

AEROSPACE MATERIAL SPECIFICATION

SAE AMS-4114

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Revised 1990-10-01
Superseding AMS-4114F

An American National Standard

ALUMINUM ALLOY BARS AND RODS, ROLLED OR COLD-FINISHED 2.5Mg - 0.25Cr (5052-F) As Fabricated

UNS A95052

1. SCOPE:

1.1 Form This specification covers an aluminum alloy in the form of bars and rods.

1.2 Application: Primarily for parts requiring good formability and weldability in fabrication and where strength somewhat greater than that of AMS 4102 is required.

2. APPLICABLE DOCUMENTS: The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order.

2.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

2.1.1 Aerospace Material Specifications:

AMS-2201 - Tolerances, Aluminum and Aluminum Alloy Bar, Rod, Wire, and Forging Stock, Rolled or Cold Finished

MAM 2201 - Tolerances, Metric, Aluminum and Aluminum Alloy Bar, Rod, Wire, and Forging Stock, Rolled, Drawn, or Cold Finished

AMS-2355 - Quality Assurance Sampling and Testing of Aluminum Alloys and Magnesium Alloys, Wrought Products (Except Forging Stock) and Flash Welded Rings

MAM 2355 - Quality Assurance Sampling and Testing of Aluminum Alloys and Magnesium Alloys, Wrought Products (Except Forging Stock) and Flash Welded Rings, Metric (SI) Units

AMS-2811 - Identification, Aluminum and Magnesium Alloy Wrought Product

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2.2 ASTM Publications: Available from ASTM 1916 Race Street, Philadelphia, PA 19103-1187.

ASTM B 660 - Packaging/Packing of Aluminum and Magnesium Products

3. TECHNICAL REQUIREMENTS:

3.1 Composition: Shall conform to the following percentages by weight, determined in accordance with AMS-2355 or MAM 2355:

	min	max
Magnesium	2.2	2.8
Chromium	0.15	0.35
Iron	--	0.40
Silicon	--	0.25
Manganese	--	0.10
Copper	--	0.10
Zinc	--	0.10
Other Impurities, each	--	0.05
Other Impurities, total	--	0.15
Aluminum	remainder	

3.2 Condition: Rolled or cold-finished, as ordered, in the as-fabricated condition.

3.3 Quality: The product, as received by purchaser, shall be uniform in quality and condition, sound, and free from foreign materials and from imperfections detrimental to usage of the product.

3.4 Tolerances: Shall conform to all applicable requirements of AMS-2201 or MAM 2201.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection: The vendor of the product shall supply all 0 samples for vendor's tests and shall be responsible for performing all required tests. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the product conforms to the requirements of this specification.

4.2 Classification of Tests: Tests for all technical requirements are acceptance tests and shall be performed on each lot.

4.3 Sampling and Testing: Shall be in accordance with AMS-2355 or MAM 2355.
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4.3.1 At least one sample for composition analysis shall be taken by the producer from each group of ingots poured simultaneously from the same source of molten metal. Complete ingot analysis records shall be available at the producer's facility.

4.3.1.1 Unless compliance with 4.3.1 is established, an analysis shall be made for each 6000 pounds (2722 kg) or less of alloy comprising the production lot.

4.4 **Reports:** The vendor of the product shall furnish with each shipment a report stating that the product conforms to the chemical composition and other technical requirements. This report shall include the purchase order number, lot number, AMS-4114G, size, and quantity.

4.5 **Resampling and Retesting:** Shall be in accordance with AMS-2355 or MAM 2355.

5. **PREPARATION FOR DELIVERY:**

5.1 **Identification:** Shall be in accordance with AMS-2811.

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5.2 **Packaging:**

5.2.1 The product shall be prepared for shipment in accordance with commercial practice and in compliance with applicable rules and regulations pertaining to the handling, packaging, and transportation of the product to ensure carrier acceptance and safe delivery.

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5.2.2 For direct U.S. Military procurement, packaging shall be in accordance with ASTM B 660, Commercial Level, unless Level A is specified in the request for procurement.

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6. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

7. **REJECTIONS:** Product not conforming to this specification, or to modifications authorized by purchaser, will be subject to rejection.

8. **NOTES:**

8.1 **Marginal Indicia:** The phi (0) symbol is used to indicate technical changes from the previous issue of this specification.

8.2 Properties in inch/pound units are primary; properties in SI units are shown as the approximate equivalents of the primary units and are presented only for information.

8.3 For direct U.S. Military procurement, purchase documents should specify not less than the following:

Title, number, and date of this specification
Form and size of product desired
Quantity of product desired
Level A packaging, if required (See 5.2.2).