SLOVENSKI STANDARD
kSIST FprEN 754-7:2015

01-november-2015

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

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

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

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

Ta slovenski standard je istoveten z: **FprEN 754-7**

ICS:

77.150.10	Aluminijski izdelki	Aluminium products

kSIST FprEN 754-7:2015 **en,fr,de**

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EUROPEAN STANDARD

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FINAL DRAFT
FprEN 754-7

September 2015

ICS 77.150.10

Will supersede EN 754-7:2008

English Version

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

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

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

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European foreword

This document (FprEN 754-7:2015) 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 754-7:2008.

The following technical modifications have been introduced during the revision:

— correction of subclause 3.2 Diameter - Round tube.

EN 754 comprises the following parts under the general title *"Aluminium and aluminium alloys — Cold drawn rod/bar and tube*":

— *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*

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1 Scope

This European Standard specifies the tolerances on dimensions and form for aluminium and aluminium alloys cold drawn seamless tubes with an outside diameter (*OD*) from 3 mm to 350 mm (round tube, see Figure 1) or with a cross section contained within a circumscribing circle (*CD*) from 8 mm to 300 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 (and then cold drawn to the final dimensions required).

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

This document applies to cold drawn, seamless tube for general engineering applications.

This document does not apply to:

— cold drawn tube produced by the porthole/bridge method (EN 754-8),

— tubes delivered in coils (EN 13958),

— coiled tubes cut to length (EN 13958).

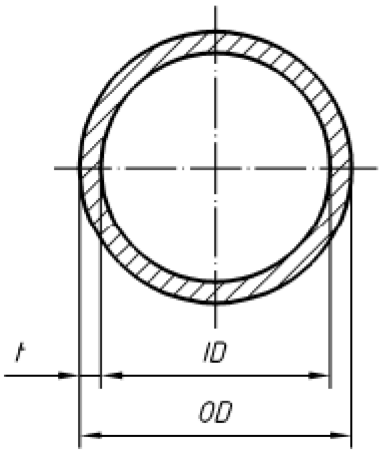

Figure 1 — Round tube

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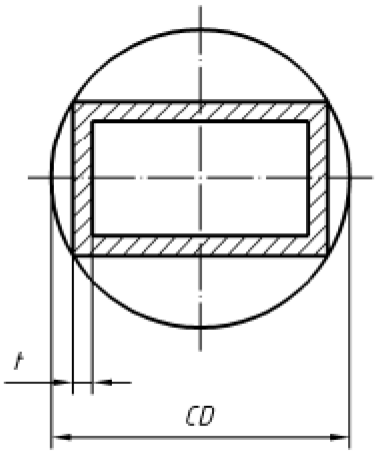

Figure 2 — Circumscribing circle for other than round tube

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.

EN 754-1:2008, *Aluminium and aluminium alloys - Cold drawn rod/bar and tube - Part 1: Technical conditions for inspection and delivery*

3 Tolerances on dimensions

3.1 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.

3.2 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, i.e. it is inclusive of any ovality in the cross section.

The tolerances on diameter are specified in Table 1.

As detailed in EN 754-1:2008, 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 1). However, the diameter tolerances may be expressed as both mean and inclusive of ovality if this is specifically requested by the purchaser.

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Table 1 — 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 [e]	Maximum allowable deviation of diameter at any point from specified diameter [a]		
Over	Up to and including		Non-annealed and non heat treated tube [b]	Heat treated tube [c]	Tempers O, H111 and Tx510
≥ 3	8	± 0,04 [d]	± 0,08 [d]	± 0,12 [d]	± 0,25 [d]
8	18	± 0,05	± 0,09	± 0,15	± 0,30
18	30	± 0,06	± 0,10	± 0,20	± 0,40
30	50	± 0,07	± 0,12	± 0,25	± 0,50
50	80	± 0,09	± 0,15	± 0,36	± 0,70
80	120	± 0,14	± 0,20	± 0,60	± 1,2
120	200	± 0,25	± 0,40	± 1,2	± 2,4
200	350	± 0,38	± 0,60	± 1,7	± 3,4

[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 H1x, H2x, H3x tempers, and to alloy EN AW-6063 in the T832 temper.

[c] Applies to all alloys in T3, T4, T6, T66, T73, T8, T9 and Tx511 tempers.

[d] This tolerance applies for outside diameter only, i.e. tube in this size range can only be specified as "Outside Diameter x Wall Thickness".

[e] Shall not apply to Tx510 or Tx511 tempers.

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

The tolerances on width, depth or width across flats are specified in Table 2.