

AEROSPACE MATERIAL SPECIFICATIONS

AMS 4363

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

485 Lexington Ave., New York, N. Y. 10017

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Revised

MAGNESIUM ALLOY FORGINGS 2Th - 0.78Mn (HM21A - T5) Precipitation Treated

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. **FORM:** Die forgings, hand forgings, and forging stock.
3. **APPLICATION:** Primarily for parts requiring weldability and good strength-to-weight ratio at temperatures up to 700 F (371 C).
4. **COMPOSITION:**

	min	max
Thorium	1.5	2.5
Manganese	0.45	1.1
Other Impurities, each	--	0.10
Other Impurities, total	--	0.30
Magnesium	remainder	

5. **CONDITION:**

- 5.1 **Die and Hand Forgings:** Precipitation heat treated, unless otherwise specified.
- 5.2 **Forging Stock:** As fabricated.

6. **TECHNICAL REQUIREMENTS:**

6.1 **Forgings:**

- 6.1.1 **Tensile Properties:** Test specimens machined from forgings not over 4 in. in thickness with the axis of specimen approximately parallel to the forging flow lines shall conform to the following requirements:

Tensile Strength, psi	33,000 min
Yield Strength at 0.2% Offset or at 0.0117 in. in 2 in. Extension Under Load (E = 6,500,000), psi	25,000 min
Elongation, % in 4D	3 min

- 6.1.2 When a dispute occurs between purchaser and vendor over the yield strength value, yield strength determined by the offset method shall apply.
- 6.1.3 If sizes over 4 in. in thickness are ordered, tensile property requirements shall be as agreed upon by purchaser and vendor.