



AEROSPACE MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

485 Lexington Ave., New York, N. Y. 10017

AMS 5024D

Superseding AMS 5024C

Issued 1-22-40

Revised 11-1-67

STEEL BARS, FORGINGS, AND TUBING, FREE CUTTING (0.32 - 0.39C) SAE 1137

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

2. FORM: Bars, forgings, mechanical tubing, and forging stock.

3. COMPOSITION:

	min	max
Carbon	0.32 - 0.39	
Manganese	1.35 - 1.65	
Phosphorus	--	0.040
Sulfur	0.08 - 0.13	

- 3.1 When permitted by purchaser, carbon may be 0.37 - 0.44%.

- 3.2 Check Analysis: Composition variations shall meet the requirements of the latest issue of AMS 2259, paragraph titled "Carbon Steels".

4. CONDITION: Unless otherwise ordered, the product shall be supplied in the following condition:

- 4.1 Bars and Mechanical Tubing 2.50 In. and Under in OD or Distance Between Parallel Sides: Cold finished, suitable for machining on high speed automatic screw machines.

- 4.2 Bars and Mechanical Tubing Over 2.50 In. in OD or Distance Between Parallel Sides, and Forgings:
Ø Hot finished, and normalized or otherwise heat treated to produce best machining qualities.

- 4.3 Forging Stock: As ordered by the forging manufacturer.

5. TECHNICAL REQUIREMENTS:

- 5.1 Hardness: The product shall have hardness as follows or equivalent, when taken on the surface except on rounds, where a flat as necessary for Brinell accuracy may be made:

- 5.1.1 Bars and Tubing:

Nominal OD or Distance Between Parallel Sides Inches	Hardness, Brinell
Up to 0.625, incl	207 - 255
Over 0.625 to 1.0, incl	187 - 255
Over 1.0 to 3.0, incl	170 - 241
Over 3.0	149 - 217

- 5.1.2 Forgings: Brinell 163 - 229.