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400 COMMONWEALTH DRIVE WARRENDALE PA 15096

AEROSPACE MATERIAL SPECIFICATION

AMS 4840A

Issued 1-22-40
Revised 7- 1-81

LEADED BRONZE CASTINGS
70Cu - 24.5Pb - 5.5Sn

This specification has been declared "NONCURRENT" by the Aerospace Materials Division, SAE as of 10-6-58. It is recommended that this specification not be specified for new designs.

This cover sheet should be attached to the "A" revision of the subject specification.

This specification has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of 7- 1-81. By this action, subject specification number and title will be deleted from the active specification index of Aerospace Material Specifications.

Society of Automotive Engineers, Inc.
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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 bearings.

3. COMPOSITION:

Copper	67.5 - 72.5
Lead	23.0 - 26.0
Tin	4.5 - 6.0
Zinc	0.50 max
Iron	0.30 max
Phosphorus	0.01 max
Total Other Elements	0.25 max

4. CONDITION: As cast.

5. TECHNICAL REQUIREMENTS:

5.1 Casting:

5.1.1 A melt shall be the metal withdrawn from a batch furnace charge of 2000 pounds or less as melted for pouring castings.

5.1.2 Castings shall be cooled at a sufficiently rapid rate to produce a uniform, fine dispersion of lead throughout the matrix.

5.2 Hardness: Castings shall have hardness of Brinell 35 - 50, using 500 kg load, or equivalent hardness by other methods.

5.3 Fracture Test: When castings are broken for fracture test, the fracture shall have uniform color and be substantially free from oxides, blowholes, porosity and other defects. Castings shall be sufficiently ductile to show some bending before rupture.

5.4 Structure: The surface and fracture of a representative casting shall show uniform color and uniform distribution of lead in the copper-tin matrix. A polished section shall show uniform structure at magnifications of 10 and 50 diameters; at 50 diameters magnification, an average 1-inch square field shall show the lead particles so distributed that any area of concentration does not exceed the equivalent of 1/16 inch square; a network of elongated shapes is not desirable.