AERONAUTICAL MATERIAL SPECIFICATION

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

AMS 6355E

Issued 9-1-42
Revised 2-15-53

STEEL SHEET AND STRIP
0.55Ni - 0.5Cr - 0.2Mo (0.28-0.33C) (SAE 8630)

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

2. FORM: Sheet, Strip, and Plate.

3. APPLICATION: General use where welding and moderate tensile properties are required. Sheet and strip are extensively used where minimum tensile strength of 160,000 psi is required in sections up to 0.125 in. thick and proportionately lower strength is required in heavier thicknesses.

4. COMPOSITION:

		Check Analysis Under Min	Check Analysis Over Max
Carbon	0.28 - 0.33	0.02	0.02
Manganese	0.70 - 0.90	0.03	0.03
Silicon	0.20 - 0.35	0.02	0.02
Phosphorus	0.040 max	--	0.005
Sulphur	0.040 max	--	0.005
Chromium	0.40 - 0.60	0.03	0.03
Nickel	0.40 - 0.70	0.03	0.03
Molybdenum	0.15 - 0.25	0.02	0.02

5. CONDITION: Cold finished and clean annealed, or hot rolled, annealed if necessary, and descaled and oiled, having tensile strength not higher than 85,000 psi unless otherwise ordered.

6. TECHNICAL REQUIREMENTS:

6.1 Hardenability: Material 0.249 in. and under in nominal thickness and thicker material reduced to 0.249 in. in thickness, when quenched in oil from 1525 F ± 10 and tempered at not lower than 900 F for 30 min. at heat, shall develop tensile strength not lower than 125,000 psi or hardness not lower than Rockwell C 26 or equivalent.

6.2 Grain Size: Five or finer as determined on the rerolling slab, ASTM E19-46, method a. A heat of steel predominantly five or finer with grains as large as three is permissible.

6.3 Decarburization: Material shall be free from decarburization to the extent that the increase in hardness from the surface to any point below the surface of an oil hardened specimen will not be more than two points on the Rockwell A scale for material 0.249 in. and under in thickness and will not be more than three points on material over 0.249 in. in thickness.

6.4 Bending: Material shall withstand, without cracking, bending at room temperature through the angle indicated below around a diameter equal to the nominal thickness of the material, with axes of bends both perpendicular and parallel to the direction of rolling.

Nominal Thickness Inch	Angle degrees, min
0.249 and under	180
Over 0.249 to 0.749, incl	90

7. QUALITY: Product shall be suitable for use in aircraft. It shall be uniform in quality and condition, clean, sound, smooth, and free from foreign materials and from internal and external defects detrimental to fabrication or to performance of parts.

8. TOLERANCES: Unless otherwise specified, tolerances shall conform to the latest issue of AMS 2252 as applicable.

9. REPORTS:

9.1 Unless otherwise specified, the vendor of the product shall furnish with each shipment three copies of a report of the results of tests for chemical composition and grain size of each heat in the shipment. This report shall include the purchase order number, heat number, material specification number, thickness, size, and quantity from each heat.

9.2 Unless otherwise specified, the vendor of finished or semi-finished parts shall furnish with each shipment three copies of a report showing the purchase order number, material specification number, contractor or other direct supplier of material, part number, and quantity. When material for making parts is produced or purchased by the parts vendor, that vendor shall inspect each lot of material to determine conformance to the requirements of this specification, and shall include in the report a statement that the material conforms, or shall include copies of laboratory reports showing the results of tests to determine conformance.

10. IDENTIFICATION: Shall be according to 10.1, unless purchaser permits the methods in 10.2.