



AEROSPACE MATERIAL SPECIFICATION

AMS-QQ-A-250/21

REV. C

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Superseding AMS-QQ-A-250/21B

Aluminum Alloy, 7178-T76, Plate and Sheet
Improved Exfoliation Resistant

UNS A97178

RATIONALE

AMS-QQ-A-250/21C has been designated stabilized because alloy 7178 is not recommended for new designs.

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The complete requirements for procuring 7178 aluminum alloy plate and sheet for improved exfoliation resistance 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 improved exfoliation-resistant aluminum alloy, 7178-T76 sheet and 7178-T7651 plate.

1.2 Classification:

1.2.1 Tempers: Sheet shall be furnished in the T76 temper only and plate in the T7651 temper only, as specified (See 6.2). Definitions of these tempers are in accordance with AMS-QQ-A-250.

2. APPLICABLE DOCUMENTS:

See AMS-QQ-A-250.

3. REQUIREMENTS:

3.1 Chemical Composition:

The chemical composition of the ingot or slabs used for the manufacture of the plates and sheets shall conform to the requirements specified in Table I.

TABLE I. Chemical Composition 1/

Element	Percent	
	Minimum	Maximum
Silicon	-	0.40
Iron	-	0.50
Copper	1.6	2.4
Manganese	-	0.30
Magnesium	2.4	3.1
Chromium	0.18	0.28
Zinc	6.3	7.3
Titanium	-	0.20
Other Elements, each	-	0.05
Other Elements, total <u>2/</u>	-	0.15
Aluminum	Remainder	

1/ 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.

2/ The sum of those "Others" metallic elements, 0.010 percent or more each, expressed to the second decimal before determining the sum.

3.2 Mechanical Properties:

The mechanical properties perpendicular to the direction of final rolling, except for material under 9 inches in width, shall conform to the requirements of Table II for the temper specified. For material under 9 inches in width, the mechanical properties parallel to the direction of final rolling shall conform to the requirements of Table II for the temper specified.