AEROSPACE MATERIAL SPECIFICATION

AMS5060™	REV. K

Issued 1940-03
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Superseding AMS5060J

Steel, Bars, Forgings, and Tubing
0.13 – 0.18C (SAE 1015)
(Composition similar to UNS G10150)

RATIONALE

AMS5060K is stabilized as mature technology.

STABILIZED NOTICE

AMS5060K has been declared "STABILIZED" by AMS E Carbon and Low Alloy Steels Committee. This document will no longer be updated and may no longer represent standard industry practice. This document was stabilized because this document contains mature technology that is not expected to change and thus no further revisions are anticipated. Previously this document was reaffirmed as non-current. The last technical update of this document occurred in June 2003. Users of this document should refer to the cognizant engineering organization for disposition of any issues with reports/certifications to this specification; including exceptions listed on the certification.

NOTE: In many cases, the purchaser may represent a sub tier supplier and not the cognizant engineering organization.

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
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SAE WEB ADDRESS: **http://www.sae.org**

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http://standards.sae.org/AMS5060K

1. SCOPE:

1.1 Form:

This specification covers a low-carbon steel in the form of bars, forgings, mechanical tubing, and forging stock.

1.2 Application:

These products have been used typically for steel-backed bearings and carburized parts requiring a low maximum hardness of uncarburized surfaces after quenching the steel in water from a temperature above the transformation range of the steel, 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 supplied 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 2231	Tolerances, Carbon Steel Bars
AMS 2253	Tolerances, Carbon and Alloy Steel Tubing
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

2.1 (Continued):

AMS 2372	Quality Assurance Sampling and Testing, Carbon and Low-Alloy Steel Forgings
AMS 2806	Identification, Bars, Wire, Mechanical Tubing, and Extrusions, Carbon and Alloy Steels and Corrosion and Heat Resistant Steels and Alloys
AMS 2808	Identification, Forgings

2.2 ASTM Publications:

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

ASTM A 370	Mechanical Testing of Steel Products
ASTM E 350	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 E 350, by spectrochemical methods, or by other analytical methods acceptable to purchaser.

TABLE 1 - Composition

Element	min	max
Carbon	0.13	0.18
Manganese	0.30	0.60
Silicon	0.10	0.35
Phosphorus	--	0.040
Sulfur	--	0.050

3.1.1 Check Analysis: Composition variations shall meet the applicable requirements of AMS 2259.

3.2 Condition:

The product shall be supplied in the following condition; hardness shall be determined in accordance with ASTM A 370.

3.2.1 Bars: Hot finished, unless otherwise ordered, having hardness not higher than 229 HB, or equivalent (See 8.2). Bars ordered cold finished shall have hardness not higher than 241 HB, or equivalent.

3.2.2 Forgings: As ordered.

3.2.3 Mechanical Tubing: Cold finished having hardness not higher than 241 HB, or equivalent (See 8.2).

3.2.4 Forging Stock: As ordered by the forging manufacturer.

3.3 Properties:

The product shall conform to the following requirements; hardness testing shall be performed in accordance with ASTM A 370.

3.3.1 Response to Heat Treatment: Specimens with sections not over 0.250 inch (6.35 mm) in nominal thickness shall have surface hardness not higher than 30 HRC, or equivalent (See 8.2) after being quenched in water from a temperature above the transformation range.

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 be as follows:

3.5.1 Bars: In accordance with AMS 2231.

3.5.2 Mechanical Tubing: In accordance with AMS 2253.

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:

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

4.3 Sampling and Testing:

Shall be as follows:

4.3.1 Bars, Mechanical Tubing, and Forging Stock: In accordance with AMS 2370.