AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 5070 A

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STEEL
0.18 - 0.23C (SAE 1022)

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

2. FORM: Bars, rods, billets, and forgings.

3. COMPOSITION:

		Check Analysis Under Min or Over Max	
Carbon	0.18 - 0.23	0.02	0.02
Manganese	0.70 - 1.00	0.06	0.06
Phosphorus	0.040 max	—	0.008
Sulfur	0.050 max	—	0.008

Note: When permitted by the purchaser, manganese may be as low as 0.30.

4. CONDITION: Unless otherwise specified, the product shall be furnished in the following condition:

4.1 Bars and Rods: Cold finished.

4.2 Forgings: As ordered.

4.3 Forging Stock: As ordered by the forging manufacturer.

5. TECHNICAL REQUIREMENTS:

5.1 Tensile Properties: Bars and rods shall conform to the following requirements:

Tensile Strength, psi	55,000 min
Yield Strength at 0.2% offset or at 0.0064 inch in 2 in. extension under load, psi	36,000 min
Elongation, % in 4D	22

5.1.1 For each 2000 psi in excess of 55,000 psi tensile strength, a reduction in elongation of 1%, to a minimum elongation of 10%, will be allowed.

5.2 Grain Size: Four or finer, ASTM E19-46, method a. A heat of steel predominantly four or finer with grains as large as two is permissible.

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 and rods shall conform to the latest issue of AMS 2231 as applicable. Diameter or thickness tolerances shall conform to Table I, column headed "Mean of Carbon .30% and less".