

**AEROSPACE
MATERIAL
SPECIFICATION**

AMS 4180G

Issued MAY 1948
Revised SEP 2006
Cancelled JUL 2007

Superseded by ASTM B 211

Aluminum Wire
99.0Al Minimum (1100-H18)

(Composition similar to UNS A91100)

RATIONALE

AMS 4180F has been cancelled and superseded because equivalent technical requirements are provided by ASTM B 211.

CANCELLATION NOTICE

This specification has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of July, 2007, and has been superseded by ASTM B 211, Alloy 1100, Temper H18. The requirements of the latest issue of ASTM B 211, Alloy 1100, Temper H18 shall be fulfilled whenever reference is made to the cancelled AMS 4180F. By this action, this document will remain listed in the Numerical Section of the Index of Aerospace Material Specifications, noting that it has been superseded by ASTM B 211, Alloy 1100, Temper H18.

Cancelled specifications are available from SAE.

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RATIONALE

AMS 4180F is a Five Year Review and update of this specification.

1. SCOPE

1.1 Form

This specification covers an aluminum alloy in the form of wire.

1.2 Application

This wire has been used typically for metal spraying, but usage is not limited to such applications.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

AMS 2355 Quality Assurance Sampling and Testing, Aluminum and Magnesium Alloys, Wrought Products, Except Forging Stock, and Rolled, Forged, or Flash Welded Rings
AS 1990 Aluminum Alloy Tempers

2.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM B 660 Packaging/Packing of Aluminum and Magnesium Products

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3. TECHNICAL REQUIREMENTS

3.1 Composition

Shall conform to the percentages by weight shown in Table 1, determined in accordance with AMS 2355.

TABLE 1 - COMPOSITION

Element	min	max
Aluminum	99.0	--
Copper	0.05	0.20
Iron plus Silicon	--	0.95
Zinc	--	0.10
Manganese	--	0.05
Beryllium	--	0.0008 (8 ppm)
Other Elements, each	--	0.05
Other Elements, total	--	0.15

3.2 Condition

Drawn, full hard (H18) temper (See AS 1990).

3.3 Properties

The wire shall conform to the following requirements; tensile strength shall be determined in accordance with AMS 2355.

3.3.1 Tensile Strength

Shall be not lower than 22.0 ksi (152 MPa).

3.3.2 Recoil

Wire shall not recoil of its own volition during use.

3.4 Quality

Wire, 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 wire.

3.5 Sizes

Wire shall be 0.091 inch (2.31 mm) in diameter, unless otherwise specified. Other sizes commonly used for metal spraying are 0.125 inch (3.18 mm) and 0.1875 inch (4.762 mm) in diameter.

3.6 Tolerances

Diameter tolerances for all sizes of wire shall be plus 0.0005 inch (0.013 mm) and minus 0.0025 inch (0.064 mm).

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for Inspection

The vendor of the wire shall supply all samples for vendor's tests and shall be responsible for the performance of all required tests. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the wire conforms to specified requirements.