

Issued June 13, 1940

Revised _____

Revised _____

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.

29 West 39th Street

New York City

AMS
6410

Cancelled
4/43

STEEL

Nickel Chromium 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, tubing, or as ordered.
3. **COMPOSITION:**

Carbon	0.26 - 0.31
Manganese	0.30 - 0.50
Phosphorus	0.040 max
Sulphur	0.050 max
Nickel	1.65 - 2.00
Chromium	0.60 - 0.90
Molybdenum	0.20 - 0.30
4. **GRAIN SIZE:** 6 or finer, A.S.T.M. E19-39T, Method a.
5. **CONDITION:** (a) Bar stock must be supplied in a machinable condition with a Brinell hardness of not more than 229, unless otherwise ordered. Forgings are to be supplied as ordered.

(b) Stock ordered for forging must be supplied in the condition and finish ordered by the forging manufacturer.

(c) Material 1" and less in section may be decarburized, but the carbon content 0.012" below the surface must not be under the specified low limit. All sizes ordered ground, turned, polished, etc., must not be decarburized.
6. **QUALITY:** (a) This material must be aircraft quality, and shall be sound, clean, commercially straight, and must not reveal defects during forging, heat treating, or machining.

(b) Unless otherwise stated, finished parts are subject to magnetic inspection.
7. **REPORTS:** The manufacturer shall furnish three copies of a certified report of chemical analysis and grain size on each heat and size in 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.
8. **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.

9. 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.
10. 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 length of 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.



Documents

Document Sharing Hub

Report of Aircraft Materials Division adopted by the Society January 1940