



LLL

STANDARDIZING  
 NOTICE

34-36-66

SUBJECT SILVER PLATING  
 Process Specification

SUPERSEDED DATE



HYDROCHLORIC ACID SAFETY PRECAUTIONS: See 33-2-7C.  
 POTASSIUM CYANIDE SAFETY PRECAUTIONS: See 33-2-13A.

SCHEDULE NO. 1 (Initially for MP6003 beam mounting flange and MP6013 anode main flange of 5831)

a. Material: Copper Plating on Vega Tool Steel.

b. Plating Surface: 0.8 sq. ft.

c. Procedure:

The following is the second part of a continuous schedule which starts with copper plating, S.N. 34-36-60, Sch. 3. Continue without interruption of the cycle from the copper plating schedule to this schedule.

1. Electroclean, cathodic, 4-6 v., 82-93°C. (180-200°F.), 1 minute.
2. Rinse in warm running water with agitation, 38-66°C. (100-150°F.), 30 seconds.
3. Dip in hot 50% solution of hydrochloric acid (A15), 51-66°C. (125-150°F.), 5 seconds.
4. Rinse in running water with agitation, 30 seconds.
5. Dip in 5% solution of potassium cyanide (P60), 1-2 seconds.
6. Rinse in running water with agitation, 30 seconds.
7. Silver strike; CAUTION: Make electrical contact with flexible lead before lowering part into strike solution; 8 amp./part (10 amp./sq. ft.), 21-29°C. (70-85°F.), 30 seconds.
8. Silver plate to a thickness of 0.00075", cathode agitation, 4 amp./part (5 amp./sq. ft.), 21-29°C. (70-85°F.), 60 minutes.
9. Rinse in warm running water with agitation, 38-66°C. (100-150°F.), 30 seconds.
10. Rinse in deionized water.
11. Rinse in acetone (A55) with agitation, 5-10 seconds.
12. Dry.
13. Deliver to Inspection.

SCHEDULE NO. 2 (Initially for MP6012 grid flange facing of 5831)

a. Material: Copper Plating on Vega Tool Steel.

b. Plating Surface: 0.4 sq. ft.

c. Procedure: Same as Schedule No. 1 except for currents. Use following currents -

Silver strike	4 amp./part
Silver plate	2 amp./part

This schedule is the second part of a continuous schedule which starts with copper plating, S. N. 34-36-60, Sch. 4. Continue without interruption of the cycle from the copper plating schedule to this schedule.



SUBJECT SILVER PLATING

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DANGER

HYDROCHLORIC ACID SAFETY PRECAUTIONS: See 33-2-7C.  
POTASSIUM CYANIDE SAFETY PRECAUTIONS: See 33-2-13A.SCHEDULE NO. 3 (Initially for FM6974 grid-cathode envelope assembly and FM6979 grid-anode envelope assembly of 5831)

- a. Material: Glass, Kovar, and Copper-Nickel Plated Carpenter 883 Tool Steel.
- b. Plating Surface: 1.7 sq. ft.
- c. Procedure:
1. Mask highly polished lands with Microstop lacquer (L631A). Spread lacquer in even coat and allow to set.
  2. Cover lacquered lands with rubber gaskets and bolt on Bakelite flanges to seal polished surfaces from solutions. Do not allow wrench to bear against Kovar flange while tightening bolts.
  3. Pickle in hot 50% solution of hydrochloric acid, 51-66°C. (125-150°F.). Care must be taken not to crack glass by sudden temperature changes or to scratch it by rubbing glass against any other object. Pickle only long enough to loosen scale, 5-10 minutes.
  4. Rinse in warm running water, 38-66°C. (100-150°F.), 30 seconds.
  5. Dip in acetone (A55) and blow dry with high pressure air.
  6. Buff off scale on stainless steel wire wheel. Use steel wool where wheel will not go safely.
  7. Make cradle from 0.050" dia. nickel wire so that assembly will hang in plating tank with open ends toward tank ends.
  8. Electroclean, cathodic, 4-6 volts, 82-93°C. (180-200°F.), 30 seconds. See S. N. 34-34-74.
  9. Rinse in warm running water, 38-66°C. (100-150°F.), 30 seconds.
  10. Dip in hot 50% solution of hydrochloric acid (A15), 51-66°C. (125-150°F.), 5-10 seconds.
  11. Rinse in warm running water, 38-66°C. (100-150°F.), 30 seconds.
  12. Dip in 5% solution of potassium cyanide (P60), room temperature, 15-30 seconds.
  13. Copper strike, 50 amp./part, 60-71°C. (140-160°F.), 30 seconds, agitate part so no air is trapped. See S. N. 34-36-60B.
  14. Rinse in warm running water, 38-66°C. (100-150°F.), 30 seconds.
  15. Silver strike, 17 amp./part, room temperature, 30 seconds, agitate part so no air is trapped.
  16. Silver plate to thickness of 0.000375", 9 amp./part, room temperature, 30 minutes, cathode agitation.
  17. Rinse in warm running water, 38-66°C. (100-150°F.), 30 seconds.
  18. Remove Bakelite flanges and gaskets.
  19. Rinse in warm running water, 38-66°C. (100-150°F.), 30 seconds.
  20. Remove masking lacquer in acetone. Use final clean acetone rinse.
  21. Dry with high pressure air.
  22. Buff silver on inside surfaces.
  23. Deliver to Inspection

CAUTION: Extreme care must be exercised to prevent scratching or scuffing of the polished steel lands.

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★ CHANGE  
★★ ADDITION  
★★ DELETION

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