



RADIO CORPORATION OF AMERICA

RCA VICTOR DIVISION L-L-L

TUBE DEPT. STANDARDIZING

HARRISON, N. J. LANCASTER, PA.

CONTINUOUS DRY & PURIFIED H₂ FIRING

SUBJECT: Process Specifications

DATE March 28, 1952 PAGE 1

STANDARDIZING NOTICE

34-38-5C MAY

1955

SUPERSEDED DATE Aug. 5, 1949.

1. EQUIPMENT Hayes Continuous Furnace, Type BAC200M.

2. PROCEDURE

a. Starting

1. Turn on the water at the 6' valve.

2. Turn on the inlet valves to: -

a. Water jackets on each side of the muffle so that a steady flow is seen coming out of the drain pipe.

b. First cooling zone water jacket keeping water temperature at 71°-82°C. (160°-180°F.)

c. Second cooling zone water jacket keeping water temperature at 27°-38°C. (80°-100°F.) under normal operating conditions.

d. Water jacket surrounding entrance end of muffle. Water should discharge at about 82°C. (180°F.).

3. Turn on nitrogen 6' valve and adjust pressure gauge to 7 lb./sq. in.

4. Adjust nitrogen flow into the case so that flow gauge indicates 5 cu. ft./hr.

5. Close main conveyor motor switch and conveyor motor starting switch.

6. Close circuit breaker for heating elements.

7. Set operating temperature control at 800°C. and safety temperature control at 850°C.

8. Turn on the heat control switch on the panel.

9. Check hydrogen flow gauge valves with by pass valve closed, outlet valve from the flow gauge open wide, and inlet valve to the flow gauge closed.

10. Admit nitrogen into the muffle at a flow of 200 cu. ft./hr. for 15 minutes by opening the emergency nitrogen valve full and adjusting flow at nitrogen flow gauge on line leading to the muffle.

11. Open hydrogen 6' valve and when the furnace temperature has reached 800°C. admit hydrogen into the muffle slowly and at the same time the nitrogen emergency valve should be shut off. Hydrogen is turned on to a flow of 200 cu. ft./hr.

* 12. Purge for one hour, keep flow of hydrogen to *200 cu. ft./hr. Furnace is ready for operation.

** Note: Belt and baskets must be bright clean at all times on all furnaces using dry hydrogen regardless of parts and temperatures. When the temperature goes below 1100 C as you approach 800°C a straw color will appear on baskets and the firing pellets.

b. Operation

1. Temperature control to be set at temperature necessary for cleaning or brazing but in general not higher than 1150°C.

2. Safety temperature control should always be 50°C. higher than operating temperature control as this will provide automatic opening of circuit breaker should temperature get out of control.

3. Belt speed is to be determined by chart on panel of furnace converting inches per minute (as shown on meter) to time in the heat zone.

c. Shut Down (Emergency - hydrogen fire)

1. Shut off hydrogen 6' valve and immediately admit nitrogen into the muffle gradually at first. Nitrogen must be admitted by opening of emergency nitrogen valve and also nitrogen valve at nitrogen flow gauge.

(Continued on page 2)

SCALE—

DIMENSIONS IN

UNLESS OTHERWISE SHOWN.

DIMENSIONS SHOWN WITHOUT TOLERANCES ARE DESIGN CENTERS

10-523-14-60

PCL17358-126JM

* CHANGE
** ADDITION
*** DELETION

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STANDARDIZING NOTICE 34-38-50

SUPERSEDED DATE Aug. 5, 1949.

2. PROCEDURE (Cont'd)

c. Shut Down (Emergency - hydrogen fire) (Cont'd)

2. Purge for at least 15 minutes before closing nitrogen valves and slowly admitting hydrogen to start up as outlined under instructions on starting.

d. Shut Down (Repairs, etc.)

1. Open main circuit breaker.

When muffle has cooled to 300°C. shut conveyor motor, turn off hydrogen at 6' valve and shut water at 6' valve.

ENGINEERING SECTION
STANDARDIZING

SCALE—

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