



AEROSPACE MATERIAL SPECIFICATION

AMS4113™

REV. G

Issued 1968-11
Reaffirmed 2008-05
Revised 2023-05

Superseding AMS4113F

Aluminum Alloy, Extruded Profiles
1.0Mg - 0.60Si - 0.28Cu - 0.20Cr (6061-T6)
Solution and Precipitation Heat Treated
(Composition similar to A96061)

RATIONALE

AMS4113G results from a Five-Year Review and update of this specification with changes to update terminology, wording to prohibit unauthorized exceptions (3.6, 4.4.1, 5.1.1, and 8.5), relocate definitions (2.4), and update applicable documents (Section 2, 3.2), hardness (8.2), and allow use of the immediate prior specification revision (8.4).

1. SCOPE

1.1 Form

This specification covers an aluminum alloy in the form of extruded profiles such as angles, channels, tees, zees, I-beams, and H-beams.

1.2 Application

These products have been used typically for parts requiring moderate strength, especially where such parts require brazing or welding during fabrication, 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 +1 724-776-4970 (outside USA), www.sae.org.

AMS2355 Quality Assurance, Sampling and Testing, Aluminum Alloys and Magnesium Alloy, Wrought Products (Except Forging Stock), and Rolled, Forged, or Flash Welded Rings

AMS2772 Heat Treatment of Aluminum Alloy Raw Materials

AS7766 Terms Used in Aerospace Metals Specifications

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For more information on this standard, visit
<https://www.sae.org/standards/content/AMS4113G/>

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 B660 Packaging/Packing of Aluminum and Magnesium Products

ASTM B666/B666M Identification Marking of Aluminum and Magnesium Products

2.3 ANSI Accredited Publications

Copies of these documents are available online at <https://webstore.ansi.org/>.

ANSI H35.1/H35.1M Standard Alloy and Temper Designation System for Aluminum

ANSI H35.2 Dimensional Tolerances for Aluminum Mill Products

ANSI H35.2M Dimensional Tolerances for Aluminum Mill Products (Metric)

2.4 Definitions

Terms used in AMS are defined in AS7766 and as follows:

2.4.1 Profiles

A term for “shapes” based on current U.S. domestic and international usage.

3. TECHNICAL REQUIREMENTS

3.1 Composition

Shall conform to the percentages by weight shown in Table 1, determined in accordance with AMS2355.

Table 1 - Composition

Element	Min	Max
Silicon	0.40	0.8
Iron	--	0.7
Copper	0.15	0.40
Manganese	--	0.15
Magnesium	0.8	1.2
Chromium	0.04	0.35
Zinc	--	0.25
Titanium	--	0.15
Other elements, each	--	0.05
Other elements, total	--	0.15
Aluminum	remainder	

3.2 Condition

Extruded and solution and precipitation heat treated to the T6 temper (refer to ANSI H35.1/H35.1M) in accordance with AMS2772.

3.2.1 Profiles shall be supplied with an as-extruded surface finish; light polishing to remove minor surface imperfections is permissible provided such imperfections can be removed within specified dimensional tolerances.