## AEROSPACE MATERIAL SPECIFICATIONS

AMS 2422A

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

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## GOLD PLATING For Electronic Applications

- 1. <u>ACKNOWLEDGMENT</u>: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
- 2. APPLICATION: Primarily for improving the solderability, electrical conductivity, performance, and appearance of electronic and electrical parts.
- 3. PREPARATION:
- 3.1 Unless otherwise specified, all machining, brazing, welding, forming, and heat treating shall be completed before parts are plated.
- 3.2 Unless otherwise specified, roughness of surfaces to be plated shall not exceed 32 microinches prior to cleaning.
- 3.3 Before placing parts in plating solutions, they shall have chemically clean surfaces, prepared with minimum abrasion, erosion, or pitting.
- 3.4 Electrical contact shall be made in such a manner as will ensure that no immersion deposition will occur.
- 4. PROCEDURE:
- 4.1 Unless otherwise specified, plating of parts shall be conducted in the following sequence, except that the copper strike may be omitted in plating copper-base or copper-plated surfaces, and that an under-coat of nickel, copper, silver, or other suitable initial deposit may be used on the basis metal as required.
  - 1. Copper Strike
  - 2. Gold Plate
- 4.2 After plating, rinsing, and drying, all parts shall be treated as follows, unless otherwise permitted, to remove hydrogen embrittlement due to cleaning and plating. All parts shall be handled carefully prior to the completion of the relief treatment. Plated springs shall not be flexed prior to the baking operation.
- 4.2.1 All parts shall be immersed in water at a temperature not lower than 180 F (82 C) for 15 min. immediately after removal from the plating tank. Plated springs may be removed from the plating racks after hot water treatment and prior to the embrittlement relief operation, provided that release from the racks does not flex the springs.
- 4.2.2 Steel parts having hardness higher than Rockwell C 40 shall be subjected to additional embrittlement relief not more than 30 min. after completion of the hot water immersion, by heating in air, preferably in a circulating air furnace, to 375  $F \pm 10$  (190.6  $C \pm 5$ .6) and holding at that temperature for 3 hr, or by heating in air to 275  $F \pm 10$  (135  $C \pm 5$ .6) and holding at that temperature for 5 hours.
- 4.2.3 Copper-base alloy parts of hardness higher than Rockwell C 29 shall be subjected to additional embrittlement reltef not more than 30 min. after completion of the hot water immersion, by heating in air, preferably in a circulating air furnace, to 275 F  $\pm$  10 (135 C  $\pm$  5.6) and holding at that temperature for 2 hours.