



SLOVENSKI STANDARD

kSIST FprEN 755-7:2015

01-november-2015

**Aluminij in aluminijeve zlitine - Iztiskane palice/drogovi, cevi in profili - 7. del:
Nevarjene (narejene iz celega) cevi, tolerance mer in oblike**

Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 7: Seamless tubes, tolerances on dimensions and form

Aluminium und Aluminiumlegierungen - Stranggepresste Stangen, Rohre und Profile - Teil 7: Nahtlose Rohre, Grenzabmaße und Formtoleranzen

Aluminium et alliages d'aluminium - Barres, tubes et profilés filés - Partie 7 : Tubes filés sur aiguille, tolérances sur dimensions et forme

Ta slovenski standard je istoveten z: FprEN 755-7

ICS:

77.150.10	Aluminijski izdelki	Aluminium products
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kSIST FprEN 755-7:2015

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

FINAL DRAFT
FprEN 755-7

September 2015

ICS 77.150.10

Will supersede EN 755-7:2008

English Version

**Aluminium and aluminium alloys - Extruded rod/bar, tube
and profiles - Part 7: Seamless tubes, tolerances on
dimensions and form**

Aluminium et alliages d'aluminium - Barres, tubes et
profilés filés - Partie 7 : Tubes filés sur aiguille,
tolérances sur dimensions et forme

Aluminium und Aluminiumlegierungen -
Stranggepresste Stangen, Rohre und Profile - Teil 7:
Nahtlose Rohre, Grenzabmaße und Formtoleranzen

This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 132.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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 CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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Contents

Page

European foreword.....	3
1 Scope.....	4
2 Normative references.....	5
3 Alloy groups	5
4 Tolerances on dimensions.....	5
4.1 General.....	5
4.2 Diameter - Round tube.....	5
4.3 Width, depth or width across flats - squares, rectangles, hexagons, octagons	6
4.4 Wall thickness variation (eccentricity).....	7
4.5 Length.....	8
4.6 Squareness of cut ends.....	9
5 Tolerances on form	9
5.1 General.....	9
5.2 Straightness.....	9
5.3 Convexity-Concavity.....	10
5.4 Twist	11
5.5 Angularity	12
5.6 Corner and fillet radii	13
5.7 Depth of dents for round tube	14
Annex A (informative) Wall thickness variation (eccentricity)	15
A.1 General.....	15
A.2 Specifying round tube sizes and tolerances	15
Bibliography.....	17

European foreword

This document (FprEN 755-7:2015) has been prepared by Technical Committee CEN/TC 132 “Aluminium and aluminium alloys”, the secretariat of which is held by AFNOR.

This document is currently submitted to the Unique Acceptance Procedure.

This document will supersede EN 755-7:2008.

The following technical modifications have been introduced during the revision:

- subclause 4.2 Diameter - Round tube.

EN 755 comprises the following parts under the general title "*Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles*":

- *Part 1: Technical conditions for inspection and delivery*
- *Part 2: Mechanical properties*
- *Part 3: Round bars, tolerances on dimensions and form*
- *Part 4: Square bars, tolerances on dimensions and form*
- *Part 5: Rectangular bars, tolerances on dimensions and form*
- *Part 6: Hexagonal bars, tolerances on dimensions and form*
- *Part 7: Seamless tubes, tolerances on dimensions and form*
- *Part 8: Porthole tubes, tolerances on dimensions and form*
- *Part 9: Profiles, tolerances on dimensions and form*

1 Scope

This European Standard specifies the tolerances on dimensions and form for aluminium and aluminium alloy extruded seamless tubes with an outside diameter (*OD*) from 8 mm to 450 mm (round tube, see Figure 1) or with a cross section contained within a circumscribing circle (*CD*) from 10 mm to 350 mm (other than round tube, see Figure 2), supplied in straight lengths.

This European Standard only applies to tube produced by the seamless die/mandrel method of extrusion. This standard applies to extruded seamless tube for general engineering applications only.

The temper designations used in this part are according to EN 515.

This European Standard does not apply to:

- extruded tubes produced by porthole/bridge method (EN 755-8),
- tubes delivered in coils (EN 13957),
- coiled tubes cut to length (EN 13957).

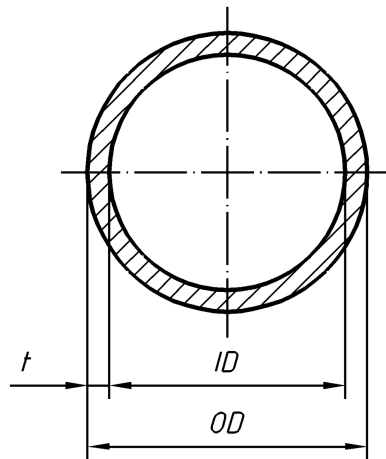


Figure 1 — Round tube

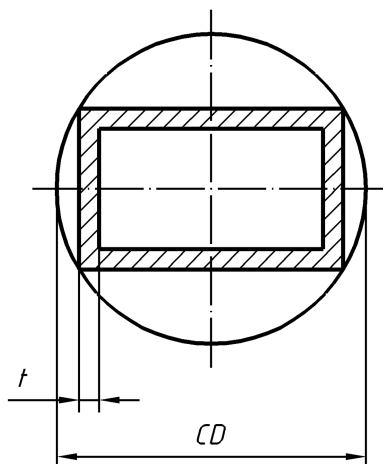


Figure 2 — Circumscribing circle for other than round tube

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.

FprEN 755-1:2015, *Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 1: Technical conditions for inspection and delivery*

3 Alloy groups

For the purposes of this European Standard, the alloys are distributed into two groups which correspond to varying degrees of difficulty when manufacturing the products.

The division into group I and group II of the most commonly used general engineering alloys is specified in Table 1. Grouping of other alloys is subject to agreement between supplier and purchaser.

Table 1 — Alloy groups

Group I	EN AW-1050A, EN AW-1070A, EN AW-1200, EN AW-1350 EN AW-3102, EN AW-3003, EN AW-3103 EN AW-5005, EN AW-5005A EN AW-6101A, EN AW-6101B, EN AW-6005, EN AW-6005A, EN AW-6106, EN AW-6008 EN AW-6014, EN AW-6060, EN AW-6360, EN AW-6063, EN AW-6063A, EN AW-6463
Group II	EN AW-2007, EN AW-2011, EN AW-2011A, EN AW-2014, EN AW-2014A, EN AW-2017A, EN AW-2024, EN AW-2030 EN AW-5019, EN AW-5049, EN AW-5051A, EN AW-5251, EN AW-5052, EN AW-5154A, EN AW-5454, EN AW-5754, EN AW-5083, EN AW-5086 EN AW-6110A, EN AW-6012, EN AW-6018, EN AW-6023, EN AW-6351, EN AW-6061, EN AW-6261, EN AW-6262, EN AW-6081, EN AW-6082 EN AW-7003, EN AW-7005, EN AW-7108, EN AW-7108A, EN AW-7020, EN AW-7021, EN AW-7022, EN AW-7049A, EN AW-7075

4 Tolerances on dimensions

4.1 General

When outside diameter OD , inside diameter ID , and wall thickness t , (or their equivalent dimensions in other than round tube) are all specified, standard tolerances shall apply to any two of these dimensions, but not to all three. As a result, the purchaser shall only state two nominal dimensions on any given order.

4.2 Diameter - Round tube

Mean diameter is defined as the average of two diameter measurements taken at right angles to each other at any position along the length.

The maximum allowable deviation of diameter at any point from the specified diameter is the maximum difference measured at any point along the length of the tube ie it is inclusive of any ovality in the cross section.

The tolerances on diameter are specified in Table 2.

FprEN 755-7:2015 (E)

As detailed in FprEN 755-1:2015, Clause 4, if the original order does not make clear the nature of the diameter tolerances required, the supplier shall interpret them as inclusive of any ovality (i.e. maximum allowable deviation at any point from the specified diameter in Table 2). However, the diameter tolerances may be expressed as both mean and inclusive of ovality if this is specifically requested by the purchaser.

Table 2 — Tolerances on diameter for round tube

Dimensions in millimetres

Diameter (OD or ID)		Tolerance on diameter			
		Maximum allowable deviation of mean diameter from specified diameter ^d	Maximum allowable deviation of diameter at any point from specified diameter ^a		
Over	Up to and including		Tempers F and H112	Heat treated tube ^b	Tempers O, H111 and Tx510
≥ 8	18	± 0,25 ^c	± 0,40 ^c	± 0,60 ^c	± 1,5 ^c
18	30	± 0,30	± 0,50	± 0,70	± 1,8
30	50	± 0,35	± 0,60	± 0,90	± 2,2
50	80	± 0,40	± 0,70	± 1,1	± 2,6
80	120	± 0,60	± 0,90	± 1,4	± 3,6
120	200	± 0,90	± 1,4	± 2,0	± 5,0
200	350	± 1,4	± 1,9	± 3,0	± 7,6
350	450	± 1,9	± 2,8	± 4,0	± 10,0
^a Not applicable to tubes having a wall thickness less than 2,5 % of the specified outside diameter. The tolerance for tubes with wall thickness less than 2,5 % of the specified outside diameter shall be determined by multiplying the applicable tolerance as follows: — wall thickness over 2,0 % up to and including 2,5 % of outside diameter: 1,5 x tolerance; — wall thickness over 1,5 % up to and including 2,0 % of outside diameter: 2,0 x tolerance; — wall thickness over 1,0 % up to and including 1,5 % of outside diameter: 3,0 x tolerance; — wall thickness over 0,5 % up to and including 1,0 % of outside diameter: 4,0 x tolerance. ^b Applies to all alloys in T4, T5, T6, T64, T66 and Tx511 tempers. ^c This tolerance applies for outside diameter only, i.e. tube in this size range can only be specified as "Outside Diameter x Wall Thickness". ^d Not applicable to Tx510 or Tx511 tempers.					

4.3 Width, depth or width across flats - squares, rectangles, hexagons, octagons

The tolerances on width, depth or width across flats are specified in Table 3.