



# SLOVENSKI STANDARD

## SIST EN 754-5:1998

01-april-1998

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Aluminium and aluminium alloys - Cold drawn rod/bar and tube - Part 5: Rectangular bars, tolerances on dimensions and form

Aluminium und Aluminiumlegierungen - Gezogene Stangen und Rohre - Teil 5: Rechteckstangen, Grenzabmaße und Formtoleranzen

Aluminium et alliages d'aluminium - Barres et tubes étirés - Partie 5: Barres rectangulaires, tolérances sur dimensions et forme

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Ta slovenski standard je istoveten z: EN 754-5:1995

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77.150.10      Alumijski izdelki                      Aluminium products

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EUROPEAN STANDARD

EN 754-5

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EUROPÄISCHE NORM

November 1995

ICS 77.120.10

Descriptors: drawn products, rolled products, aluminium, aluminium alloys, metal bars, flat bars, dimensions, dimensional tolerances, form tolerances

English version

**Aluminium and aluminium alloys - Cold drawn  
rod/bar and tube - Part 5: Rectangular bars,  
tolerances on dimensions and form**

Aluminium et alliages d'aluminium - Barres et tubes étirés - Partie 5: Barres rectangulaires, tolérances sur dimensions et forme

Aluminium und Aluminiumlegierungen - Gezogene Stangen und Rohre - Teil 5: Rechteckstangen, Grenzabmaße und Formtoleranzen

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CEN

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

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## Foreword

This European Standard has been drawn up by CEN/TC 132 "Aluminium and aluminium alloys", whose Secretariat is held by the Association Française de Normalisation (AFNOR).

Within its programme of work, Technical Committee CEN/TC 132 entrusted CEN/TC 132/WG 5 "Extruded and drawn products" to work out the following standard :

EN 754-5                    Aluminium and aluminium alloys - Cold drawn rod/bar and tube -  
Part 5 : Rectangular bars, tolerances on dimensions and form

This standard is part of a set of eight standards. The other standards deal with :

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

EN 754-2                    Aluminium and aluminium alloys - Cold drawn rod/bar and tube -  
Part 2 : Mechanical properties

EN 754-3                    Aluminium and aluminium alloys - Cold drawn rod/bar and tube -  
Part 3 : Round bars, tolerances on dimensions and form

EN 754-4                    Aluminium and aluminium alloys - Cold drawn rod/bar and tube -  
Part 4 : Square bars, tolerances on dimensions and form

EN 754-6                    Aluminium and aluminium alloys - Cold drawn rod/bar and tube -  
Part 6 : Hexagonal bars, tolerances on dimensions and form

EN 754-7                    Aluminium and aluminium alloys - Cold drawn rod/bar and tube -  
Part 7 : Seamless tubes, tolerances on dimensions and form

EN 754-8                    Aluminium and aluminium alloys - Cold drawn rod/bar and tube -  
Part 8 : Porthole tubes, tolerances on dimensions and form

CEN/TC 132 met on 11 and 12 May 1993 in Paris and agreed on the text to be submitted to CEN members for formal vote.

**iTeh STANDARD PREVIEW**

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 May 1996, and conflicting national standards shall be withdrawn at the latest by May 1996.

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The following countries were represented at that meeting : Belgium - Denmark - France - Germany - Italy - Netherlands - Norway - Spain - Sweden - Switzerland - United Kingdom.

According to the common CEN/CENELEC Rules, the following countries are bound to implement this European Standard : Austria, Belgium, 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 754 specifies the tolerances on dimensions and form for aluminium and aluminium alloy cold drawn rectangular bars having thicknesses in the range from 2 mm up to and including 60 mm and widths in the range from 5 mm up to and including 200 mm.

## 2 Tolerances on dimensions and form

### 2.1 Thickness and width

The tolerances on thickness and width are specified in tables 1 and 2.

For the purpose of this standard the alloys are distributed into two groups which correspond to varying 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 9.

**Table 1 : Width and thickness tolerances for alloy group I**

Dimensions in millimetres

Width $w$			Thickness tolerances for thickness ranges $t$					
from	up to	Tolerances	$2 \leq t \leq 6$	$6 < t \leq 10$	$10 < t \leq 18$	$18 < t \leq 30$	$30 < t \leq 40$	$40 < t \leq 60$
5 1)	10	$\pm 0,08$	$\pm 0,06$	$\pm 0,08$	-	-	-	-
10	18	$\pm 0,10$	$\pm 0,06$	$\pm 0,08$	$\pm 0,10$	-	-	-
18	30	$\pm 0,15$	$\pm 0,06$	$\pm 0,08$	$\pm 0,10$	$\pm 0,15$	-	-
30	50	$\pm 0,20$	$\pm 0,08$	$\pm 0,10$	$\pm 0,12$	$\pm 0,15$	$\pm 0,20$	-
50	80	$\pm 0,25$	$\pm 0,10$	$\pm 0,10$	$\pm 0,12$	$\pm 0,15$	$\pm 0,20$	$\pm 0,25$
80	120	$\pm 0,28$	$\pm 0,12$	$\pm 0,12$	$\pm 0,15$	$\pm 0,20$	$\pm 0,25$	$\pm 0,30$
120	160	$\pm 0,32$	-	$\pm 0,12$	$\pm 0,15$	$\pm 0,20$	$\pm 0,30$	$\pm 0,35$
160	200	$\pm 0,35$	-	$\pm 0,15$	$\pm 0,20$	$\pm 0,25$	$\pm 0,35$	$\pm 0,40$

1) Except width across flats 5 mm which may be used.

**Table 2 : Width and thickness tolerances for alloy group II**

Dimensions in millimetres

Width $w$			Thickness tolerances for thickness ranges					
from	up to and including	Tolerances	$2 \leq t \leq 6$	$6 < t \leq 10$	$10 < t \leq 18$	$18 < t \leq 30$	$30 < t \leq 40$	$40 < t \leq 60$
5 <sup>1)</sup>	10	$\pm 0,12$	$\pm 0,09$	$\pm 0,12$	-	-	-	-
10	18	$\pm 0,15$	$\pm 0,09$	$\pm 0,12$	$\pm 0,15$	-	-	-
18	30	$\pm 0,22$	$\pm 0,09$	$\pm 0,12$	$\pm 0,15$	$\pm 0,22$	-	-
30	50	$\pm 0,30$	$\pm 0,12$	$\pm 0,15$	$\pm 0,18$	$\pm 0,22$	$\pm 0,30$	-
50	80	$\pm 0,37$	$\pm 0,15$	$\pm 0,15$	$\pm 0,18$	$\pm 0,22$	$\pm 0,30$	$\pm 0,37$
80	120	$\pm 0,42$	$\pm 0,18$	$\pm 0,18$	$\pm 0,22$	$\pm 0,30$	$\pm 0,37$	$\pm 0,45$
120	160	$\pm 0,48$	-	$\pm 0,18$	$\pm 0,22$	$\pm 0,30$	$\pm 0,45$	$\pm 0,52$
160	200	$\pm 0,52$	-	$\pm 0,22$	$\pm 0,30$	$\pm 0,37$	$\pm 0,52$	$\pm 0,60$

1) Except width across flats 5 mm which may be used.

## 2.2 Corner radii

Maximum corner radii are specified in table 3.

**Table 3 : Maximum corner radii**

Dimensions in millimetres

Thickness $t$		Maximum corner radii	
from	up to and including	Alloy group I	Alloy group II
2 <sup>1)</sup>	10	0,4	0,6
10	30	0,8	1,0
30	60	1,5	2,0

1) Except width across flats 2 mm which may be used.

### 2.3 Squareness

The deviation from square shall be measured as shown in figure 1.

Squareness tolerances are specified in table 4.

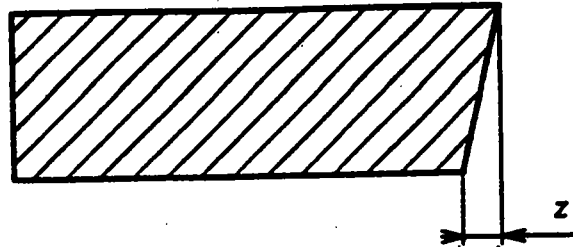


Figure 1 : Measurement of deviation from square

Table 4 : Squareness tolerances

Dimensions in millimetres

Thickness $t$		Maximum deviation from square $z$
from	up to	
2	60	0,005 x thickness $t$

### 2.4 Convexity - Concavity

The convexity - concavity shall be measured as shown in figure 2. The tolerances are specified in table 5.

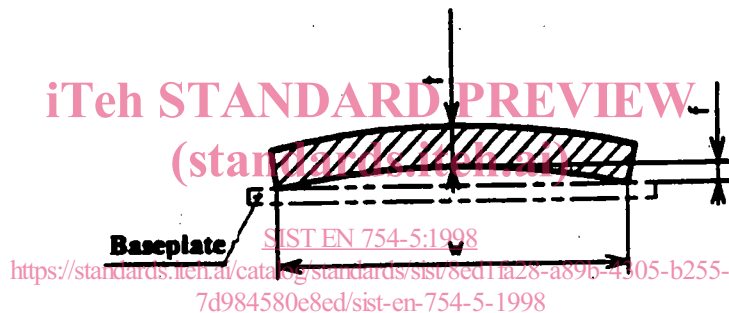


Figure 2 : Measurement of deviation from flatness



**Table 5 : Convexity - Concavity tolerances**

Dimensions in millimetres

Width $w$		Flatness tolerances $f$
from	up to	
5 <sup>1)</sup>	30	0,10
30	50	0,15
50	80	0,20
80	120	0,30
120	200	0,50

1) Except width across flats 5 mm which may be used.

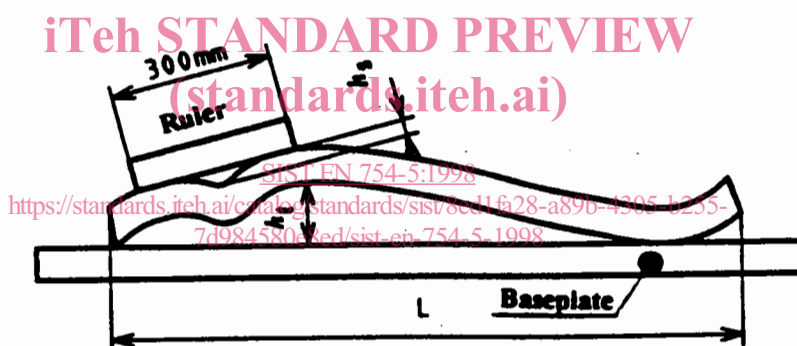
## 2.5 Straightness

Deviations from straightness,  $h_s$  and  $h_t$ , shall be measured as shown in figure 3 with the bar placed on a horizontal baseplate so that its mass decreases the deviation.

For rectangular bars with thickness equal to or greater than 6 mm, the straightness tolerances are specified in table 6.

For rectangular bars with thickness less than 6 mm, the straightness tolerances shall be agreed upon between purchaser and supplier.

The straightness tolerances apply to bars in all tempers except O and Tx51. If a straightness tolerance is required for either O or Tx51 temper, it shall be agreed between purchaser and supplier.



**Figure 3 : Measurement of deviation from straightness**