



AEROSPACE MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 4490E

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MAGNESIUM ALLOY CASTINGS, DIE 9.0Al - 0.70Zn (AZ91A-F)

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

2. COMPOSITION: Castings shall conform to the following:

Ø		min	max
	Aluminum	8.3	- 9.7
	Zinc	0.35	- 1.0
	Manganese	0.13	--
	Silicon	--	0.50
	Copper	--	0.10
	Nickel	--	0.03
	Other Impurities, total	--	0.30
	Magnesium	remainder	

3. CONDITION: As cast.

- Ø 4. TECHNICAL REQUIREMENTS:

- 4.1 Casting: Castings shall be produced in lots from metal conforming to Section 3. Metal remelted from previously analyzed ingot may be poured directly into castings. Unless otherwise agreed upon by purchaser and vendor, molten metal taken from alloying furnaces, with or without additions of foundry operating scrap (gates, sprues, risers, and rejected castings), shall not be poured into castings unless first converted to ingot, analyzed, and remelted or until the composition of a sample taken after the last addition to the melt has been found to conform to Section 3.

- Ø 4.1.1 A melt shall be the metal withdrawn from a batch furnace charge of 2000 lb or less as melted for pouring castings or a melt shall be 4000 lb or less of metal withdrawn from one continuous furnace in not more than 8 consecutive hours.

- Ø 4.1.2 A lot shall consist of castings poured from a single melt in not more than 8 consecutive hours.

- 4.2 Chemical Analysis Specimens: When required by purchaser, shall be cast from each melt and shall be of size and shape agreed upon by purchaser and vendor.

5. QUALITY:

- 5.1 Castings shall be uniform in quality and condition, sound, and free from foreign materials and from internal and external imperfections detrimental to fabrication or to performance of parts. Castings shall have smooth surfaces and shall be well cleaned.

- Ø 5.2 Radiographic and other quality standards shall be as agreed upon by purchaser and vendor.

- 5.3 Castings shall not be repaired by plugging, welding, or other methods, without written permission from purchaser.

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