AERONAUTICAL MATERIAL SPECIFICATION

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LEAD AND INDIUM PLATING

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

2. PURPOSE: To improve the performance and prevent corrosion of bearings, or of other parts where applicable.

3. PREPARATION: (a) The surfaces to be plated shall be chemically clean immediately before plating.

(b) When specified by purchaser, the surfaces to be plated may be blasted lightly with fine sand to obtain a matte finish.

4. LEAD PLATING: (a) Consists of electrodeposition of lead from a suitable lead solution directly on the cleaned surfaces. Either lead sulfamate or lead fluoborate solution may be used but purchaser shall approve which solution to use for each part involved.

(b) The lead plated parts shall be rinsed immediately in running tap water and transferred directly to the indium plating operation. If indium cyanide solution is to be used, the lead plated parts, after rinsing as above, shall be immersed in a suitable sodium cyanide solution to neutralize any remaining traces of acid lead solution and rinsed again in running tap water.

5. INDIUM PLATING: (a) Consists of electrodeposition of indium from a suitable indium solution on the lead plated surfaces still wet with water from the final rinsing in 4(b) above. Purchaser shall approve the type of solution to be used.

(b) The lead and indium plated parts shall be rinsed in tap water (preferably contained in a small tank if the indium is to be recovered later), then rinsed thoroughly in running tap water, dipped in hot water if practicable, and dried with a clean, dry air blast.

(c) The dried lead and indium plated parts, except those which are carburized, shall be immersed in an oil bath maintained at a temperature of 340-350°F, allowed to attain that temperature and held at heat for approximately 2 hours, unless otherwise stipulated, to diffuse the indium into the lead. Hardened parts, including carburized parts, which will decrease in hardness if heated to 350°F shall be treated by a method approved by purchaser.

6. THICKNESS: (a) The combined thickness of lead and indium shall be as specified on the drawing. A tolerance of ±0.0001 inch in the combined thickness of lead and indium shall be allowed except where other maximum and minimum values are specified.

(b) Unless otherwise specified, the weight of indium deposited shall be within the range of 3.5-5.5% of the weight of the deposited lead.