



SLOVENSKI STANDARD
SIST EN 754-1:1998

01-april-1998

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Aluminium and aluminium alloys - Cold drawn rod/bar and tube - Part 1: Technical conditions for inspection and delivery

Aluminium und Aluminiumlegierungen - Gezogene Stangen und Rohre - Teil 1: Technische Lieferbedingungen

Aluminium et alliages d'aluminium - Barres et tubes étirés - Partie 1: Conditions techniques de contrôle et de livraison

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Ta slovenski standard je istoveten z: EN 754-1:1997

ICS:

77.150.10 Alumijski izdelki Aluminium products

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EUROPEAN STANDARD

EN 754-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 1997

ICS 77.150.10

Descriptors: drawn products, wrought products, aluminium, aluminium alloys, metal bars, metal tubes, delivery, inspection, tests, inspection certificates

English version

**Aluminium and aluminium alloys - Cold drawn
rod/bar and tube - Part 1: Technical conditions for
inspection and delivery**

Aluminium et alliages d'aluminium - Barres et tubes étirés - Partie 1: Conditions techniques de contrôle et de livraison

Aluminium und Aluminiumlegierungen - Gezogene Stangen und Rohre - Teil 1: Technische Lieferbedingungen

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CEN

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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1 Scope

This part of EN 754 standard specifies the technical conditions for inspection and delivery of aluminium and aluminium alloy cold drawn rod/bar and tube for general engineering applications.

It applies to products which are extruded and then cold drawn. It does not, however, apply to products delivered in coils, or to products which are rolled and then cold drawn, e.g. seam-welded tube.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 515	Aluminium and aluminium alloys - Wrought products - Temper designations
EN 573-3	Aluminium and aluminium alloys - Chemical composition and form of wrought products - Part 3 : Chemical composition
EN 754-2	Aluminium and aluminium alloys - Cold drawn rod/bar and tube - Part 2 : Mechanical properties
EN 754-3	Aluminium and aluminium alloys - Cold drawn rod/bar and tube - Part 3 : Round bars, tolerances on dimensions and form
EN 754-4	Aluminium and aluminium alloys - Cold drawn rod/bar and tube - Part 4 : Square bars, tolerances on dimensions and form
EN 754-5	Aluminium and aluminium alloys - Cold drawn rod/bar and tube - Part 5 : Rectangular bars, tolerances on dimensions and form
EN 754-6	Aluminium and aluminium alloys - Cold drawn rod/bar and tube - Part 6 : Hexagonal bars, tolerances on dimensions and form
prEN 754-7	Aluminium and aluminium alloys - Cold drawn rod/bar and tube - Part 7 : Seamless tubes, tolerances on dimensions and form
prEN 754-8	Aluminium and aluminium alloys - Cold drawn rod/bar and tube - Part 8 : Porthole tubes, tolerances on dimensions and form
EN 10002-1	Metallic materials - Tensile testing - Part 1 : Method of test (at ambient temperature)
EN 10204	Metallic products - Types of inspection documents

3 Definitions

For the purposes of this standard, the following definitions apply :

3.1 cold drawn rod/bar

Cold drawn product of uniform cross-section along its whole length. Rod is normally less than 6 mm in diameter or minor dimension, bar is greater than 6 mm in diameter or minor dimension.

These cross-sections are in the shape of circle, square, rectangle, or regular hexagon. Products with a square, rectangular or regular hexagonal cross-section can have corners rounded along their whole length.

3.2 cold drawn tube

Hollow cold drawn product of uniform cross-section with only one enclosed void along its whole length and with a uniform wall thickness. The cross-sections are in the shape of circle, rectangle, regular hexagon and regular octagon. Products with a square, rectangular, regular hexagonal or regular octagonal cross-section can have corners rounded along their whole length.

3.3 seamless tube

Tube in which there is no split or deliberate longitudinal bonding of edges by pressure, fusion or mechanical interlocking.

3.4 porthole/bridge tube

Tube produced by extrusion of a solid billet through a porthole/bridge die.

3.5 porthole/bridge die

Extrusion die that incorporates a mandrel as an integral part of the die assembly.

NOTE : Bridge, spider and self-stripping dies are special forms of porthole/bridge die.

3.6 inspection lot

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Consignment, or part thereof, submitted for inspection, comprising products of the same grade or alloy, product form, temper, shape, thickness or cross-section and processed in the same manner.

3.7 heat treatment batch or lot

Quantity of products of the same grade or alloy, form, thickness or cross-section and produced in the same way, heat-treated in one furnace load, or such products so solution-treated and subsequently precipitation-treated in one furnace load. More than one solution-treatment lot may be included in the precipitation furnace load.

3.8 sample

One or more products taken from an inspection lot.

3.9 specimen

One or more pieces taken from each product in the sample, for the purpose of producing test pieces.

3.10 test piece

Piece taken from each specimen and suitably prepared for the test.

3.11 test

Operation to which the test piece is subjected in order to measure or classify a property.

4 Orders or tenders

The order or tender shall define the product required and shall contain the following information :

a) the form and type of product :

- the form of the product (cold drawn rod/bar or tube). If tube, whether seamless or porthole/bridge ;

- the designation of aluminium or aluminium alloy ;

- the customer application. In particular when subsequent anodising by the customer is intended, this shall be clearly stated on the order ;

b) the temper of the material for delivery according to EN 515 and, if different, the temper for use ;

c) the number of this European Standard or a specification number, or where none exists, the properties agreed between purchaser and supplier ;

d) the dimensions and shape of the product :

1) round tube :

- outside / inside diameter ¹⁾ ;
- wall thickness ¹⁾ ;
- length ;

2) round bar :

- diameter ;
- length ;

3) square and hexagonal bar :

- width across flats ;
- length ;

4) rectangular bar :

- width ;
- thickness ;
- length ;

5) all other cases :

- drawing for cross section ;
- length ;

e) the tolerances on dimensions and form, refer to the appropriate European Standard if not specified on the drawing ;

f) the quantity : **iTeh STANDARD PREVIEW**
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- weight ;
- number of pieces ; [SIST EN 754-1:1998](https://standards.iteh.ai/catalog/standards/sist/1bc6c6ae-31c9-45e0-9501-6d023d7c5d9d/sist-en-754-1-1998)
- total length ; <https://standards.iteh.ai/catalog/standards/sist/1bc6c6ae-31c9-45e0-9501-6d023d7c5d9d/sist-en-754-1-1998>
- tolerance on quantity ;

g) any requirements for certificates of conformity, test and/or analysis reports or inspection certificates ;

¹⁾ Only two of these dimensions can be specified, but not all three.

h) any special requirements agreed between purchaser and supplier :

- marking of products ;
- reference to drawings, part numbers, etc. ;
- additional or special testing ;
- surface finish requirements ;
- surface protection ;
- packaging ;
- inspection prior to delivery ;

i) for products intended to be anodised by the customer, the order shall also contain the following information :

- the intended particular surface treatment (according to the relevant European Standard).

5 Requirements

5.1 Production and manufacturing processes

Unless otherwise specified in the order, the production and manufacturing processes shall be left to the discretion of the producer. Unless it is explicitly stated on the order, no obligation shall be placed on the producer to use the same processes for subsequent or similar orders.

5.2 Quality control

The supplier shall be responsible for the performance of all inspection and tests required by the relevant European Standard and/or the particular specification prior to shipment of the product. If the purchaser wishes to inspect the product at the producer's works, he shall notify the supplier at the time of placing the order.

5.3 Chemical composition

The chemical composition shall comply with the limits specified in EN 573-3.

If the purchaser requires content limits for elements not specified in the above standard, these limits shall be stated on the order, after agreement between purchaser and supplier.

5.4 Mechanical properties

The mechanical properties shall be in conformity with those specified in EN 754-2 or those agreed between purchaser and supplier and stated on the order.

5.5 Freedom from surface defects

The surface shall be free from defects prejudicial to its suitable and proper use.

The product shall have a smooth and clean surface. However, small surface defects such as light scratches, indentations, laminations, discolouration and non-uniform surface appearance resulting from heat-treatment, etc., which cannot always be totally avoided, are generally permitted on the product surface.

Whilst an operation designed to mask a fault is not permitted, the elimination of a superficial fault is permissible provided that the dimensional tolerances and material properties continue to meet the specification.

For products intended for surface treatment, the superficial defects (discolouration, mechanical or structural) shall not be so extensive as to impair the decorative appearance of the surface after the agreed surface treatment. Limiting samples may be agreed between supplier and purchaser.

5.6 Tolerances on dimensions and form

For the different forms of products, if not otherwise agreed between supplier and purchaser, the tolerances on dimensions and form shall be in conformity with the relevant European Standards EN 754-3, EN 754-4, EN 754-5, EN 754-6, prEN 754-7 and prEN 754-8.

Unless otherwise agreed, the purchaser may reject only those products having dimensions not complying with the specified tolerances.

5.7 Other requirements

Additional requirements must be agreed between purchaser and supplier and stated on the order.

6 Test procedures

6.1 Sampling

6.1.1 Specimens for chemical analysis

The specimens for chemical analysis shall be taken at the time of casting. Their shape and conditions of production (mould design, cooling rate, mass, etc.) shall be so designed that their composition is homogeneous and be appropriate to the method of analysis.

6.1.2 Specimens for mechanical testing

6.1.2.1 Location and size

Specimens shall be taken from samples in such a way that it is possible to orientate the test pieces in relation to the product, as specified in 6.1.2.2.