



**SLOVENSKI STANDARD
SIST EN 4561:2004**

01-maj-2004

Aerospace series - Pipe coupling, welded, in heat resisting steel - Elbow 90° - Inch series

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Luft- und Raumfahrt - Rohrverschraubung zum Anschweißen aushochwarmfestem Stahl - Winkelstutzen 90° - Inch-Reihe

Série aérospatiale - Systeme de raccordement a souder, en acier résistant a chaud - Coudes a 90° - Série inch

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Ta slovenski standard je istoveten z: EN 4561:2003

ICS:

49.080

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Aerospace fluid systems and components

SIST EN 4561:2004

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 4561

February 2003

ICS 49.080

English version

**Aerospace series - Pipe coupling, welded, in heat resisting steel
- Elbow 90° - Inch series**

Série aérospatiale - Système de raccordement à souder,
en acier résistant à chaud - Coudes à 90° - 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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document EN 4561:2003 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.

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1 Scope

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

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Nominal pressure: Class D per ISO 6771 [f9d31e2b23bd/sist-en-4561-2004](#)

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 6771	<i>Aerospace - Fluid systems and components - Pressure and temperature classifications.</i>
EN 2424	<i>Aerospace series - Marking of aerospace products.</i>
EN 3363	<i>Aerospace series - Steel FE-CM38 - Solution treated - $R_m \geq 485$ MPa - Sand or investment casting¹⁾.</i>
EN 3468	<i>Aerospace series - Steel FE-PA 13 - Softened - $500 \leq R_m \leq 700$ MPa - Forgings - $D_e \leq 100$ mm¹⁾.</i>
EN 3487	<i>Aerospace series - Steel FE-PA13 - Softened - $500 \leq R_m \leq 700$ MPa - Bars for machining - $D_e \leq 100$ mm¹⁾.</i>
EN 4549	<i>Aerospace series - Pipe coupling, in heat resisting steel or in heat resisting nickel alloy - Coupling end, welded - Design configuration - Inch series.</i>

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

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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.

Table 1

Code	Weld end option
1	weld end on one side
2	weld end on both sides

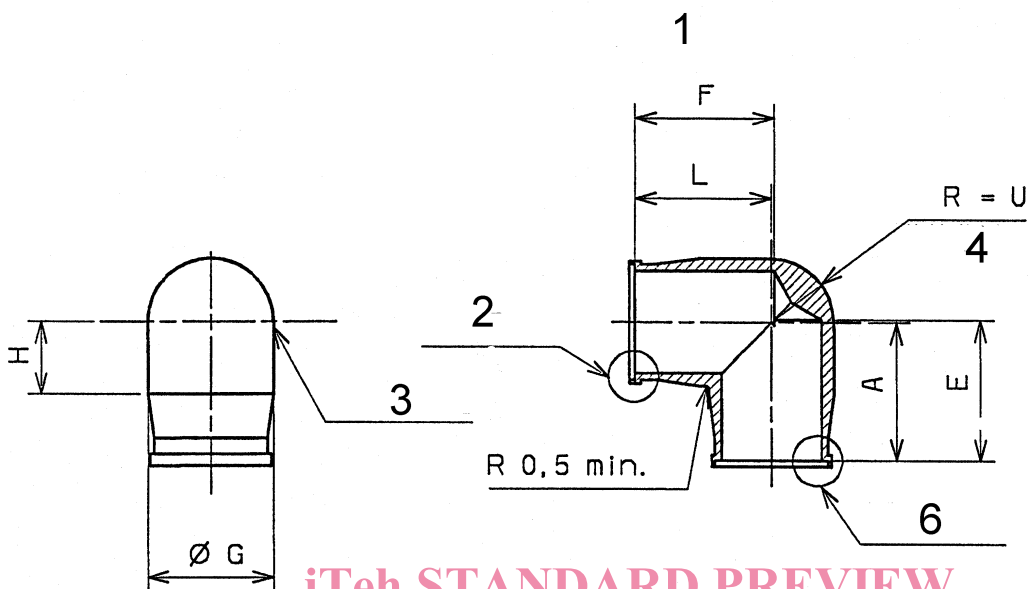
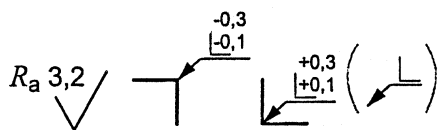
3.2 Materials

EN 3363 or EN 3468 or EN 3487

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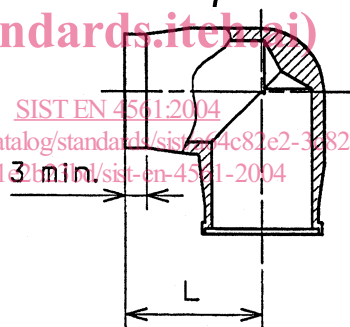
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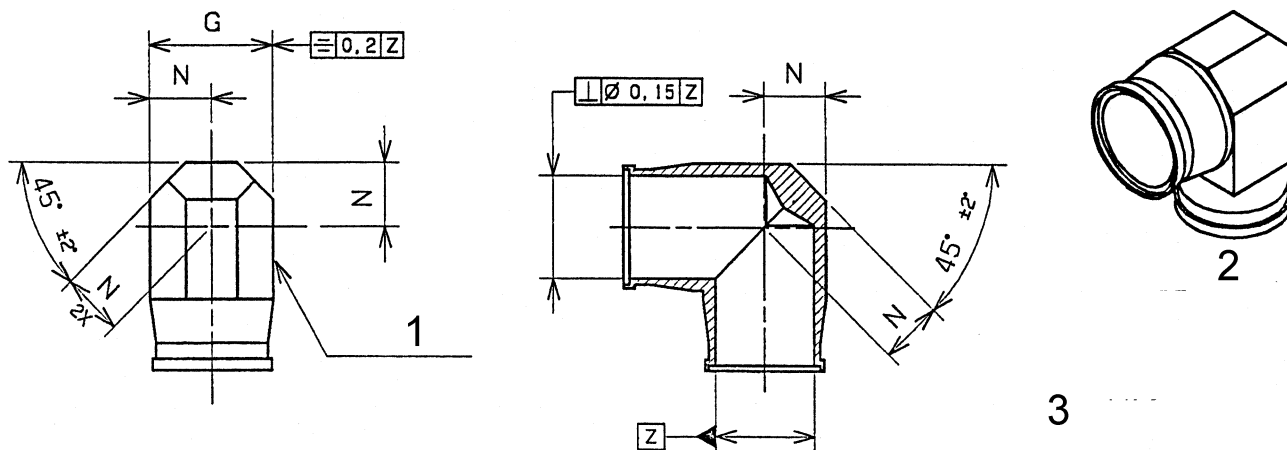
Key

- 1 Weld end option code 2
- 2 Weld end per D
- 3 Marking
- 4 Wall thickness W in this area
- 5 3 D view
- 6 Weld end per C
- 7 Weld end option code 1

NOTE Geometrical tolerances given in Figure 2 are applicable to molding or forging parts.

Figure 1 – Shape for moulding or forging parts

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- Key**
 1 Marking
 2 3 D view
 3 N theo = G/2

NOTE 1 Dimensions and tolerances given in Figure 1 are applicable to whole machining parts.
 NOTE 2 Weld end option code 1 couplings may be whole machining with the dimensions and tolerances given in Figures 1 and 2.

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

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Table 2

Dimensional code ^a	Nominal diameter	Wall thickness of tube	A ± 0,25	C	D ^b	E +0,25 0	F +0,25 0	G +0,05 -0,25	H ± 0,25	L ± 0,25	U ± 0,5	W min.	Mass ≈ quoted in kg /1000 parts
A04	6,350	0,711	12,50	EN4549A004	EN4549A004	12,80	12,80	7,90	6,00	12,50	4,10	1,7	5,20
B04		0,889		EN4549B004	EN4549B004								
A05	7,924	0,711	14,30	EN4549A005	EN4549A005	14,60	14,60	9,50	7,00	14,30	4,85	7,70	
B05		0,889		EN4549B005	EN4549B005								
A06	9,525	0,711	14,30	EN4549A006	EN4549A006	16,60	16,60	11,10	9,00	16,30	6,60	1,8	15,40
B06		0,889		EN4549B006	EN4549B006								
A08	12,700	0,711	16,30	EN4549A008	EN4549A008	19,30	19,30	17,50	10,00	19,05	7,90	2,1	23,40
B08		0,889		EN4549B008	EN4549B008								
A10	15,875	0,711	19,05	EN4549A010	EN4549A010	21,00	21,00	20,65	13,00	20,65	9,90	2,5	31,40
B10		0,889		EN4549B010	EN4549B010								
A12	19,050	0,711	20,65	EN4549A012	EN4549A012	27,00	27,00	15,00	15,00	27,00	13,20	46,40	
B12		0,889		EN4549B012	EN4549B012								
A16	25,400	0,711	20,65	EN4549A016	EN4549A016						13,80		
B16		0,889		EN4549B016	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 When weld end option code is 1, the other side is as shown on the bottom of Figure 1.