

AERONAUTICAL MATERIAL SPECIFICATION

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

AMS5651

Issued 5-1-48

Revised

STEEL, CORROSION AND HEAT RESISTANT 25Cr - 20Ni

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. **FORM:** Bars, billets, and forgings.
3. **APPLICATION:** Parts, such as turbine nozzle ring assemblies, and assemblies requiring both corrosion and heat resistance, and where such parts may require welding during fabrication. Parts and assemblies requiring oxidation resistance up to approximately 2000 F but useful at the higher temperatures only when stresses are very low.

4. **COMPOSITION:**

Check Analysis
Under Min or Over Max

Carbon	0.08 max	--	0.01
Manganese	2.00 max	--	0.04
Silicon	0.30 - 0.80	0.05	0.05
Phosphorus	0.040 max	--	0.005
Sulfur	0.030 max	--	0.005
Chromium	24.00 - 26.00	0.25	0.25
Nickel	19.00 - 22.00	0.20	0.20
Molybdenum	0.50 max	--	0.03
Copper	0.50 max	--	0.03

5. **CONDITION:**

- 5.1 Unless otherwise specified, bars shall be hot rolled and solution heat treated free from continuous carbide network, having hardness not higher than Brinell 187 or equivalent.
 - 5.2 Forgings shall be solution heat treated free from continuous carbide network, having hardness not higher than Brinell 187 or equivalent.
 - 5.3 Forging stock shall be supplied as ordered by the forging manufacturer.
6. **QUALITY:** The product 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.

8. **REPORTS:**

7C of the SAE Technical Board rules provides 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 the 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."