AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
29 West 39th Street
New York City

AMS 5022 B

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STEEL-FREE CUTTING
Manganese

1. ACKNOWLEDGMENT: Vendor shall mention this specification and its revision letter in all quotations and when acknowledging purchase orders.

2. FORM: Bars, billets, forgings, tubing, or as ordered.

3. COMPOSITION:

		Individual Bar Check Analysis Over or Under
Carbon	0.14 - 0.20	0.01
Manganese	1.00 - 1.30*	0.06
Phosphorus	0.045 max	0.008
Sulphur	0.08 - 0.13	--
Silicon	0.15 max	0.02

*When tubing is supplied, manganese up to 1.50 is permitted.

4. CONDITION: (a) Bars and tubing in the following sizes shall be cold-finished and suitable for high-speed automatic screw machines and shall have hardnesses within the limits specified:

Diameter or Thickness, inches	Brinell Hardness
Up to 1.0	156-207
1.0 to 2.5, incl.	143-197

(b) Forgings, and bars and tubing in sizes larger than 2.5 inches, shall be normalized or otherwise heat treated to produce best machining qualities and shall have a hardness within the limits of Brinell 130-179.

(c) Stock ordered for forging shall be supplied in the condition and finish ordered by the forging manufacturer.

(d) Forgings shall not be supplied except when specified on the drawing or purchase order.

5. QUALITY: Material shall be uniform in quality and condition, sound, and free from foreign material and from internal and external defects which adversely affect its strength, use or machinability which is consistent with the type of steel involved. Material revealing defects during fabrication shall be subject to rejection.

6. TOLERANCES: Unless otherwise specified, tolerances shall conform to AMS 2231 for bars and shapes and AMS 2233 for tubing and/or as specified below:

(a) All hexagons, and other shapes of bars 2.5 inches or less in diameter or thickness, shall conform to AMS 2231, Table I, column headed "Mean of Carbon .30% and less".