

AERONAUTICAL MATERIAL SPECIFICATION

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STEEL PLATE, SHEET AND STRIP .55 Ni .5 Cr .2 Mo (.27-.330)

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

2. COMPOSITION:

		Individual Sheet Check Analysis Over or Under
Carbon	0.27 - 0.33	0.02 (under only)
Manganese	0.70 - 0.90	0.03
Phosphorus	0.040 max	0.005
Sulphur	0.040 max	0.005
Silicon	0.20 - 0.35	0.02
Nickel	0.40 - 0.70	0.03
Chromium	0.40 - 0.60	0.03
Molybdenum	0.15 - 0.25	0.02

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 three is permissible.

4. HARDENABILITY: Material up to a thickness of 0.249 inch, when quenched in oil from a temperature of 1525°F and tempered at not less than 900°F for 30 minutes at heat, shall develop a tensile strength of not less than 125,000 psi.

5. CONDITION: (a) Cold-finished and clean annealed, unless otherwise ordered, to conform to a maximum tensile strength of 85,000 psi.

(b) Material shall withstand, without cracking, bending at room temperature through the angle indicated below over a diameter equal to the thickness of the material, with axis of bend both perpendicular and parallel to the direction of rolling; bend tests are not required on plates 3/4 inch or over in thickness:

Thickness Inch	Angle of Bend, Degrees min
To 0.249, incl.	180
Over 0.249 to 0.749, incl.	90

6. QUALITY: (a) Material shall be aircraft quality, uniform in quality and condition, sound, and free from foreign material and from internal and external defects detrimental to fabrication or to performance of parts. Material revealing defects during fabrication shall be subject to rejection.

(b) Material and parts made therefrom shall be subject to inspection by any method which will reveal defects.

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