



SLOVENSKI STANDARD

SIST EN 755-5:1998

01-april-1998

**Aluminij in aluminijeve zlitine - Iztiskane palice/drogovi, cevi in profili - 5. del:
Palice s pravokotnim prerezom, odstopki mer in tolerance oblik**

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

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

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

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Ta slovenski standard je istoveten z: EN 755-5:1995

ICS:

77.150.10 Alumijski izdelki Aluminium products

SIST EN 755-5:1998 **en**

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EUROPEAN STANDARD

EN 755-5

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 1995

ICS 77.140.90

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

English version

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

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

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

This European Standard was approved by CEN on 1995-05-13. 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.

The European Standards exist 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, 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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Ref. No. EN 755-5:1995 E

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Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 132 "Aluminium and aluminium alloys" of which the secretariat 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 December 1995, and conflicting national standards shall be withdrawn at the latest by December 1995.

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

EN 755-5 Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 5 :
Rectangular bars, tolerances on dimensions and form.

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

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

EN 755-2 Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 2 : Mechanical properties

EN 755-3 Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 3 : Round bars, tolerances on dimensions and form

EN 755-4 Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 4 : Square bars, tolerances on dimensions and form

EN 755-6 Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 6 : Hexagonal bars, tolerances on dimensions and form

EN 755-7 Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 7 : Seamless tubes, tolerances on dimensions and form

EN 755-8 Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 8 : Porthole tubes, tolerances on dimensions and form

EN 755-9 Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles - Part 9 : Profiles, tolerances on dimensions and form

According to the CEN/CENELEC Internal Regulations, 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, United Kingdom.

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1 Scope

This part of EN 755 specifies the tolerances on dimensions and form for aluminium and aluminium alloy extruded rectangular bars having thicknesses in the range from 2 mm up to 240 mm and widths in the range from 10 mm up to 600 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

Width w			Thickness t tolerances for thickness ranges								
over	up to	Tolerances	2≤t≤6	6<t≤10	10<t≤18	18<t≤30	30<t≤50	50<t≤80	80<t≤120	120<t≤180	180<t≤240
≥ 10	18	±0,25	±0,20	±0,25	±0,25	-	-	-	-	-	-
18	30	±0,30	±0,20	±0,25	±0,30	±0,30	-	-	-	-	-
30	50	±0,40	±0,25	±0,25	±0,30	±0,35	±0,40	-	-	-	-
50	80	±0,60	±0,25	±0,30	±0,35	±0,40	±0,50	±0,60	-	-	-
80	120	±0,80	±0,30	±0,35	±0,40	±0,45	±0,60	±0,70	±0,80	-	-
120	180	±1,0	±0,40	±0,45	±0,50	±0,55	±0,60	±0,70	±0,90	±1,0	-
180	240	±1,4	-	±0,55	±0,60	±0,65	±0,70	±0,80	±1,0	±1,2	±1,4
240	350	±1,8	-	±0,65	±0,70	±0,75	±0,80	±0,90	±1,1	±1,3	±1,5
350	450	±2,2	-	-	±0,80	±0,85	±0,90	±1,0	±1,2	±1,4	±1,6
450	600	±3,0	-	-	-	-	±0,90	±1,0	±1,4	-	-

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Table 2 : Width and thickness tolerances for alloy group II

Width w			Thickness t tolerances for thickness ranges								
over	up to	Tolerances	2<t≤6	6<t≤10	10<t≤18	18<t≤30	30<t≤50	50<t≤80	80<t≤120	120<t≤180	180<t≤240
≥ 10	18	±0,35	±0,25	±0,30	±0,35	-	-	-	-	-	-
18	30	±0,40	±0,25	±0,30	±0,40	±0,40	-	-	-	-	-
30	50	±0,50	±0,30	±0,30	±0,40	±0,50	±0,50	-	-	-	-
50	80	±0,70	±0,30	±0,35	±0,45	±0,60	±0,70	±0,70	-	-	-
80	120	±1,0	±0,35	±0,40	±0,50	±0,60	±0,70	±0,80	±1,0	-	-
120	180	±1,4	±0,45	±0,50	±0,55	±0,70	±0,80	±1,0	±1,1	±1,4	-
180	240	±1,8	-	±0,60	±0,65	±0,70	±0,90	±1,1	±1,3	±1,6	±1,8
240	350	±2,2	-	±0,70	±0,75	±0,80	±0,90	±1,2	±1,4	±1,7	±1,9
350	450	±2,8	-	-	±0,90	±1,0	±1,1	±1,4	±1,8	±2,1	±2,3
450	600	±3,5	-	-	-	-	±1,2	±1,4	±1,8	-	-

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	
over	up to	Alloy group I	Alloy group II
≥ 2	10	0,6	1,0
10	30	1,0	1,5
30	80	1,8	2,5
80	120	2,0	3,0
120	180	2,5	4,0
180	240	3,5	5,0

2.3 Squareness

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

Squareness tolerances are specified in table 4.

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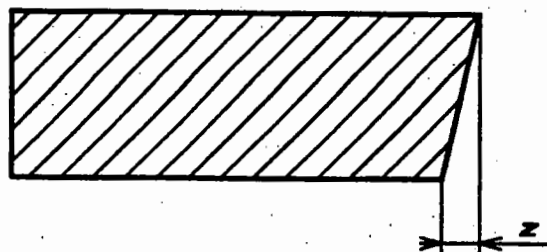


Figure 1 : Measurement of deviation from square

Table 4 : Squareness tolerances

Thickness t		Maximum deviation from square z
over	up to	
≥ 2	10	0,1
10	100	0,01 x thickness
100	180	1,0
180	240	1,5

2.4 Convexity - Concavity

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

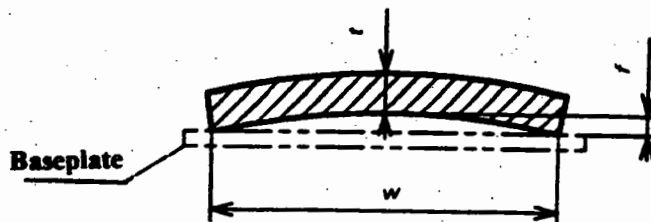


Figure 2 : Measurement of deviation from flatness

Table 5 : Convexity - Concavity tolerances

Width w		Tolerances for convexity - concavity f
over	up to	
≥ 10	30	0,2
30	50	0,3
50	80	0,4
80	120	0,6
120	180	0,9
180	240	1,2
240	350	1,5
350	450	2,0
450	600	2,5

2.5 Straightness

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Deviations from straightness, h_s and h_c , 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 10 mm, the straightness tolerances are specified in table 6.

For rectangular bars with thickness less than 10 mm, the straightness tolerances shall be agreed upon between purchaser and supplier.

The straightness tolerances apply to bars in all tempers except O and Tx510. If a straightness tolerance is required for either O or Tx510 temper, it shall be agreed between purchaser and supplier.

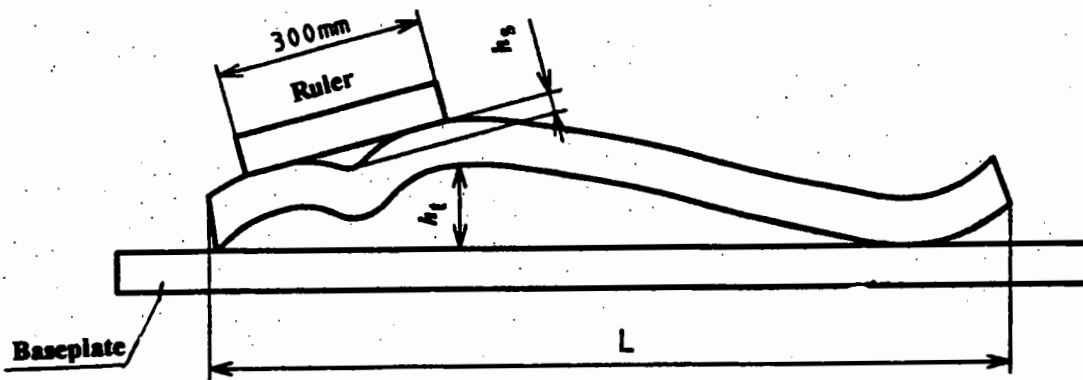


Figure 3 : Measurement of deviation from straightness

Table 6 : Straightness tolerances

Dimensions in millimetres					
Width w		Thickness t		Maximum deviation from straightness h_t in mm/m	Maximum localised kink in any 300 mm portion h_s
over	up to	over	up to and including		
≥ 10	80	≥ 10	80	2	1
80	120	≥ 10	50	2	1
		50	120	3	1,5
120	180	≥ 10	50	3	1,5
		50	180	4	2
180	350	≥ 10	50	4	2
		50	240	6	4
350	450	≥ 10	240	6	4
450	600	30	120	6	4

2.6 Twist

The twist measurement shall be carried out as shown in figure 4.

The twist tolerances are specified in table 7.

The twist tolerances apply to bars in all tempers except O and Tx510. If a twist tolerance is required for either O or Tx510 temper, it shall be agreed between purchaser and supplier.

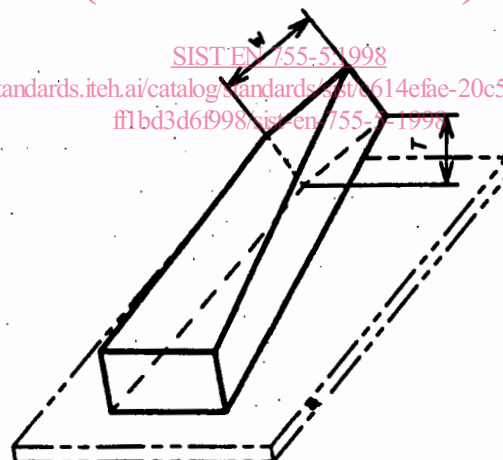


Figure 4 : Measurement of twist