AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS6327

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S T E E L
.5 Ni .5 Cr .25 Mo (.38 - .43 C)
(125,000 T.S.)

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

2. FORM: Bars, billets, forgings, or as ordered.

3. COMPOSITION:

		Individual Bar Check Analysis Over or Under
Carbon	0.38 - 0.43	0.02
Manganese	0.75 - 1.00	0.04
Phosphorus	0.040 max	0.005
Sulphur	0.040 max	0.005
Silicon	0.20 - 0.35	0.02
Nickel	0.40 - 0.60	0.03
Chromium	0.40 - 0.60	0.03
Molybdenum	0.20 - 0.30	0.03

4. GRAIN SIZE: 5 or finer, ASTM E19-39T, method a, unless otherwise ordered. A heat of steel predominately 5 or finer with grains as large as 3 is permissible.

5. CONDITION: (a) This material shall be supplied in the heat treated condition; that is, quenched and tempered. It must be uniform in physical properties throughout its entire length and from center to surface. It shall conform to the following minimum physical properties:

Tensile Strength, lb per sq in.	125,000
Elongation, % in 2 in.	16
Reduction of Area, %	50
Brinell Hardness, each piece	262-311

These properties apply to sections 1" and less, if larger sizes are ordered it will be necessary to modify the properties.

(b) Forgings shall have a hardness of Brinell 262 - 311 but other physical properties are not required unless the drawing or purchase order requires a test piece, then a bar of the same heat of steel as the forgings and heat treated with them shall fulfill the requirements of (a).

(c) Bars shall be clean, free from rust and scale, finished by grinding, pickling, blasting, or equivalent, or as ordered, and oiled to prevent rust during shipment.

6. QUALITY: (a) This material must be aircraft quality. It shall be sound, commercially straight and must not reveal injurious defects while machining. The surface must be free from rust, scale and any other substance which would adversely affect the process of electro-plating the surface after the shipping compound is removed.

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