AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 5070

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C A R B O N S T E E L
.18 - .23 Carbon

1. ACKNOWLEDGMENT: A vendor must mention this specification number in all quotations and when acknowledging purchase orders.

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

3. COMPOSITION:

		Individual Bar Check Analysis Over or Under
Carbon	0.18 - 0.23	0.01
Manganese	0.70 - 1.00	0.06
Phosphorus	0.04 max	0.008
Sulphur	0.05 max	0.008

4. GRAIN SIZE: 4 or finer, A.S.T.M. E19-39T, method a.

5. CONDITION: (a) Unless otherwise ordered, bar stock shall be supplied "as rolled" or cold finished to conform to the following minimum physical properties:

Tensile Strength, lb per sq in.	55,000
Yield Strength (0.2% set), lb per sq in.	36,000
Equivalent Extension Under Load, inch in 2 in.	0.0064
Elongation, % in 2 in.	22

For each 2000 pounds per square inch in excess of 55,000 pounds per square inch tensile strength, a reduction in elongation of one per cent, to a minimum elongation of 10 per cent, will be allowed.

(b) Bars 3/4 inch and less in diameter or thickness shall withstand cold bending, without cracking, through an angle of 180 degrees over a radius equal to the diameter or least thickness of the specimen.

(c) The material shall be capable of developing the minimum physical properties specified in (a) when normalized by heating to 1625° - 1675°F and cooling in still air.

(d) Stock ordered for forging shall be supplied in the condition and finish ordered by the forging manufacturer.

(e) Forgings are to be supplied as ordered.

6. QUALITY: Bars and rods shall be commercially straight, sound, of uniform quality and condition, free from pipes, laps, cracks, twists, seams, scale, damaged ends, or other injurious defects, and shall have a smooth finish of the best quality.