



# AEROSPACE MATERIAL SPECIFICATION

AMS-QQ-A-250/8

REV. C

Issued 1997-08  
Revised 1998-09  
Noncurrent 2007-09  
Stabilized 2014-01

Superseding AMS-QQ-A-250/8B

Aluminum Alloy 5052, Plate and Sheet

UNS A95052

## RATIONALE

AMS-QQ-A-250/8C restores this document to active status and stabilizes it.

## STABILIZATION NOTICE

AMS-QQ-A-250/8 has been declared "STABILIZED" by AMS Committee D. This document will no longer be updated and may no longer represent standard industry practice.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 September 1998. 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.

- AMS4015 Aluminum Alloy, Sheet and Plate 2.5Mg – 0.25Cr Annealed (5052-0)
- AMS4016 Aluminum Alloy, Sheet and Plate 2.5Mg – 0.25Cr (5052-H32) Strain Hardened, Quarter-Hard, and Stabilized
- AMS4017 Aluminum Alloy, Sheet and Plate 2.5Mg – 0.25Cr (5052-H34) Strain-Hardened, Half-Hard, and Stabilized
- ASTM B 209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (5052-H22, -H24, -H26, -H28, -H36, -H38, -H112, -F)

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## NOTICE

This document has been taken directly from Federal Specification QQ-A-250/8F and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards.

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 5052 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 5052 aluminum alloy plate and sheet; the general requirements are covered in AMS-QQ-A-250.

### 1.2 Classification:

1.2.1 Tempers: The plate and sheet are classified in one of the following tempers as specified (See 6.2): O, H22, H24, H26, H28, H32, H34, H36, H38, H112, or F temper. Definitions of these tempers are specified in AMS-QQ-A-250.

1.2.1.1 Material in either of a pair of tempers (H32 and H22, H34 and H24, H36 and H26, or H38 and H28) may be supplied at the option of the supplier, unless one is specifically excluded in the contract or purchase order.

## 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
Magnesium	2.2	2.8
Chromium	0.15	0.35
Iron	-	0.40
Silicon	-	0.25
Copper	-	0.10
Manganese	-	0.10
Zinc	-	0.10
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.

### 3.2 Mechanical Properties:

3.2.1 Mechanical Properties of Material as Supplied: The mechanical properties parallel to the direction of the final rolling shall conform to the requirements of Table II for the temper specified.

TABLE II. Mechanical Properties (See 6.4)

Temper	Thickness Inches	Tensile Strength		Elongation in 2 in. or 4 times D <u>1/</u> <u>3/</u> , minimum Percent
		Min ksi	Max ksi	
O	0.006 thru 0.007	25.0	31.0	-
	0.008 thru 0.012	25.0	31.0	14
	0.013 thru 0.019	25.0	31.0	15
	0.020 thru 0.031	25.0	31.0	16
	0.032 thru 0.050	25.0	31.0	18
	0.051 thru 0.113	25.0	31.0	19
	0.114 thru 0.249	25.0	31.0	20
	0.250 thru 3.000	25.0	31.0	18
H22 or H32 <u>2/</u>	0.017 thru 0.019	31.0	38.0	4
	0.020 thru 0.050	31.0	38.0	5
	0.051 thru 0.113	31.0	38.0	7
	0.114 thru 0.249	31.0	38.0	9
	0.250 thru 0.499	31.0	38.0	11
	0.500 thru 2.000	31.0	38.0	12
H24 or H34 <u>2/</u>	0.009 thru 0.019	34.0	41.0	3
	0.020 thru 0.050	34.0	41.0	4
	0.051 thru 0.113	34.0	41.0	6
	0.114 thru 0.249	34.0	41.0	7
	0.250 thru 1.000	34.0	41.0	10
H26 or H36 <u>2/</u>	0.006 thru 0.007	37.0	44.0	2
	0.008 thru 0.031	37.0	44.0	3
	0.032 thru 0.162	37.0	44.0	4
H28 or H38	0.006 thru 0.007	39.0	-	2
	0.008 thru 0.031	39.0	-	3
	0.032 thru 0.128	39.0	-	4
H112	0.250 thru 0.499	28.0	-	7
	0.500 thru 2.000	25.0	-	12
	2.001 thru 3.000	25.0	-	16
F	All	<u>4/</u>	<u>4/</u>	<u>4/</u>

1/ Not required for material 1/2 inch or less in width.

2/ For the H2 temper series, the maximum tensile values do not apply.

3/ D represents specimen diameter.

4/ No requirement.