point

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



Key

1 gauge point

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

Style F is not an appropriate configuration for port fitting.

Table 1 — Dimensions and tolerances

Diameter code no.	**T thread** ISO 3161 **class 3A**	**Ø A** ± 0,08 (± 0.003)	**Ø B** **GAGE**	**Ø C** **REF.**	**Ø D** + 0,10 0 (+ 0.004) (0)	**Ø F** + 0,10 - 0,08 (+ 0.004) (- 0.003)	**G** min.	**H** ± 0,08 (± 0.003)	**J** ± 0,25 (± 0.010)	**L** ± 0,08 (± 0.003)	**N** + 0,38 0 (+ 0.015) (0)	**Ø Y** ± 0,25 (± 0.010)
04	0.4375-28UNJEF	4,75 (0.187)	7,442 (0.2930)	8,10 (0.319)	6,63 (0.261)	9,63 (0.379)	11,25 (0.443)	5,94 (0.234)	11,51 (0.453)	1,52 (0.060)	1,91 (0.075)	9,27 (0.365)
06	0.5625-24UNJEF	7,54 (0.297)	10,566 (0.4160)	11,20 (0.441)	9,80 (0.386)	12,62 (0.497)	11,66 (0.459)	6,35 (0.250)	11,91 (0.469)	1,45 (0.057)	2,11 (0.083)	12,19 (0.480)
08	0.7500-20UNJEF	10,72 (0.422)	14,224 (0.5600)	15,27 (0.601)	13,06 (0.514)	17,12 (0.674)	14,02 (0.552)	7,75 (0.305)	14,27 (0.562)	2,41 (0.095)	2,39 (0.094)	16,76 (0.660)
10	0.8750-20UNJEF	12,70 (0.500)	17,424 (0.6860)	18,47 (0.727)	16,28 (0.641)	20,29 (0.799)	15,62 (0.615)	8,89 (0.350)	15,87 (0.625)		2,72 (0.107)	19,68 (0.775)
12	1.0625-18UNJEF	16,66 (0.656)	20,574 (0.8100)	21,64 (0.852)	19,46 (0.766)	24,66 (0.971)	17,22 (0.678)			2,46 (0.097)		24,00 (0.945)
16	1.3125-16UNJ	22,22 (0.875)	26,975 (1.0620)	27,99 (1.102)	25,81 (1.016)	31,01 (1.221)	17,22 (0.678)	10,54 (0.415)	17,47 (0.688)	2,36 (0.093)	3,18 (0.125)	30,35 (1.195)
20	1.6250-16UNJ	27,76 (1.093)	33,426 (1.3160)	34,42 (1.355)	32,26 (1.270)	38,94 (1.533)	17,22 (0.678)			2,29 (0.090)		38,22 (1.505)

The diameter code no. is given in 1/16 inch of tube diameter.

For dimensions E see Table 2.

Table 2 — Wrench pad dimensions

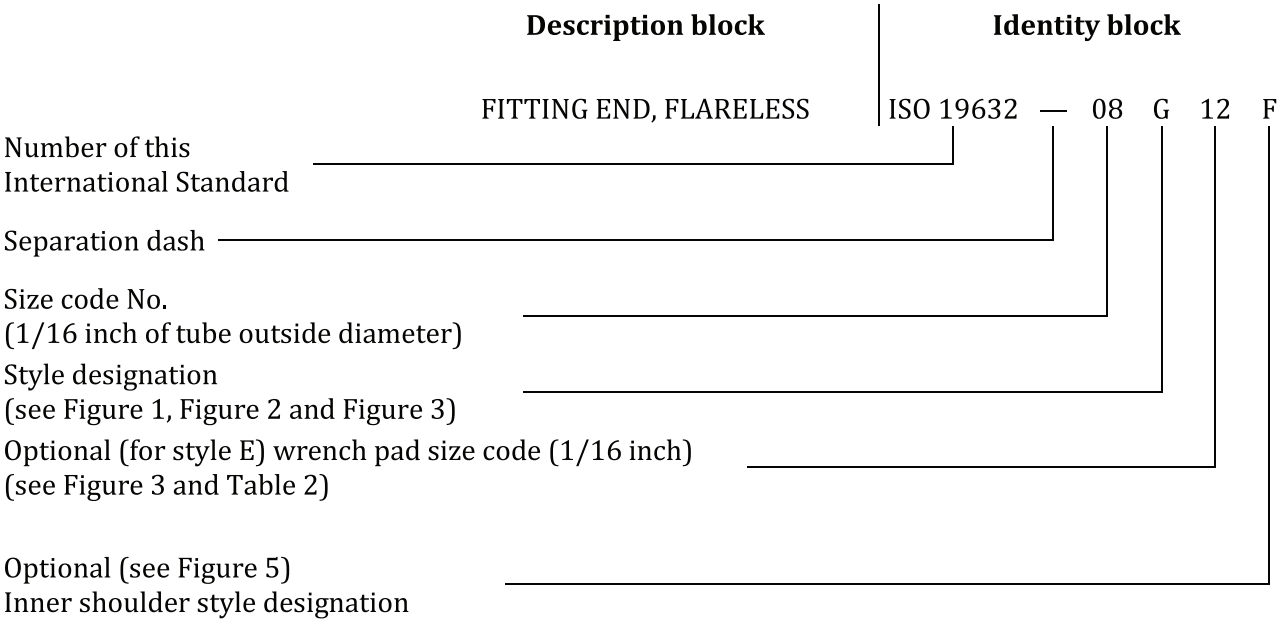
Size	E				Z MIN		Wrench	Fitting diameter code						
	mm	Tol. mm	inch	Tol. inch	mm	inch	inch	04	06	08	10	12	16	20
07	11,11		0.438		10,77	0.424	7/16	**R**						
08	12,70		0.500		12,34	0.486	1/2	p						
09	14,29		0.563		13,94	0.549	9/16	p	**R**					
10	15,88		0.625		15,52	0.611	5/8	p	p					
11	17,46		0.688		17,12	0.674	11/16	p	p					
12	19,05		0.750		18,69	0.736	3/4	p	p	**R**				
13	20,64		0.813		20,29	0.799	13/16	p	p	p				
14	22,23		0.875		21,87	0.861	7/8	p	p	p	**R**			
15	23,81	+ 0,08	0.938	+ 0.003	23,47	0.924	15/16	p	p	p	p			
16	25,40	- 0,10	1.000	- 0.004	25,04	0.986	1“	p	p	p	p			
17	26,99		1.063		26,64	1.049	1“ 1/16	p	p	p	p	**R**		
18	28,58		1.125		28,22	1.111	1“ 1/8	p	p	p	p	p		
19	30,16		1.188		29,82	1.174	1“ 3/16	p	p	p	p	p		
20	31,75		1.250		31,39	1.236	1“ 1/4	p	p	p	p	p		
21	33,34		1.313		32,99	1.299	1“ 5/16	p	p	p	p	p	**R**	
22	34,93		1.375		34,57	1.361	1“ 3/8	p	p	p	p	p	p	
23	36,51		1.438		36,17	1.424	1“ 7/16	p	p	p	p	p	p	
24	38,10		1.500		37,74	1.486	1“ 1/2	p	p	p	p	p	p	
25	39,69		1.563		39,34	1.549	1“ 9/16	p	p	p	p	p	p	
26	41,28		1.625		40,77	1.605	1“ 5/8	p	p	p	p	p	p	**R**
27	42,86		1.688		42,37	1.668	1“ 11/16	p	p	p	p	p	p	p
28	44,45		1.750		43,94	1.730	1“ 3/4	p	p	p	p	p	p	p
29	46,04	± 0,25	1.813	± 0.010	45,54	1.793	1“ 13/16	p	p	p	p	p	p	p
30	47,63		1.875		47,12	1.855	1“ 7/8	p	p	p	p	p	p	p
31	49,21		1.938		48,72	1.918	1“ 15/16	p	p	p	p	p	p	p
32	50,80		2.000		50,29	1.980	2“	p	p	p	p	p	p	p

R = Recommended for weight saving

p = Possible use

4 Designation

EXAMPLE



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