AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 6357

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STEEL PLATE, SHEET AND STRIP
.5 Ni .5 Cr .25 Mo (.33-.38 C)

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

2. COMPOSITION:

		Individual Sheet Check Analysis Over or Under
Carbon	0.33 - 0.38	0.02
Manganese	0.75 - 1.00	0.004
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

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

4. HARDENABILITY: Material up to a thickness of 0.499 inch, when quenched in oil from a temperature of 1525°F and tempered at not less than 1000°F for 30 minutes at heat shall develop a tensile strength of not less than 125,000 lb per sq in. This does not allow a composition outside of the above requirements for lighter sections.

5. CONDITION: (a) Cold-finished and clean annealed, unless otherwise ordered, to conform to a maximum tensile strength of 80,000 lb per sq in.

(b) Test specimens cut in any direction shall withstand cold bending, without cracking, through the angle indicated below over a diameter equal to the thickness of the specimen, bend tests not being required on plates 3/4 inch or over in thickness:

Thickness of Material, inch	Angle of Bend, degrees (min)
0.249 and less	180
Over 0.249 to 0.749, incl.	90

6. QUALITY: (a) This material must be aircraft quality, uniform in condition, free from surface or internal defects, and must not reveal injurious defects during heat treatment or fabrication.

(b) The surface shall not be decarburized to the extent of affecting the Rockwell hardness (A scale) after heat treating.

(c) All plates, sheets and strips shall be commercially straight, flat, clean, smooth and free from seams, laminations, blisters, scale, and other injurious defects.