



# AEROSPACE MATERIAL SPECIFICATION

AMS-QQ-A-250/30

REV. A

Issued 1997-08  
Reaffirmed 2010-05  
Stabilized 2013-12

Superseding AMS-QQ-A-250/30

Aluminum Alloy 2219, Plate and Sheet

A92219

## RATIONALE

AMS-QQ-A-250/30A results from a five year review of this specification.

## STABILIZATION NOTICE

AMS-QQ-A-250/30A has been declared "STABILIZED" by AMS Committee D. This document will no longer be updated and may no longer represent standard industry practice. The last technical update of this document occurred in August 1997. Users of this document should refer any certification issues (e.g. exceptions listed on the certification report) to the cognizant engineering organization for their disposition. CAUTION: In many cases the purchaser is not the cognizant engineering organization (i.e. purchaser may be a sub tier supplier).

AMS Committee D recommends that the following technically equivalent (e.g. properties, fit, form, function) specifications be used for future procurement. This listing does not constitute authority to substitute these specifications for the "STABILIZED" specification.

- AMS4031 Aluminum Alloy, Sheet and Plate 6.3Cu - 0.30Mn - 0.18Zr - 0.10V - 0.06Ti (2219-0) Annealed or when specified, "As Fabricated" (2219-F)
- AMS4601 Aluminum Alloy, Sheet and Plate 6.3Cu - 0.30Mn - 0.06Ti - 0.10V - 0.18Zr Solution Heat Treated, Cold Worked and Naturally Aged (2219 -T31/-T351)
- AMS4599 Aluminum Alloy, Sheet and Plate 6.3Cu - 0.30Mn - 0.06Ti - 0.10V - 0.18Zr Solution and Precipitation Heat Treated (2219 -T81/-T851)
- AMS4600 Aluminum Alloy, Sheet and Plate 6.3Cu - 0.30Mn - 0.06Ti - 0.10V - 0.18Zr Solution Heat Treated, Cold Worked (8%) and Naturally Aged (2219 -T37)
- AMS4613 Aluminum Alloy, Sheet and Plate 6.3Cu - 0.30Mn - 0.06Ti - 0.10V - 0.18Zr Solution Heat Treated, Cold Worked (8%) and Precipitation Heat Treated (2219 -T87)

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### NOTICE

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The original Federal Specification was adopted as an SAE standard under the provisions of the SAE Technical Standards Board (TSB) Rules and Regulations (TSB 001) pertaining to accelerated adoption of government specifications and standards. TSB rules provide for (a) the publication of portions of unrevised government specifications and standards without consensus voting at the SAE Committee level, (b) the use of the existing government specification or standard format, and (c) the exclusion of any qualified product list (QPL) sections.

The complete requirements for procuring 2219 aluminum alloy plate and sheet described herein shall consist of this document and the latest issue of AMS-QQ-A-250.

## 1. SCOPE AND CLASSIFICATION:

## 1.1 Scope:

This specification covers the specific requirements for 2219 aluminum alloy plate and sheet.

## 1.2 Classification:

1.2.1 Tempers: The plate and sheet are classified in one of the following tempers as specified (See 6.3 and 6.4): O, T31, T37, T62, T81, T87, T351, T851, or F temper. Definitions of these tempers are specified in AMS-QQ-A-250.

## 2. APPLICABLE DOCUMENTS:

See AMS-QQ-A-250.

## 3. REQUIREMENTS:

## 3.1 Chemical Composition:

3.1.1 The chemical composition shall conform to the requirements specified in Table I.

TABLE I. Chemical Composition <sup>1/</sup>

Element	Percent	
	minimum	maximum
Copper	5.8	6.8
Manganese	0.20	0.40
Zirconium	0.10	0.25
Vanadium	0.05	0.15
Titanium	0.02	0.10
Iron	--	0.30
Silicon	--	0.20
Zinc	--	0.10
Magnesium	--	0.02
Other Elements, each	--	0.05
Other Elements, total	--	0.15
Aluminum	remainder	

<sup>1/</sup> Analysis shall routinely be made only for the elements specifically mentioned in Table I. If, however, the presence of other elements is indicated or suspected in amounts greater than the specified limits, further analysis shall be made to determine that these elements are not present in excess of specified limits.