

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
29 West 39th Street
New York City

AMS 4845A

Issued 12-5-39

Revised 9-1-41

B R O N Z E C A S T I N G S

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

Copper	86.0 - 89.0
Tin	9.0 - 11.0
Zinc	1.0 - 3.0
Lead	0.20 max
Iron	0.06 max
Phosphorous	0.05 max
3. HARDNESS: (a) Parts made from chilled and centrifugal castings shall have a minimum Rockwell hardness of F 80.

(b) Parts made from sand castings shall have a minimum Rockwell hardness of F 70.
4. QUALITY: (a) Castings must be homogeneous and free from shrinkage defects, cracks, blowholes, sand holes, hard spots, foreign matter and other injurious defects, and must not reveal defects when machining. The castings shall be smooth and well cleaned.

(b) Castings when broken for fracture test must show a uniform composition and color and be substantially free from oxides and other defects, particularly in locations subject to stresses in service.

(c) Castings shall be ductile enough to show a definite amount of bending before rupture when being broken for the fracture test.
5. PRECAUTIONS: (a) Castings shall not be repaired by plugging, welding, or other methods, without written permission.

(b) Castings shall be of sufficient size to allow for finishing to blueprint requirements, but excessive size or weight will not be permitted. Excess metal to allow for chucking during machining must not be used.

(c) Unless otherwise specified, parts must be made from individual castings, except those which are made from centrifugal castings. Oversize sprues and risers, which decrease the cooling rate of the castings, shall not be used.
6. REPORTS: Unless otherwise specified, the manufacturer shall supply three copies of a notarized report of the chemical composition representing each lot. This report shall include the purchase order number, material specification number, part numbers, quantity of each part and type of castings, such as centrifugal, chill, sand, etc.
7. IDENTIFICATION: Unless otherwise specified, each casting shall be identified by the manufacturer's trade mark, or letters as allocated, in raised characters on an un-machined surface. This does not apply to castings which are supplied machined all over.