AEROSPACE MATERIAL SPECIFICATION

AMS5045	REV. H

Issued 1945-07
Revised 2005-09
Reaffirmed 2013-10

Superseding AMS5045G

Steel, Sheet and Strip
0.25 Carbon, Maximum
Hard Temper
(Composition similar to UNS G10200)

RATIONALE

AMS5045H has been reaffirmed to comply with the SAE five-year review.

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, 400 Commonwealth Drive, Warrendale, PA 15096-0001 or www.sae.org.

AMS 2232	Tolerances, Carbon Steel Sheet, Strip, and Plate
AMS 2259	Chemical Check Analysis Limits, Wrought Low-Alloy and Carbon Steels
AMS 2370	Quality Assurance Sampling and Testing, Carbon and Low-Alloy Steel Wrought Products and Forging Stock
AMS 2807	Identification, Carbon and Low-Alloy Steels, Corrosion and Heat-Resistant Steels and Alloys, Sheet, Strip, Plate, and Aircraft Tubing

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: **http://www.sae.org**

SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/AMS5045H

2.2 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959 or www.astm.org.

ASTM E 350	Chemical Analysis of Carbon Steel, Low-Alloy Steel, Silicon Electrical Steel, Ingot Iron, and Wrought Iron
ASTM A 370	Mechanical Testing of Steel Products

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 E 350, 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 AMS 2259.

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 A 370.

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 HRF
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 AMS 2232.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection:

The vendor of the product shall supply all samples for vendor'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 AMS 2370.

4.4 Reports:

The vendor of the product shall furnish with each shipment a report showing 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, AMS 5045H, size, and quantity.

4.5 Resampling and Retesting:

Shall be in accordance with AMS 2370.

5. PREPARATION FOR DELIVERY:

5.1 Identification:

Shall be in accordance with AMS 2807.

5.2 Protective Treatment:

The product shall be protected from corrosion prior to shipment.