



AEROSPACE MATERIAL SPECIFICATION

AMS5132™

REV. M

Issued	1941-11
Reaffirmed	2012-04
Revised	2022-01

Superseding AMS5132L

Steel, Bars
0.90 - 1.03C

(Composition similar to UNS G10950)

RATIONALE

AMS5132M is the result of a Five-Year Review and update of the specification. The revision prohibits unauthorized exceptions (3.6, 4.4.2, 5.2.1, 8.5), updates composition testing (3.1), limits bar being cut from other product (3.2, 4.4.1), updates decarburization (3.3.2), and allows prior revision (8.6).

1. SCOPE

1.1 Form

This specification covers a high-carbon steel in the form of bars.

1.2 Application

These bars have been used typically for dowels and other parts requiring close tolerances, 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.

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
AMS2806	Identification Bars, Wire, Mechanical Tubing, and Extrusions, Carbon and Alloy Steels and Corrosion and Heat-Resistant Steels and Alloys
AS7766	Terms Used in Aerospace Metals Specifications

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For more information on this standard, visit
<https://www.sae.org/standards/content/AMS5132M/>

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 A751 Chemical Analysis of Steel Products

ASTM E140 Hardness Conversion Tables for Metals Relationship Among Brinell Hardness, Vickers Hardness, Superficial Hardness, Knoop Hardness, Scleroscope Hardness, and Leeb Hardness Rockwell Hardness

ASTM E1077 Estimating the Depth of Decarburization of Steel Specimens

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 A751 or by other analytical methods acceptable to purchaser.

Table 1 - Composition

Element	Min	Max
Carbon	0.90	1.03
Manganese	0.15	0.50
Silicon	0.15	0.35
Phosphorus	--	0.040
Sulfur	--	0.050

3.1.1 Check Analysis

Composition variations shall meet the applicable requirements of AMS2259.

3.2 Condition

Spheroidized annealed and cold finished; round bars shall be ground or polished. Bar shall not be cut from plate (also see 4.4.1).

3.3 Properties

Bars shall conform to the following requirements:

3.3.1 Hardness

Shall be not greater than specified in Table 2, determined in accordance with ASTM A370 (see 8.2).

Table 2 - Hardness

Nominal Diameter or Distance Between Parallel Sides Inches	Nominal Diameter or Distance Between Parallel Sides Millimeters	Hardness Maximum
Up to 0.125, incl	Up to 3.18, incl	302 HB or 32 HRC
Over 0.125 to 0.250, incl	Over 3.18 to 6.35, incl	277 HB or 29 HRC
Over 0.250 to 0.500, incl	Over 6.35 to 12.70, incl	241 HB or 23 HRC
Over 0.500	Over 12.70	207 HB or 95 HRB