SLOVENSKI STANDARD
SIST EN 4553:2004

01-maj-2004

Aerospace series - Pipe coupling 37°, spherical, in heat resisting steel - Elbow 90° nipples, welded end - Inch series

Aerospace series - Pipe coupling 37°, spherical, in heat resisting steel - Elbow 90° nipples, welded end - Inch series

Luft- und Raumfahrt - Rohrverschraubung 37° mit Kugelbuchse, aus hochwarmfestem Stahl - Winkelverschraubungen 90° zum Anschweißen - Inch-Reihe

Série aérospatiale - Systeme de raccordement sphérique 37°, en acier résistant a chaud - Mamelons coudés a 90° a souder - Série inch

Ta slovenski standard je istoveten z: **EN 4553:2003**

ICS:

49.080	Letalski in vesoljski hidravliļ ni sistemi in deli	Aerospace fluid systems and components

SIST EN 4553:2004 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4553

February 2003

ICS 49.080

English version

Aerospace series - Pipe coupling 37°, spherical, in heat resisting steel - Elbow 90° nipples, welded end - Inch series

Série aérospatiale - Système de raccordement sphérique 37°, en acier résistant à chaud - Mamelons coudés à 90° à souder - Série inch

This European Standard was approved by CEN on 14 September 2002.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovak Republic, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 4553:2003 E

Contents

Foreword

This document EN 4553:2003 has been prepared by the European Association of Aerospace Manufacturers (AECMA).

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 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 August 2003, and conflicting national standards shall be withdrawn at the latest by August 2003.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard : Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This standard specifies the characteristics of welded elbow 90° nipples for inch series pipe couplings, 37°, spherical, in heat resisting steel, for aerospace applications.

Nominal pressure : Class D in accordance with ISO 6771

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 (including amendments).

ISO 3161 *Aerospace - UNJ threads - General requirements and limit dimensions.*

ISO 6771 *Aerospace - Fluid systems and components - Pressure and temperature classifications.*

EN 2424 *Aerospace series - Marking of aerospace products.*

EN 3363 *Aerospace series - Steel FE-CM38 - Solution treated - $R_m \geq 485$ MPa - Sand or investment casting*[1)].

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-PA 13 - Softened - $500 \leq R_m \leq 700$ MPa - Bars for machining - $D_e \leq 100$ mm* [1)].

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

EN 4549 *Aerospace series - Pipe couplings, in heat resisting steel or in heat resisting nickel alloy - Coupling end, weld - Design configuration - Inch series.*

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

EN 4560 *Aerospace series - Pipe couplings 37°, spherical, up to 21 000 kPa - Inch series - Technical specification.*

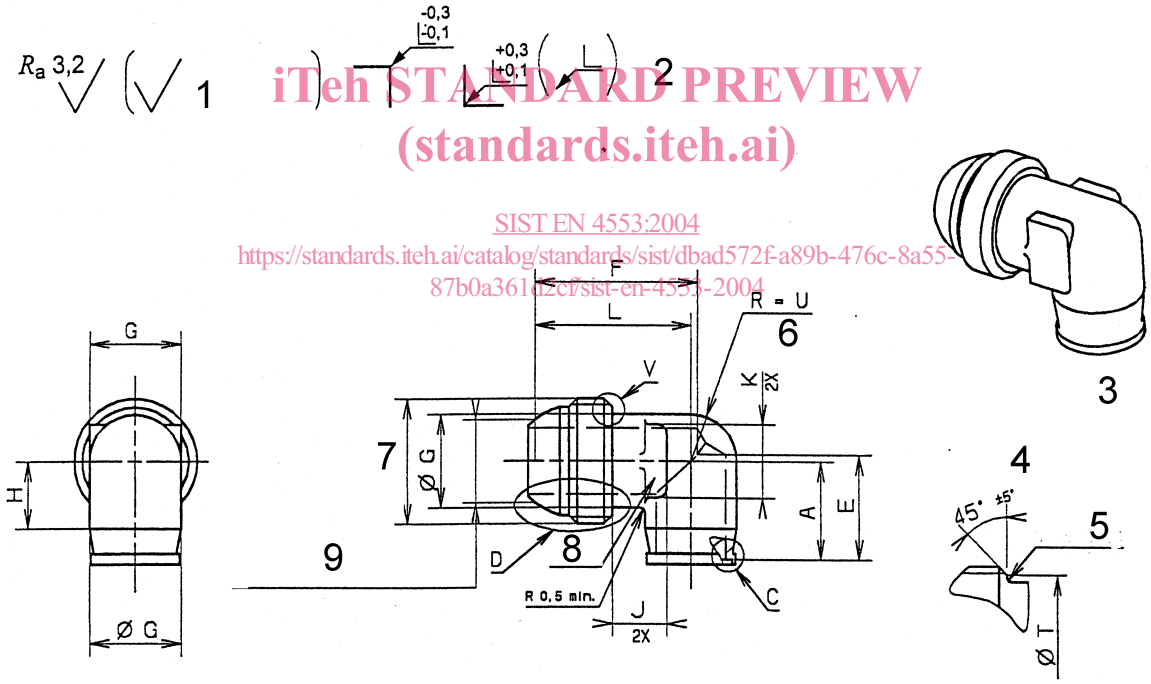
3 Required characteristics

3.1 Configuration – Dimensions – Tolerances – Masses

See Figures 1 and 2 and Tables 1 and 2. Dimensions and tolerances are in millimetres.

3.2 Materials

EN 3363 with minimum hardness HB > 140 or EN 3468 with minimum hardness HB > 140 or EN 3487 with minimum hardness HB > 140

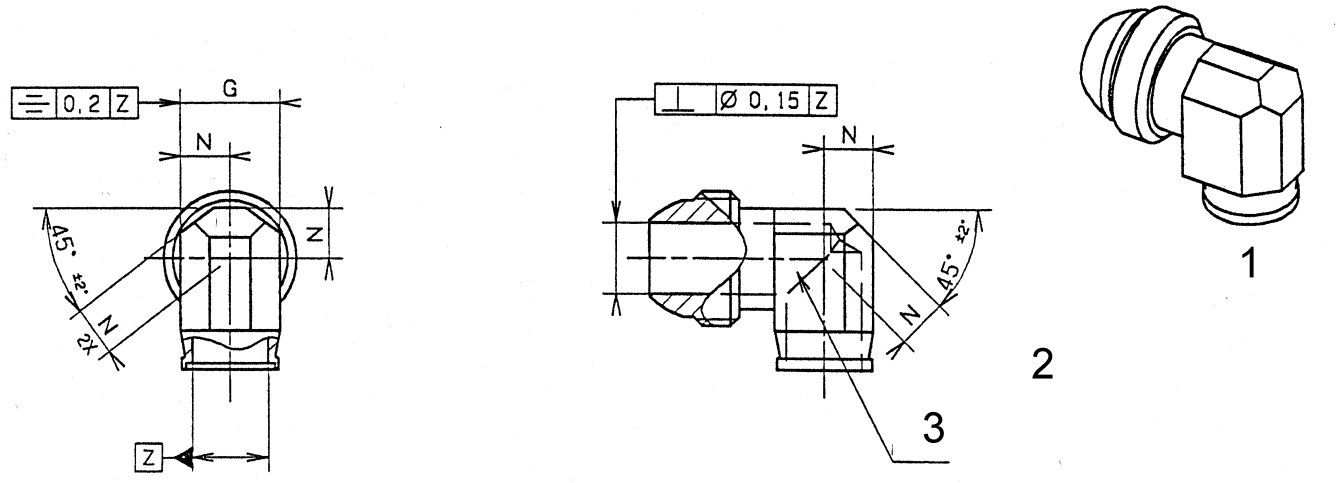


Key

1 See EN 4550-1
2 Thread's surface will be achieved by normal methods of manufacture.
3 3 D view
4 Detail V
5 R 0,8 to 1,3
6 Wall thickness W in this area
7 Thread
8 Marking
9 (∅ E per EN 4550-1)

NOTE The geometrical tolerances given in Figure 2 are applicable to moulding or forging parts.

Figure 1 – Shape for moulding or forging parts



Key

1 3 D view
2 N théo = G/2
3 Marking

NOTE The dimensions given in Figure 1 are applicable to whole machining parts.

Figure 2 – Shape for whole machining parts (alternate method of manufacture)

Table 1

Dimensional code [a]	Nominal diameter	Wall thickness of tube	Thread [b]	*A* ± 0,25	*C*	*D*	*E* +0,25 0
A04	6,350	0,711	.437 5-20UNJF-3A	12,50	EN4549A004	EN4550-1-04	12,75
B04		0,889			EN4549B004		
A05	7,924	0,711	.500 0-20UNJF-3A	14,30	EN4549A005	EN4550-1-04	
B05		0,889			EN4549B005		
A06	9,525	0,711	.562 5-18UNJF-3A	14,30	EN4549A006	EN4550-1-06	14,55
B06		0,889			EN4549B006		
A08	12,700	0,711	.750 0-16UNJF-3A	16,30	EN4549A008	EN4550-1-08	16,55
B08		0,889			EN4549B008		
A10	15,875	0,711	.875 0-14UNJF-3A	19,05	EN4549A010	EN4550-1-10	19,3
B10		0,889			EN4549B010		
A12	19,050	0,711	1.062 5-12UNJ-3A	20,65	EN4549A012	EN4550-1-12	20,9
B12		0,889			EN4549B012		
A16	25,400	0,711	1.312 5-12UNJ-3A	20,65	EN4549A016	EN4550-1-16	20,9
B16		0,889			EN4549B016		

Table 1 *(continued)*

Dimensional code [a]	Nominal diameter	*F* +0,25 0	*G* +0,05 −0.05	*H* ± 0,25	*J* ± 0,5	*K* ± 0,5	*L* ± 0,25	*T* ± 0,25	*U* ± 0,5	*W* min.	Mass ≈ quoted in kg/1000 parts
A04	6,350	21,8	7,90	6,00	10,0	7,0	21,55	9,25	4,10		11,00
B04									4,55		
A05	7,924	22,6	9,50	7,00	11,0	8,0	22,35	10,80	4,85	1,7	14,40
B05									5,30		
A06	9,525	23,25	11,10	7,00	12,0	9,0	23,00	12,20	5,35		17,50
B06									5,80		
A08	12,700	27,1	14,30	9,00	14,0	11,0	26,85	16,75	6,60	1,8	32,40
B08									7,10		
A10	15,875	31,45	17,50	10,00	16,0	13,0	31,20	19,65	7,90	2,1	52,90
B10									8,40		
A12	19,050	35,45	20,65	13,00	18,0	14,0	35,20	24,00	9,90	2,5	84,00
B12									10,40		
A16	25,400	39,65	27,00	15,00	21,0	16,0	39,40	30,35	13,20		121,00
B16									13,80		

[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