INTERNATIONAL STANDARD

ISO 6363-1

Second edition
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Wrought aluminium and aluminium alloys — Cold-drawn rods/bars, tubes and wires —

Part 1: Technical conditions for inspection and delivery

Aluminium et alliages d'aluminium corroyés — Barres, tubes et fils étirés à froid —

Partie 1: Conditions techniques de contrôle et de livraison

Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 6363-1 was prepared by Technical Committee ISO/TC 79, *Light metals and their alloys*, Subcommittee SC 6, *Wrought aluminium and aluminium alloys*.

This second edition, together with ISO 6365-1:1988, cancels and replaces the first edition (ISO 6363-1:1988), which has been technically revised.

ISO 6363 consists of the following parts, under the general title *Wrought aluminium and aluminium alloys — Cold-drawn rods/bars, tubes and wires*:

— *Part 1: Technical conditions for inspection and delivery*

— *Part 2: Mechanical properties*

— *Part 3: Drawn round bars and wires — Tolerances on form and dimensions (symmetric plus and minus tolerances on diameter)*

— *Part 4: Drawn rectangular bars and wires — Tolerances on form and dimensions*

— *Part 5: Drawn square and hexagonal bars and wires — Tolerances on form and dimensions*

— *Part 6: Drawn round tubes — Tolerances on form and dimensions*

Wrought aluminium and aluminium alloys — Cold-drawn rods/ bars, tubes and wires —

Part 1: Technical conditions for inspection and delivery

1 Scope

This part of ISO 6363 specifies the technical conditions for the inspection and delivery of wrought aluminium and aluminium alloys rods/bars, tubes and wires for general engineering applications.

It applies to products which are extruded and then cold drawn.

It does not apply to:

— products which are rolled and then cold drawn, including seam-welded tubes;

— forging stock, wire for drawing stock;

— drawn wires for aeronautical application, electrical or welding purposes.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2107, *Aluminium and aluminium alloys — Wrought products — Temper designations*

ISO 6362-7, *Wrought aluminium and aluminium alloys — Extruded rods/bars, tubes and profiles — Part 7: Chemical composition*

ISO 6363-2, *Wrought aluminium and aluminium alloys — Cold-drawn rods/bars, tubes and wires — Part 2: Mechanical properties*

ISO 6363-3, *Wrought aluminium and aluminium alloys — Cold-drawn rods/bars, tubes and wires — Part 3: Drawn round bars and wires — Tolerances on form and dimensions (symmetric plus and minus tolerances on diameter)*

ISO 6363-4, *Wrought aluminium and aluminium alloys — Cold-drawn rods/bars, tubes and wires — Part 4: Drawn rectangular bars and wires — Tolerances on form and dimensions*

ISO 6363-5, *Wrought aluminium and aluminium alloys — Cold-drawn rods/bars, tubes and wires — Part 5: Drawn square and hexagonal bars and wires — Tolerances on form and dimensions*

ISO 6363-6, *Wrought aluminium and aluminium alloys — Cold-drawn rods/bars, tubes and wires — Part 6: Drawn round tubes — Tolerances on form and dimensions*

ISO 6892-1, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature*

ISO 9591, *Corrosion of aluminium alloys — Determination of resistance to stress corrosion cracking*

EN 2004-1, *Aerospace series — Test methods for aluminium and aluminium alloy products — Part 1: Determination of electrical conductivity of wrought aluminium alloys*

EN 14242, *Aluminium and aluminium alloys — Chemical analysis — Inductively coupled plasma optical emission spectral analysis*

ASTM B557M, *Standard Test Methods for Tension Testing Wrought and Cast Aluminum- and Magnesium-Alloy Products*

ASTM E34, *Standard Test Methods for Chemical Analysis of Aluminum and Aluminum-Base Alloys*

ASTM E607, *Standard Test Method for Atomic Emission Spectrometric Analysis Aluminum Alloys by the Point to Plane Technique Nitrogen Atmosphere*

ASTM E716, *Standard Practices for Sampling and Sample Preparation of Aluminum and Aluminum Alloys for Determination of Chemical Composition by Spectrochemical Analysis*

ASTM E1251, *Standard Test Method for Analysis of Aluminum and Aluminum Alloys by Spark Atomic Emission Spectrometry*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
rod
bar
solid wrought product of uniform cross-section along its whole length, supplied in straight lengths

NOTE 1 A rod is normally less than 6 mm in diameter or of minor dimension.

NOTE 2 In North America, the minimum diameter or perpendicular distance between parallel faces of a rod is more than 10 mm (0,375 in); below this limit the product is called “wire”.

NOTE 3 The cross-sections are in the shape of circles, squares, rectangles or regular hexagons. Products with a square, rectangular or hexagonal cross-section may have corners rounded along their whole length.

NOTE 4 For rectangular bars, the thickness exceeds one tenth of the width. The term “rectangular bar” includes “flattened circles” and “modified rectangles”, of which two opposite sides are convex arcs, the other two sides being straight, of equal length and parallel.

3.2
tube
hollow wrought product of uniform cross-section with only one enclosed void along its whole length, and with a uniform wall thickness, supplied in straight lengths or in coiled form, provided the inner and outer cross-sections are concentric and have the same form and orientation

3.3
wire
wrought product of uniform cross-section along its whole length, supplied in coiled form

NOTE 1 In North America, the maximum diameter or perpendicular distance between parallel faces of a wire is less than 10 mm (0,375 in). Above this limit, the product is called “rod” or “bar”.

NOTE 2 Cross-sections are in the shape of circles, ovals, squares, rectangles, equilateral triangles or regular polygons. Products with square and regular polygons and products with a square, rectangular, triangular or polygonal cross-section may have corners rounded along their whole length.

3.4
cold-drawn rod
bar
tube
hot-worked wrought product brought to final dimensions by cold working

3.5
seamless tubes
tube in which there is no split or deliberate longitudinal bonding of two or more edges by pressure, fusion or mechanical interlocking