

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 6354

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Revised

STEEL SHEET AND STRIP
0.75Si - 0.6Cr - 0.2Mo - 0.1Zr (0.10-0.17C)

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. FORM: Sheet, strip, and plate.
3. APPLICATION: Primarily for parts requiring strength up to 1000 F.
4. COMPOSITION:

		Check Analysis	
		Under Min	or Over Max
Carbon	0.10 - 0.17	0.01	0.01
Manganese	0.50 - 0.80	0.03	0.03
Silicon	0.60 - 0.90	0.05	0.05
Phosphorus	0.040 max	--	0.005
Sulfur	0.040 max	--	0.005
Chromium	0.50 - 0.75	0.03	0.03
Nickel	0.25 max	--	0.03
Molybdenum	0.15 - 0.25	0.02	0.02
Zirconium	0.05 - 0.15	0.02	0.02
Copper	0.35 max	--	0.03

5. CONDITION:

- 5.1 Sheet and Strip: Hot rolled, or cold rolled and annealed, descaled, and oiled.
- 5.2 Plate: Hot rolled.

6. TECHNICAL REQUIREMENTS:

6.1 Tensile Properties:

Nominal Thickness Inches	Tensile Strength psi, min	Yield Strength at 0.2% Offset or at Extension Indicated (E = 30,000,000)		Elongation % in 2 in., min
		psi, min	Extension Under Load in. in 2 in.	
0.5 and under	70,000	50,000	0.0073	22
Over 0.5 to 1, incl	65,000	43,000	0.0069	22
Over 1 to 2, incl	63,000	40,000	0.0067	22
Over 2 to 4, incl	60,000	38,000	0.0065	22

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6.1.1 For widths 9 in. and over, tensile test specimens shall be taken with the axis perpendicular to the direction of rolling. For widths less than 9 in., tensile test specimens shall be taken with the axis parallel to the direction of rolling.

6.2 Bending: Material shall withstand, without cracking, bending at room temperature through the angle indicated below around a diameter equal to the bend factor times the nominal thickness of the material, with the axis of bend parallel to the direction of rolling.

	Nominal Thickness Inch	Type of Bend	Angle degrees, min	Bend Factor
∅	0.249 and under	Free Bend	180	1
	0.249 and under	V-Block	135	2
	Over 0.249 to 0.749, incl	Free Bend	90	1
	Over 0.249 to 0.749, incl	V-Block	135	3

7. QUALITY: The 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 2232 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 of each heat in the shipment and for tensile and bending properties of each size from each heat. 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 a method from 10.2.

10.1 Each plate, sheet, and strip shall be marked, in the respective location indicated below, with AMS 6354, manufacturer's identification, and nominal thickness in inches. The characters shall be not less than 3/8 in. in height, shall be applied using a suitable marking fluid, and shall be capable of being removed in hot alkaline cleaning solution without rubbing. The characters shall be sufficiently stable to withstand ordinary handling.