

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS5710 A

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STEEL, VALVE
20Cr - 2.3Si - 1.3Ni (0.76 - 0.86C)

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. FORM: Bars, billets, and forgings.
3. APPLICATION: Primarily for parts, such as intake valves and valve seat inserts, requiring strength up to 1000 F, oxidation resistance up to 1800 F, and resistance to attack by lead compounds up to 1600 F.
4. COMPOSITION:

	Check	Analysis	
		Under	Min or Max
Carbon	0.76 - 0.86	0.03	0.03
Manganese	0.20 - 0.60	0.03	0.03
Silicon	1.90 - 2.60	0.10	0.10
Phosphorus	0.030 max	--	0.005
Sulfur	0.030 max	--	0.005
Chromium	19.00 - 21.00	0.25	0.25
Nickel	1.00 - 1.60	0.07	0.07

5. CONDITION:

5.1 Bars: In a machinable condition having hardness not higher than Brinell 277 or equivalent.

5.2 Forgings: As ordered.

5.3 Forging Stock: As ordered by the forging manufacturer.

6. QUALITY: Material shall be uniform in quality and condition, clean, sound, and free from foreign materials and from internal and external defects detrimental to fabrication or to performance of parts.

7. TOLERANCES: Unless otherwise specified, tolerances for bars shall conform to the latest issue of AMS 2241 as applicable to cold finished.

8. REPORTS:

8.1 Unless otherwise specified, the vendor of the product shall furnish with each shipment three copies of a notarized report of the results of tests for chemical composition of each heat in the shipment. This report shall include the purchase order number, heat number, material specification number, size, and quantity from each heat.