AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 5652A

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STEEL, CORROSION AND HEAT RESISTANT
25Cr - 20Ni - 2Si

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, and forging stock.

3. APPLICATION: Primarily for parts, such as nozzle diaphragm vanes 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. Strength at elevated temperatures is similar to that of the 18-8 types. The specified silicon content improves oxidation resistance with some sacrifice of weldability and ductility.

4. COMPOSITION:

		Check Analysis Under min	Check Analysis Over Max
Carbon	0.18 max	--	0.01
Manganese	1.00 - 2.00	0.04	0.04
Silicon	1.50 - 2.50	0.10	0.10
Phosphorus	0.040 max	--	0.005
Sulfur	0.030 max	--	0.005
Chromium	23.00 - 25.00	0.25	0.25
Nickel	19.00 - 22.00	0.20	0.20
Molybdenum	0.50 max	--	0.03

5. CONDITION:

5.1 Bars and Forgings: Solution heat treated free from continuous carbide network, having hardness not higher than Brinell 187 or equivalent.

5.2 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 shall conform to the latest issue of AMS 2241 as applicable.