



AEROSPACE MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

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

AMS 6250F

Superseding AMS 6250E

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STEEL BARS, FORGINGS, AND TUBING 1.5Cr - 3.5Ni (0.07 - 0.13C) (SAE 3310)

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, including gears, which require high minimum core hardness with narrow range. The core is machinable after hardening.
4. **COMPOSITION:**

	min	max
Carbon	0.07 - 0.13	
Manganese	0.40 - 0.70	
Silicon	0.20 - 0.35	
Phosphorus	--	0.025
Sulfur	--	0.025
Chromium	1.25 - 1.75	
Nickel	3.25 - 3.75	
Molybdenum	--	0.06
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:** Unless otherwise ordered, the product shall be supplied in the following 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 J41=1 max and J32=6 min when determined by the standard end-quench test specimen in accordance with the Method of Determining Hardenability published in the latest issue of the SAE Handbook, except that the steel shall be normalized at $1700\text{ F} \pm 10$ ($926.7\text{ C} \pm 5.6$) and the test specimen austenitized at $1500\text{ F} \pm 10$ ($815.6\text{ C} \pm 5.6$). 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.