

AEROSPACE MATERIAL SPECIFICATION

Issued AUG 1997
Noncurrent SEP 2007

Superseding AMS-QQ-A-250/10

Aluminum Alloy 5454, Plate and Sheet

UNS A95454

RATIONALE

AMS-QQ-A-250/10 has been designated NonCurrent because new designs can be adequately addressed by ASTM B 209.

NONCURRENT NOTICE

This specification has been declared "NONCURRENT" by the Aerospace Materials Division, SAE, as of September, 2007. It is recommended, therefore, that this specification not be specified for new designs.

"NONCURRENT" refers to those specifications which have previously been widely used and which may be required for production or processing of existing designs in the future. The Aerospace Materials Division, however, does not recommend these specifications for future use in new designs. "NONCURRENT" specifications are available from SAE upon request.

Similar but not necessarily identical products are covered in the following specification. However, this reference is provided for information only and does not constitute authority to substitute ASTM B 209 for the "NONCURRENT" specification.

ASTM B 209, Aluminum and Aluminum-Alloy Sheet and Plate
– designating alloy 5454 and applicable temper

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be reaffirmed, revised, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2007 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
Tel: 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: <http://www.sae.org>

NOTICE

This document has been taken directly from Federal Specification QQ-A-250/10E 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 5454 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 5454 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, H32, H34, or H112 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 ^{1/}

Element	Percent	
	Minimum	Maximum
Magnesium	2.4	3.0
Manganese	0.50	1.0
Chromium	0.05	0.20
Iron	-	0.40
Silicon	-	0.25
Zinc	-	0.25
Titanium	-	0.20
Copper	-	0.10
Other Elements, each	-	0.05
Other Elements, total	-	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.

3.2 Mechanical Properties:

3.2.1 Mechanical Properties of Material as Supplied: The mechanical properties parallel to the direction of 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		Yield Strength at 0.2 percent Offset minimum	Elongation in 2 in. or 4 times D <u>1/</u> , <u>2/</u> , minimum Percent
		Minimum	Maximum	ksi	
		ksi	ksi		
O	0.020 thru 0.031	31.0	41.0	12.0	12
	0.032 thru 0.050	31.0	41.0	12.0	14
	0.051 thru 0.113	31.0	41.0	12.0	16
	0.114 thru 3.000	31.0	41.0	12.0	18
H32	0.020 thru 0.050	36.0	44.0	26.0	5
	0.051 thru 0.249	36.0	44.0	26.0	8
	0.250 thru 2.000	36.0	44.0	26.0	12
H34	0.020 thru 0.050	39.0	47.0	29.0	4
	0.051 thru 0.161	39.0	47.0	29.0	6
	0.162 thru 0.249	39.0	47.0	29.0	7
	0.250 thru 1.000	39.0	47.0	29.0	10
H112	0.250 thru 0.499	32.0	-	18.0	8
	0.500 thru 2.000	31.0	-	12.0	11
	2.001 thru 3.000	31.0	-	12.0	15

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

2/ D represents specimen diameter.

4. QUALITY ASSURANCE PROVISIONS:

See AMS-QQ-A-250.

5. PREPARATION FOR DELIVERY:

See AMS-QQ-A-250.