AEROSPACE
MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York, N.Y. 10017

AMS 6263D

Issued 9-1-42
Revised 3-15-66

STEEL BARS, FORGINGS, AND TUBING
1.2Cr - 3.25Ni - 0.12Mo (0.11 - 0.17C) (SAE 9315)

SAE Technical Board rules provide that: "All technical reports, including standards approved and practices recommended, are advisory only. Their use by anyone engaged in industry or trade is entirely voluntary. There is no agreement to adhere to any SAE standard or recommended practice, and no commitment to conform to or be guided by any technical report. In formulating and approving technical reports, the Board and its Committees will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents."

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. APPLICATION: Primarily for carburized parts, such as gears, requiring high minimum core hardness with narrow range. The core may or may not be machinable after hardening.

4. COMPOSITION:

	min	max
Carbon	0.11	0.17
Manganese	0.40	0.70
Silicon	0.20	0.35
Phosphorus	--	0.025
Sulfur	--	0.025
Chromium	1.00	1.40
Nickel	3.00	3.50
Molybdenum	0.08	0.15
Copper	--	0.35

4.1 Check Analysis: Composition variations shall meet the requirements of the latest issue of AMS 2259, paragraph titled "Low Alloy Steels".

5. CONDITION:

5.1 Bars: In a machinable condition and hot finished having hardness not higher than Brinell 229 or equivalent, except that bars ordered cold finished may have hardness as high as Brinell 248 or equivalent.

5.2 Forgings: As ordered.

5.3 Mechanical Tubing: In a machinable condition and cold finished having hardness not higher than Rockwell C 25 or equivalent except that tubing ordered hot finished shall be furnished in a machinable condition having hardness not higher than Rockwell B 99 or equivalent.

5.4 Forging Stock: As ordered by the forging manufacturer.

6. TECHNICAL REQUIREMENTS: When ASTM methods are specified for determining conformance to the following requirements, tests shall be conducted in accordance with the issue of the ASTM method listed in the latest issue of AMS 2350.

6.1 Hardenability: Shall be J44=1 max and J35=8 min when determined by the standard end-quench test specimen in accordance with the SAE Method of Determining Hardenability published in the latest issue of the SAE Handbook, except that the steel shall be normalized at 1700 F ± 10 (926.7 C ± 5.6) and the test specimen austenitized at 1500 F ± 10 (815.6 C ± 5.6). The hardenability test is not required on a product which will not yield a suitable specimen but the steel from which the product is made shall conform to the hardenability specified in this paragraph.

6.2 Grain Size: Predominantly 5 or finer with occasional grains as large as 3 permissible, ASTM E112, McQuaid-Ehn test.

SAENORM.COM : Click to view the full PDF of ams6263d

Copyright 1966 by Society of Automotive Engineers, Inc.

Printed in U.S.A.