



AEROSPACE MATERIAL SPECIFICATION	AMS5045	REV. J
	Issued	1945-07
	Revised	2015-04
Superseding AMS5045H		
Steel, Sheet and Strip 0.25 Carbon, Maximum Hard Temper (Composition similar to UNS G10200)		

RATIONALE

AMS5045J results from a Five Year Review and update of this specification that includes correction of Rockwell hardness type in Table 2 and the inclusion of the producer identity in reporting.

1. SCOPE

1.1 Form

This specification covers a carbon steel in the form of sheet and strip.

1.2 Application

These products have been used typically for stamped parts requiring strength, imparted by rolling, rather than ductility, 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.

AMS2232	Tolerances, Carbon Steel Sheet, Strip, and Plate
AMS2259	Chemical Check Analysis Limits, Wrought Low-Alloy and Carbon Steels
AMS2370	Quality Assurance Sampling and Testing, Carbon and Low-Alloy Steel Wrought Products and Forging Stock
AMS2807	Identification, Carbon and Low-Alloy Steels, Corrosion and Heat-Resistant Steels and Alloys, Sheet, Strip, Plate, and Aircraft Tubing

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2.2 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 A370 Mechanical Testing of Steel Products

ASTM E350 Chemical Analysis of Carbon Steel, Low-Alloy Steel, Silicon Electrical Steel, Ingot Iron, and Wrought Iron

3. TECHNICAL REQUIREMENTS

3.1 Composition

Shall conform to the percentages by weight shown in Table 1, determined by wet chemical methods in accordance with ASTM E350, by spectrochemical methods, or by other analytical methods acceptable to purchaser.

Table 1 - Composition

Element	min	max
Carbon	--	0.25
Manganese	0.30	0.60
Phosphorus	--	0.035
Sulfur	--	0.040

3.1.1 Check Analysis

Composition variations shall meet the applicable requirements of AMS2259.

3.2 Condition

Product shall be cold rolled.

3.3 Properties

The product shall conform to the following requirements:

3.3.1 Hardness

Shall be as shown in Table 2, or equivalent (See 8.2), determined in accordance with ASTM A370.

Table 2 - Hardness

Nominal Thickness Inches				Nominal Thickness Millimeters				Hardness	
	0.006	to	0.013, incl		0.15	to	0.33, incl	90 to	94 HR15T
Over	0.013	to	0.037, incl	Over	0.33	to	0.94, incl	76 to	83 HR30T
Over	0.037	to	0.069, incl	Over	0.94	to	1.75, incl	90 to	102 HRB
Over	0.069			Over	1.75			84 to	96 HRB

3.4 Quality

The product, as received by purchaser, shall be uniform in quality and condition, sound, and free from foreign materials and from imperfections detrimental to usage of the product.

3.5 Tolerances

Shall conform to all applicable requirements of AMS2232.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for Inspection

The producer of the product shall supply all samples for producer's tests and shall be responsible for the performance of all required tests. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the product conforms to specified requirements.

4.2 Classification of Tests

Tests for all technical requirements are acceptance tests and shall be performed on each heat or lot as applicable.

4.3 Sampling and Testing

Shall be in accordance with AMS2370.

4.4 Reports

The producer of the product shall furnish with each shipment a report showing the producer identity and the results of tests for composition of each heat and for hardness of each lot, and stating that the product conforms to the other technical requirements. This report shall include the purchase order number, heat and lot numbers, AMS5045J, size, and quantity.

4.5 Resampling and Retesting

Shall be in accordance with AMS2370.

5. PREPARATION FOR DELIVERY

5.1 Identification

Shall be in accordance with AMS2807.

5.2 Protective Treatment

The product shall be protected from corrosion prior to shipment.

5.3 Packaging

The product shall be prepared for shipment in accordance with commercial practice and in compliance with applicable rules and regulations pertaining to the handling, packaging, and transportation of the product to ensure carrier acceptance and safe delivery.

6. ACKNOWLEDGMENT

A producer shall include this specification number and its revision letter in all quotations and when acknowledging purchase orders.

7. REJECTIONS

Product not conforming to this specification, or to modifications authorized by purchaser, will be subject to rejection.