



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

GB/T 3195-2023

Replacing GB/T 3195-2016

Aluminium and aluminium alloys drawn (rolled) round wire

铝及铝合金拉(轧)制圆线材

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Foreword

This document was drafted in accordance with the rules given in GB/T 1.1-2020 "Directives for standardization -- Part 1: Rules for the structure and drafting of standardizing documents".

This document replaces GB/T 3195-2016 "Aluminium and aluminium alloys drawn round wires". Compared with GB/T 3195-2016, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

1350H16, and 1350H26 for conductor wire have been deleted. The diameters for conductor wire have been modified (see 4.1 of this Edition; 3.1.1.2 of Edition 2016);

welding wire have been deleted. The designations 2S19, 2319, 4047A, 4145, 4S03, 5E61, and 5B71 and their conditions, as well as conditions of designations 4A47H18 and 4A54H18 for welding wire have been added. The diameters for welding wire have been modified (see 4.1 of this Edition; 3.1.1.3 of Edition 2016);

room-temperature tensile mechanical properties, shear strength, riveting performance, and electrical resistivity have been modified (see Chapter 5 of this Edition; 3.2, 3.3, 3.4, 3.5, 3.7, and 3.10 of Edition 2016);

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

This document was proposed by China Nonferrous Metals Industry Association.

This document shall be under the jurisdiction of National Technical Committee on Nonferrous Metals of Standardization Administration of China (SAC/TC 243).

The drafting organizations of this document: Hangzhou Kunli Welding Materials Co., Ltd.; Northeast Light Alloy Co., Ltd.; Jiangxi University of Science and Technology; Nonferrous Metals Technology & Economy Research Institute Co., Ltd.; Beijing Research Institute of Nonferrous Metals and Rare Earth Applications Co., Ltd.; GRINM Engineering Technology Research Institute Co., Ltd.; CRRC Qingdao Sifang Co., Ltd.; Northwest Aluminum Co., Ltd.; Chinalco Materials Application Research Institute Co., Ltd.; Dongliang Aluminum Co., Ltd.

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Versions of standard substituted by this document are:

wires for riveting purpose" and GB/T 3197-2001 "Aluminium and aluminium alloy wires for welding purpose" during the second revision in 2008;

- This is the fourth revision.

1 Scope

This document specifies the product classification, technical requirements, test methods, inspection rules, marks, packaging, transportation, storage, and the contents of quality certificates and purchase orders (or contracts) for aluminium and aluminium alloys drawn (rolled) round wire.

This document applies to the production and inspection of aluminum and aluminum alloy round wires (hereinafter referred to as "wires") intended for rivets, conductors, welding, and coating applications.

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.

3 Terms and definitions

4 Product classification

4.1 Category, designation, supply condition, and diameter

The product category, designation, supply condition, and diameter shall comply with the specifications in Table 1. Any additional requirements regarding designation, supply condition, or diameter shall be determined through consultation between the supplier and the purchaser and specified in the order (or contract).

Recommended wires for welding for typical aluminum alloy material welding are shown in Annex A.

4.2 Marks

The product mark is indicated in the following order: product category, reference to this document, designation, supply condition, and diameter.

5 Technical requirements

The technical requirements for the wire rod shall comply with the provisions of Table 2. Where the purchaser has special requirements, these shall be determined through consultation between the supplier and the purchaser and specified in the order (or contract). Roll- It shall comply with the requirements for Class C specified Diameter

deviation shaped in Table 4. It shall comply with the requirements of Table 10. The flexural properties of 1A50 shall comply with the requirements of Table 9. It shall comply with the requirements of Table 8. Where Table 8 does not specify requirements, they shall be agreed upon by the supplier and the purchaser. It shall comply with the requirements of Table 8. Where Table 8 does not specify requirements, they shall be agreed upon by the supplier and the purchaser. It shall comply with the requirements of Table 6. Where Table 6 does not specify requirements, they shall be agreed upon by the supplier and the purchaser. It shall comply with the requirements for Class A specified in Table 5. It shall comply with the requirements for Class D specified in Table 5. It shall comply with the requirements for Class D specified in Table 5. It shall comply with the requirements of Table 7. Where Table 7 does not specify requirements, they shall be agreed upon by the supplier and the purchaser. NOTE: "—" indicates that there are no requirements for the item. It shall comply with the requirements of Table 11. Appearance quality Weldability Item Total Individual Other impurities Chemical composition (mass fraction) % NOTE 1: "Others" refers to elements for which no limiting values are specified in the table and to metallic elements not listed.

6 Test methods

The test methods for the product shall comply with the provisions of Table 12. If the purchaser has specific requirements regarding test methods, these shall be determined through consultation between the supplier and the purchaser and specified in the purchase order (or contract).

Carry out in accordance with GB/T 20975 (all parts) or GB/T 7999; in the event of arbitration, GB/T Hydrogen content Perform according to YS/T 600.

Diameter deviation Use measuring instruments with an accuracy of no less than 0.01 mm for measurements.

Shear strength Perform according to GB/T 3250.

Riveting performance Perform according to GB/T 3250.

Bending resistance Perform according to GB/T 238.

Resistivity Perform according to GB/T 3048.2.

Weldability Perform according to the method specified in Annex B.

7 Inspection rules

7.1 Inspection and acceptance

7.1.1 The product shall be inspected by the supplier to ensure that its quality complies with