AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 6263C

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STEEL
3.25Ni - 1.2Cr - 0.1Mo (0.11-0.17C) (SAE 9315)

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, forging stock, and mechanical tubing.

3. APPLICATION: Carburized parts, including gears, which require high minimum core hardness with narrow range. The core may or may not be machinable after hardening.

4. COMPOSITION:

		Check Analysis Under Min	Check Analysis Over Max
Carbon	0.11 - 0.17	0.01	0.01
Manganese	0.40 - 0.70	0.03	0.03
Silicon	0.20 - 0.35	0.02	0.02
Phosphorus	0.040 max	--	0.005
Sulphur	0.040 max	--	0.005
Chromium	1.00 - 1.40	0.05	0.05
Nickel	3.00 - 3.50	0.07	0.07
Molybdenum	0.08 - 0.15	0.01	0.01

5. CONDITION:

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

5.2 Tubing: In a machinable condition.

5.3 Forgings: As ordered.

5.4 Forging Stock: As ordered by the forging manufacturer.

6. TECHNICAL REQUIREMENTS:

6.1 Hardenability: The hardenability shall be J44 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 and the test specimen austenitized at 1500 F ± 10. 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: Five or finer, ASTM E19-46, method a. A heat of steel predominantly five or finer with grains as large as three is permissible.