SAE Aerospace
An SAE International Group

AEROSPACE MATERIAL SPECIFICATION

SAE AMS-I-7068A

Issued APR 1999
Cancelled SEP 2007

Superseded by ASTM B 973

Ingot, Zinc Alloy
(For Sheet Metal Forming Dies)

FSC 9650

RATIONALE

AMS-I-7068 has been designated Cancelled and Superseded because equivalent technical requirements are provided by ASTM B 973.

CANCELLATION NOTICE

This specification has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of September, 2007, and has been superseded by ASTM B 973 as designated below. The requirements of the latest issue of ASTM B 973 as designated below shall be fulfilled whenever reference is made to the cancelled AMS-I-7068. By this action, this document will remain listed in the Numerical Section of the Index of Aerospace Material Specifications, noting that it has been superseded by ASTM B 973 as designated below.

Cancelled specifications are available from SAE.

AMS-I-7068 Composition	UNS Designation	Superseding Designation per ASTM B 793, Zinc Casting Alloy Ingot for Sheet Metal Forming Dies and Plastic Injection Molds
Composition A	UNS Z35543	Alloy A, Kirksite A
Composition B	UNS Z35542	Alloy B, Kirksite B
Not Specified	UNS Z35543	Alloy A, Kirksite A

NOTICE

This document has been taken directly from U.S. Military Specification MIL-I-7068A and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards. The initial release of this document is intended to replace MIL-I-7068A. Any part numbers established by the original specification remain unchanged.

The original Military Specification was adopted as an SAE standard under the provisions of the SAE Technical Standards Board (TSB) Rules and Regulations (TSB 001) pertaining to accelerated adoption of government specifications and standards. TSB rules provide for (a) the publication of portions of unrevised government specifications and standards without consensus voting at the SAE Committee level, and (b) the use of the existing government specification or standard format.

Under Department of Defense policies and procedures, any qualification requirements and associated qualified products lists are mandatory for DOD contracts. Any requirement relating to qualified products lists (QPL's) has not been adopted by SAE and is not part of this SAE technical document.

1. SCOPE:

1.1 Scope:

This specification addresses requirements for a zinc alloy used in the production of sand cast forming dies for sheet metal stamping operations.

1.2 Composition:

Ingots shall be furnished in one of the following compositions (see 6.3):

Composition A (UNS Z35543)
Composition B (UNS Z35542)

1.2.1 Unless otherwise specified (see 6.2.1), ingot shall be composition A.

2. APPLICABLE DOCUMENTS:

The following publications, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

2.1 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-N-3944 Nonferrous products (other than Aluminum, Magnesium, Copper, or their Alloys), Packaging and Packing of
MIL-STD-129 Marking for Shipment and Storage
MIL-STD-961 Military Specifications and Associated Documents, Preparation of

2.2 ASTM Publications:

Available from ASTM, 100 Barr Harbor, West Conshohocken, PA 19428-2959.

ASTM D 3951 Commercial Packaging
ASTM E 536 Chemical Analysis of Zinc and Zinc Alloys

3. REQUIREMENTS:

3.1 Chemical composition:

Material shall conform to the chemical composition detailed in Table I.

TABLE I. Chemical composition.

Element	Composition A (percent)	Composition B (percent)
Copper	2.5 - 3.5	2.5 - 2.9
Aluminum	3.5 - 4.5	3.9 - 4.3
Magnesium	0.02 - 0.010	0.02 - 0.05
Iron	0.10 max	0.075 max
Lead	0.007 max	0.003 max
Cadmium	0.005 max	0.003 max
Tin	0.0005 max	0.001 max
Zinc	Remainder	Remainder

3.2 Material quality:

Ingots shall be in standard commercial shapes and sizes, and shall be free from dross, slag, and foreign material.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for inspection:

Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance: All items must meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.2 Sampling:

4.2.1 Lot: A lot shall consist of all ingots poured from the same heat of the same composition submitted for inspection at one time.

4.2.2 Sampling for chemical analysis: