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Aluminij in aluminijeve zlitine - Hladno vlečene palice/drogovi in cevi - 3. del: Palice z okroglim prerezom, tolerance mer in oblike

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

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Will supersede EN 754-3:1995

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

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (prEN 754-3:2006) 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 CEN Enquiry.

This document will supersede EN 754-3:1995.

The following technical modifications have been introduced during the revision:

— Only editorial changes to bring this part in line with the other parts of EN 754

prEN 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 document specifies the tolerances on dimensions and form for aluminium and aluminium alloy cold drawn round bars having diameters in the range from 3 mm up to and including 100 mm.

2 Tolerances on dimensions

2.1 Diameter

The tolerances on diameter are specified in Table 1.

Table 1 — Diameter tolerances

Dimensions in millimetres

Diameter D		Tolerances
Over	Up to and including	
≥ 3	6	$^{0}_{-0,08}$
6	10	$^{0}_{-0,09}$
10	18	$^{0}_{-0,11}$
18	30	$^{0}_{-0,13}$
30	50	$^{0}_{-0,16}$
50	65	$^{0}_{-0,19}$
65	80	$^{0}_{-0,30}$
80	100	$^{0}_{-0,35}$

2.2 Length

If fixed lengths are to be supplied, this shall be stated in the order document. The fixed length tolerances are specified in Table 2.

Table 2 — Fixed length tolerances

Dimensions in millimetres

Diameter D		Tolerances on fixed length		
From	Up to and including	$L \leq 2\,000$	$2\,000 < L \leq 5\,000$	$L > 5\,000$
3	100	$^{+5}_{0}$	$^{+7}_{0}$	$^{+10}_{0}$

If no fixed or minimum length is specified in the order, round drawn bars may be delivered in random lengths. The actual lengths and tolerances on random lengths shall be agreed between supplier and purchaser.

2.3 Squareness of cut ends

The deviation from squareness of cut ends shall not exceed half of the fixed length tolerance range (Table 3) for both fixed and random lengths, e.g. for a fixed length tolerance of $^{+10}_{0}$ mm the deviation from squareness of cut ends shall not exceed 5 mm.

3 Tolerances on form

3.1 Ovality

Ovality is the difference between the maximum and minimum diameters measured in one cross-section.

The maximum permissible ovality is 50 % of the tolerance range specified in Table 1; e.g. for a diameter tolerance of $^{0}_{-0,08}$ mm the maximum permissible ovality is 0,04 mm.

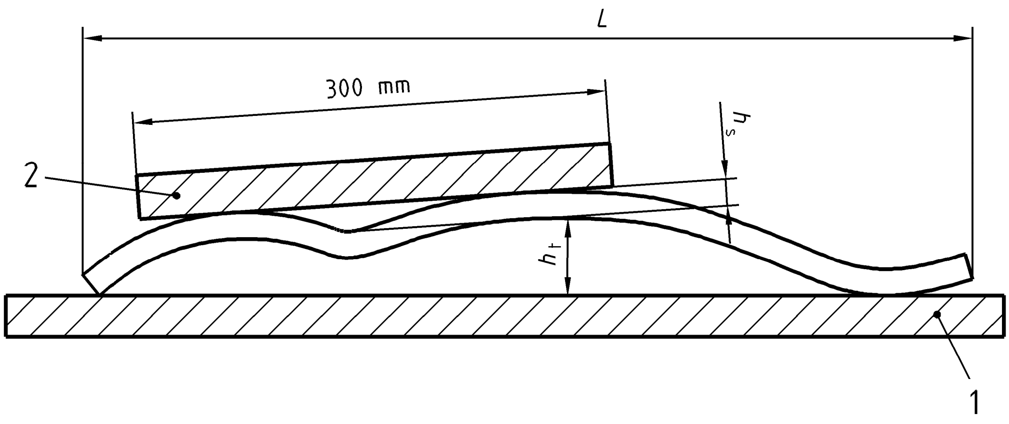
3.2 Straightness

Deviations from straightness, h_s and h_t, shall be measured as shown in Figure 1 with the bar placed on a horizontal base plate so that its mass decreases the deviation.

The straightness tolerances are specified in Table 3.

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

The straightness tolerances apply to bars with a diameter greater than 10 mm in all tempers except O and Tx51. If a straightness tolerance is required for either O or Tx51 temper, it shall be agreed between supplier and purchaser.



Key

1 Base plate

2 Straight edge

Figure 1 — Measurement of deviation from straightness

Table 3 — Straightness tolerances

Dimensions in millimetres

Diameter D		Maximum deviation from straightness h_t mm/m	Maximum localized kink in any 300 mm portion h_s
From	Up to and including		
10	100	2	0,6