Issued Dec. 4, 1939
Revised
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AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
29 West 39th Street
New York City

AMS
6317

S T E E L
Nickel Molybdenum

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

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

3. COMPOSITION:

Carbon	0.35 - 0.45
Manganese	0.50 - 0.80
Phosphorus	0.040 max
Sulphur	0.050 max
Nickel	1.65 - 2.00
Molybdenum	0.20 - 0.30

4. GRAIN SIZE: 5 or finer, A.S.T.M. E19-39T, Method a.

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

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 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 develop 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.

(b)Unless otherwise stated, finished parts are subject to magnetic inspection.

7. TOLERANCE: Unless otherwise ordered, bars 2" and less shall be within plus 0.000" to minus 0.006" of the size ordered. They shall be commercially straight as used in automatic screw machines.