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Indian Standard

DIMENSIONS FOR WROUGHT ALUMINIUM AND ALUMINIUM ALLOYS, WIRE

(First Revision)

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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

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November 1982

Indian Standard

DIMENSIONS FOR WROUGHT ALUMINIUM AND ALUMINIUM ALLOYS, WIRE

(First Revision)

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Indian Standard

DIMENSIONS FOR WROUGHT ALUMINIUM AND ALUMINIUM ALLOYS, WIRE

(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 23 August 1982, after the draft finalized by the Light Metals and Their Alloys Sectional Committee had been approved by the Structural and Metals Division Council.

0.2 This standard was first published in 1963. In this revision, the revised definitions of wire and tolerances for shaped wires have been incorporated.

0.3 This standard should be used in conjunction with IS : 739-1977*.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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1. SCOPE

1.1 This standard lays down dimensions and tolerances for wrought aluminium and aluminium alloys in the form of wire.

2. TERMINOLOGY

2.0 For the purpose of this standard, the following definition shall apply.

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*Specification for wrought aluminium and aluminium alloy wire for general engineering purposes (*second revision*).

†Rules for rounding off numerical values (*revised*).

2.1 Wire — A round, square or regular polygonal solid section of not more than 9 mm diameter or width across flats, usually supplied in coil produced by drawing.

3. DIMENSIONS

3.1 The diameters of round wires and the width/width across flats of shaped wires shall be as follows:

mm	mm	mm
0·32	1·00	3·15
0·36	1·12	3·55
0·40	1·25	4·00
0·45	1·40	4·50
0·50	1·60	5·00
0·56	1·80	5·60
0·63	2·00	6·30
0·71	2·24	7·10
0·80	2·50	8·00
0·90	2·80	9·00

4. TOLERANCES

4.1 Round Wire — The tolerances on diameters of round wire shall be as specified in Table 1.

TABLE 1 TOLERANCES ON DIAMETERS OF ROUND WIRE

DIAMETER, mm	TOLERANCE, mm
Up to and including 0·63	± 0·015
From 0·71 up to and including 1·12	± 0·025
From 1·25 up to and including 9·00	± 0·05 or ± 1 percent of diameter whichever is higher

4.2 Shaped Wire

4.2.1 *Hexagonal and Octagonal Wires* — The tolerance on width across flats of hexagonal and octagonal wires shall be as specified in Table 2.

TABLE 2 TOLERANCES ON WIDTH ACROSS FLATS FOR HEXAGONAL AND OCTAGONAL WIRES

WIDTH ACROSS FLATS mm	TOLERANCE mm
Up to and including 1·12	± 0·04
Over 1·12 up to and including 9·00	± 0·07 or ± 1·5 percent of width across flats, whichever is higher

4.2.2 *Rectangular and Square Wires* — The tolerances on width or thickness of rectangular and square wires shall be as specified in Table 3.

TABLE 3 TOLERANCES ON WIDTH OR THICKNESS OF SQUARE AND RECTANGULAR WIRES

WIDTH OR THICKNESS, mm	TOLERANCE, mm
Up to and including 2·50	± 0·05
Over 2·50 up to and including 5·00	± 0·08
Over 5·00 up to and including 9·00	± 0·10 or ± 2 percent of width/thickness whichever is higher

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

Quantity	Unit	Symbol
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	Unit	Symbol
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	Unit	Symbol	Definition
Force	newton	N	$N = 1\ kg.m/s^2$
Energy	joule	J	$1\ J = 1\ N.m$
Power	watt	W	$1\ W = 1\ J/s$
Flux	weber	Wb	$1\ Wb = 1\ V.s$
Flux density	tesla	T	$1\ T = 1\ Wb/m^2$
Frequency	hertz	Hz	$1\ Hz = 1\ c/s\ (s^{-1})$
Electric conductance	siemens	S	$1\ S = 1\ A/V$
Electromotive force	volt	V	$1\ V = 1\ W/A$
Pressure, stress	pascal	Pa	$1\ Pa = 1\ N/m^2$

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