

Issued March 13, 1940

Revised _____

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AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.

29 West 39th Street
New York City

AMS

6337

STEEL
Nickel Chromium

~~CANCELLED~~

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	0.60 - 0.90
Phosphorus	0.040 max
Sulphur	0.050 max
Nickel	1.00 - 1.50
Chromium	0.45 - 0.75

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 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 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 an inch of the size ordered.

8. REPORTS: The manufacturer shall furnish three copies of a certified report of the results of chemical analysis and grain size on each heat and size on each shipment. This report shall include the purchase order number, heat number, material specification number, size, and quantity in each heat. If forgings are supplied, the part number and size of steel used to make the forgings shall also be included.
9. SHIPMENTS: A shipment of material shall not contain more than one heat of steel for each forging part number or each bar size. More than one heat of steel shall not be supplied on a purchase order without permission, unless the order is for more than 5 tons.
10. IDENTIFICATION: All material shall be identified by a heat number or code letter. Forgings weighing 1/2 lb or more shall be stamped, smaller forgings may be boxed and the identification enclosed. Bar stock 2" or larger must be stamped within 2" of one end. Smaller bars may either be stamped or securely bundled and identified by a metal tag attached to each bundle. Material that cannot be identified at destination is subject to rejection.
11. REJECTIONS: Material not conforming to this specification, or modifications specified on the drawing or the purchase order, is subject to rejection. If samples for verification are desired by the vendor, they must be claimed within three weeks. Rejected material or parts will be held a reasonable time, at vendor's risk, awaiting shipping instructions for the return of same for credit or replacement as specified. Vendor shall pay all transportation charges.
12. SIMILAR SPECIFICATIONS: Army 57-107-3; S.A.E. 3140.