AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 5628

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STEEL, CORROSION RESISTANT
16Cr - 2Ni

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: Primarily parts requiring corrosion resistance at operating temperatures up to 800 F.

4. COMPOSITION:

		Check Analysis Under Min	Check Analysis Over Max
Carbon	0.14 - 0.18	0.01	0.01
Manganese	0.30 - 0.80	0.03	0.03
Silicon	0.20 - 0.60	0.05	0.05
Phosphorus	0.040 max	--	0.005
Sulfur	0.030 max	--	0.005
Chromium	15.50 - 17.00	0.20	0.20
Nickel	1.75 - 2.50	0.07	0.07

5. CONDITION:

5.1 Bars and Forgings: Unless otherwise specified, bars and forgings shall be supplied in a machinable condition, essentially free from segregated ferrite when examined at 100X magnification, and as follows:

5.1.1 Bars 2.75 in. and less in diameter or distance between parallel sides: Cold finished and having hardness of Brinell 228-285 or equivalent.

5.1.2 Hot-Finished Bars: Having hardness of Brinell 228-277 or equivalent.

5.1.3 Forgings: Having hardness of Brinell 228-277 or equivalent.

5.2 Forging Stock: Shall be supplied as ordered by the forging manufacturer.

6. TECHNICAL REQUIREMENT:

6.1 Hardenability: Specimens with sections 1 in. in thickness, cut from a bar or forging, shall be placed in a furnace which is at 1800 F ± 10, allowed to heat to 1800 F ± 10, held at heat 25 min, and quenched in paraffin oil (100 S.U.S. at 100 F) at room temperature. Specimens shall have hardness not lower than Rockwell C40.

7. QUALITY: The 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.

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