

# Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles —

## Part 7: Seamless tubes, tolerances on dimensions and form

The European Standard EN 755-7:1998 has the status of a British Standard

ICS 23.040.15; 77.150.10

---

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW



Document Sharing Hub

# National foreword

This British Standard is the English language version of EN 755-7:1998.

This part of BS EN 755 is published together with:

BS EN 755, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 8: Porthole tubes, tolerances on dimensions and form.*

BS EN 754, *Aluminium and aluminium alloys — Cold drawn rod/bar and tube — Part 7: Seamless tubes, tolerances on dimensions and form.*

BS EN 754, *Aluminium and aluminium alloys — Cold drawn rod/bar and tube — Part 8: Porthole tubes, tolerances on dimensions and form.*

NOTE The table gives the full list of published European Standards which partially supersede the British Standards.

| British Standards partially superseded by this standard and other European Standards |                |                 |                 |
|--------------------------------------------------------------------------------------|----------------|-----------------|-----------------|
| BS 1474:1987                                                                         | BS 4300-4:1973 | BS 4300-12:1969 | BS 4300-15:1973 |
| EN 515                                                                               | EN 515         | EN 515          | EN 515          |
| EN 573-3                                                                             | EN 573-3       | EN 573-3        | EN 573-3        |
| EN 573-4                                                                             | EN 573-4       | EN 573-4        | EN 573-4        |
| EN 755-1                                                                             | EN 755-1       | EN 755-1        | EN 755-1        |
| EN 755-2                                                                             | EN 755-2       | EN 755-2        | EN 755-2        |
| EN 755-3                                                                             | EN 755-3       | EN 755-3        | EN 755-3        |
| EN 755-4                                                                             | EN 755-4       | EN 755-4        | EN 755-4        |
| EN 755-5                                                                             | EN 755-5       | EN 755-5        | EN 755-5        |
| EN 755-6                                                                             | EN 755-6       | EN 755-6        | EN 755-6        |
| EN 755-7                                                                             |                | EN 755-7        | EN 755-7        |
| EN 755-8                                                                             |                | EN 755-8        | EN 755-8        |

In addition, the British Standards in the table will be withdrawn when the following European Standards are published:

EN 755, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 9: Profiles, tolerances on dimensions and form.*

EN 12020, *Aluminium and aluminium alloys — Extruded precision profiles in alloys EN AW 6060/EN AW 6063 — Part 1: Technical conditions for inspection and delivery.*

EN 12020, *Aluminium and aluminium alloys — Extruded precision profiles in alloys EN AW 6060/EN AW 6063 — Part 2: Tolerances on dimensions and form.*

The UK participation in its preparation was entrusted by Technical Committee NFE/35, Light metals and their alloys, to Subcommittee NFE/35/5, Wrought aluminium and aluminium alloys, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

### Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

### Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 10, an inside back cover and a back cover.

### Amendments issued since publication

| Amd. No. | Date | Text affected |
|----------|------|---------------|
|          |      |               |
|          |      |               |
|          |      |               |

This British Standard, having been prepared under the direction of the Engineering Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 December 1998

© BSI 1998

ISBN 0 580 30340 3

ICS 77.150.10

Descriptors: aluminium, aluminium alloys, extruded products, aluminium tubes, tolerances on dimension, tolerances on form

English version

## Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 7: Seamless tubes, tolerances on dimensions and form

Aluminium et alliages d'aluminium —  
Barres, tubes et profilés filés —  
Partie 7: Tubes filés sur aiguille, tolérances sur  
dimensions et forme

Aluminium und Aluminiumlegierungen —  
Stranggepresste Stangen, Rohre und Profile —  
Teil 7: Nahtlose Rohre, Grenzabmaße und  
Formtoleranzen

This European Standard was approved by CEN on 1 July 1998.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

**Central Secretariat: rue de Stassart 36, B-1050 Brussels**

© 1998 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 132, Aluminium and aluminium alloys, the Secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 1999, and conflicting national standards shall be withdrawn at the latest by January 1999.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Within its programme of work, Technical Committee CEN/TC 132 entrusted CEN/TC 132/WG 5, Extruded and drawn products, to prepare the following standard:

EN 755-7, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 7: Seamless tubes, tolerances on dimensions and form.*

This standard is part of a series of nine standards. The other standards deal with:

EN 755-1, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 1: Technical conditions for inspection and delivery.*

EN 755-2, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 2: Mechanical properties.*

EN 755-3, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 3: Round bars, tolerances on dimensions and form.*

EN 755-4, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 4: Square bars, tolerances on dimensions and form.*

EN 755-5, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 5: Rectangular bars, tolerances on dimensions and form.*

EN 755-6, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 6: Hexagonal bars, tolerances on dimensions and form.*

EN 755-8, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 8: Porthole tubes, tolerances on dimensions and form.*

EN 755-9, *Aluminium and aluminium alloys — Extruded rod/bar, tube and profiles — Part 9: Profiles, tolerances on dimensions and form.*

Contents

|                                                                                  | Page |
|----------------------------------------------------------------------------------|------|
| Foreword                                                                         | 2    |
| 1 Scope                                                                          | 3    |
| 2 Alloy groups                                                                   | 3    |
| 3 Tolerances on dimensions                                                       | 3    |
| 3.1 General                                                                      | 3    |
| 3.2 Diameter — round tube                                                        | 3    |
| 3.3 Width, depth or width across flats — squares, rectangles, hexagons, octagons | 3    |
| 3.4 Wall thickness                                                               | 3    |
| 3.5 Length                                                                       | 5    |
| 3.6 Squareness of cut ends                                                       | 6    |
| 4 Tolerances on form                                                             | 6    |
| 4.1 General                                                                      | 6    |
| 4.2 Straightness                                                                 | 6    |
| 4.3 Convexity–concavity                                                          | 7    |
| 4.4 Twist                                                                        | 7    |
| 4.5 Angularity                                                                   | 9    |
| 4.6 Corner and fillet radii                                                      | 10   |
| 4.7 Depth of dents for round tube                                                | 10   |

## 1 Scope

This part of EN 755 specifies the tolerances on dimensions and form for aluminium and aluminium alloy extruded seamless tubes with an outside diameter (OD) from 8 mm to 450 mm (round tube, see Figure 1) or with a cross-section contained within a circumscribing circle (CD) from 10 mm to 350 mm (other than round tube, see Figure 2), supplied in straight lengths.

This standard applies only to tube produced by the seamless die/mandrel method of extrusion.

This standard applies to extruded seamless tube for general engineering applications only.

This standard does not apply to extruded tube produced by tube porthole/bridge method or coiled tube.

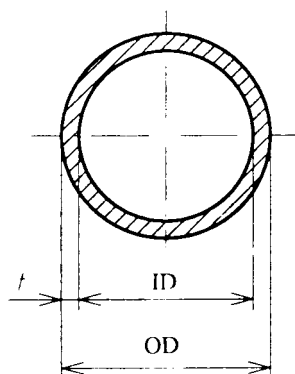


Figure 1 — Round tube

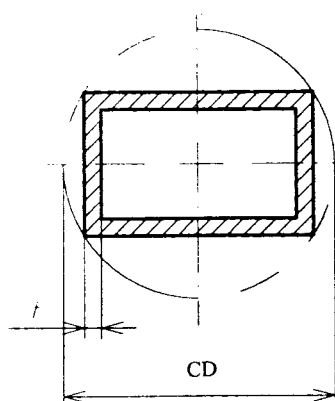


Figure 2 — Circumscribing circle for other than round tube

## 2 Alloy groups

For the purposes of this European Standard, the alloys are distributed into two groups which correspond to varying degrees of difficulty when manufacturing the products.

The division into group I and group II of the most commonly used general engineering alloys is specified in Table 1. Grouping of other alloys is subject to agreement between purchaser and supplier.

## 3 Tolerances on dimensions

### 3.1 General

When outside diameter *OD*, inside diameter *ID*, and wall thickness *t*, (or their equivalent dimensions in other than round tube) are all specified, standard tolerances shall apply to any two of these dimensions, but not to all three. As a result, the purchaser shall state only two nominal dimensions on any given order.

### 3.2 Diameter — round tube

Mean diameter is defined as the average of two diameter measurements taken at right angles to each other at any point along the length.

The tolerances on diameter are specified in Table 2.

### 3.3 Width, depth or width across flats — squares, rectangles, hexagons, octagons

The tolerances on width, depth or width across flats are specified in Table 3.

### 3.4 Wall thickness

The tolerances on wall thickness are specified in Table 4 for round tubes and in Table 5 for other than round tubes.