

ICS 77.150.10

CCS H 61



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 4437.1-2023

Replacing GB/T 4437.1-2015

**Aluminium and aluminium alloys extruded tubes-Part 1:
Seamless tubes**

铝及铝合金热挤压管 第1部分：无缝圆管

Issued on: November 27, 2023

Implemented on: June 1, 2024

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

Foreword	3
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	7
4 Classification	7
5 Technical requirements	8
6 Test methods	14
7 Inspection rules	15
8 Marking, packaging, transportation, storage, and quality certificate	19
9 Contents of an order form (or contract)	20
References	21

1 Scope

This document stipulates the classification, technical requirements, test methods, inspection rules, marking, packaging, transportation, storage, and quality certificate and order form (or contract) content of aluminium and aluminium alloy hot-extruded seamless tubes.

This document applies to the production and inspection of aluminium and aluminium alloy hot-extruded seamless tubes (hereinafter referred to as "tubes") for general industrial use.

2 Normative references

GB/T 3190

GB/T 3199

GB/T3246.1

GB/T 3246.2

GB/T 4436

3 Terms and definitions

The terms and definitions defined in GB/T 8005.1 and GB/T 26492.5 apply to this document.

4.1 Grade, supply state, and dimensions

The grade, supply state, and dimensions of tubes shall comply with the requirements in Table 1.

4.2 Marking and an example

Product markings are expressed in the order of product name, standard number, grade, supply state, and dimensions.

5 Technical requirements

The technical requirements of tubes shall comply with the provisions of Table 2.

6 Test methods

The test methods for tubes shall comply with the provisions of Table 8. If the purchaser has special requirements for the test method, it shall be determined through negotiation between the supplier and the purchaser, and shall be noted in the order form (or contract).

7.1 Inspection and acceptance

7.1.1 Tubes shall be inspected by the supplier to ensure that the product quality complies with the provisions of this document and the order form (or contract), and a quality certificate shall be filled out.

7.2 Batch grouping

Tubes shall be submitted for acceptance in batches, and each batch shall be composed of products of the same grade, supply state, heat and dimensions, with no limit on batch weight.

7.3 Weighing

Tubes shall be checked and weighed (unless otherwise agreed between the supplier and the buyer).

7.4 Inspection items

When there are no special requirements specified in the order form (or contract), the product inspection items shall comply with the provisions of Table 9.

7.6.1 Chemical composition

If the chemical composition of any specimen fails, the batch of products will be deemed unqualified.

7.6.2 Dimensional deviation

If the dimensional deviation of any tube fails, the tube will be deemed to be unqualified.

7.6.3 Tensile mechanical properties at room temperature, conductivity, resistance to stress corrosion, and susceptibility to intergranular corrosion

7.6.4 Ultrasonic flaw detection level

If the ultrasonic flaw detection level of any tube fails, the tube will be deemed unqualified.

7.6.5 Macrostructure

If the macrostructure of any specimen fails, it shall be handled as follows.

7.6.6 Microstructure

When the microstructure of any specimen fails, if the tube's heat of heat treatment can be distinguished, the heat of heat treatment represented by the specimen will be judged to be unqualified; other heats will be inspected in sequence, and the qualified one will be delivered. If the heat of heat treatment cannot be distinguished, the batch of tubes will be judged to be unqualified.

7.6.7 Appearance quality

If the appearance quality of any tube fails, the tube will be deemed unqualified. It is allowed to cut off the unqualified parts then re-inspect and deliver the qualified parts.

8.1.1 Product marking

Product identification shall comply with the regulations of GB/T 42916.

8.2 Packaging, transportation, and storage

The tubes are not packaged with oil, and the packaging method shall be specified in the order form (or contract); if not specified, it will be a bare package or simple packaging.

Other packaging, transportation, and storage shall comply with the regulations of GB/T 3199.

8.3 Quality Certificate

Each batch of tubes shall be accompanied by a product quality certificate stating.

9 Contents of an order form (or contract)

An order form (or contract) for the products listed in this document may include the following.

chinastandards.org · PREVIEW