

# AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.  
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## AMS5070B

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S T E E L  
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, 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
Sulphur	0.050 max	--	0.008

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

4. **CONDITION:**

4.1 **Bars:** 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):**

Tensile Strength, psi	55,000 min
Yield Strength at 0.2% offset or at 0.0064 inch in 2 in. extension under load, psi	30,000 min.
Elongation, % in 4D	22 min

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%, shall 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 shall conform to the latest issue of AMS 2231 as applicable. Diameter or thickness tolerances shall conform to Table I, column headed "0.28 and under".

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