
Aluminij in aluminijeve zlitine - VF varjene cevi - 3. del: Odstopki mer in tolerance oblike cevi z okroglim prerezom

Aluminium and aluminium alloys - HF seam welded tubes - Part 3: Tolerances on dimensions and form for circular tubes

Aluminium und Aluminiumlegierungen - HF-längsnahtgeschweißte Rohre - Teil 3: Grenzabmaße und Formtoleranzen für Rundrohre

Aluminium et alliages d'aluminium - Tubes électrosoudés HF - Partie 3: Tolérances sur dimensions et forme des tubes a section circulaire

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English version

Aluminium and aluminium alloys - HF seam welded tubes - Part 3: Tolerances on dimensions and form for circular tubes

Aluminium et alliages d'aluminium - Tubes électrosoudés
HF - Partie 3: Tolérances sur dimensions et forme des
tubes à section circulaire

Aluminium und Aluminiumlegierungen - HF-
längsnahtgeschweißte Rohre - Teil 3: Grenzabmaße und
Formtoleranzen für Rundrohre

This European Standard was approved by CEN on 19 September 1997.

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 Central Secretariat 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 Central Secretariat 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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

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Contents		Page
Foreword.....		3
1	Scope	4
2	Normative references.....	4
3	Dimensions	4
4	Tolerances on dimensions	4
4.1	External diameter (ovality included).....	4
4.2	Thickness	5
4.3	Length	5
5	Tolerances on form	6
5.1	Straightness	6
5.2	Perpendicularity of cut ends	7
5.3	Spiraling	8
5.4	Deburring.....	8
5.5	Weld fin	8

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 132 "Aluminium and aluminium alloys", the secretariat of which is held by AFNOR.

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 April 1998, and conflicting national standards shall be withdrawn at the latest by April 1998.

Within its programme of work, Technical Committee CEN/TC 132 entrusted CEN/TC 132/WG 12 "HF Seam Welded Tubes" to prepare the following standards :

EN 1592-3 Aluminium and aluminium alloys - HF seam welded tubes -
Part 3 : Tolerances on dimensions and form for circular tubes

This standard is part of a series of four standards. The other standards deal with :

EN 1592-1 Aluminium and aluminium alloys - HF seam welded tubes -
Part 1 : Technical conditions for inspection and delivery

EN 1592-2 Aluminium and aluminium alloys - HF seam welded tubes -
Part 2 : Mechanical properties

EN 1592-4 Aluminium and aluminium alloys - HF seam welded tubes -
Part 4 : Tolerances on dimensions and form for square, rectangular and
shaped tubes

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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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This part of EN 1592 specifies the tolerances on dimensions and form of circular HF seam welded tubes with a diameter up to and including 80 mm and a wall thickness up to and including 2,5 mm.

These tubes are manufactured from rolled aluminium alloy strip longitudinally welded in a continuous process by the passage of an electric current across the abutting edges without the addition of filler metal.

This standard also applies to tubes manufactured from aluminium alloy strip which is painted, lacquered or anodized prior to forming.

Technical conditions for inspection and delivery are specified in EN 1592-1.

2 Normative references

This European Standard incorporates by dated or undated references, 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.

EN 1592-1 Aluminium and aluminium alloys - HF seam welded tubes - Part 1 :
Technical conditions for inspection and delivery

<https://standards.iteh.ai/catalog/standards/sist/0d1e3e6f-f0ac-4429-98e3-6c1b2678ba01/sist-en-1592-3-1998>

3 Dimensions

The dimensions of tubes shall be designated by the outside diameter and wall thickness.

4 Tolerances on dimensions

4.1 External diameter (ovality included)

The outside diameter measured at any point (excluding the first 100 millimetres from each end) shall be within the tolerances given in table 1.

Table 1 : Tolerances on outside diameter (ovality included)

Dimensions in millimetres	
Nominal outside diameter D	Tolerances
$8 \leq D \leq 15$	$\pm 0,10$
$15 < D \leq 40$	$\pm 0,12$
$40 < D \leq 60$	$\pm 0,15$
$60 < D \leq 80$	$\pm 0,20$

Other tolerances are available by agreement.

For $D \leq 40$ mm, the measurements shall be performed using a micrometer graduated in hundredths of a millimetre.

For $D > 40$ mm, the measurements shall be performed using a vernier rule with an accuracy of at least 1/50th of a millimetre.

All measurements shall be taken at least 100 mm from the end of the tube.

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4.2 Thickness

The tolerances on thickness shall be in accordance with table 2.

Table 2 : Tolerances on thickness

Dimensions in millimetres	
Nominal thickness t	Tolerances
$0,6 \leq t \leq 1,0$	$\pm 0,05$
$1,0 < t \leq 2,5$	$\pm 0,08$

These tolerances are not applicable to the weld fin. Other thicknesses and tolerances are available by agreement written between producer and purchaser.

4.3 Length

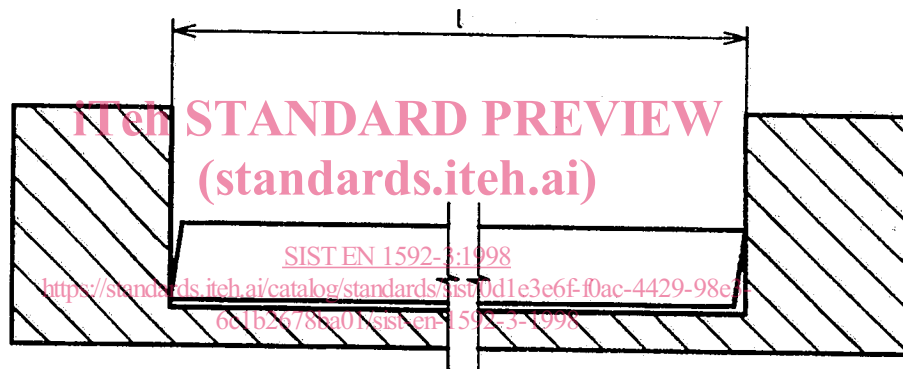
Tubes shall be supplied in one of the following ways :

- random lengths, subject to a tolerance of ± 100 mm ;
- specified cut lengths with the tolerances in accordance with table 3.

Table 3 : Tolerances on specified cut length

Dimensions in millimetres	
Specified length L	Tolerances
$L < 1\ 000$	$\pm 1,0$
$1\ 000 \leq L < 3\ 000$	$\pm 1,5$
$3\ 000 \leq L < 7\ 000$	$\pm 2,0$
$7\ 000 \leq L$	$\pm 3,0$

In case of dispute the length shall be measured as shown in figure 1, the tube being placed on a flat surface with 90° angle plates abutted on each end. The measurement shall be taken across the total gap / between plates.

**Figure 1 : Length measurement**

5 Tolerances on form

5.1 Straightness

Deviation from straightness shall be measured as shown in figure 2.

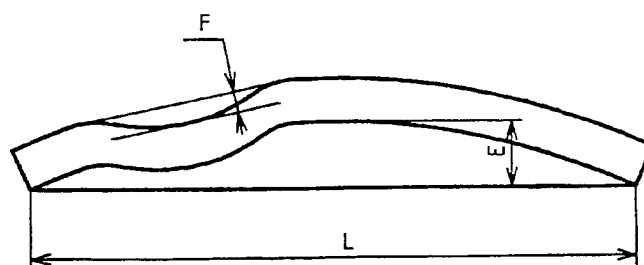


Figure 2 : Measurement of deviation from straightness

The deviation F measured on any 1 m length taken at random along the length of the tube, shall not exceed 1,6 mm. The maximum deviation E , expressed in millimetres, measured over the entire length of the tube shall not exceed $1,6 \times L$ (in metres).

5.2 Perpendicularity of cut ends

The deviation from perpendicularity of the cut ends (see figure 3) shall not exceed the tolerances given in table 4.

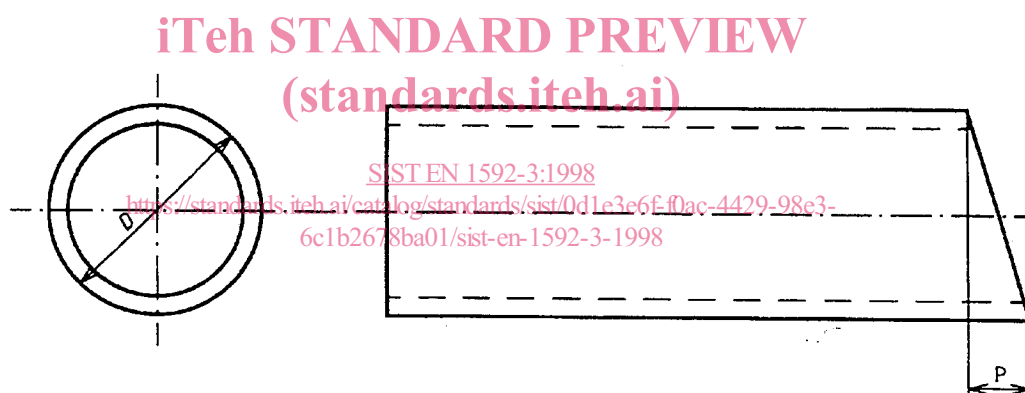


Figure 3 : Measurement of deviation from perpendicularity

Table 4 : Tolerances on perpendicularity of cut ends

Dimensions in millimetres	
Nominal outside diameter D	Tolerance P
$8 \leq D \leq 10$	0,075
$10 < D \leq 15$	0,10
$15 < D \leq 30$	0,20
$30 < D \leq 50$	0,35
$50 < D \leq 70$	0,50
$70 < D$	0,75

For specific cut length orders, this deviation shall be included in the total length tolerance (see 4.3).