International Standard 5193

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Wrought aluminium and aluminium alloys — Drawn round bars — Tolerances on shape and dimensions (Symmetric plus and minus tolerances on diameter)

Aluminium et alliages d'aluminium corroyés — Barres rondes étirées — Tolérances sur forme et dimensions (Tolérances de diamètre symétriques en plus et en moins)

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5193 was developed by Technical Committee ISO/TC 79, *Light metals and their alloys*, and was circulated to the member bodies in August 1980.

It has been approved by the member bodies of the following countries :

Austria	India	Spain
Brazil	Japan	Sweden
Canada	Korea, Dem. P. Rep. of	Switzerland
Czechoslovakia	Netherlands	United Kingdom
Egypt, Arab Rep. of	Norway	USA
France	Romania	USSR
Hungary	South Africa, Rep. of	

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Australia
Italy

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Wrought aluminium and aluminium alloys — Drawn round bars — Tolerances on shape and dimensions (Symmetric plus and minus tolerances on diameter)

1 Scope and field of application

This International Standard specifies tolerances on shape and dimensions for wrought aluminium and aluminium alloy drawn round bars having diameters in the range from 1 to 65 mm inclusive. The tolerances on diameter specified in this International Standard are symmetric plus and minus tolerances.

NOTE — For all minus tolerances on diameter, see ISO 7274, *Wrought aluminium and aluminium alloys — Drawn round bars — Tolerances on shape and dimensions (All minus tolerances on diameter).*

2 Tolerances on shape and dimensions

2.1 Diameter

See table 1.

Table 1

Dimensions in millimetres

Diameter		Tolerance on diameter	Permissible circularity
over	up to and including		
including 1	3	± 0,03	0,03
3	6	± 0,04	0,04
6	10	± 0,05	0,05
10	18	± 0,06	0,06
18	30	± 0,07	0,07
30	50	± 0,10	0,10
50	65	± 0,15	0,15

2.2 Circularity

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

The permissible circularity is included in the tolerance on diameter and shall not exceed half the tolerance specified in table 1.

2.3 Straightness

The straightness tolerances apply to bars having diameters from 10 up to and including 65 mm, in all tempers except tempers O and M.

Deviations from straightness shall be measured with the bar placed on a horizontal plate so that its mass decreases the deviation.

The permissible deviation from straightness in the total length, or in any 300 mm or longer section of the total length, shall be 2 mm per metre.

2.4 Fixed lengths

See table 2.

Fixed lengths shall be agreed between supplier and purchaser.

The tolerances on fixed lengths, given in table 2, apply to diameters from 10 up to and including 65 mm.

Table 2

Dimensions in millimetres

Diameter	Tolerance on fixed lengths over			
		2 000	5 000	10 000
	up to and including			
	2 000	5 000	10 000	15 000
from 10 up to and including 65	+ 4	+ 6	+ 9	+ 12