



AEROSPACE MATERIAL SPECIFICATION

AMS4202™**REV. F**

Issued 1978-07
Reaffirmed 2012-03
Revised 2025-07

Superseding AMS4202E

Aluminum Alloy Plate,
5.7Zn - 2.2Mg - 1.6Cu - 0.22Cr (7475-T7351),
Solution Heat Treated, Stress Relieved by Stretching,
and Precipitation Heat Treated
(Composition similar to UNS A97475)

RATIONALE

AMS4202F results from a Five-Year Review and update of this specification with changes to update wording to prohibit unauthorized exceptions (see 3.3.3 and 8.5), relocate Definitions (see 2.4), and update Applicable Documents (see Section 2) and ultrasonic inspection (see 3.4.1).

1. SCOPE

1.1 Form

This specification covers an aluminum alloy in the form of plate 0.250 to 4.000 inches (6.35 to 101.60 mm), inclusive, in thickness (see 8.6).

1.2 Application

This plate has been used typically for structural applications requiring high strength and resistance to stress corrosion, moderate fatigue strength, and high fracture toughness, 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

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Full document details: SAE AMS4202F

For more information on this standard, visit <https://www.sae.org/standards/content/AMS4202F/>

Documents

Standard, visit Sharing Hub

AMS2772 Heat Treatment of Aluminum Alloy Raw Materials

AS7766 Terms Used in Aerospace Metals Specifications

2.2 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

2.3 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 B594 Ultrasonic Inspection of Aluminum-Alloy Wrought Products

ASTM B645 Linear-Elastic Plane-Strain Fracture Toughness Testing of Aluminum Alloys

ASTM B660 Packaging/Packing of Aluminum and Magnesium Products

ASTM B666/B666M Identification Marking of Aluminum and Magnesium Products

ASTM E399 Linear-Elastic Plane-Strain Fracture Toughness of Metallic Materials

2.4 Definitions

Terms used in AMS are defined in AS7766.

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

Elements	Min	Max
Silicon	--	0.10
Iron	--	0.12
Copper	1.2	1.9
Manganese	--	0.06
Magnesium	1.9	2.6
Chromium	0.18	0.25
Titanium	--	0.06
Zinc	5.2	6.2
Other Elements, each	--	0.05
Other Elements, total	--	0.15
Aluminum	remainder	

3.2 Condition

Solution heat treated, stress relieved by stretching to produce a nominal permanent set of 2%, but not less than 1-1/2% nor more than 3%, and precipitation heat treated to the -T7351 temper (refer to ANSI H35.1/H35/1M). Heat treatment shall be in accordance with AMS2772.

3.2.1 Plate shall receive no further straightening operations after stretching.

3.3 Properties

Plate shall conform to the following requirements, determined in accordance with AMS2355 on the mill product:

3.3.1 Tensile Properties

Shall be as shown in Tables 2A and 2B.

Table 2A - Minimum tensile properties, inch/pound units

Nominal Thickness Inches	Specimen Orientation	Tensile Strength ksi	Yield Strength at 0.2% Offset ksi	Elongation in 2 Inches or 4D %
0.250 to 1.500, excl	Longitudinal	71.0	60.0	10
	Long-Trans.	71.0	60.0	9
1.500	Longitudinal	71.0	60.0	10
	Long-Trans.	71.0	60.0	9
	Short-Trans.	67.0	56.0	4
	Longitudinal	70.0	58.0	10
Over 1.500 to 2.000, incl	Long-Trans.	70.0	58.0	8
	Short-Trans.	66.0	54.0	4
	Longitudinal	69.0	57.0	10
Over 2.000 to 2.500, incl	Long-Trans.	69.0	57.0	8
	Short-Trans.	65.0	53.0	4
	Longitudinal	68.0	56.0	10
Over 2.500 to 3.000, incl	Long-Trans.	68.0	56.0	8
	Short-Trans.	65.0	53.0	3
	Longitudinal	65.0	53.0	10
Over 3.000 to 3.500, incl	Long-Trans.	65.0	53.0	8
	Short-Trans.	64.0	51.0	3
	Longitudinal	64.0	52.0	9
Over 3.500 to 4.000, incl	Long-Trans.	64.0	52.0	7
	Short-Trans.	63.0	50.0	3
	Longitudinal	63.0	50.0	3