

AMS 6263C

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

Issued 9-1-42
Revised 6-1-51

S T E E L

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 or 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 $\pm$ 10 and the test specimen austenitized at 1500 F $\pm$ 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.

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