AERONAUTICAL MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

AMS 4384A

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MAGNESIUM ALLOY SHEET AND PLATE
3.2Th - 0.7Zr (HK31A-O)

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

2. APPLICATION: Primarily for components requiring good formability and weldability.

3. COMPOSITION:

Thorium	2.5 - 4.0
Zirconium	0.45 - 1.0
Other Elements, each	0.15 max
Other Elements, total	0.30 max
Magnesium	remainder

4. CONDITION:

ø 4.1 Material 0.500 in. and Under: Annealed recrystallized and pickled.

ø 4.2 Material Over 0.500 in.: Annealed recrystallized.

5. TECHNICAL REQUIREMENTS:

5.1 Tensile Properties: Test specimens shall conform to ASTM E8-57T except from sheet less than 3/4 in. wide and shall be cut parallel to the direction of rolling. Elongation requirements apply only to sheet 3/4 in. and over in width.

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Nominal Thickness Inches	Tensile Strength psi, min	Yield Strength at 0.2% Offset or at Extension Indicated (E = 6,500,000) psi, min	Extension Under Load in. in 2 in.	Elongation % in 2 in. min
0.016 to 0.250, incl	30,000	18,000	0.0095	12
Over 0.250 to 0.500, incl	30,000	16,000	0.0089	12
Over 0.500 to 1.000, incl	30,000	15,000	0.0086	12
Over 1.000 to 3.000, incl	29,000	14,000	0.0083	12

5.2 Bending: Material 0.125 in. and under in thickness shall be capable of withstanding, without cracking, bending at room temperature through an angle of 90 deg around a diameter equal to the bend factor times the nominal thickness of the material with axis of bend perpendicular to direction of rolling. Unless otherwise specified, the specimen shall be approximately 1 in. wide and 4 in. long, with the edges smooth and free from rough, sheared surfaces.

Nominal Thickness Inch	Bend Factor
0.016 to 0.063, incl	8
Over 0.063 to 0.082, incl	10
Over 0.082 to 0.125, incl	12