This specification applies to the process of coating the apex of folded heaters.

SCHEDULE NO. 60

1. Equipment:
   a. Cataphoretic Heater Coating Unit L-728-X, or its equivalent, which includes a tank 4" diameter with a volume of about 500 cc., a grounded cover, and a platinum anode. A source of low pressure air is optional.
   b. Tweezers, or multiple clip consisting of copper contact and opposing rubber pad.
   c. Moly boats.
   d. Multiple heater racks.
   e. Drying unit.

2. MATERIAL
   C255 Ceramic coating
   A55 Acetone

3. PROCEDURE

   a. Starting up.
      1. Fill container to depth of at least 2 to 2-1/2 inches so that heaters will be covered when placed vertically into the solution.
         Note: Roll ceramic coating (C255) for at least twelve (12 hours before using.
      2. Voltage and timing should be adjusted to the specified weight or diameter and smoothness of coating. Too high a voltage causes an irregular surface; too low a voltage results in pitting.

   b. Coating
   * 1. Holding heater in clips suspended vertically in coating solution to length specified.
      2. Change solution in deposition tank as soon as pock marks on heaters begin to show metal.

   c. Washing
      1. Immediately upon completion of above, wash heater in acetone (A55) to remove excess coating.
      2. Imediately after washing, place on cardboard trays.
   ** 3. Load into boats and dry 5 minutes in drying unit.

   d. Firing
      1. Moly boats used in firing must be sprayed with alundum** periodically.
      2. 100 - 200 heaters may be placed in a boat, depending upon care with which operator handles them.
      3. Firing schedule used is: - Preheat 5 minutes
         Fire at 1600°C. for *3 minutes
         Cool for 5 - 10 minutes
         Maintain Hydrogen flow thru
         a. casing - 5 ft/hr.
         b. tube - 12.5 ft/hr.

   e. Inspect all heaters and reject per quality level indicated on heater specification.
   f. Package in lots of 60 in suitable trays, with proper nomenclature and Inspector's number.

End of Schedule No. 60

SCALE— DIMENSIONS IN UNLESS OTHERWISE SHOWN. DIMENSIONS SHOWN WITHOUT TOLERANCES ARE DESIGN CENTERS

9-545-25-60 PCL24498-126JD

* CHANGE
** ADDITION
*** DELETION

SUBJECT: CATAPHORETIC COATING OF HEATERS
Process Specification

SCHEDULE NO: 61

(Initially for all MCH Heaters)

1. EQUIPMENT
   a. Cataphoretic Heater Coating Unit L-728-X, or its equivalent, which includes a tank with a volume of about 500 cc., a grounded cover, and an aluminum or a platinum anode.
   b. Tweezers, or multiple clip.
   c. Moly boats coated with alundum
   d. Multiple heater racks (optional)
   e. Source of low pressure air; heat lamp or drying box for drying

2. MATERIALS
   C255 Ceramic Preparation
   A55 Acetone

3. PROCEDURE

   a. Starting
      1. Fill container to depth of at least 2 to 2-1/2 inches so that heaters will be covered when placed into the solution.
      2. Voltage and timing should be adjusted to the specified weight or diameter and smoothness of coating. Too high a voltage causes an irregular surface; too low a voltage results in pitting.

   b. Coating
      1. Holding heater in tweezers suspend in coating solution to length specified.
      2. Change solution in deposition tank as soon as pock marks on heaters occur.
      3. Solution must be well stirred at frequent intervals.
      4. Weight control can be best maintained by slight variations in voltage maintaining time and current constant.

   c. Washing
      1. Immediately upon completion of above, wash heater in acetone to remove excess coating.
      2. Immediately after washing, place in boats for firing.

   d. Firing
      1. Heaters should be dry before firing, at least 15 minutes drying time in air being required. Less time is required if other drying means are employed.
      2. Moly boats used in firing must be sprayed with alundum.
      3. 20 - 200 heaters may be placed in a boat, depending upon care with which operator handles them and the shape and size of the heater.
      4. Firing schedule used is: - Preheat 5 minutes
         Fire at 1600°C. for 5 minutes
         Cool for 5 - 10 minutes
         Maintain Hydrogen flow thru:
         (a) casing - 6.5 ft/hr.
         (b) tube - 20 ft/hr.
         (c) Humidifiers with water temperature 50°-60°C
         (d) Cooling chamber water temperature 65.6-71.1°C (150°-160°F)

SCALE—
DIMENSIONS IN UNLESS OTHERWISE SHOWN. DIMENSIONS SHOWN WITHOUT TOLERANCES ARE DESIGN CENTERS

* CHANGE
** ADDITION
*** DELETION

7-543-8-60 PCI23521-133AS