AEROSPACE
MATERIAL SPECIFICATIONS

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AMS 2413A
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SILVER AND RHODIUM PLATING

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

2. APPLICATION: Primarily to provide a conductive surface for electrical contacts or microwave surfaces for parts operating at temperatures below 300 F (149 C).

3. PREPARATION:

3.1 Unless otherwise specified, roughness of surfaces to be plated shall not exceed 32 microinches prior to cleaning.

3.2 Unless otherwise specified, all machining, brazing, welding, forming, and heat treating shall be completed before parts are plated.

3.3 Parts shall be chemically clean when immersed in plating solutions.

3.4 Electrical contacts shall be made in noncritical areas and in such a manner as will ensure that no chemical or immersion deposition will occur.

4. PROCEDURE:

4.1 Plating of parts shall be conducted in the following sequence:

1. Copper Flash (Copper strike optional)
2. Silver Plate (Silver strike optional)
3. Rhodium Flash

During silver and rhodium plating, parts shall be introduced into the bath with the current on.

4.1.1 When used on corrosion or heat resistant steels or alloys, nickel flash (nickel strike optional) shall be used in lieu of copper flash (copper strike optional).

4.2 Unless otherwise permitted, the plating baths shall be of the following types:

1. Copper cyanide, Watt's type nickel, or nickel chloride, as applicable
2. Silver cyanide
3. Rhodium sulfate or phosphate

4.3 After plating, all parts shall be immersed in water at a temperature not lower than 180 F (82 C) for not less than 15 min. immediately after removal from the final plating tank.

4.3.1 Steel parts shall be subjected to an additional embrittlement relief not more than 30 min. after completion of the hot water immersion as follows:

4.3.1.1 Parts having hardness of Rockwell C 33 or higher that will not be decreased in hardness by heating to 375 F (190.6 C) shall be heated to 375 F ± 10 (190.6 C ± 5.6) and held at heat for not less than 3 hours.