AERONAUTICAL MATERIAL SPECIFICATION

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

AMS 6355 C

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STEEL PLATE, SHEET AND STRIP
.55Ni-.5Cr-.2Mo (.27-.33C)

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

2. FORM: Plate, sheet, and strip.

3. APPLICATION: General use where welding and moderate physical properties are required. Sheet and strip are extensively used where tensile strength is up to approximately 150,000 psi.

4. COMPOSITION:

		Check Analysis Under Min	Check Analysis Over Max
Carbon	0.27 - 0.33	0.02	0.00
Manganese	0.70 - 0.90	0.03	0.03
Silicon	0.20 - 0.35	0.02	0.02
Phosphorus	0.040 max	--	0.005
Sulfur	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: (a) Cold finished and clean annealed, or hot rolled, annealed if necessary, and pickled, conforming to maximum tensile strength of 85,000 psi.

(b) 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:

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

6. HARDENABILITY: Material 0.249 in. and under in thickness, when quenched in oil from 1525 F ± 10 and tempered at not less than 900 F for 30 minutes at heat, shall develop tensile strength of not less than 125,000 psi or hardness of not less than Rockwell C26.

7. GRAIN SIZE: Five or finer as determined on the rerolling slab, ASTM E19-46, method a, unless otherwise ordered. A heat of steel predominantly five or finer with grains as large as three is permissible.

8. DECARBURIZATION: Material shall be free from complete decarburization as determined microscopically and from partial 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.

9. 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 ϕ from internal and external defects detrimental to fabrication or to performance of parts. Material in which defects are revealed during fabrication will be subject to rejection.

10. TOLERANCES: Unless otherwise specified, tolerances shall conform to the latest issue of AMS2252 as applicable.

11. REPORTS: (a) Unless otherwise specified, the vendor of the product shall furnish three copies of a notarized report of the results of tests for chemical composition and grain size of each heat in each shipment. This report shall include the purchase order number, material specification number, heat number size, and quantity in each heat.

(b) Unless otherwise specified, the vendor of finished or semi-finished parts shall furnish with each shipment three copies of a notarized 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 certification that the material conforms, or shall include copies of laboratory reports showing the results of tests to determine conformance.

12. IDENTIFICATION: Shall be according to paragraph (a) below, unless purchaser ϕ permits the methods in paragraph (b):

(a) Each plate, sheet, and strip shall be marked, in the respective location indicated below, with AMS6355C, heat number, and nominal thickness in inches. The characters shall be not less than 3/8 in. in height and shall be applied to the material using a suitable marking fluid. The marking fluid used shall be capable of being removed in hot alkaline cleaning solution without rubbing. The characters shall be sufficiently stable to withstand ordinary handling and shall not interfere with welding procedures:

(1) Plate, Flat Sheet and Flat Strip.- Shall be marked in lengthwise rows of characters recurring at intervals not greater than 2 ft., the rows being spaced not more than 12 in. apart and alternately staggered.

(2) Coiled Sheet and Strip.- Shall be marked near the outside end of the coil.

(b) When purchaser permits, each plate, sheet, and strip may be marked near one end, coils being marked near the outside end, with the purchase order number, AMS6355C, heat number, and nominal thickness in inches, using any suitable marking fluid. As an alternative method, individual pieces and bundles shall have attached a metal tag stamped with the above information or shall be boxed and the box marked with the same information.

13. REJECTIONS: Material not conforming to this specification or to authorized modifications will be subject to rejction. Unless otherwise stipulated rejected material and parts will be returned to vendor at vendor's expense unless purchaser receives, within three weeks of notification of rejection, other instructions for disposition.